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| | ROUTING SLIP DIVISION OF WI | IDLIFE REFUGES DATE:194 |
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| | MISS BAUM | Miss Cook Just 1-22 |
| | SECTION OF OPERATIONS: | SECTION OF LAND MANAGEMENT: |
| ŝ | Mr. Ball | Mr. Kent. |
| | M r. Regan | Mer Andreadeneredate /// |
| | SECTION OF STRUCTURES: Mr. Taylor | STENOGRAPHERS : |
| | REMARKS : MOOSEHORN NA | RRATIVE REPORT |

SEPTEMBER-DECEMBER 1947

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- MOOSEHORN NATIONAL WILDLIFE REFUGE SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER, 1947.

A. WEATHER CONDITIONS.

| Tem | perature | | Precipitation | | | | | | |
|------------|----------|--------|---------------|------|--|--|--|--|--|
| Mean | | Normal | Rain | Snow | | | | | |
| September, | 57.8 | 55.8 | 2.07 | 0 | | | | | |
| October, | 53.6 | 47.5 | 19 | 0 | | | | | |
| November, | 38.4 | 36.7 | 4.68 | 40 | | | | | |

December. (No records recieved at the time of submitting report.) Reading from U. S. Dept. of Commerce, Weather Bureau, Eastport, Me.

B. WATER CONDITIONS.

In looking over my last year's report for this period, I wrote "This is the dryest period we have had for a great many years." I really do not know just how to express myself this time because we just didn't have any rain for all summer and fall and almost everything dried up, thus creating a terrible fire hazzard. Our large rivers became streams and some brooks dried up altogether. Such conditions did not exist on this refuge or at the Edmunds Unit, and the reason why, we had our beaver and plenty of water. Although the water in our streams did get very low, once again the springs on this refuge and at Edmunds furnished drinking water for hundreds of people in the surrounding country.

C. FIRES.

The extremely dry weather which continued through most of November was the worst drouth in the history of the state. October 24th. was the worst day I have ever seen. We had forest fires all around us, including Canada. The smoke drifted in over the refuge so thick that there days one could hardly see the office buildings from the Manager's residence. There was so much ground smoke our fire tower was useless, therefore, we had to patrol our refuge roads both night and day. If a fire got any start it would have been impossible to have stopped it. The woods were so dry that they were closed, both here and in Canada, to the public during most of the hunting season. At one time I was so worried here that I blew water holes in the swamp under the hill south of the headquarters site and laid hose in order to save the buildings in case a fire should sweep this way. To make matters worse, the wind blew as high mas forty miles and hour from the West. I worried so much about fires that I actually lost twelve pounds. We had one fire at Edmunds, November 4th., but it was discovered and knocked down immediately. We had to watch it, night and day, to keep it from breaking out. We punped water - Pacific pumper - for days and it still smoked. I do nothever want to go through another fire season like that one.

11. WILDLIFE.

A. MIGRATORY BIRDS.

We had some very heavy rains during the nesting season for woodcock which destroyed many nests. The proof of this lies in the fact that several of the hunters I talked with complained of the smallness of the birds, and that most of the birds were unuaually small but that some still had pin feathers when killed. Woodcock were scarce, even in Canada. The shortened season, on account of closing the woods during the dry weather, should help.

Black ducks made a little better showing this fall. Malcolm Coulter took a census of the waterfowl in Magurrewock marsh October 5th. at 1.30 P.M. and counted 72 black ducks, 24 Ring becks, 1 Mallard, 1 Bluewinged Teal. He took it in the middle of the day and did not cover the entire marsh. He found only 4 black ducks in Barn Meadow the next day. Along the last of November we had a few Goldeneyes - 75 - but I didn't see a scaup for the fall.

We had a Northeast wind November 5th. and with it came two large flocks of Canada Geese. The one in the morning had about 75 and the one in the afternoon about 100.

111. REFUGE DEVELOPMENT AND MAINTENANCE.

A. PHYSICAL DEVELOPMENT.

We certainly did a lot of development work this fall in spite of the fact that we lost some time patrolling on account of the very bad fire season. We plowed up about two acres of land in what is known as the old John Young meadow - Lower Moosphonn Valley - on the west side of Stream. I plowed and harrowed both acres and seeded one half to alders with seeds I had gathered. The land is very rich, black loam and if I can get a good stand of alder on the acres I planted, we can condition the entire lower Moosehorn Valley meadows and get some excellent woodcock covers quickly. The area in its present condition is of no value for woodcock usage.

Our water control structure at the outlet of Barn Meadow marsh was too small to prevent a quick run-off of water after heavy rains. Therefore, I built a new one that will do an excellent job of stablizing the water level at the mouth at all times, except when it leaks in from exceptionally high flood waters in the St. Croix River.

I hired a large tractor plow and plowed up the entire west side of Barn Meadow marsh. I plowed every bit of marsh I could and then used the Bulldozer to make many pond holes along the edge of the marsh. Along the upland border I planted smartweed and millet. In some of the upper pond holes I planted wild rice and on the wet edges I planted three square seeds. In the lower pond holes I plan to plant PoTomageton natans which I hope to gather this next fall. The head and east side of the marsh I plant to condition next fall. This is sure to make an excellent breeding, feeding and flight area for waterfowl when conditioned as the soil is black, rich loam over clay.

We didn't get much chance to burn slash this fall owing to the extreme dry weather and the ban, but we did manage to burn some.

We repaired the entire fence around the exterior boundry.

One of the best development jobs we did was the improvment work on Hobart Stream, Edmunds Unit. The water in this stream gets very low during the summer months which often means the loss of trout and sea salmon. The temperature of the water never gets too cold to kill the fish because of the many springs that feed into it. Years ago Sea Salmon ran up this stream in great numbers, but the stream wasn't used much because it had silted in and there were very few holes the fish could find where water was deep enough to live in during dry spells. Therefore, I took our Bulldozer and deepened holes where these little spring brooks enter Hobart Stream. Two of our men came here from the Fisheries Service and built the fish fence and stocked Hobart Stream with sea salmon Parr. I built a sheer boom to keep the ice, when it breaks up, from destroying the fence. We did all of the handling of material to build the fish fence for the Fisheries Service. They did a nice job of building the fence and stocking the stream and the resubts of the work done should be successfull. The natives and the members of the Dennys River Salmon Cjub are watching the results of this stocking with very keen interest. The deepening of the spring

holes in Hobart Stream was my own idea and I want to make a record of it because it is the first type of that work ever done so far as known.

We also built over our old plow so that it works quite well for plowing marshes, if the top sod is not too thick when it takes a heavy plow.

On account of the large usage of the recreational area at Edmunds, we had to provide more wood for the fireplaces.

IV. ECONOMIC USES OF THE REFUGE.

A. GRAZING.

People brought their cattle from miles around to pasture them on this refuge. We were able to accomodate all the stock people asked to pasture this season, but it will be necessary to fence in some of the old hay fields for pasture lands as they are becoming so unproductive that the cutting of hay is not practical.

B. HAYING.

Covered above.

C. WOOD.

We haven't sold as much fuel wood as usual because people have more money and instead of cutting their fuel wood they are buying oil for oil burners.

D. CRANBERRIES.

We had a very good crop of cranberries this year but an early frost came and spoiled most of the berries. However, we sold quite a few bushels.

V. FIELD INVESTIGATION AND APPLIED RESEARCH.

A. FOOD AND COVER.

The plantings made in Magurrewock Marsh have done very well. The Starlings and Blackbirds and the muskrats did considerable damage to our wild rice crop. I intended gathering some Polemegeton natans for planting in the marsh and also some more plowing and planting of smartweed and millet along the borders but, between the bad fire season, the work conditioning Barn Meadow as a waterfowl area and the other work, we didn't have the time. See "Refuge Development and Maintenance" regarding development work at Barn Meadow, Youngs Meadow and Hobart Stream, Edmunds Unit. The results of our fuel wood and pulp wood operations, together with our other habitat improvement work, provides an abundance of food for every species of wildlife using this area. It was a beautiful sight this year to see the abundance of fruit and berries produced on this area. It was all a result, directly or indirectly, of our habitat improvement work.

B. UPLAND GAME BIRDS.

Sometimes I think there is an improvement in the ruffed grouse situation and then again observations lead me to the conclusion that the situation remains about the same.

I'm too busy to get back into the deep woods to learn how the spruce grouse are making out.

C._ BIG GAME ANIMALS.

It seems to me that there were fewer deer on this area this year than last. There were many more deer killed on the outside during the open season than last year which may account for the decrease. Then we had more poaching on the area this year than last. We had four white deer staying together in the pasture of the old Delbert Stewart farm. The could be seen almost any evening and many people came out to see them.

I saw moose several times on the refuge. They were also seen by many others. It is my opinion that our beaver flowages is the reason why the moose are using our refuge more. During the breeding season two of the bulls came out right in Miltown and I'm afraid they didn't get back.

I continue to find where wildcats have killed deer. Yesterday I found one. The evidence is unmistakable. They almost always eat a little of the steak from one hind leg and then drag the kill (if not too heavy) off a little way and try to cover it up with leaves, dead grass or anything that is handy to the carcus at the time. One of my friends followed a wildcat for three days before he killed it and in that three days the cat killed four deer. Every time I follow a cat track, I find where the cat has killed one or two deer and sometimes I find where they have killed and eaten a rabbit and soon afterwards killed a deer. Now the wildcat didn(t kill the deer because it was hungry. That's sure. Black Bear are very plentiful, but I haven't heard of them doing any mischief on farms near the refuge and it is surely because they are finding plenty of natural food on the refuge, such as berries, fruits and nuts.

Red foxes are showing up quite plentiful this year, and I believe they are one of the causes of keeping our rabbits scarce. As they do not seem to increase as they should. I call rabbits scarce to what they were when they were plentiful.

Otter are increasing on the area and they sertainly are killing off a lot of muskrats and how much damage they are doing to the trout on our streams I just do not know.

We have hundreds of beaver on the refuge and I was mighty glad that we did have during the bad dry period we had this year. The Deputy Chief Game Warden of Canada, New Brunswick, told me that two beaver dams this summer kept the town of Bonny River, N. B. from being burned up by a forest fire that swept unchecked to the beaver dam So far as waterfowl, and in fact the refuge itself is concerned, beaver are its most important assets

E. Predacious Birds.

Ravens and crows are too thick on the refuge and I am going to try and get rid of some of them this spring.

F. Fishing.

It is certainly a shame that the streams of this refuge were not stocked either this year or last. I built two large tanks in which to haul fish to stock streams and I would like to use them.

VI. PUBLIC RELATIONS.

B. Refuge Visitors.

We have many good friends up here wholly because of the benefits derived one way or another from this refuge. I do not think it good public relations to maintain a public or private shooting area with our refuges. This area would not be much of a wildlife refuge if it wasn't for the protection I give it by working extra time, sometimes all night. I have been at Game Law enforcement work for thirty four years and it's the first time I ever got beaten up by a violator. He got me when I least expected it and hurt me quite badly. This assault is comong up in Federal Court in June and it is expected that Herrman Farris will be sent to prison for a long stretch.

