ROUTING	SLIP	DIVISION OF WILDLIF	E REFUGES DATE: 5/17 19	4 5
_	MR. SALYER MR. ELMER		SECTION OF HABITAT IMPROVEMENT OF G. BOURN USB. Mr. Criffith. PEG. Dr. Bourn USB. Mics Cook Dwc 5-	5-
	SECTION OF OPERA	ATIONS:	_ SECTION OF LAND MANAGEMENT:	
	Mr. Krummes	WK 6/3	Mr. Earnshaw	
	Mr. Regar	JAR 6/15	Mr. Dullent VAD 8	/2
	Miss Baum			
	SECTION OF STRUC		STENOGRAPHERS:	
REMARKS	: Bowdoin	- Evenent R. Summa	fugu. ry F V 194.5)	
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	Narrative R	eport		
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Bowdoin National Wildlife Refuge Narrative Report January 1 to April 30, 1945

I General

A. Weather Conditions

For the most part we experienced a very mild winter and a cold backward spring. The first day of January, the maximum temperature was one below and the minimum temperature 27 below. From the 10th to the 28th the minimum temperature ranged from 2 degrees below zero on the 21st and 24 above on the 16th. The mercury dropped to 25 below on the 30th. The weather warmed up the second week in February and we recorded a maximum temperature on the 8th of 48 degrees. The weather turned cold again the first week of March and on the 5th the mercury dropped to 31 below, the coldest recorded thus far for 1945. The change in temperature was preceeded by a light snow which brought .15 inches of precipitation. The last three weeks of the month were spring-like with a maximum temperature of 70 degrees recorded on the 22nd. April was a cold backward month. The temperature ranged from 13 degrees on the 2nd to 75 degrees on the 20th. We received spring rains on the 24-25th which recorded .37 inches of precipitation. The 28th we were blanketed with a three inch layer of wet snow which registered 1.33 inches of precipitation. The last killing frost was on April 29th.

	Precipitation		Max. Temp.	Min. Temp.
January	.71		48	127
February	.27		48	-19
March	1.21		70	-31
April	1.91		75	13
Total Precip.	4.10	Ext.	75	-31

B. Water Conditions

The main lake at Bowdoin during the winter months had a water elevation of 2205.20. Between March 10th and 13th we experienced a warm period and we received a small amount of run-off water from the area to the west of the refuge. This brought the lake level up to the 2205.30 mark. The Bureau of Reclamation turned water in their Dodson Canal on April 7th. This was flood water from the Milk River. I requested water from them at that time and on April 9th they turned us in a full head of water. This water continued to flow into Lake Bowdoin until the morning of the 23rd. We received 1,500

acre feet of water during that period which brought the lake level up to the 2205.80 elevation where it now stands. This is a favorable level for this time of the year and is in accordance with the water plan.

Lakeside Marsh has been filled to within eight inches of spillway crest during April and is now in good condition to produce a food and cover crop. We have kept a close check this spring on Beaver Creek and at no time has it over-flowed its banks, and unless we obtain some late snow storms or heavy rains we will be unable to impound any flood water from Beaver Creek in Dry Lake. At the present time Dry Lake is completely without water.

No damage was done to dikes or control structures by floods this spring.

C. Fires

High winds and lack of surface moisture the first three weeks of April made prairie fires a range menace in Phillips County. An attempt to burn off stubble fields resulted in a fire which was not extinguished for eight hours in the Bennett Lake Community and a fire north of Dodson burned several sections. No fires occurred on the refuge during the period, despite the heavy stand of old grass that was left on portions of the refuge.

II Wildlife

A. Migratory Birds

1. Population and Behavior

We experienced a cold backward spring in this area and the migration was somewhat later than usual. Inasmuch as the main lake did not open up until March 12th we observed no ducks until that date. On the 12th South Bay become free of ice and 1500 mallards and 500 pintails put in an appearance. The following day the ice could be seen melting all over the lake very rapidly and the open holes in the ice were well supplied with ducks. I also observed 50 Canada geese. The 27th I observed one pair of G/W teal, four redheads, and two canvas-backs. The white pelicans put in an appearance on the 30th when I observed eight on the west end of the lake adjacent to the boat house. From then on until the 20th of April it was the same old story; ducks and geese arriving in ever increasing numbers. We figured the migratory birds at their peak on the 20th of April when we estimated the population at 25,000.

2. Food and Cover

Cultivated food patches consisting of wheat and corn which were left standing on the west end of the refuge did not prove too atractive to the ducks and geese this spring as the ringnecked pheasants had almost cleaned these fields during the winter months. The early migrants, the mallards and pintails seemed to prefer the large stands of prairie bullrush in South Bay and Paynter's Point where there was an enormous supply available for them. The diving ducks could be seen feeding in the main portion of the Lake.

