

NARRATIVE REPORT ROUTING SLIP

REFUGE MOOSEHORN

PERIOD May-August 1963

CHIEF'S OFFICE: Mr. Gillett 2

Mr. Ackerknecht

Mr. Fermanich

Mr. Goldman

WILDLIFE MANAGEMENT: Mr. Stiles

RESOURCE MANAGEMENT: Mr. Stollberg

Mr. Lumb

OPERATIONS: Mr. Huenecke HL

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Mr. Monson gm

PLANNING: Mr. Hickok

ADMINISTRATIVE SERVICES: Miss Baum

Moosehorn National Wildlife Refuge

May - Aug., 1963

Narrative Report

Washington County, Maine

Headquarters, Calais, Maine

Sub-Headquarters, Dennysville, Maine

PERSONNEL

Wesley R. Jones  
Eldon R. Clark  
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James F. Harvey  
Arnold E. Davis  
Daniel D. Dineen  
Harold E. Stanhope  
Merton L. Hatton  
Alton L. Sawyer  
Leslie L. Bagley

Refuge Manager  
Wildlife Mgt. Biologist  
Wildlife Aid  
Refuge Forester  
Wildlife Aid  
Refuge Clerk  
Maintenance Foreman  
Maintenance  
Maintenance  
Maintenance

WAE

1 - Clerk Typist  
5 - Student Assistants  
7 - Operator Generals  
3 - Caretakers  
2 - Foreman II (Laborers)  
2 - Foreman I (Laborers)  
10 - Laborers

During the period the following listed were employed at this station under the Accelerated Public Works Program.

3 - Foreman II (Excavation)  
3 - Foreman I (Laborer)  
2 - Foreman II (Laborer)  
59 - Laborers  
35 - Truck Drivers ( 29 under contract w/their personal dump trucks )  
8 - Bulldozer Operators ( 3 under contract w/their personal bulldozers )  
4 - Shovel Operators ( 3 under contract w/their personal loaders )  
8 - Carpenters  
1 - Signmaker  
3 - Operator Generals  
1 - Horse

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A. Weather Conditions

Following is a summary of weather data recorded at refuge headquarters for the period:

	Snowfall		Total Precipitation		Mean Temperatures			
	1963	*Normal	1963	*Normal	Max.	Min.	Mean	*Normal
May	6.0	.56	4.64	3.79	68	40	54	51
June	0	0	2.24	3.66	85	52	68	59
July	0	0	3.34	3.26	86	61	73	66
Aug.	0	0	7.57	2.95	76	57	66	65
Totals	6.0	.56	17.79	13.66	Extr. 106	29		

\* Based on the average of the ten year period (1954-63 incl.) that weather has been recorded at refuge headquarters.

Weather during the first three months of the period was near normal with August being listed as "abnormal". Precipitation during May, June and July was near normal while August was 150% above normal. May, June and July were typical summer months with many warm, sunny days being recorded. However, August was just the opposite with the sun being a rare sight and most of the month was characterized by foggy, overcast, damp days with overnight temperatures in the forties occurring quite frequently.

B. Habitat Conditions1. Water

Normal rainfall early in the period and heavy precipitation during August resulted in excellent water conditions throughout the period. The usual late spring floods were not experienced and water levels held up well through late summer. There was no flooding of nesting habitat, yet the many small flowages held enough water to attract waterfowl throughout the period. These conditions were favorable for waterfowl usage as well as for the growth of aquatic food plants.

Two of the refuges major marshes, Middle Magurrewock and Barn Meadow Proper, were drained during the period due to the re-construction of Highway U.S. #1. No trouble was experienced in holding impoundments at recommended levels except in a few cases where beaver proved troublesome; these were removed by the use of live traps and released on flowages where beaver activity is desired.

2. Food and Cover

Plant growth was slightly retarded by cool late spring weather. However, it progressed normally through the balance of the period. Both food and cover plants showed excellent growth through the last three months. This, with the usual abundance of insect life provided adequate food and cover for waterfowl broods and other summer residents.