On the morning of November 9th. at daylight, I found a small deer wounded in the neck and side with twenty two caliber bullets. The deer was evidently shot in the night by hunters using a twenty_two so as to make no ise. The next night we laid for them to come back, which they did. As the hunting was done on the line between the Government area and one of those blocks we do not own (the Ward block), the hunters were taken into State Court November 11th. and found guilty and fined \$100. and costs of two to five dollars each.

Working alone December 18th., I found two hunters on the refuge with a gun at night. They gave their names as Theodore Nilsen and Donald W. Call, both of Eastport, Maine. I wrote Game Management Agent Lee F. Brackett and he advises that he took up the matter with the U. S. Attorney's office and was told it was simply a case of trespass and that the Court would probably suspend sentence. It's a case of work hard to catch them and then work to get the Court to do anything. Managing an area of this type successfully under present conditions is a very difficult job.

APPROVED:

Refuge Supervisor Regional

Date

16, 1948

NARRATIVE REPORT

EDMUNDS UNIT

MOOSEHORN NATIONAL WILDLIFE REFUGE

September, October, November, and December, 1947

I. GENERAL

A. Water Conditions

During the first two months of this period the water in Hobart Lake and Hobart Stream which form the northern boundary of this unit were at the lowest level in many years. A moderate amount of rainfall during the latter part of November relieved this condition somewhat bu t it was not until December that water levels returned to near normal.

B. Fires

The fire hazard during October and the first week of November was the worst ever recorded. A constant fire patrol was kept up during the last three weeks of this t ime. The only rainfall between July 1 an d November 8 was a small amount early in September. By October the wo ods were tinder dry and high winds were the rule rather than the exception. U. S. Highway No. 1 and one side road cut across the refuge. Much of t he surrounding area has been cut over, some of it recently. The slash from these operations increased the fire hazard. Major fires occurred on all sides of us; some of these burned for weeks. On October 23 a high wind swept the Machias-Whitneyville fire to the sea, a distance of fifteen miles, in a matter of minutes. This fire was less than 20 . miles west of the refuge; if the wind had been from the west instead of the north our area would have been directly in its path and nothing co uld have saved it.

We were fortuna te in that only one small fire occurred on this unit during that period. The fire was discovered and reported immediately after it started; prompt and efficient action on the part of Mechanic-Patrolman Stanhope brought it under control when it had burned only about one tenth of an acre of forest land. No timber was damaged.

II. WILDLIFE

A. Migratory Birds

1. Waterfowl - a. Populations and Behavior. - The waterfowl population showed a slight increase this year over last. There is comparatively little fresh water habitat on this unit. Approximately 25 black ducks were observed on Hobart Stream and up to 150 of the same species at Hobart Bog. In the salt water bordering the refuge, however, larger numbers of waterfewl were observed. Early in the fall from 25 to 50 blacks could be seen; by mid-November when fresh water to the north had frozen over the number of blacks increased to 300 to 400 bi rds and occassionally up to 1000 of this species were observed near the refuge. The second most impo rtant species, the golden-eye, was present in slightly smaller numbers than the black duck. Fewer golden-eyes passed through during migration but the wintering population is approximately the same or perhaps slightly higher than that of the blacks. Other species present in small numbers include red-breasted merga nsers, buffleheads and an occassional mallard. Several flocks of Canada geese were observed passing over the refuge during the fall flight but none were observed on the area.

b. Food and Cover. - The main food item of the black duck in the salt water in this vicinity, the periwinkle or snail, is abundant. Other winter foods are also available in good supply. Eelgrass, formerly an important waterfowl food, is making a comeback in this area. Although th e growth is not as luxu riant or widespread as before the blight struck, the new beds showing up this year look encouraging. Since the salt water rarely freezes over during the winter the waterfowl cover is adequate.

2. Shorebirds. a. Populat ions and Behavior. - The American woodcock, our primary interest on this refuge, falls in this group. It is impossible to get good information on woodcock populations wi thout the aid of a trained bird dog. Since we have no dogs of our own we must depend upon local sportemen. Due to weather conditions our observations on native bir ds this fall were spotty. Since the main flight of woodcock occurred when the fire hazard was at its worst they were not observed as closely as usual. However, from the few observations made there seems to be a slight increase over last year. In one small cover three, five and seven birds were flushed on th ree different days where in preceding years the maximum number observed was four. These were believed to be native birds since it wa s too early for the fall flight. Also six birds were flushed in this cover one day early in the summer.

The only other shorebirds observed during this period were two greater yellow-legs on September 18.

b. Food and Cover. - Food and cover are adequate for the number of woodcock using the refuge. The areas on which cuttings were made to improv e the woodcock habitat have not fully developed into good covers as yet. When they do ou r woodcock population should show a substantial increase.

3. Other Waterbirds. - Our only bird of importance in this group is the great blue heron. They are most abundant around the salt water and it is probable that they have little effect on other species there. However, two or three were often observed along Hobart Stream which was stocked with about 35,000 small Atlantic salmon during the spring and early sum mer. Since the stream was unusually low during the late summer and fall it is probable that the heron preyed upon these salmon as well as the native brook trout to some extent.

B. Upland Game Birds

Ruffed grouse were present in about the same numbers as last year. This number is well below the carrying capacity of the refuge. Although they have made some recovery from the low point of their cycle a few years ag o, the population is still far from satisfactory. Si nce food and cover are more than adequate the scarcity must be attributed to the abundance of foxes and other predators and to other factors. There appears to be a slight decrease in the number of spruce grouse. Since these birds are so tame and easily preyed upon it is doubtful if their numbers will ever show a substantial increase.

C. Big Game Animals

1. Populations and Behavior. - The deer population showed a slight decrease from the previous year. Two reasons are suggested for this decline, -- scarcit y of winter food and poaching on adjacent territory with a resulting mig ration of refuge animals to less thickly populated areas. Of course it is probable that some deer were shot on the refuge itself, especially along the highwa ys; there is considerable night hunting from automobiles in this vicinity. Patrolling accounts for the major part of refuge personnel time during October and November. But it is believed that our losses from this cause were no greater than in previous years so would have no bearing on the decline. There have been no indications of losses to bobcats or dogs our most serious predators on this species; however, it is possible that the former have accounted for a few of our deer since the coming of fairly deep snow. No moose were observ ed on this unit during the period but one was reported to have been seen near the area. Black bears appear to be on the increase in surrounding territory bu t fewer signs were seen on the refuge itself. The tracks of two different animals were observed on the area during November.

2. Food and Cover. - Food and cover is more than adequate for big game animals with the exception of winter food for deer. White cedar, th is animals staple winter food, is abundant but in most sections there is little reproduction and the lower branches of the larger trees have been so heavily browsed there is little foliage left within the reach of the a nimals. Balsam fir is very abundant; deer do feed upon the foliage of this species but it is more of a starvation diet. It does not p rovide the nourishment necessary to keep the animals in top condition to withstand the rigors of winter. Many become weakened and are e asy victims of disease and predators.

D. Fur Animals, Pred ators, Rodents and Other Mammals

Cur most abundant fur animal as well as our most serious predator is the red fox. Tracks of this animal are everywhere. Their fur has very litt le value and th ey are not hunted to any appreciable extent. Foxes undoubtedly play an important part in keeping our small game populations at a low point. A fox den was found near the refuge during the summer; nearby w ere the r emains of woodcock, grouse and rabbits which were probably brought to the den by the female for her young. It would be desirable to initiate some sort of control measures on this species. Three bobcat tracks were observed on the first snows of the winter. These anima ls have been quite numerous for several years and there is no noticeable change in the population this year. Snowshoe hares appear to have passed the low point of their cycle and show a substantial increase in numbers this year. Food and cover are more than adequate; if not kept down too much by foxes and other predators these animals sh ould reach their former abundance.

The only other sign of fur animals observed on this unit of the refuge during this period was the track of an otter on the ice at Hobart Stream. There is an active beaver colony at Hobart Lake Inlet adjoining the refuge but these animals have not been observed on the refuge itself. Undoubtedly there are a few mink, weasel and skunks present but no tracks have bee n observed. One other small mammal is becoming very abundant on this unit, the porcupine. It is not unusual to see fo ur or five of them in travelling the six mile distance to th e back end of the truck tra il. Some study is needed to determine the amount of damage these animals are doing to our timber. Their favorite species, the tamarack, is generally considered a weed tree. But they do not confine their feeding to that species. In one small section of mixed growth they seemed to single out sugar maple as their favorite food; some small trees were almost completely stripped of bark. Birch, spruce, hemlock and pine also are damaged. The latter is one of our most valuable trees and is not too abundant on the refuge.

E. Predaceous Birds

Crows and ravens are our most abundant predaceous birds. They are year-round residents and although noticeable flights of the former occur in the fall, the win ter population is not much below that of the summer. Neither of these two cause much damage at this time of year although crows undoub tedly take their toll of waterfowl nests during the spring. No appreciable change in numbers of these birds was noted this year over p revious years. The blad eagle is also present t hroughout the year. Undoubtedly they prey upon our waterfowl an d other species somewhat bu t are not present in large enough numbers to do any great amount of damage. No hawks or owls were observed during th is period although a few of these species undoubtedly are present.

F. Fish

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The water level in Hobart Stream and its tributaries was very low during the early part of this period. Just how much this affected the fish cannot be stated; it definitely was detrimental in that it reduced their food and oxygen supply and made them more easily accessible to predators such as the great blue heron. However, there are enough sp ring fed pools to accomedate after a fashion the native trout and the 35,000 young Atlantic salmon which were introduced this year. It is doubtful if the fish population as a whole suffered too severely from the effects of the low water.

III. REFUGE DEVELOPMENT MAINTENANCE

A. Physical Development

No major development work is in progress at this unit. During the time of 1 ow water in October some stream improvement work was done on Hobart Stream. Using a bulldozer several spring-fed pools were dug out and enlarged; small earth and stone dams were pushed up at the lower end of still water stretches to raise the water level on them; a shallow channel was made on one long section of rips so that an appreciable amount of water flowed in one place rather than several insignificant trickles flowing among the rocks. Also during the late summer and fall some work was done in cooperation with the Fisheries Division and the state Fish and Game Department in constructing a fish screen and trap to check on the migration of Atlantic salmon planted in Hobart Stream as well as a shear boom to protect the screen from ice and debris. Since the hunti ng season closed November 30 and the need for patrolling lessened somewhat a small amount of cutting has been done on the woodcock development area north of refuge headquarters near highway No. 1. This area which was once a mowing field is heavily wooded. Nearly all of the merchantable timber has been removed and the remaining growth is being clearcut to encourage the growth of woodcock cover. The area is watered by several springs and a spring brook. That part which was cleared in previous years is already coming in to excellent woodcock cover. The wood obtained from this cutting is manufactured and used for firewood at the recreation area during the summer.

The usual necessary maintenance work was performed during this period. Among other things the approximately twelve miles of boundary wire was checked over for breaks and fallen trees; and about ten miles of refuge roads were graded.

IV. ECONOMIC USE OF REFUGE

A. Grazing

34

Pasturing of cattle on refuge lands continued until the latter part of October. Due to the lack of rainfall the feed was poor and some of the cattle were removed from the pastures before the end of the period. The practise of pasturing cattle is believed to be quite beneficial to woodcock; some of our best woodcock covers occur in pasture land. Also the economic use benefits the community and is advantageous to us from the public relations standpoint. Information on this usage ma y be found on form NR-10 attached.