Winter feeding of ducks was done on a small scale in the open spring

holes adjacent to Nelson Reservoir six or seven miles northwest of Bowdoin. These warm spring holes attracted the mallards and they remained with us all winter, making it necessary for us to feed them during extreme cold periods. Sixty bushels of wheat was fed to this flock of ten thousand mallards.

3. Botulism

No botulism or any other disease was observed during the period covered by this report.

- B. Upland Game Birds
- 1. Population and Behavior

The ringnecked pheasants, hungarian partridge, and sage hens are the only upland game birds which inhabit the refuge. The hungarian partridge are very scarce on this area as we have a population of only approximately thirty birds. The small flock of sage hens which inhabit the sage brush and grease wood flats south of the Great Northern Railroad tracks have increased in numbers slightly this past year. Last year at this time the flock numbered only two dozen birds. On several occasions this winter we have counted 50-60 birds in this flock. The ringnecked pheasant continues to predominate among the upland game birds. During the late fall and early winter months the pheasant population numbered 2000 birds. This is by far too large a population for this small area, so a permit was issued the State Fish and Game Commission for the removing of approximately 500 of these birds for re-stocking purposes. They removed 507 birds during January and February of which 410 were hens and 97 were cocks. No feeding of upland game was undertaken during the winter as the grain fields, Russian olive groves, and weed patches afforded them splendid food and cover.

- C. Big Game Animals
- 1. Population and Behavior

A year ago the antelope population on Bowdoin numbered 62 head. This winter on several occasions while the antelope were all bunched in one herd on Big Island we counted 84 head, an increase of 22 over last year. These game animals seem to prefer the cactus and buffalo grass for food of which there is an abundance for them on the area.

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

The muskrat trapping operations under special use permit were brought to a close on December 31st. The co-operative trapper caught 395 muskrats on a 50-50 share basis. These fur were divided and the Government's share was shipped to the Seattle Fur Exchange to be sold at auction. The larger poption of these muskrats were taken in the neighborhood of the dikes and control structures. I have spent a considerable amount of time this spring to determine the rat population and it is my opinion that we still have approximately six hundred rats. Skunk, weasel, and mink do not seem to be too plentiful, however, the last few weeks I have observed a considerable amount

of mink activity and it might be that we should take a limited number of these fur bearers another year. This past quarter we have observed only a limited number of coyotes using the area. While patrolling the refuge during the winter months we took six coyotes. Their pelts were shipped to the Seattle Fur Exchange to be sold at auction.

The rodent problem is of little importance here at Bowdoin. We have observed no Richardson ground squirrels, or prairie dogs which are prevalent in certain sections of eastern Montana. Field mice and gophers are not found in any great numbers and cause no concern.

E. Predaceous Birds

A limited number of magpies inhabit the refuge, but do not nest here. It is felt that control measures are un-necessary. A few crows were observed during April but only in migration.

F. Fish

Carp seining operations were undertaken on Lake Bowdoin during January, February, and March under special use permit by the McNeil Brothers. These men were very successful in this undertaking as they caught 105,000 pounds of these fish. Ninety thousand pounds were sold by the McNeil Brothers F. O. B. Bowdoin to an eastern fish dealer who shipped them to the New York market. One car of 18,000 lbs was shipped in a live car and the balance was boxed and iced and shipped in that order. It cost the fish dealers \$5.35 per hundred weight to ship these fish first class express from Bowdoin to New York City. The McNeil Brothers sold 15,000 pounds of their catch locally. I have been advised by the McNeil Brothers that they realized five cents per pound from the sale of all fish caught last winter.

The State Fish and Game Commission are desirous of constructing another warm water fish rearing pond on the area. A site had previously been selected for this pond one mile northeast of headquarters. The Commission has earmarked funds for this construction work, and as soon as they sign the ammendment to the original agreement which we mailed to them last November, and obtain an agreement from the Bureau of Reclamation for the supplying of the necessary water for the pool, we will be in a position to authorize them to start the construction work. It is my understanding that the State Fish and Game Commission intend to rear young walleyed pike in this new pool when it is completed for re-stocking Nelson Reservoir.

III Refuge Development and Maintenance

A. Maintenance

A large portion of our time during the first three months of the quarter was spent overhauling and maintenance of equipment. The 22 H. P. Caterpillar tractor was completely overhauled. This work consisted of a bearing and ring job, valve grind, and placing new pins in the tracks. It was also given a paint job. The hydraulic brake system on the Dodge pickup was overhauled, new carbureter installed on the Chevrolet $1\frac{1}{8}$ ton dump truck and other repairs were made to the other trucks. Oil barrels and grease containers

were placed in order in the oil house and a oil drain pan constructed. The old Rangely round bottom boat which was in a sad state of repair was over-hauled, calked and given a coat of paint. Farming and other machinery was placed in order. A considerable amount of time was spent in the office reorganizing the filing system and general clean-up. All correspondence was kept current and accounts were kept up-to-date and reconciled. A large portion of our time during April was spent with farming operations. Patrol trails and fences gone over after the spring run-off.