B. Timber Removal

Four special use permits for removal of timber were issued during this period. These were for firewood and pulpwood to be cut on areas which are to be cleared to encourage the growth of woodcock cover. Also two permits for the cutting of Christmas trees were issued; this also he lps in a small way in the c learing of woodcock covers. Stumpage received for firewood was at \$1.25 per cord and for pulpwood at \$3.00 per cord. Christmas tree stumpage was at the prevailing local rate of \$.20 per bundle.

V. PUBLIC RELATIONS

A. Recreational Uses

Maintenance of the recreation area continues to be one of our major projects during the summer and early fall. Firewood must be cut, manufactured and hauled to each of the seven picnic areas; the grounds must be policed, rubbish burned and garbage removed. This work must be done at least twice each week and usually more frequently. Thus much valuable time is consumed which could be spent to advantage on refuge maintenance, development and biological observation and investigation. It is estimated that 8000 people used this area during the past season; of this number about 200 were campers. About 300 picnics were held on th e area of which 13 were large groups such as the county 4-H clubs.

B. Refuge Visitors

Mr. Arthur Mill er, Regional Refuge Supervisor, was at the refuge in connection with his duties on October 14.

C. Hunting

Although we have no public shooting areas on the refuge the surrounding territory unqu estionably benefits from the presence of the refuge. Notwithstanding the shortened hunting season this year due to fire conditions, the kill was nearly equal to that of last year.

D. Violations

Patrolling accounted for the greater part of refuge personnel time during this period. This was mostly night work during September and October but with the opening of hunting season in November it was necessary to increase the amount of day patrolling. Some of this work was done in cooperation with state wardens. No violators we apprehended on this unit during this period.

Respectfully submitted,

Edmunds, Maine January 7, 1948

Refuge Manager

3-1750

Form NR-1 (Nov. 1945)

WATERFOWL

Total Production:

Ceess

| | (1) Species | (2) First Seen | (3) Peak Concentratio | n Last So |) een | Young | (5) Produced | (6) Total |
|------|---------------------------|------------------------|--------------------------|-----------------|--------------|-----------|--|--------------|
| | | | Asses heed by con | | | Broods | Estimated | Estimated |
| | <u>Common Name</u> | Number Date | Number Date | _ <u>Number</u> | Date | Seen | - <u>Total</u> | for Period |
| I. | Swans: | • | | | | Start S. | P P La C | |
| | Whistling swan | t areas his season | Principal nesting | | | | e la casta de la c | A starting |
| II. | Geese: | | and the second | | | | | |
| | Canada goose | 6 6/16 | 60 4/18 | 175 | 11/15 | 0 | 0 | 180 |
| | Cackling goose | | Report | | | | | |
| | White-fronted goose | and the second second | 1. 3. 11 1- 1 | | | | | |
| | Snow goose | | EMUTTOURT | 111 | ar salar and | | | |
| | Blue goose | | | | | | | |
| | refuge during the | pecies occurring on | ed on form, other s | he birds lis | tion to 1 | In addi | pectes: | 1. (1) |
| III. | Ducks: | spaces. Special at | al and Mational sig | pectes of lo | o those s | given i | | |
| | Black duck | 4 3/15 | 150 4/2 | | 11/19 | Still 1 | one in winter | 300 |
| | Gadwall loger edt di | he season concerned | the species during t | record for | st refage | The fit | Trat Seen: | (27) |
| | Baldpate Pintail | 1 3/29 | Listed with black | tiuck was so | in in an | | LA VORT BOOM | |
| | Green-winged teal | 17 Ated interest of | 8 at 182201 204/1 | Found zes | 1 aging e | EE. A11 1 | artiched 100 100 | 1 |
| | Blue-winged teal | 5 4/8 | 12 4/1 | | | 1 | 10n:- | 57 |
| | Cinnamon teal | ABREST COTOS rned | d 301200 20 0004/1 | it relotoon | 10/21 | The las | ast Seen: | 20 |
| | Red head | | | | | .boiled | | |
| | Ring-necked duck | Lauton and actual | 0/4 on obse | 26 | | Estimat | soung Produced: | 106 |
| 1 | Scaup | Hene so an. 3/15 | ood counts should b | ng areas. Bi | tbeerd ev | sentati | Contraction of the second | |
| | Golden-eye the ed blu | 23[01 April 6 shr 3/15 | 16 Garrow Colden-eye | ing habita a | the breed | 10 % 01 | | 196 |
| | Buffle-head Buddy duck | refuge during the n | species using the | number of the | Latot be | Estimate | otal: | 26 |
| | nding upon the | oncentrations, depe | hat used for peak o | e more than t | nay not be | may or | | |
| | | Section 1 and | .lueme. | grational nov | irm and ic | ainist | | |
| • | Bolisting BOCS: 31 | lon Clark in suppos | to do the observi | n. I do no | get the | time | Only columns | Note: |
| IV. | Coot if is the rest of 1 | ed on an analysis o | are necessarily bas | e these dara | pnis noij | rul atten | receive care | |
| | | | (over) | 200 | No. | Carl Carl | A REAL PROPERTY | |

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| Totar Troudo | tion: . | | | 1/ | SUMMARIES | Êw. | | | NR-1 1945) ** | orn mic lov. |
|---|--|--|---|--|--|---|--|---|---|--------------------|
| Geese | 180 | 1 | to | | Total | waterfowl | usage du | ring period. | Refuge | |
|) Jon Ducks | 694 | Young | an an | (4) Last Se | Peak | waterfowl | numbers | (2) (2 Finst 5 | (1) · | 1 |
| Coots | Estim | Broods | Date | Number | Areas | s used by c | oncentrat | ionsMa | gurewock.March | |
| | | - And | | | Princ | ipal nesti: | ng areas | this season. | <u>Swana</u> : Whistling swan | .I. |
| 200 | 0 | 0 | 22,46 | m | | urremek | rsh,Barn | .Moadow Mars | Geese: Generate groups Cooki inc. googe | . F |
| | | | | | | Repo | rted by | | Bertrand E. Smith | |
| | and the second sec | | and a provide the | | INSTRUCTIO | INS | | | Snow googe Blue googe | |
| (1) Species | s: | In addi reportin given to | tion to ng period o those s | the birds 1: d should be species of 1 | isted on f added in local and | orm, other appropriate National s: | species o spaces. Ignificano | Special at ce. | refuge during the tention should be out | .1 |
| (2) First | Soon. | Tho fire | at rofug | rocord for | the anos | iog during | the good | | Black duck | |
| (2) First | Seen: | The first period, | st refuge and the | e record for number seer | r the spec n. This c | ies during olumn does | the sease not apply | on concerned y to resider | in the reporting and in the reporting and it species. | |
| (2) First(3) Peak Contion: | Seen: oncentra- | The firs period, The grea | st refuge and the atest nur | e record for number seer aber of the | r the spec n. This c species p | ies during olumn does present in a | the sease not apply a limited | on concerned y to resider interval of | in the reporting t species. it species. listnin time. time. begniw-need list begniw-need | |
| (2) First (3) Peak Contion: (4) Last Second | Seen: oncentra- een: | The firsperiod, The great The last period. | st refuge and the atest nur t refuge | e record for number seen nber of the record for | r the spec h. This c species p the speci | ies during olumn does present in a es during f | the sease not apply a limited the seasor | on concerned y to resider interval of n concerned | t in the reporting t species. Itstaid time. Last begain-each in the reporting beed bod | |
| (2) First (3) Peak Contion: (4) Last Second (5) Young I | Seen: oncentra- een: Produced: | The firsperiod, The great The last period. Estimate sentative 10% of the | st refuge and the atest nur t refuge ed number ve breed the breed | e record for number seen aber of the record for of young p ing areas. ling habitat | r the spec h. This of species p the speci broduced b Brood cou t. Estima | ies during olumn does resent in a es during f ased on obs nts should tes having | the seaso not apply a limited the season servations be made o no basis | on concerned y to resider interval of n concerned s and actual on two or mo in fact sho | t in the reporting t species. | |

| 3-1751 Form NR-1A (Nov. 1945) Refuge. | SHORN MATIN | ONAL WILL | () MIG (other | RATORY B than wa Months | IRDS terfowl) ofsrff | SUBRR-147 | (2) to | :er 19 | (1) and Pigeo ng dowa96 | III. <u>Doves</u> Mourni |
|--|-------------------|------------------|---------------------|-------------------------------|----------------------------|------------|-----------|-----------|-------------------------------|-----------------------------|
| (1) | (2 | () 5007 | (3 Boolt Nu | i) | (4 | 1) Seen | | (5) | | (6) |
| Species | FIrst | Seen | <u>reak Nu</u> | mbers | | Seen | Number | Total # | Total | Estimated |
| Common Name | Number | Date | Number | Date | Number | Date | Colonies | Nests | Young | Number |
| I. Water and Marsh Birds: | 122345 | | | | | | | | awa Lwo | Duck h |
| Wilson Snipe | 3 | 4/7 | | | 158 | | | 1 | 4 | 10 |
| | | PRAN | | | | | | | | Crow |
| | ine i | 1 | | i la | | | | | | |
| | A STOR | | | | | | | | | |
| | 1 | | | | | | | | • | |
| | by | Reported | | | | | | | B. Composition | |
| | | | | | | | | | | - |
| a, and list group in A.O.U. | 31 Editio | klist, 19 | ND U.U. Chec | A sit in | as found | samen te | the dorre | asil . | · Petner | 2 (1) |
| to the birds listed on | addition | etc. In | "diet" . | "seagull' | terms as | general | r. Avoid | orde | | - 1-7 . |
| II. <u>Shorebirds</u> , <u>Gulls and</u> | ng period | e reporti | during th | n refuge | ourring a | pecies oc | , other s | riol | | |
| Terns: 54 bis 18501 10 | species | and then | be given | on should | tinetis I | . Specia | te spaces | pria | | |
| rmes \ | aradriifd | Terns (C) | bus alla | r and Mai | I. MATE | saquore; | 111cance. | agra | | |
| | (8) | umbiform | 6008 (Col | and Pin | III. Dove | | | | | |
| ormes and predaceous | , Strigit | oniforme | rds (Falo | aceous B | IV. Pred | | | | | |
| . Passeriformes) | .b 2 areon | 3/20.00 | 4300 01 | species | d for the | 10.27 | Very bed | nesting s | Megan ,) ₁₁ | 4500 |
| time | terval of | t bojimi. | n al in | tes pres | the spec | number ol | greatest | ent :er | eak Numbe | (3) |
| | oonçerned | везвол | during the | aeioeqa | for the | noser eg | ner test | The | ast Seen | (≰) |
| counts | aotual | vationa | on obset | oed base | npord Sund | ber of yo | nun bəfan | n Est | tolfouboi | (5) |
| eriod concerned. | ting the n | <u>iib</u> egule | ing the | (over) | of the s | al number | tof beigm | Est | :Isto | (0) |