- B. Plantings
- 1. Aquatic and Marsh Plants

No aquatic planting were undertaken during the period.

2. Trees and Shrubs

No trees or shrubs were planted with the exception of the four dozen 3-4 foot red cedars which we secured on Rock Creek northeast of Hinsdale. These red cedars were planted in the vicinity of refuge headquarters.

3. Cultivated Crops

Thirty acres have been planted to barley during April, fifteen acres will be planted to corn on or about May 15th., and another fifteen acres will be planted to winter rye south of the railroad tracks in July or the first part of August to supply the geese with green goose pasture.

IV Economic Use of Refuge

A. Grazing

A total of 33 A. U. M's of grazing was permitted on the area during January, February, and March. These were all horses and were grazed at the rate of 50¢ per A. U. M. The rates being set and fees collected by the Bureau of Reclamation. Additional grass was still available, but we had no other requests for such grazing.

B. Haying

None this period

C. Fur Harvest

Reported previously in this report.

V. Field Investigations

No scientific investigations were undertaken during the period.

Vl Public Relations

On several occasions during the winter a large number of people from Malta spent Sundays skating on the Lake. At different times during February, and

March we observed twenty to twenty five people at a time viewing the carp seining operations which were conducted on the Lake by the McNeil Brothers of Saco, Montana.

B. Refuge Visitors

Mr. Ken Roahen, U. S. Game Agent with headquarters at Billings, visited headquarters during April. He was the only Service official that called on us during the period. Mr. Elmer Johnson, Chairman of the State Game Commission and several of the deputy Game Wardens visited us at different times during the period.

C. Refuge Participation

Refuge personnel attended sportsmens meetings of the local club at Malta on several occasions during the period. On March 31st I attended the Hill County annual wildlife banquet at Havre. I was a guest of the Club. Other guests included four State Game Department Officials from Helena and Mr. Tom Horn of the Fort Peck Game Range.

D. Hunting

Nothing to report this period.

E. Fishing

The carp seining operations carried on by the McNeil Brothers is the only activity in this line to report.

F. Violations

Most of our patrol activities during the period consisted of frequent visits to Nelson Reservoir, Hewitt Lake, and of course, Bowdoin and adjacent areas. We found no illegal hunting or any other game law violations.

Submitted 5-5-45

GENE H. CRAWFORD REFUGE MANAGER

Regional Director

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GENE H. CRAWFORD REFUGE MANAGER

Regional Director

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RECORDS AND
COMMUNICATIONS

Supplementary Report on Lake Thibedeau, Creedman Coulee, Black Coulee and Hewitt Lake Easement Refuges

A trip was made to Creedman Coulee, Thibedeau, and Black Coulee during March and another trip was made to these three areas the latter part of April. Hewitt Lake was visited on several occasions during the period by Fatrolman Dyrdahl and my self.

Of the four easement refuges supervised from Bowdoin, Black Coulee is in far better condition than the others. This area was visited on April 23rd and at that time we observed the lake to be within six inches of over-flowing through the spillway. This area is well fenced and the lake contains a good supply of aquatic growth. On our inspection of this area on April 23rd we observed approximately 2000 ducks consisting of shovellers, canvas-backs, L. scaup, buffleheads, golden-eyes, mallards, pintails, G/W teal, gadwall, and eared grebe. Large numbers of bullheads were caught from this lake last summer and no doubt will attract fishermen again this year.

The spring run-off was light at both Creedman Coulee and Hewitt Lake. Consequently no great amount of water was impounded. At both of these refuges the water level is twelve inches lower than for the same period a year ago. On my trip to the Creedman Coulee area on April 24th which was apparently at the peak of the migration I observed 1800 ducks and 5 Canada geese using the area. Hewitt Lake was visited by Patrolman Dyrdahl on April 27th and he reported 200 Lessor Scaup and 20 pintails using the area. Hewitt Lake is so near Nelson Reservoir that at times all the ducks are at Nelson while at other times the place is black with ducks.

Thibedeau was visited at the same time we visited Creedman Coulee on April 24th. This area is completely without water with the exception of the Diversion Dam Reservoir. This Reservoir is almost full. But there is no water at all in the lakes below. We observed two dozen mallards on the Reservoir and other than that no ducks were to be seen.

Dams and spillways have been inspected and have been found in good condition on all easements. All are well posted with boundary markers. Fences on Black Coulee have been checked and repaired.

A trapping permit was issued for the removing of 150 muskrats on the Creedman Coulee Refuge on a 50-50 share basis. This trapper was somewhat reluctant to sign the application for a permit on a percentage basis, as he had previously trapped on a trapper-take-all basis. To make things worse this trapper took sick during the trapping season, and consequently he caught only 16 muskrats. These muskrats fur were divided equally between the trapper and the Government. The eight hides due the Government were shipped to the Seattle Fur Exchange to be sold at auction.

Summary of Activities at Bowdoin Refuge for year May 1, 1944 to April 30, 1945

There was a change in Refuge Managers during the year. Mr. Hazletine moved from the Medicine Lake Refuge to the Lower Souris Refuge in North Dakota. Mr. Ekedahl transferred from Bowdoin to the Medicine Lake Refuge to become the manager at that point. I moved from the Crescent Lake Refuge in Nebraska on July 18th to take charge of this area. I was very well pleased when I arrived at Bowdoin to find that Mr. Ekedahl had left all property records, office files, and reports up to date. All correspondence had been kept current and accounts were kept up-to-date and reconciled. This was certainly a help to me, as it gave me more time to become acquainted with the new area.

The development work during the year consisted mainly of constructing dike C in the Dry Lake area in order to impound flood water from Beaver Creek. We completed the casting of the dirt for the dike (17,100 cu. yds.) and widened the borrow pit on the back side of the dike to the east boundary of the refuge, moving 5,850 cu. yds. of dirt in this operation. We started the dirt casting on September 8th with the dragline and finished up on this job the 30th of October. The dirt casting and widening of the borrow pit is now completed. All that remains to be done is the sloping of the dike and this is ten percent completed.

We had high hopes of being able to impound flood water from Beaver Creek in Dry Lake this spring, but Beaver did not over-flow its banks, and we will be unable to bring this unit into production this year. Until we are able to construct the dam and diversion ditch in Beaver Creek we will not be assured of a perminant water supply for Dry Lake.

A large portion of our time was spent with farming operations, mowing weeds, irrigating tree plantings, grading patrol trails and fire guards, and maintaining boundary fences. Refuge equipment was overhauled during the winter.

The public shooting area did not seem to be too attractive to duck and goose hunters during the hunting season. Some complained about the low water in Bowdoin, while others mentioned that the majority of the birds inhabited the protected bays and isolated pot holes on the coosed areas. A total of 75 man days of hunting were recorded with a bag of 187 ducks and 3 geese for the season.

We were unable to persuade the Bureau of Reclamation to furnish Lake Bowdoin with a sufficient amount of water during the fall to bring the water elevation up to the 2206.00 mark. They furnished us 1300 acre feet of water in September which brought the lake elevation up to the 2205.20 mark, thus we went through the winter with a low water level. Between March 10th and 13th we experienced a warm period and we received a small amount of run-off water from the area to the west of the refuge. This brought the lake level up to the 2205.30 mark. Reclamation turned water in their Dodson Canal on April 7

and we again requested water from them. Between April 9th and 23rd we received 1500 acre feet of water from them. This brought the lake up to the 2205.80 mark. We asked the Reclamation ditch walker to turn the water off on April 23rd rather than bring the water elevation up to the even 2206.00 mark as it was getting so late in the season that we thought it might interfere with duck nesting.

Other high lights of the year consisted of the carp seining operations which were undertaken by the McNeil Brothers during the winter under special use permit. These men caught 105,000 pounds of these fish of which 90,000 pounds were sold on the New York market and 15,000 pounds were sold locally. I have been informed by the McNeil Brothers that they realized 5¢ per pound FOB Bowdoin from the sale of all carp taken from the lake last winter.

The spring migration was at its peak on April 20th when we observed 25,000 migratory birds using the refuge.



Patrolman Dyrdahl with two coyotes caught during January R-3-1 No. 781 1-6-45



Feeding ducks in the spring holes adjacent to Nelson Reservoir six or seven miles northeast of Bowdoin R-3-2 No. 782 1-10-45



R-3-3 No. 783 3-6-45



Two photographs showing a portion of the flocks of 10,000 mallards which remained with us all winter on the spring holes adjacent to Nelson Reservoir. R-3-4 No. 784 3-6-45



R-3-5 No. 785 1-27-45



The two above pictures show carp seining operations which were carried on here at Bowdoin by the McNeil Brothers
R-3-6 No. 786 1-27-45



This picture shows the McNeil Brothers and their crew pulling the carp sein from under the ice. The ice was 24 inches thick when this picture was taken. Notice the spectators who had come to refuge to view this operation. R-3-7 No. 787 1-27-45