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| - The second | | Martin Martin | | | (5) | | | | | | | |
|--|---|--|--|--|---|--|--|--|--|--|--|--|
| (1) | (2) | (3) | (4) | (5) | 3-11(0) | | | | | | | |
| III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove | THADEAL OF TANDARD | ATORY BINDS than waterfowl) Months of | MICR 1010) Mir Wirth Pur | Refuge. Mosm and Marke | Form NR-1A (Nov. 1945) | | | | | | | |
| (6) (6) Total | een Pr | (4) Ders Last S | (3) sen Peak Num | 1) (2) otes First S | Spe | | | | | | | |
| IV. <u>Predaceous Birds</u> : Golden eagle | Number T Date <u>Colonies</u> | Date Number | Date Number | n Name | Conno | | | | | | | |
| Horned owl Magpie Raven Crow | | | | Mareh Birds: Lige 5 | 'I. <u>Sator and</u> Missa S | | | | | | | |
| | | | | | | | | | | | | |
| | | | Reported | d by | | | | | | | | |
| (1) Species: Use ord for | e the correct names der. Avoid general rm, other species o | INSTRUCT as found in the f terms as "seagul occurring on refuge | IONS A.O.U. Checklist, I L", "tern", etc. I e during the report | 1931 Edition, and list gro In addition to the birds l ting period should be adde | up in A.O.U. isted on d in appro- | | | | | | | |
| pr si | form, other species occurring on refuge during the reporting period should be added in appro- priate spaces. Special attention should be given to those species of local and National significance. Groups: I. <u>Water and Marsh Birds</u> (Gaviiformes to Ciconiiformes and Gruiiformes II. <u>Shorebirds, Gulls and Terns</u> (Charadriiformes) III. <u>Doves and Pigeons</u> (Columbiformes) IV. <u>Predaceous Birds</u> (Falconiformes, Strigiformes and predaceous | | | | | | | | | | | |
| (2) First Seen: Th | e first refuge rec | ord for the specie | s for the season c | oncerned. | | | | | | | | |
| (3) Peak Numbers: The | e greatest number o | of the species pres | sent in a limited : | interval of time. | * | | | | | | | |
| (4) Last Seen: Th | e last refuge reco; | rd for the species | during the season | concerned. | | | | | | | | |
| (5) Production: Es | timated number of : | young produced bas | ed on observations | and actual counts. | | | | | | | | |
| (6) Total: Es | timated total numb | er of the species | using the refuge d | uring the period concerned | L | | | | | | | |

1613

Refuge MOGENORN NATIONAL HILDLIFE

Months of appression to

, 194____

| (1) Species | (2) Density | P | (3) Young Produced | (4) Sex Ratio | R | (5) emoval | S | (6) Total | (7) Remarks |
|---|--|---------------------|--|---|-------------------------|----------------------------|----------------------|--|--|
| Common Name | Cover types, total acreage of habitat | cres per Bird | broods obs'v'd. Estimated Total | Percentage | Hunting | For Re- stocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| Spruce grouse | bootined benievode, 30 1411fe Monagement 8 90 anould be bened og | 42 | ioul hure bols list Etgutes s | everting ago and type syi totelble. | ita y Stale Nicae | olarida olari bastur | ai ba Let d de | 24 | · · · · · · · · · · · · · · · · · · · |
| Ruffed grouse | s, Survey astood use r Renarics, | 4금 | iquat ov i Indicate | nes should b | 6 63 18 7 | anco a | | 2600 | No change in numbers over last year. |
| in the second | eoo <u>Iautos bas anol</u> is | 17-30-6Ö2 | negi bea | groduced, bi , tašidad j | 90000 0.150 | e of y | indani i Titadi | latimitie r in represe | |
| 100 A | ta, etc. Include dat | maanedt | turkoy, p | hir of vill | rine lebl | ites p tava (| iqqa Li se | inia colym other epedi | (4) SEX RATION |
| 1 | the report partial. | gaimb | bavenos | ach estegoig | nż | midmun | 1 193 | oð sænthur | (5) REMOVALET |
| .enoase | port period. This as refuge during certain | ecit or | e dariae atla: int | ng the refu is those alg | ar i La i | odaum brita | fasta laobi | latinated i solude rec | (6) TOTALI |
| osti | opvars at beravoo befaeuges | eres cally | lation an training a | thermiste population in | 50 00 1 50 | iteed irtiine | bood ar pi | Indicate es | (7) muares |
| | | | 1 the second | e ad biucde l | 9297 | oo ha | por | able to the | * Only columns soplat |
| | | | | | | | 11 | | |

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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.

BIG GAME

Moosehorn National Wildlife

Refuge ____

Year 194

| (1) Species | (2) Density | (3) Young Produced | (3) oung duced Remova | |) vals | | (Los | 5) ses | Intr | (6) oductions | (7) Estimated | (8) Sex Ratio | |
|----------------|--|--------------------------|-----------------------------|---------------------|--------------|---------------------------------------|-----------|---------------|------------------------|------------------|--------------------|--|---------------|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease | Winter Losses | Number | Source | Total Refuge Population as of Dec. 31 | Percentage |
| Whitetail deer | Entire refuge | 600 | | | | | 1 | 1 | 1 | - | - | 2000 | 700 does |
| Noose | 2000 acres, bog & Heath | 3 | • | | | n e -bo | | - | 4 | | | 8 | 80% cows |
| Black bear | Entire refuge | 15 | - | - | - | - | - | + | 7 | - | | 60 | 50% female |
| Wild cats | | 25 | + | - | | - | - | - | - | - | - | 40 | 50% • |
| | | n her uden | | 0.984 | 60 | 0.028 | er . | (3) (4) | har red | 0.3 (04) | ACTON | A CLEAPONER | (+) - in the |
| | | | | Lori. | 36 | 1.127 | | | a lo a | read | odi il. | · EZBEOJ | (2) |
| | | | | - 1 - 1 - | | | | | time of the | | and the second | Puter management | 1.1 1 1 1 1 1 |
| | | | | | | | | | CITIZE C | | | | |
| | pediscipation server the | an estas | | hala | a.g | 102.545 | ing a | - × | bone is | ः स्ट. वर्द | e ento 👘 | POPULATION | |
| | bellevén i si si si si si | Series | | inte 12 di j | aé i Rési | sa in Sa in | | dires Life | energi és energi és | d ei blèi | atiduk S I wert | NOTES 228 | 10/ |
| | | | 1 | | ÷ | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | | | |

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INSTRUCTIONS

Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) exclusive of fenced herds. Detailed data may be omitted for species occuring 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 total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge as of December 31.
- (8) SEX RATION: Indicate the percentage of males and females of each species as determined from field observations or through removals.

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| Form NR-5 DISEASE | 1616 |
|---|--|
| RefugeRefuge | Thear 194 |
| Period of outbreak Period of heaviest losses NONE Losses: (a) Waterfowl (b) Shorebirds (c) Other Number Hospitalized No. Recovered % Recovered (a) Waterfowl | Kind of disease |
| (b) Shorebirds (c) Other Areas affected (location and approximate acreage) Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc. | Source of infection Water conditions Food conditions |
| Condition of vegetation and invertebrate life Remarks | Remarks |

FISH

MOOSEHORN NATIONAL WILDLIFE

Year 194_8

| | | Sport | Fishing | Commercia | 1 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 | |
| | A CARLES AND AND | the second second | | | | | and the second second | | |
| Brook Trout | Varies | 5000 | 50,000 | 519 | | 0 | | 0 | |
| Small-mouth black bar | B | 100 | 500 | 519 | | 0 | | 0 | |
| Grass pickerel | Not abundant | 100 | 500 | 52 | | 0 | | 0 | |
| | and the second | | | | | | , | | |
| | | | | | | | | Land Carling | |
| | | | | | | | | | |
| | | | 1 | | | Sec. Sec. | | La state | |
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| | | | in the second | | | | | | |
| | | | | | | | | A CARLEN PROVIDE | |

REMARKS: Brooks should be stocked

Refuge_

PLANTINGS (Marsh - Aquatic - Upland)

| | Refuge | LOOSEHORN | HATIONAL WIT | .DL IFE | Yea | ar <u>194</u> 8 | <u>-</u> | | | | |
|--|--------------------------------|--------------------------------------|--|----------------------------------|--------------------------|-----------------|-------------------|-------------------------------|--|--|--|
| Species | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount & Nature of Propagules | Date of Plant- ing | Survival | Cause. of Loss | Remarks | | | |
| Wild celery . | Barn Meadow Marsh | | | Seed pods | | | | Holding for pring planting | | | |
| Millet & Smartweed | Barn Mondorr Marsh | 10# to Aci | o 1 milo | Seed | 11/18 | | | | | | |
| HITO | Marsh | 1 Bu. | 1 mile | Seed | 11/18 | - | • | | | | |
| Three Square and Bullrush | Barn Moadon March | 1 15. | - | Sood | 11/18 | | | | | | |
| Alder | Youngs lieadow | l peck | l acre | Soed | 11/10 | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | - | | | |
| | | | | | | | | 1.1.1 | | | |
| TOTAL ACREAGE PLANTED: Marsh and aquatic 40 acres Hedgerows, cover patches 1 woodcock cover experimental plot Food strips, food patches | | | | | | | | | | | |
| | Forest pl | antings | | | | | | | | | |

Form NR-8 (Revised)

CULTIVATED CROPS

Refuge_____Year 194.g____

42675

STR

| Permittee | 41 | Unit | 1 1 1 1 1 | Ave. | Permi | ttee's | | G | vernment | t's Sha | re or Return |
|---|--|---|--|--|--|---------------------|---------------------|----------------------|----------------------------|-----------------------|--------------------------------------|
| (If farmed by refuge | Permit | Or | Crops | Yield | Sha | are | Harve | ested | Unharve | ested | Compensatory |
| personnel, so indicate) | No. | Loca- | Grown | per | hy | Bu.Har- | 9 | 5 | 8 - | a | Services, or |
| | | tion | | Acre | Acres | vested | Acres | Bu. | Acres | Bu. | Cash Revenue |
| viez redio wond - <u>sumstan tano</u> rot socierses iedman sdi ablivitos gnimist evitsiego o ton sqoro elilitiv to inucuma edi , slibitv viilio edi to , spivie be in no zitoistego b voisto edi , elase esh a no zi timist edi the permit is on a feele dit | L\$%&" 14572 14570 14568 14574 | Nagurrewock Marsh Barfi Meadow Marsh | Drano berries Gran- berries Cran- Berries Cran- berries | Acre betaevist serves to redmun edd vint - eisde | Acres and and and analy at a - erok reg bi | 10 10 9 14 | Acres | <u>Du.</u> | ACTES | Anal 41 | 7.50 7.50 6.75 10.50 |
| Summary of Crops Grown | : Crop | Acrea | ge Permi Acre | ttee's s Bus 4 | Share hels 3 | | Go Harves res | overnm ted Bu. | ent's Sha Unha Acres | are rvestec s E | Total Revenue 3u. \$ 32.25 |
| era Ang Ang | 8.9.6 | <u></u> | | 1.6 | | 8.8 | ······ | | | | |

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DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

<u>Permittee</u> - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the <u>Permittee</u> column.

<u>Permit No.</u> - List the number of the Special Use Permit issued to the individual.

<u>Use or Location</u> - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

<u>Crops Grown</u> - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

<u>Average Yield per Acre</u> - It is important that the average yield per acre of each crop grown by each operator should be shown.

<u>Permittee's Share</u> - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the <u>Acres</u> column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the <u>Bushels Harvested</u> column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the <u>Permittee's Share</u> column.

<u>Government's Share or Return - Harvested</u> - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. <u>Unharvested</u> - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the <u>Bushels</u> column.