Form NR-1

MIGRATORY BIRDS

(1) Species			(3) (4) Became Common Peak Concentration			(5) Last Ob	served	Young	(7) Total		
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.			Number Using Refuge
common Loon	1	4-28	4-30	7	4-30			1460			7
ared Grebe	2	4-25	4-29	200	4-30				1		400
hibe Pelican	8	3-30	4-7	2000	4-20					100	2000
ouble Crested Cormorant	111	4-25	4-29	288	4-29	1828	SE S	福品品店	4		50
reat Blue Heron	0 10	3-22	4-20	300	4-25	有品牌品	73 0	888			400
ommon Canada Goose	50	3-15	3-22	500	4-10	2022	100	2 2 2 2	易能		800
. Snow Goose	250	4-18	4-13	500	4-20	2000	0 0 0 -	15と別場	0.8	1911	500
ommon Mallard	1500	3-12	3-12	5000	4-1	9 2 2 8	a Pig	12822	80		10000
adwall	200	3-22	3-22	1000	4-1	Bend	and a	200	Bar.		2000
aldpate	60	3-22	3-30	1200	4-1	長四 5 四	5 A	12028	8	4	3000
intail	500	3-12	3-12	6000	4-1	2008		129 78	居 =	9	12000
/W teal	2	3-27	4-10	500	4-10	0 0 0	FI 35	10560	15		800
/W teal	2 2	4-28	4-30	100	4-30	222	9000	80.88	2 10		100
innamon toal	2	4-30	The on	ly ones obse	rved	200	8.8	2838	B B		2
hoveller	9	4-7	4-13	4000	4-20	2 8 -8	g \$15 :0 !	2 2 2 E	Buck		6000
odhoad	4-8	3-27	3-30	500	4-4	W. 3 1 4		25	30 E	0	1600
anvas-back	2	3-27	3-30	800	4-4	20 25	88	355	1		2000
. Seaup	13	4-4	4-7	1000	4-10	Sto To	Bet : 1	9.6 9	100		2000
m. Golden-eye	25	4-1	4-7	300	4-10	B B P	7.3	P 20 10 30	6 6		800
ouffle-head	1	4-1	4-2	35	4-10	200	N.3	FACET	100	5	100
m. Merganser	2	4-15	4-20	260	4-20	20 0 0	8.E.	0 0 0	276	2 4	500

REMARKS: (Pertinent information.not specifically requested)

A close observation was made during the migration and I was somewhat surprised in not being able to see a ruddy duck.

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

- (1) SPECIES:

 Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

 Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

1612

Form NR-1

MIGRATORY BIRDS

(1) Species	First Ob		(3) Became Common	(4) Peak Concen	tration	(5) Last 01	served	Young	(6) Produ	uced	(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.			Number Using Refuge
Cooper's Hawk Am. Rough-legged Hawk Golden Eagle Am. Bald Eagle March Hawk Am. Coot Killdeer Long-billed Curlew Western Willet Marbled Godwit Avocet Ring-billed Gull Great Horned Cwl Short-eared Owl	Here Here	CONTRACTOR OF THE PARTY OF THE	4-27 4-20 4-30 4-30 only o 4-30 4-1	1000 500 100 50 ses observed 17 3000	4-29 4-30 4-25 4-30 4-30 4-30	in minor, to reduce herteathed and and action and action and actions are an attention attention	d alast on polyad eachtraction	the restance of the section of the s	all at once, On refuges the		20 20 10 4 100 1600 500 200 100 2 17 6000 4 50
and duck to tryply.	stateton, and L'écric are c'héasin, et m'héasin a	Deck Build Tool of The Land Lead here	sanddent a partaga, me dominon o	o apected por the state of the spectrum and the spectrum		mal conta s mal conta s free of more	ris tost at	t akril "bol tol bear bad as edd dogs	representation of the contract	The same of	18

REMARKS: (Pertinent information.not specifically requested)

No Western Grebe, Sandpipers, Phalaropes, or Terns had put an appearance by the end of the quarter.

Form NR-1 - MIGRATORY BIRDS (Include species in families Gavidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

- (1) SPECIES:

 Use correct common names as found in the A.O.U. Check List, 1931 Edition, and list in A.O.U. order. General terms are to be avoided, such as "scaup", "teal", etc.; use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

 Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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



BOWDOIN

Refuge

Months of January 1 to April 30 , 194 5

(3) (4) (1) (2) (5) (7) (6) Young Sex Species Density Removals Total Remarks Produced Ratio Number broods obs'v'd. Estimated Total For Re-stocking For Research Estimated Hunting Acres number Pertinent information not Cover types, total per specifically requested. using acreage of habitat Common Name Bird List introductions here. Percentage Refuge Sage Hen Grass, sage, & These birds have established 50-60 Grease wood 30 them selves on the area 1500 acres south of the Great Northern Railroad tracks. aim on Laudea has each avused noon beard, bearboys in representative breeding Grass, weeds, Hungarian Part. to a vertice to wild turning and clover, & Grain fields. Ring-necked Grass, weeds, The Montana State Game Com-2000 clover, & Grain Pheasant mission removed 507 birds fields. bolton de de de from the refuge during the tistres plus those migrating that the refuge during certain winter under permit for re-stocking purposes. 97 used to determine population and area devered in survey. cocks & 410 hens. bedeauper vilepititeers ton moldscrottel tonnitived unito abulan ed bluoda ferevos betres ed ed elda Eldas agualos vino

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.

BOWDOIN

Refuge_

Months of January 1 to April 30 , 1945

alt 2	(2) Density Acr over types, total pe	Young Produced	Ratio			(6) Total	(7) Remarks
n.ir.r	beddinder som Acr	ted ted	LIGHT DECEMBER		(5) Removals		
	creage of habitat Bi	in bod	Percentage	Hunting For Re-	stocking For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
hera be Gi	rass, sage, & solution and solution acres	on turbed and the self of the	reverbing agriculture by the property of the p	decode, o. Stan cod when course of an ar ar	ru elg m ed bi stan as stan as stan as	50-60	These birds have established them selves on the area south of the Great Northern Railroad tracks.
Hungarian Part. Gi	rields.	wloy, phear	habitat.	nibern ming co Edalisvs	eritati	bedemided in represent the second reduced the second reduced to the second reduced red	(4) SEX HATTO:
Pheasant c	clover, & Grain	diring the		mober uni	7 im falo, i mobile cu imedia	2000 beingliss or shuloni	The Montana State Game Com- mission removed 507 birds from the refuge during the winter under permit for re-stocking purposes. 97 cocks & 410 hens.
	"bed neu per v		den molderrols			include other	Only column applic
1623							The second secon

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.
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- (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.

Refuge BOWDOIN

April 30, 194 5

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Species	750.10	Density	DESCRIPTION OF THE PARTY OF THE	1000	Remo	vals	-	NE CHARLE	D:	sposi	tion	of Fur		100	100	m-4-7
	abde.	Jodenical belief at 1 to the "Field Book o	bur Le	ritug	e and	, fer	relupi	yarg	Share '	Prappi	ng	ge		pe	Destroyed	Total
	mina	edanded to Vertebrate	make ed	baz	Mond	desk	200		Commod co	-	North	Refuge Shipped		Donated	tr	Popula-
	direct	Cover Types & Total	Acres	Hunting	Fur Harvest	Predator	For Restocking	For Research	Northness	ers	0	Shi	0 0	Dor	Des	tion
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Common Name		Acreage of Habitat	Animal	Hu	FL	8 2	Fo	For	Number	Trappe	ReSh	Total Furs St	Refuge Income	Furs	Furs	
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Rabbit, cottonta	a11		(Bugger)				5-000	AND DESCRIPTION OF THE PERSON	Programme Angel	SCALLES.		A	1 20	4 3		200
Rabbit, Jack, W/	4-11	moved since April 30	n vious	no d	DEED 1	abou	radin	n Isa	of the te	molion		- 70-	181	VCS	FE	(8)
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DELLI DILO	See a Trees	ot and sounts altimo	one obta				449-	Steren St.								2/3

REMARKS: Muskrat and coyote skins were shipped to the Seattle Fur Exchange
To-date we havn't been advised as to the price rec'd from the sale of these fur-

Indicate inventory mathod(e) used, size of cample area(e), introductions, and any other pertinent information not specifically requested.

161

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. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)

(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, 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. Also show any removals not falling under heading 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 and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

TOTAL POPULATION:

Estimated total population of each species reported on as of April 30.

REMARKS L

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Qtr. ending April 30, 1945

Refuge Bowdein Year 194_

Relative Abundance	Sport F Man days Fishing	Number Taken	Commercia No. of	Pounds	Number	ocking	Number re-
		Idadii	Permits	Taken	Stocked	Area Stocked	moved for Restocking
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Very abunda	ant	STATE	12919	105,000	The same	C 4 3	And the state of
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THE STREET							10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
						TO BE WELL TO	100
		100		No. of the		The state of the s	1 1 1 1 1
	Very abunda	Very abundant	Very abundant	Very abundant 12919	Very abundant 12919 105,000	Very abundant 12919 105,000	Very shundant 12919 105,000

REMARKS:

Carp scining Permit was issued the MoNeil Brothers of Saco, Montana for scining and selling of carp on the commercial market. There is no sport fishing here at Bowdein as the lake is so alkali that no game fish can live in the water.

The selection are the control of the

MAY 9 - 1945 AND WILDLIFE SERVICE

Form NR-1

MIGRATORY BIRDS

Refuge	Hewitt Le	ke Ease	ment Refu	Mon	ths of _	January 1	_ to _	pril 30	_, 19	4 5	1612
(1) Species	First Ob) served	(3) Became Common	(4) Peak Concen	tration	(5) Last Ob	served		(6) Produ	ced	(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg.		Number Using Refuge
Pintail				20	4-27					100	
resolutions at selester shift and the same seek seek sook seek shift seek sook seek shift seek sook seek shift seek sook seek shift seek sook soo	form opticity feet, Jan Smed .U.O.A of ora series formans a their ora series formans as their persons as the persons as the orange of their series for their orange.	The first refuge record for the specie during spifing migration, fall migration made and the manner of the the manner of the manner of the manner of the the theory of the the theory of	equ dustibers lo eque est un berranded. Sebragarath ed per medical abid est es homeson amsobd seloson est estab est.	To Levrague and to redeem destants and to Levrague, so the second to the second to the second to the second second to the tent and	or non-migrante, or fall migration, of authors, and the musical of obtions originals.	hand Sporthous Mandey, To underst beganified on the transfer of the section of th	mariogating this or the ornanting banks before the best and the area of the best and the second of the s	if chf born and sit situe early add to the the total and t	the section of the filth land, the figure		

REMARKS: (Pertinent information.not specifically requested)
The above list of birds were observed by Patrolean Dyrdahl while visiting the area on April 27th.