<u>Compensatory Services. or Cash Revenue</u> - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

COLLE ONS AND RECEIPTS OF PLANTING S" K (Seeds, rootstocks, trees, shrubs)

1620

A

Refuge

- HOOSEHORN NATIONAL WILDLIFE

____ Year 194_8____

| | | Colle | ctions | Rece | ipts | A State of | | |
|---------|----------------|------------------------------------|---|-----------|--------|------------|-----------------------------|-------------------|
| Species | Amount | Date or Period or Collection | Method | Unit Cost | Amount | Source | Total Amounts on Hand | Amount Surplus |
| Alder | 1 pack | 10/9 | Hand | 3.00 | | | None | None |
| | | | | | | | | |
| | | | | | | | | 1 |
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HAYING AND GRAZING

Refuge MOOSEHORN NATIONAL WILDLIFE

Year 1948

| Permittee | Permit No. | Unit or Location | Actual Acreage Utilized | Animal Use Months | Tons of Hay Har- vested | Period of Use From - To | Rate | Total Income | Remarks | |
|--|--|---|--|--------------------------------|-------------------------------|---|--|---|---|--|
| Oran Randall Vinal Kneeland Wellington James Henry Haywood Arthur Donoaster Henry Haywood Wellington Cookeon James Foster Higgins Harold Sadler Foster Higgins Robert Gillespie | 14562 14561 14012 14015 14014 14563 14573 14571 14569 14017 14013 14520 | D. Stewart Cookson Far Oscar Lunn W. McGlaufl N. Rumfeldt D. Stewart O. Lunn and H. Farm W. KcGlaufl Oscar Lunn Ma. Cookson | 2 20 5 5 5 10 48 100 6 | 5 60 18 5 150 9 | 244 | 7/16-10/31 7/17-10/31 7/2-10/31 6/20-10/31 8/25/9/9 9/26/-10/24 8/11/-8/25/ 9/10-9/16 7/29/7/31 5/20-10.31 | .50 .50 .50 .50 2.50 2.50 2.50 2.50 2.50 | .50 1.00 10.00 3.00 .50 5.00 10.00 10.00 30.00 25.00 1.50 | Total rentals f m old buildings. \$127.25 | |
| Totals: Acreage grazed 140 Ar | | | | | Animal use months 248 | | | Total income Grazing 41.50 | | |
| A | creage cut f | Tons of hay cut 20 Total income Haying | | | | | aying 60.00 | | | |

TIMBER REMOVAL

Same and the second sec

Refuge_

Year 194

| | | | and the second se | | | | | |
|--------------------|--|---|--|--|----------------|--|---|-------------------|
| | | | | No. of Units | Rate | | Reservations | |
| * | | That the ans | | DF +ias | natos | Total | and/on Diamoton | |
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| Permittee | Permit No. | Location | Acreage | ecc. | charge | TUCOMA | Linutes | Spectes cut |
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Total acreage cut over

No. of units removed B. F._

Method of slash disposal

Corda 100_0 An Ties 493-5 Mans. Trees-

| 3-1750 Form NR-1 (Nov. 1945) Refuge | Neesehern I Edmunds Uni | lefuge | W/ | ATERFOWL | otember | .toDecer | iber | Production: | <u>Total</u> Ge |
|---|--|-----------------------|--|-----------------------------------|---------------------------------------|--------------------------------------|-----------------------------|---------------------------------------|----------------------|
| (1) Species | (2 First |) Seen | (3 Peak Conce |) entration | (4) Last Se |) een | Young | (5) Produced | (6) Total |
| Common Name | Number | Date | Number | Date | Number | Date | Broods | Estimated | Estimated for Period |
| I. <u>Swans</u> : Whistling swan | nozsezzid. | tiers a | ijean Ingi | | Number | Date | | | |
| Canada goose Cackling goose Brant White-fronted goose | None en re | fages ooo | a sionally p odofi | RSE OVER | in flight 2 | 5 12/2 | | | |
| Snow goose Blue goose | CONTLINE OF | Species | NS | INSTRUCTI | the birds 1 | ltion to | bbs al | Species: | (1) |
| III. <u>Ducks</u> : Mallard Black duck | Probably in Year-round | w mized resident | with blacks 500 | 12/10 | l should be pectes of record fo | 12/9 | report given The fi | First Seen: | 10 |
| Baldpate Pintail Green-winged teal | to reside | not appl betimited | tolumn does | n. This species | number see | and the | period | eak Concentra- :ion: | (3) |
| Blue-winged teal Cinnamon teal Wood duck Red head | oonoernad | he seaso | es during | the spee | teoord for | egulet J | The lar period | ast Seen: | (4) |
| Ring-necked duck Canvas-back Scaup Golden-eve | and sotus. A two of a in fact sh | ervation be made | ased on ob nts should tes heving | i beauboir roo_booi8 miliag | of young pg_argas ing_habita | edmun be: beeid ev asid entres | Estima sentati 10g of | oung Producid: | (5) |
| Buffle-head Ruddy duck Red-breasted Morganow | tions the | 11/28 | is using the | 12/8 12/10 | Winter r | peident | Estina may or natura | otal: | 100 |
| that the <u>Summaries</u> IV. <u>Coot</u> is the rest of the two sets and the set of th | destrable analysis | | en od blud Sesarily b | a bolneq | reporting these da | le to the | applical ful atte | Only columns receive chre form. | Note |

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| Tabal Dashadian | | SUMMARIES | | NR-1 | mic mic |
|------------------------------|---|---|--|--|------------|
| Total Production: | | | looseners lioives | 1945) | .voV |
| Geese | to and the second | Total waterfowl | . usage during period | 7210 | |
| (6) Ducks | (4) Last Seep Your | Peak waterfowl | numbers (S) | 1000 (1) | |
| Coots | Brood Number Date Seen | Areas used by c | concentrations. | and bays (salt water) | |
| | | Principal nesti | ng areas this seasor | Gunna: Whistling swan Geese: | .I |
| | 1* Eligen 23 12/2 | Repo | rted by Eldon R. Refuge M | Cackling goods Cackling goods White-fronted goods | |
| | | INSTRUCTIONS | | Blue goose | |
| (1) Species: | In addition to the birds 1 reporting period should be given to those species of 2 | isted on form, other added in appropriat local and National s | species occurring c e spaces. Special a ignificance. | on refuge during the attention should be | .II |
| (2) First Seen: | The first refuge record for period, and the number seen | r the species during n. This column does | the season concerne not apply to reside | ed in the reporting ent species. | |
| (3) Peak Concentra- tion: | The greatest number of the | species present in | a limited interval c | of time,; begalw-accel Iset begalw-cell | |
| (4) Last Seen: | The last refuge record for period. | the species during | the season concerned | I in the reporting | |
| (5) Young Produced: | Estimated number of young p sentative breeding areas. 10% of the breeding habitat | produced based on ob Brood counts should t. Estimates having | servations and actua be made on two or m no basis in fact sh | al counts on repre- hore areas aggregating hould be omitted. | |
| (6) Total: | Estimated total number of may or may not be more than nature of the migrational m | the species using th h that used for peak novement. | e refuge <u>during the</u> concentrations, dep | period. This figure bending upon the | |
| Note: Only columns a | applicable to the reporting | period should be us | e' It is desirable | that the <u>Summaries</u> | |
| form. | | (nevo) | and an an analysis | 01 0110 100 0 01 0110 00 | · V1 |

1.1.1

| 3-1751 Form NR-1A (Nov. 1945) Moes | ehern Refuge, | (b) MIGRATORY | BIRDS aterfowl) | (2) | (1) |
|--|---------------------|-------------------------------------|---|---|--|
| Refuge Rdmu | nds Unit | Months | s of September | toDecember | Mourning dove |
| (1) Species | (2) First Seen | (3) Peak Numbers | (4) Last Seen | (5) Product | tion (6) |
| Common Name | Number Date | Number Date | Number Date | NumberTotalColoniesNests | # Total Estimated Young Number |
| I. <u>Water and Marsh Birds</u> : | | - | 1 1 S | | Duck hawk Horned owl |
| Great Blue Heren Herring Gull | Numbe | No sencertrution remains unchase | 1 10/22 | | Magioi Ravi 008 |
| Greator Yollow-legs | | No concentration | 2 9/18 | | Gron |
| | | | | | |
| | | | | | |
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| | eported by | | | | |
| , and list group in A.O.U. | list, 1981 Edition | RUCTIONS the A.C.U. Check | INST 1. Dawes as found 1 | Use the correc | (i) Species: |
| II. <u>Shorebirds, Gulls and</u> | etc. In addition | refuge during the | general 'erms as 's ecies occurring of | order. Avoid for any | |
| C local.and National | to those species of | should be given | Special attention Grouped I. Water | priate spaces | |
| American Weedcook | Summer realders | IO COLOR SPECION | II/II II Shore | | |
| rmes and predaceous Passeriformes) | niformes Strigif | eous <u>Bi da</u> (Fale | IV. Prodec | By a second s | |
| | ason concerned. | pecies or the s | ge record for the | The first rolu | (2) First Seen |
| time. | lo lavisini betim. | a present in a l | umber of the spec. | The prestest a | (3) Peak Numbere: |
| | season obnoerned. | becies during the | e record for the S | The Last refug | (4) Lust Seen: |
| dounts. | rations and actual | d based on obser | er of young produce | Estinated numb | (5) Production |
| riod concerned. | luge during the pa | la edi anteu (over | i i Cost of the sp | Estimated tota | (6) Total: |

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| | (1) | (2) | (3) | (4) | (5) | (6) |
|------|---|---|---|---|---|--|
| III. | Doves and Pigeons: Mourning dove | te to Describert | than wate fowl) Months of ceptonte | * (other | Besseld ra Belugs to Blanck This | (Nov. 1945) |
| 2 | White-winged dove | en Produc | (4) Ders Last S | (3) en Peak Num | (2) Pirst S | (1) Species |
| IV. | <u>Predaceous Birds</u> : Golden eagle | Rumber Total Date Colonies Nest | Date Jumber | Date limber | Ilumber | Comuon Name |
| | Duck hawk Horned owl | | · · · | | Sirda: | I. Mater and Marsh |
| | Magpie Raven Crow | Too Too | r-round gosident | ti consiste Malan consiste a Scanador | | Acolf acolf deerst |
| | Dald Bagle | The | r-round resident | | | 8 |
| • | | | | | | |
| | | | | Poporto | | |
| | | | | | | |
| | (1) Species: | Use the correct names order. Avoid general | INSTRUCTIO s as found in the A l terms as "seaguli courring on refug | DNS A.O.U. Checklist, 1 L", "tern", etc. 1 A during the report | 1931 Edition, and 1 In addition to the | ist group in A.O.U. birds listed on |
| | | priate spaces. Species C | ial attention should | ld be given to the | se species of local | and National |
| | | significance. Group: | II. <u>Shorebirds</u> , III. <u>Doves and P</u> | <u>Gulls and Terns</u> (<u>igeons</u> (Columbifor | Charadriiformes) mes) | mes and Gruillormes) |
| | | | IV. <u>Predaceous</u> | <u>Birds</u> (Falconiform | es, Strigiformes an Passe | nd predaceous eriformes) |
| | (2) First Seen: | The first refuge rec | ord for the specie: | s for the season c | oncernea. | |
| | (3) Peak Numbers: | The greatest number | of the species prea | sent in a limited | interval of time. | |
| | (4) Last Seen: | The last refuge reco | rd for the species | during the season | concerned. | |
| | (5) Production: | Estimated number of ; | young produced bas | ed on observations | and actual counts | |
| | (6) Total: | Estimated total n | er of the species | using the refuge <u>d</u> | uring the period co | oncerned. |

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UPLAND GAME BIRDS 1613 Noesshern Rofuge, Months of September to December , 1947 Refuge Rammde Unit (3) (4)(7) (2) (5) (6) (1) Sex Ratio Young Species Density Removals Remarks Total Produced Number broods obs'v'd. Estimated Total For Re-stocking For Research Estimated Hunting Pertinent information not number Acres specifically requested. Cover types, total using per List introductions here. Common Name acreage of habitat Bird Percentage Refuge Ferent land 4552 Ruffed Grouse Part and art 25 Brush & edges 1200 229 10 455 Spruce Grouse Ferest land 4552 Estimated SOMEON. allos more setting a limited at (A) SHE RATION tor with disting the states of the light date on BERS OF WIL respond curring ' he report partied. to each astantee od edas list mining mains the rologe during the report parted. This we faint betenling sameses plates of a these all she bits with the selle out backing during the bits istima and area covered in movel OF SA (start) boddug sdauthg) to determetre to of souther of an addition of internation and areas the addition in the souther * Only columns applied bis to the per of orvers about he .