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

(1)	SPECIES:	Use correct common names as found in the
		A.O.U. Check List, 1931 Edition, and list
是		in A.O.U. order. General terms are to be
8		avoided, such as "scaup", "teal", etc.;
-		use "green-winged teal" or "lesser scaup".

- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- 6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

 Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

^{*} Only columns applicable to the period covered should be used.

Form NR-1

MIGRATORY BIRDS

Refuge	Thibed	0812		Mon	ths of	Jemery 1	to At	eril 30	_, 19	945	
(1) Species	First Ob) served	(3.) Became Common	(4) Peak Concen	tration	(5) Last Ob	served	Young	(6) Produ	aced	(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg. Size	Esti- mated Total	Number Using Refuge
Common Mellard				24	4-24					feton	
swiring at esteeps shifted; and bus shifted; and bus seven ones teabisfrits days, some seven that seem to set the sex the sex the sext the	I have described that the product and I on I	The flas tefte record for the species during applies algorithen, fall signation winterfag, or emmertag, and the musical	observed. In the case of resident apendate this column may be disregarded.	The greetest tumber of the apectes pro- on any one date or lightled integral of The last refuge record for the apectes	side the special of less agreement, and the manage and the subgraphes of obvious original or opinions original or opinions or populations or populations.	Selfactor and to young to and an addition on the station of young produced by the selfactor and self	Estimated having no basis in Tact are be catalabled.	At air, borned and gettub agules add to less that sails expe we for year to man only soon pulkasepsh , sandistribusersh very nt (Spromb ease strate intake	paridosperues seguites no Leono Te Lia curgit est secsi digalli and lo monthered	Season and Milmodia Serviceson for Svince and S. col-	Thurse The state of the state o

REMARKS: (Pertinent information.not specifically requested)

Twenty four mallards were observed on the Diversion Dam Reservoir on April 24th when we inspected the area.

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

- (1) SPECIES:

 Use correct common names as found in the

 A.O.U. Check List, 1931 Edition, and list
 in A.O.U. order. General terms are to be
 avoided, such as "scaup", "teal", etc.;
 use "green-winged teal" or "lesser scaup".
- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

 Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

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

MAY 9 - 194

WILDLIF OW

Form NR-1

MIGRATORY BIRDS

Refuge_	Creedmen	Coules	Easement	Refuge Mon	ths of _	January 1	to	April 30	_, 19	94.5	1612
(1) Species	First Ob		(3.) Became Common	(4) Peak Concen	tration	(5) Last Ob	served	Young	(6) Prod	uced	(7) Total
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg.		Number Using Refuge
Common Canada Goose Mallard Baldpate G/S teal Shovelers Pintail L. Seaup Am. Goldeneyes	i bus .noifile [EVI .tml. iced) .U.O.A of oth to Enrered Intention .U.O.U. order .u.o.A of a torner .u.o.bebiova	altern edt not brocer eguter denit edt i ottangte List ,optiengte gebies grind momer edt fos ,antremes to ,antredale	age draphes In the pass of respective and appropriate this column and be distributed.	\$ 500 \$00 \$00 \$00 \$00 \$00	4-24 4-24 4-24 4-24 4-24 4-24 4-24	need terminent groupe to redemm betanifest up sinuso Laudes has non-blavesed moguliarors subtantes situates and manager as even to one on sham ed blacks admiss	self-self and all along to a top the self-self-self-self-self-self-self-self-	And a fer a the first of the second and a second se	f goldmessager asgalat an .epan in 17,5 . surght add , smal digital add is suchraft	ACTION AND ALL ROUGH SIDE WAS SAME AND ACTION OF THE SAME AND ACTIONS.	aher e yan *

REMARKS: (Pertinent information.not specifically requested)

The above list of birds were made of the birds on the area whon we visited it on April 24th

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

(1)	SPECIES:	Use correct common names as found in the
		A.O.U. Check List, 1931 Edition, and list
13		in A.O.U. order. General terms are to be
- 6		avoided, such as "scaup", "teal", etc.;
- 81		use "green-winged teal" or "lesser scaup".

- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
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- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

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^{*} Only columns applicable to the period covered should be used.

SMALL MAMMALS

nar Rep.

Refuge Creedman Coules Easement Refuge

April 30, 1945

(1) Species	(2) Density			(3) Removals				(4) Disposition of Fur						(5)	
	things with the	OF ENT	100	13.00	n Earl			Share Trapping					pe	oyed	Total Popula-
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator	For Re- stocking	For Research	Permit Number	Trappers' Share	Refuge Share	Total Refuge Furs Shipped	Refuge Income	Furs Donated	Furs Destroyed	tion
liuskrat	Marsh, bullrush 200 aeres	800		16	10 50 F			T-3227	1	n no	8	x			200
	orings endin his on	1 January 10 Devol	15.55 15.55	37 43	50 · 02	pertug latery		or contract	arrotti arrotti				A IN IN		
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	Jest apparts o'meggar.	e piedad Projection	13-5	oug.	1000	ALL SE	THE REAL PROPERTY.	100 mg	ofe of	100	N ED	023	OIR	10	
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		misi to no		2019	4 11	street	50 1	Lucidi, to	Dening			3 18	1		

REMARKS:

Muskrat skins 'Gov't. share' were shipped to the Seattle Fur Exchange to be sold at austion To-date we havn't been advised as to the price rec'd from the sale of these fur.

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. "List of North American Recent Mammals" by G. S. Miller, Jr., a very good reference, is now out of print, although a revision is scheduled for publication in the near future.)

(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, 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. Also show any removals not falling under heading 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 and the total income to the refuge by species, including share-trapped furs and furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimness 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 L

Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

Form NR-1

MIGRATORY BIRDS

(1) Species	(2) Gecame Common		(4) Peak Concer	ntration	(5) Last Ob	served	(6) Young Produced			(7) Total	
Common Name	Number	Date	Date	Number	Date	Number	Date	No. Broods Obsvd.	Avg.		Number Using Refuge
Eared Grebe Common Mallard Gsdwall Pintail G/a teal Shoveller Canvasback L. Scaup Am. Golden-eyes Bufflehead	hrs , moithibh [EOI , tell Mosdo ,U.O.A , ers corned farmersO , tebras ,U.O.4 st. , durance se dusts , hablors on request' , an "fast beging-coersy" sen	The first refuge record for the apect during spring migration, fell migration windering, or sussering, and the nomi	s drawing to suse edd ni "betracio el birte contra to the data site of the off	10 500 50 50 50 50 50 50 6	4-24 4-24 4-24 4-24 4-24 4-24 4-24 4-24	of technosic annous to redean detailed a strategy strategy for another section and a strategy sound . Make a strategy strategy and a strategy and a strategy strategy and a strategy strategy strategy and a strategy strategy strategy and a strategy strategy and a strategy st	aggrangating lung of the bracking nature intimates hawing no basis in fact are be cultical.	t airt . bottag ents gettush egyter eits . To see als been dan't mets erne ed don van 50 . To ents nour gelbregeb , mondeletting reper et .	prichmentary magainer no sento de life agit the to sunhand	to the transfer and the technical and the colors	SADS - 8 YAM W

REMARKS: (Pertinent information.not specifically requested)

No record was made of the number of birds using the area during the quarter as this refuge is located too far from Bowdoin. The above list of birds were using the area on April 24th when we visited the area.

Form NR-1 - MIGRATORY BIRDS (Include species in families Gaviidae through Strigidae; also doves and woodcocks)*

In case a resident form occurs, such as mottled duck on the Gulf Coast, use only the columns that apply.

(1)	SPECIES:	Use correct common names as found in the
(-)	OI BOLDO!	A.O.U. Check List, 1931 Edition, and list
		A.O.O. CHECK IIISO, 1931 EXILCION, and IISO
		in A.O.U. order. General terms are to be
		avoided, such as "scaup", "teal", etc.;
		use "green-winged teal" or "lesser scaup".

- (2) FIRST OBSERVED: The first refuge record for the species during spring migration, fall migration, wintering, or summering, and the number observed. In the case of resident species this column may be disregarded.
- (3) BECAME COMMON: The date the species became common on the refuge.
- (4) PEAK CONCENTRATION: The greatest number of the species present on any one date or limited interval of time.
- (5) LAST OBSERVED: The last refuge record for the species during the spring or fall migration, wintering, or summering, and the numbers observed exclusive of obvious cripples or non-migrants.
- (6) YOUNG PRODUCED: Estimated number of young produced based upon 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 are to be omitted.
- (7) TOTAL:

 Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the manner in which birds come through; i.e., in waves or all at once. On refuges representing the terminus of the flight lane, the figures would probably be the same in many cases.

^{*} Only columns applicable to the period covered should be used.



Refuge BLACK COULER RASEMENT REFUGE

Year 194 4-45

N. L. D.		Sport 1	Fishing	Commercia	l Fishing	Rest	ocking	Number re-	
Species	Relative Abundance	Man days Fishing	Number Taken	No. of Permits	Pounds Taken	Number Stocked	Area Stocked	moved for Restocking	
ullheeds	abundant								
							10		
							A ST		
C ROTTE	THE THE PARTY OF	The same of	THE REST		1 000000	1 1 1 1 1 1 1 1			

REMARKS: Black Coules is open to sport fishing during the regular fishing season. I have observed several splendid catches of bullheads from this lake last summer, however, I have no record of man days of fishing or number taken.

DEPT. OF THE INTERIOR
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MAY 17 1945 RECORDS AND COMMUNICATIONS