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.

| Form NR-3 Meoschorn Refuge, Ed. Bic GANEL, Maine 7 Refuge Year 194 | | | | | | | | | | |
|---|---|--------------------------|--|--|--|--|------------------|--|--|--|
| (1) Species | (2) Density | (3) Young Produced | (4) Removals | (5) Losses | (6) Introductions | (7) Estimated | (8) Sex Ratio | | | |
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting For Re- stocking Sold For Research | Predation Disease Winter Losses | Number | Total Refuge Population as of Dec. 31 | Percentage | | | |
| Deer | Perest land*4532Brush & edges1200Grassland168Marsh & flom ge300 | 175 | ricia alcowbra estred Johneys Disting to bes Nome | Rome recerded | rieulture land sole listed l gures subaltes sple areas ter Jemarri | 500 | | | | |
| Bh or Bear | As above | ter A.be | Bene suboy 10 | None recorde | bellene al 102 | YOUNP PRODUC | e) | | | |
| nž | •Ferest land mainly see and eedar swamp type. | md grewth | sjrooq-bilson | fir type viti | aamo Gray bir | th-a.spen-balean | fir | | | |
| | nich stock was ascured. | ay from w | relige or sta | na retian ed | S. Indicate | INTEGRATION | 6) | | | |
| | a the refuge as of December asch species as defension | species o | lation of <u>eleb</u> | of the sector | ot ve the | POPULATION | | | | |
| | and as an as a south a south | -ELAVO | er fyraid 10 | noli synasio i Berrestysio i | indian and | INVITAE ASC | 2 | | | |
| | | | | | | | 161 | | | |

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INSTRUCTIONS

Form NR-3 - BIG GAME

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(1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.

Mooshorn herers, Educate INGS, In inc

- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.) exclusive of fenced herds. Detailed data may be omitted for species occuring 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 total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of <u>each species</u> on the refuge as of December 31.
- (8) SEX RATION: Indicate the percentage of males and females of each species as determined from field observations or through removals.

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She or Bear | Ag above

| Form NR-5 | ISEASE 16 |
|---|--|
| Refuge_ Nessehern Refuge, Ednu | nas Unit, Maine Year 194 7 |
| Botulism | Lead Poisoning or other Disease |
| Period of outbreak Kene | Kind of disease No known losses from disease |
| Period of heaviest losses | Species affected |
| Losses: (a) Waterfowl (b) Shorebirds (c) Other Actual Count Estimated | Number Affected Actual Count Estimated |
| Number Hospitalized No. Recovered % Recovered | d Number Recovered |
| (a) Waterfowl | Number lost Source of infection |
| Areas affected (location and approximate acreage) | Water conditions |
| Water conditions (average depth of water in sickness areas, reflooding of exposed flats, | etc. Food conditions |
| Condition of vegetation and invertebrate life | Remarks |
| Remarks | |
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FISH

Refuge Noesehorn Refuge, Edmund s Unit, Maine Year 194 7

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| | A State of the second sec | Sport | Fishing | Commercia | l Fishing | Rest | ocking | Number re- |
| | Relative | Man days | Number | No. of | Pounds | Number | Contraction of the second | moved for |
| Species | Abundance | Fishing | Taken | Permite | Taken | Stocked | Area Stocked | Restocking |
| Opecies | Abdituditoo | TOUTUE | IGAOII | I CI ILL OD | IGROIT | DOCOROL | A Ch Duconda | Recoucing |
| White perch | Reported ple | stiful but n | t fished t | his season | | | | |
| Brook trout | Nederatoly abundant | 50 | 200 | | | | and a figure | |
| and share the second | the entry of | - + + | 一大学的是1000-1 | | | $= d (d^{-1} \nabla_{t} d \sigma_{t+1}) \nabla_{t} \sigma_{t+1}$ | A state of the second of | |
| Atlantic Salmon | First year s | besiding youn | ; fish | | | 35,364 | Hebert Streen | |
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REMARKS:

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| Form NR-7 PLANTINGS (Marsh - Aquatic - Upland) Refuge Hermitian Refuge, Marsh Unite, Helice Year <u>194</u> 7 | | | | | | | | | | |
|---|--------------------------------|--------------------------------------|--|----------------------------------|--------------------------|----------|-------------------|---------|--|--|
| Species | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount & Nature of Propagules | Date of Plant- ing | Survival | Cause. of Loss | Remarks | | |
| No planting was | earried est | this year. | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| TOTAL ACREAGE PLAN | TED: | | | | | | | | | |
| Marsh and aquatic Hedgerows, cover patches Food strips, food patches Forest plantings | | | | | | | | | | |

Form NR-8 (Revised)

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CULTIVATED CROPS

Meoschern Refuge, Refuge Ednunds Unit, Maine Year 1947....

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| personnel, so indicate) | NO. | Loca- | Grown | per | 4 | Bu.Har- | E | | 2 | | 18 | Services, or |
| n v v | 0.5 | <u>t10n</u> | 10 1 4 | Acre | Acres | vested | Acres | Bu. | Acres | Bu. | | Cash Revenue |
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| Summary of Crops Grown: | Crop | Acrea | ge Permi | ttee's : | Share | No no | G | overnme | ent's Sh | are | | Total Revenue |
| L A L A L A L A L A L A L A L A L A L A | bed | | Acre | s Busi | hels | 5 6 6 | Harves | ted | Unha | rvested | 1 5 | |
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DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

<u>Permittee</u> - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the <u>Permittee</u> column.

<u>Permit No.</u> - List the number of the Special Use Permit issued to the individual.

<u>Use or Location</u> - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

<u>Crops Grown</u> - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

<u>Average Yield per Acre</u> - It is important that the average yield per acre of each crop grown by each operator should be shown.

<u>Permittee's Share</u> - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the <u>Acres</u> column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the <u>Bushels Harvested</u> column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay arvested by the permittee should be shown on Form NR-10 and should not be shown in the <u>Permittee's Share</u> column.

<u>Government's Share or Return - Harvested</u> - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. <u>Unharvested</u> - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the <u>Bushels</u> column.

<u>Compensatory Services, or Cash Revenue</u> - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

Form MR-8 (BesiveR)

42675

farmed,

COLLECTIONS AND RECEIPTS OF PLANTING STOCK (Seeds, rootstocks, trees, shrubs)

1620

Refuge Mossehern Refuge, Minimis Unit, Maine Year 194 7

| | | Colle | ctions | | Rece | ipts | | |
|-------------|-------------|------------------------------------|------------|-----------|--------|--------|-----------------------------|-------------------|
| Species | Amount | Date or Period or Collection | Method | Unit Cost | Amount | Source | Total Amounts on Hand | Amount Surplus |
| No planting | ebook react | vad er cellosted | this year. | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | • | |
| | | | | | 0 | | | |

HAYING AND GRAZING

Refuge Mooschern Befuge, Edmunds Unit. Maine Year 194 7

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|--------------|---------------------------------------|---|-------------------------------|-------------------------|--|----------------------------|---------------------------|-----------------|-----------------------|
| Permittee | Permit No. | Unit or Location | Actual Acreage Utilized | Animal Use Months | Tons of Hay Har- vested | Period of Use From - To | Rate | Total Income | Remarks |
| Bernard Cex | 14522 | Property for By: Crane | merly own 100 | bd 80 | er dagt | 6/20 - 10/31 | .50/be | d \$10.00 | |
| Ralph Bell | 14525 | Phinney & Johnson | 60 | 80 | | 6/3 - 10/31 | | 10.00 | |
| Gerald Cog | 14594 | Win. Cez | 50 | 48 | | 6/3 - 10/51 | | 6.00 | |
| Gerald Cer | Second States | Smith | 5 | 1.11 | 2 | | \$2.50 | 5.00 | |
| Percy Seeley | 14540 | Was. Cox | 1 | | | | 2.50 | 1.25 | |
| | | | | | | anapalatan serengi s | | | |
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| | and the second | A States | | the second second | | A CONTRACTOR OF THE | | | Contraction of the |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | and the | | State State State | | | |
| Totals: | Totals: Acreage grazed 200 | | | | | - 208 | Total income Grazing | | |
| | Acreage cut for hav | | | | hav out | - | Total income Having de as | | |
| A | Acreage cut for hay | | | | | | TOTAL THEOME HAVING THE | | |

TIMBER REMOVAL

Refuge Moosah era Refuge, Edmands Unit, Maine Year 1947

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B.F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut | | |
|--|----------------------|---------------------|----------------|---|----------------------|-----------------|---|--------------|--|--|
| Norten C. Ward | imerly oune 14611 | t bys Gramo | E.0 | 20 espis | \$2.55 | \$25_00 | Planned | Winel, Mirth | | |
| Geomld Can | 100115 | Стано | 1.0 | 30 * | | 18.50 | • | | | |
| Dale Suith | 14525 | Gruno | • | | | - B .00 | • | • | | |
| Renald Lingley | 14527 | Johnson | .1 | 1 * | | 1.55 | • 2 | • | | |
| Linelos Carbor | 30000 | Johnson | | | | 2.80 | • | • | | |
| Carroll Chapman | 24020 | Johnson | Xuns trees | 40 bundlos | 8.30 | 8.00 | | Baloom för | | |
| Milton Reyward | 34890 | Truck truil | • • | 510 * | | 108.00 | | • | | |
| John Dalyh | 14551 | Canado | * | 4 cords | 1.55 | 5.00 | Plaunod . | Eland soft | | |
| Bernard Cox | 14552 | Creme | • | • | 8.00 | 30.00 | (Pulgmond) | Spruce, | | |
| | | | | | | | | | | |
| | | | and the second | and the second | | | | | | |
| Total acreage cut over 6.6 Total income 196.25 | | | | | | | | | | |
| No. of units removed B. F Method of slash disposal <u>Filed and burned</u> | | | | | | | | | | |

*Operation inemplete

| 3-17 Form (Nov | 50 NR-1 . 1945) Refuge | Hoosehorn B Rdmmds Oni | erug. | W/ | ATERFOWL | ptember | .to D | ihm 19 | Production: | <u>Total</u> Ge |
|----------------------|--|---|------------------------|---|---------------------------------|--|---|--------------------------------|-----------------------|-------------------------|
| | (1) Species | (2) First S |) Seen | (3) Peak Conce |) entration | (4) Last Se |) Əen | Young H | (5) Produced | (6) Total |
| * | Common Name | Number | Date | Number | Date | Number | Date | Broods Seen | Estimated Total | Estimated for Period |
| I. | <u>Swans</u> : Whistling swan | this season | abone gi | ijsen Legid | Prin | | | | | |
| II. | Geese: Canada goose Cackling goose Brant White-fronted goose | Noné en se | Cuges coo | a sionally p ogeR | iss over | in flight E | 32/2 | | | |
| III. | Blue goose edd gallub egelen Ducks: | courfing on Special at | species | NNS form, other appropriate | NSTRUCTI stad on added in | the birds 1 A should be | tion to | In add | pecies: | (1) |
| | Mallard Black duck Gadwall 9991 999 91 Baldpate | Probably 1 Year-round | resident | 500 500 100 100 100 100 100 100 100 100 | 12/10 | to select to number see | 12/9 01 guier du edd the | given The ff period | itst Seen; | 10 5000 (S) |
| | Pintail Green-winged teal Blue-winged teal Cinnamon teal | io isviežai | Linited | resent in : | species / | ber of the | atest nur | The gr | hak Concentra ion: | (3) |
| | Wood duck Red head Ring-necked duck Canvas-back | concerned | ne season ervation: | es during ased on obs | l peonpou | l Banok jo | tequint pe | period | aung Produced | · (6) |
| | Scaup Golden-eye Buffle-head Ruddy duck | n two or mo in fact sho uring the p | 19/45 | bluche sin gaived set. 400 | 12/8 | ng areas. ing areas. Winter r Winter r Winter of | beend end beend end sident seldent be | sentati 107 of Estimat | otal | 2000 |
| | Red-breasted Morgans | tions f de | 11/20 | d far peak | 18/10 | inter and an and an | tin the to | nay or nature s applical | nnulos vind | 100 |
| IV. | Coot it to Jeet edd 1 | analysis o | is no bee | essarily b | (over) | e these da | tion sin | eful atte | receive car form. | 1 |

1.1.1

| Total Production: | SUMMARIES SUMMARIES | E FC |
|-------------------------------------|--|------|
| Geese | Total waterfowl usage during period 7800 | •1. |
| (a) (a) (a) | (4) Peak waterfowl numbers (2) 1000 (4) | |
| Coots | Areas used by concentrations. river and baye (solt water) | |
| | Principal nesting areas this season | i |
| | Reported by Report | |
| | INSTRUCTIONS escop word | |
| (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. | II |
| (2) First Seen: | The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species. | |
| (3) Peak Concentra- tion: | The greatest number of the species present in a limited interval of time.; begaiw-deed Iset begaiw-agend | |
| (4) Last Seen: | The last refuge record for the species during the season concerned in the reporting period. | |
| (5) Young Produced: | Estimated number of young produced based on observations and actual counts on repre- sentative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted. | |
| (6) Total: | Estimated total number of the species using the refuge <u>during the period</u> . This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement. | |
| Note: Only columns receive caref | applicable to the reporting period should be used. It is desirable that the <u>Summaries</u> ul attention since these data are necessarily based on an analysis of the rest of the | |
| form. | (Tevo) | |

(Jover)

| 3-1751 | 1 | | 0 | and a second | p | | A | 101 | | 171 | |
|--|----------------|--------------|--------------|--------------------|--------------------|------------------|-----------------|--------------------|------------------|------------|--------------|
| Form NR-1A | (5) | ahomi DaGi | | MIGR | ATORY B | IRDS | | 181 | | (1) | |
| (NOV. 1945) | Refuge Rdmu | nds Unit | Gas | (other | Months | of Sector | ber | to Docani | ber | 94 | III. Doves |
| 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | | | | | | | | | | ng dove | MOULDIN |
| (1 Spec | .) | First | 2) Seen | (3) Peak Num | hora | (4 Last | 4) Seen | | (5) Productio | n | (6) Total |
| | 169 | 11150 | | | DOID | | | Number | Total # | Total | Estimated |
| Common | Name | Number | Date | Number | Date | Number | Date | <u>Colonies</u> | Nests | Young | Number |
| I. Water and | Marsh Birds: | | a start | | M. | | | | | 2[w.t | Duok h |
| | - | | | | | | 30/00 | | | Iwo | Married |
| Great BJ | Gull | | Humbs | r menalnu | unchange | d year re | und | | | N GERS | Rav 6.0 |
| Greater | Yellow-legs | | | No concent | ration | 2 | 9/18 | | | | Grow |
| Charles and the | | | i genter | | Cueld. | nale Remain | anist. | | | | a bras. |
| | · · · · · | | 1. 1. E. M. | | R | | N. Carlo | | | 1 | |
| | | | | | | | | | Section 1 | | Sector A. |
| | | | | | | a Destina | | | | | |
| Section 1 | | | | | 1. · · · | Sec. in | | | | | |
| | in R. Olare | V. Samera V. | a per tede | | 1 | | 1.11 | | ***** | 1710 | |
| | | | | NU: | OITOUAT | INI | | Con Lang | | | - |
| Dup in A.O.U. | , and list gri | nolitbbs | ate. In | .e.U. Check | A ent a iluzzoe | BE ENTE | t names a | biovà | ose | .891090 | G (1) |
| II. <u>Snorebirds</u> Terns: | , Gulls and | ig period | reporti | during the | eguler i | urring on | actes oc | other a | form | | |
| ational | f local and N | species o | to those | d be given | Ivoda n | attentic | Special Special | ie spaces | pria | | |
| (agenio Amorioan | Woodoook am | Summer re | sident | No concent | ration | II. Shore | 11/11 | and a state of the | | R. S. Mark | 800 |
| | | (3 | mbiforme | <u>E008</u> (Col | in and Pl | III. <u>Dove</u> | | 含义为 | La anti- | | |
| aceous es) | rmes and pred | Strigtic | ntiormes | 10184) <u>80 1</u> | a suceol | IDET VI | | Service Service | | | |
| | | .berned. | ason con | for the si | species | I for the | niopei es | list ref | The | rst Seen | (2) F |
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| | | .beersed. | season c | edi gainth | Beided | for the | Broceri e | last refu | The | ist Seen: | (4) |
| | counts | Isutos be | ations a | d on observ | ead base | ng produ | er of you | amurr beden | Esti | oduction | (5.) P |
| | | | a dest | | | | | | | | |
| . A start the | riod concerne | ing the pe | fuge duri | an out guis | (over) | of the sp | Tedaun 1 | eloi pele | uraen | .185 | 01 (0) |

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|------|--|---|--|--|--|---|
| | (1) | (2) | (3) | <u>4)</u> | (5) | (<u>6</u>) |
| III. | Doves and Pigeons: Mourning dove | toBedenbee | han waterfowl) Months of Magnetic | * (other | Hoseekami Notegi 150 Honeyk (1616) | (Nov. 1945) Refu |
| 1 | White-winged dove | en Produc | (4) Ders Läst Se | (3) een Peak Num | (S) Riret S | (1) Species |
| IV. | <u>Predaceous Birds</u> : Golden eagle | Date Colonies Total | Date Jumber | DateNumber | White | Compon Name |
| | Duck hawk Horned owl Magpie Raven | | E E sector | Received averages a | Birda: | I. Water and Marsh Orest Hins Her Herring Guil |
| | Crow Bald Bagle | Ter | round posident | | | BUD B |
| • | | | | | | |
| | (1) Species: | Use the correct name | INSTRUCTION INSTRUCTION INSTRUCTION | NS A.O.U. Checklist. 1 | .931 Edition. and 1 | ist group in A.O.U. |
| | | order. Avoid genera form, other species priate spaces. Spec | l terms as "seagul occurring on refuge ial attention shou | L", "tern", etc. I e during the report Ld be given to thos | In addition to the ling period should to species of local | birds listed on be added in appro- and National |
| | (2) First Seen: | significance. Group | s: I. <u>Water and Ma</u> II. <u>Shorebirds</u> , III. <u>Doves and P</u> IV. <u>Predaceous I</u> | arsh Birds (Gaviifo Gulls and Terns (C igeons (Columbiforn Birds (Falconiforme s for the season co | ormes to Ciconiiforn Charadriiformes) nes) es, Strigiformes and Passes | mes and Gruiiformes) d predaceous riformes) |
| | (3) Peak Numbers: | The greatest number | of the species pre- | sent in a limited : | interval of time. | * |
| | (4) Last Seen: | The last refuge reco | ord for the species | during the season | concerned. | |
| | (5) Production: | Estimated number of | young produced bas | ed on observations | and actual counts. | |
| | (6) Total: | Estimated total numb | er of the species | using the refuge d | uring the period co | ncerned. |

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1613

Refuge Rehunde Unit

Months of Sector to Location , 1947

(3)(4) (7) (1) (2)(5) (6) Young Sex Species Density Removals Remarks Total Ratio Produced Number broods obs'v'd. Estimated Total For Re-stocking For Research Estimated Hunting Pertinent information not number Acres specifically requested. Cover types, total using per acreage of habitat List introductions here. Common Name Bird Percentage Refuge Forest land 4532 Ruffed Grouse 25 Brush & edges 1800 229 10 453 Spruce Grouse Forest land 4552 Berthan Litelit (3) YOUNG PRODUCED teo Lauton has anothersee and bos. This column applies primarily to wild turing, pienesst, sto. Inslude data on (A) SEX RATION Idal Lova II us loson hadio Indicate total number in each category resoved caring the report period. Sabianted total maber deing the refuje during the report period. This m beload reations birds also those and estim into the refuge during certain seasons, reflate action used to determine population and area covered in survey. ORIA .neleda oblar parbinant information and specifically requested. · Gaily columns ampliantie to the period or work should be need.

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.

Mossehern Hefuge, EdgasleAUELt, Maine

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16

| a dan | Refuge | | | | seb | Mile | 1. 2 10 | 11 | Yea | .r <u>19</u> 2 | correct o | SPECIES: Use | 101 (1) |
|-----------------------|--|--------------------------|---------|--------------------------------------|-------------|------------------------------------|---------------------|-------------|------------------------------------|--------------------------------|---|--|------------------|
| (1) Species | (2) Density | (3) Young Produced | ab. | (Rer | (4) nove | ıls | 080 | (Los | 5) Ises | Intr | (6) oductions | (7) Estimated | (8) Sex Ratio |
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re- stocking | Sold | For Research | Predation | Disease | Winter Losses | Number | Source | Total Refuge Population as of Dec. 31 | Percentage |
| čive čive cated | Brush & edges 1200 Grassland 168 Harsh & flow go 200 | od 278 so | | dia . Seria Seriari Seriari | | pwtris ensige o bes s bes | i be tali Non | | bottod BEBR Euclia Euclia | brnal Libe bedsj Libe | teuiture bols ilst gue e sube gie s en me s sig | 8000 | |
| Bh ok Bear | As above | 2 Det on ten | N | proi | 9000 | of 30 | Non | | eorded | beda | aite Estin | TOUNG PRODUC | (E) |
| nž. | and order sump type. | and grant | | prue | 1-b | less a | fle | | 10 v11 | 600 | dose | uh-a spez-ballen | fir |
| | doh stock was secured. | ay from m | ites: | 5 10 | eg | fier I | ICLS: | to di | ten au | ete | S: India | INTROBUCTION | 6) |
| "Lė- | the refoge as of becebbe | | da | 40 T | 9 B | latio | iqoq | be | lisa Li wa | edd | ev 10 | TOTAL REFUG | (7) |
| | each species as determine | emales of ovals. | d | e al ugh | als hro | 1 10 1 | ton. | reen vat | the per | ate ffel | India movi | SEX RATION: | 8) |
| | | | | | | | | | | | | | |

INSTRUCTIONS

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Form NR-3 - BIG GAME

162

| (1) | SPECIES: Use co | prrect common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It |
|-----|---|---|
| (2) | IS un DENSITY: Applie etc.) limite inform of acr not be types to obs agricu symbol Figure sample under | secessary to indicate sub-species such as northern or Louisiana white-tailed deer. as particularly to those species considered in removal programs (public hunts, exclusive of fenced herds. Detailed data may be omitted for species occuring in ad numbers. Density to be expressed in acres per animal by cover types. This mation is to be prefaced by a statement from the refuge manager as to the number "es in each cover type found on the refuge; once submitted, this information need o repeated except as significant changes occur in the area of cover types. Cover should be detailed enough to furnish the desired information but not so much as "cure the general picture. Examples: spruce swamp, upland hardwoods, reverting liture land, bottomland hardwoods, short grass prairie, etc. Standard type is listed in Wildlife Management Series No. 7 should be used where possible. Is submitted should be based on actual observations and counts on representative o areas. Survey method used and size of sample area or areas should be indicated Remarks. |
| (3) | YOUNG PRODUCED: | Estimated total number of young produced on refuge. |
| (4) | REMOVALS: | Indicate total number in each category removed during the year. |
| (5) | LOSSES : | On the basis of known records or reliable estimates indicate total losses in each category during the year. |
| (6) | INTRODUCTIONS: | Indicate the number and refuge or agency from which stock was secured. |
| (7) | TOTAL REFUGE POPULATION: | Give the estimated population of each species on the refuge as of December 31. |
| (8) | SEX RATION: | Indicate the percentage of males and females of each species as determined from field observations or through removals. |

2.5

DISEASE

Refuge Nooschorn Defuge, Man ade Unit, Maine

Year 194 7

| Botulis | n | Lead Poisoning or other Disease | | | | | | |
|---|---|--|--|--|--|--|--|--|
| Period of outbreak None | | Kind of disease No known locore from disease | | | | | | |
| Period of heaviest losses | | Species affected | | | | | | |
| Losses: (a) Waterfowl (b) Shorebirds (c) Other | L Count Estimated | Number Affected Actual Count Estimated | | | | | | |
| Number Hospitalized No. Re | ecovered % Recovered | Number Recovered | | | | | | |
| (a) Waterfowl(b) Shorebirds(c) Other | | Number lost Source of infection | | | | | | |
| Areas affected (location and a | approximate acreage) | Water conditions | | | | | | |
| Water conditions (average dept areas, refloc | th of water in sickness oding of exposed flats, etc. | Food conditions | | | | | | |
| Condition of vegetation and in | nvertebrate life | Remarks | | | | | | |
| Remarks | | | | | | | | |

FISH

Refuge Moonshorn Refuge, Edward & Units. Mature Year 194 7

| | | Coost Dishing | | | Commorcia | 1 Fiching | Rest | ocking | Number re- |
|---|-----------------|------------------------|--------------|----------------|---------------|-----------|---------|------------------------------|------------|
| * | | Deletter | Sport . | Number | No | Dounda | Number | ockrig | mound for |
| | | Relative | Man days | Number | 10. 01 | Pounds | Number. | Anna Ohisahaa | moved for |
| | Species | Abundance | Fishing | Taxen | Permits | Taken | Stocked | Area Stocked | Restocking |
| | Thits perch | Reported pla | stiful but m | it flaked t | his season | | | | |
| | Brook trout | Noderatoly abundant | 80 | 800 | | | | | |
| | Atlantie Salama | First year a | booking youn | ; flah | | | 85,864 | Hobart Stream & tributary | |
| 1 | Iolo | Smahanda | | | Not flabol | | | | |
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REMARKS:

PLANTINGS (Marsh - 'Aquatic - Upland)

| No planting mes corried out this year. | Species | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount & Nature of Propagules | Date of Plant- ing | Survival | Cause. of Loss | Remarks |
|--|-----------------|--------------------------------|--------------------------------------|--|----------------------------------|--------------------------|----------|-------------------|---------|
| | No planting une | carried out | this year. | | | | | | |
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Form NR-8 (Revised)

CULTIVATED CROPS

Neesshern Refuge, Refuge Edwards Unit, Maine Year 194.

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| Permittee | 20.0 | Unit | 10 BE | Ave. | Permi | ttee's | | G | overnmen | t's Sha | re or Return | |
| (If farmed by refuge | Permit | or | Crops | Yield | Sha | are | Harve | ested | Unharv | ested | to | Compensatory |
| personnel, so indicate) | No. | Loca- | Grown | per | 12 | Bu.Har- | 9 | | 08 | He is a second s | 2 m | Services, or |
| N O C | | tion | La tet | Acre | Acres | vested | Acres | Bu. | Acres | Bu. | 50 | Cash Revenue |
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DIRECTIONS FOR PREPARING FORM NR-8 CULTIVATED CROPS

Cultivated Crops Report Form NR-8 should be prepared on a calendar-year basis for all crops harvested or utilized during the calendar year and submitted with the December 31 refuge report.

<u>Permittee</u> - List each permittee separately. If lands of the refuge are farmed by refuge personnel or hired labor, this should be indicated in the <u>Per</u>mittee column.

<u>Permit No.</u> - List the number of the Special Use Permit issued to the individual.

<u>Use or Location</u> - The Unit No. or name specified in the Economic Use Plan should be listed in this column.

<u>Crops Grown</u> - A separate line of the form should be used for each crop grown by each permittee or by refuge personnel. This is important, since if each crop grown by each operator is not specifically enumerated, the report will be of no value for statistical purposes.

<u>Average Yield per Acre</u> - It is important that the average yield per acre of each crop grown by each operator should be shown.

<u>Permittee's Share</u> - Only the number of acres harvested or utilized by the permittee for his own benefit should be shown under the <u>Acres</u> column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the <u>Bushels Harvested</u> column. It is requested that all crops harvested be reduced to bushels wherever possible, or, as in the case with the harvesting of seed such as that of sweet clover, alfalfa, bromegrass, etc., the total harvested crop in pounds may be shown. Timothy, alfalfa, or other hay harvested by the permittee should be shown on Form NR-10 and should not be shown in the <u>Permittee's Share</u> column.

<u>Government's Share or Return - Harvested</u> - Show the number of bushels harvested for the Government and the acreage from which this share is harvested, both for grain raised by refuge personnel and by permittees. <u>Unharvested</u> - show the exact number of acres of crops allowed to remain unharvested as food and cover for wildlife. An estimate of the number of bushels of grain that is available for the wildlife in such unharvested crops should be shown in the <u>Bushels</u> column.

<u>Compensatory Services, or Cash Revenue</u> - Show other services received by the Government in cooperative farming activities, the number of acres of food strips planted for wildlife, the amount of wildlife crops not otherwise reported that are planted by cooperators for the Service, or the cultivation of wildlife plantations. If the permit is on a fee basis, the total cash revenue received by the Service.

Reateed

COLLEC JNS AND RECEIPTS OF PLANTING ST (Seeds, rootstocks, trees, shrubs)

Refuge Moonshorn Refuge, Edmunds Unit, Maine Year 194

| · · · · · · · · · · · · · · · · · · · | | Colle | ctions | | Rece | eipts | Total Amounts on Hand | |
|---------------------------------------|--------------------|------------------------------------|---------------|------------------|-------------|-----------------|-----------------------------|-------------------|
| Species | Amount | Date or Period or Collection | Method | Unit Cost | Amount | Source | | Amount Surplus |
| | | | and a service | | | | | |
| No planting (| took reseiv | nd or collected | Citle year. | | | | | |
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HAYING AND GRAZING

Refuge Househorn Refuge, Edmunds Units, Haine Year 194 7

| | | and the second second second second | Actual | Animal | Tons of | | | | |
|--------------|--------------|-------------------------------------|------------------|----------|------------|---------------------|---------|-------------------|---------------------|
| * | | Unit or | Acreage | Use | Hay Har- | Period of Use | a state | Total | alore and a colour |
| Permittee | Permit No. | Location | Utilized | Months | vested | From - To | Rate | Income | Remarks |
| Bornard Cox | 24553 | Property fo Bys Cress | morly oun 100 | bd 63 | | 6/20 - 10/31 (| .50/ha | M \$20.0 3 | |
| | | Johnson . | 00 | 80 | | 6/3 - 10/31 | | 10.00 | |
| Gerald Cag | 24086 | Whe Gaz | 50 | 48 | | 6/5 - 10/51 | • | 6.00 | |
| Gerald Car | | Smith | | | | | | 6.00 | |
| Percy Seeley | 34560 | Whe Cost | 1 | | | | 2,50 | 1.80 | |
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| | | | | | | | | | |
| Totals: | creage graze | d 800 | | Animal | use months | 203 | Total | income G | razing |
| A | creage cut f | or hay | Tons of | hay cut_ | 2 | Total income Haying | | | |

TIMBER REMOVAL

Refuge Mananh own Nathana, Réamine Unit, Nation Year 1949

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B.F., ties, etc. | Rate of Charge | Total | Reservations and/or Diameter Limits | Species Cut | |
|------------------|----------------------|---------------------|------------|---|----------------------|--------------|---|-------------|------|
| | | | | | | | | | - |
| Horton C. Vani | 10511 | Curano | 8,0 | 80 aanta | \$1.58 | (101_00) | Planmed | the best | |
| Mair Part | 20016 | Cinato | -4 | | | 6,00 | | | 3 |
| Genald Cas | 36002 | Conno | 1.0 | | • | - 20,00 | • | • | |
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| Resald Maghay | 14527 | Johnson | l | 1. | | 1.00 | • | | |
| Linglon Carter | 20000 | daturem | | 8 | | 8.00 | • | | |
| Gerrell Chapman | 20000 | Jahanna | Same Group | 40 bundles | 0 | 8,09 | | hiles fir | |
| Milton Repund | 24590 | Trusk tenSI | | 610 * | | 308.00 | | | |
| John Dulph | 364WE | Cipline | | 4 onnia | 1.35 | 5,00 | Firmed | Mand out | |
| Bornard Cox | 24000 | Comm | | • | 8,00 | 30.00 | (Pulganal) | Spruee, | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 'Total acreage c | ut over 4 | 5 | Total inco | me (198.95 | | | | | |
| No. of units re | moved B. F. Cords | | Method of | slash disposal | <u>Pl</u> led | minil buston | • | | |
| | Ties | 550 bundler | | *Openti | inn Snow | glote | | | 1622 |

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