Food and cover conditions for woodcock and other upland species were excellent throughout the period. In fact it was one of the best seasons in recent years for all species of wildlife on the refuge. With no flooding or extended periods of cold rain during the critical days of May and June when young are most vulnerable, survival of young in all species was above average.

## II - Wildlife (Primary Unit)

A. Migratory Birds1. Waterfowl

Total waterfowl usage declined substantially (17%) from last year. This was the first decrease since 1957. A general decline was reported in this section of the state; but on the refuge it was much more pronounced. Several factors were involved. Weather conditions of course contributed to the small general decline over the area. On the refuge several of the better marshes were partially or wholly drained for construction under the APW program. Both Barn Meadow and Middle Magurrewock (our best breeding areas) were partially drained due to the re-construction of Highway U.S. #1. In addition to temporary loss of breeding habitat, construction activity in the vicinity of several smaller marshes probably reduced waterfowl usage.

Nesting was about two weeks late for most species. Early nest losses must have been high - young broods were observed throughout July and early August indicating an unusual number of renests. The number of black duck broods in this category was particularly noticeable. Total production declined 7%. A moderate increase in ring-neck production failed to make up substantial declines in blue-winged teal and blacks.

Usage trends by species for the past ten years are shown in the following tabulation.

Year	Goose	Black	Woody	Teal	R-Neck	Other	Total
1954	4657*	19040	1882	3119	5107	1015	34820
1955	525*	33541	2863	4710	9484	4587	55710
1956	70*	32850	3533	2414	9850	4303	53020
1957	217*	21529	5146	1375	17570	6068	51905
1958	140	29880	6309	3737	17309	8431	65806
1959	2262	33669	6787	6744	19337	10532	79331
1960	2431	33731	10641	7130	18400	10676	83009
1961	3136	42580	9388-	9830	19300	17165	101399
1962	6668	54826	15301	19569	25902	19180	141446
1963	5628	42166	17284	9725	24744	18105	117652
Change 62-63	-15%	-23%	+13%	-50%	-4%	-6%	-17%

Seven breeding pairs of Canada Geese nested on refuge marshes this year as compared with 8 last year. However, two pairs nested in the goose pen; one pair reared a brood of seven young while the other pair hatched two but lost them within two weeks.

2. Other Waterbirds

The usual small number of loons, grebes, great-blue herons, bitterns and rails were observed. These birds are not sufficiently plentiful to be of great significance in the management program at this station.



### 3. Shorebirds

The annual census of singing male woodcock was conducted in May. The retarded spring delayed this work. Since regular personnel were quite involved in the APW program several of the routes were not censused this year. Nearly all routes showed substantial declines in singing male woodcock from last year. A total of 38 occupied singing grounds were recorded as compared to 50 on the same routes in 1962, a 24% decrease. However, observations throughout the summer indicate the decline was not as serious as the census figures indicated. It is believed that shifts in areas are more responsible than actual population decline for the low census figures. Deep snows persisted in some covers normally used by breeding woodcock until late April.

Undoubtedly the early breeding population sustained higher than average losses. Migrants arrived at their usual time, March 26. At that time their usual feeding and resting areas were covered with 4 to 5 feet of snow. Woodcock were forced to use highway shoulders, small patches of bare ground in back yards, and similar locations for 2 or 3 weeks after arrival. They were much more vulnerable than usual to predation, road kill, and similar losses as well as being hard pressed for food.

Common snipe probably were adversely effected by the late spring. Although these birds are quite plentiful on the refuge no attempt at censusing has been made. Other small shorebirds arrive later so were not seriously affected by adverse weather.

### 4. Doves

Fewer mourning doves were reported this year than last. However, doves are relatively uncommon here so the slight change is not significant. Until recent years this bird was rare in this vicinity.

### B. Upland Game Birds

More ruffed grouse were reported this year than in any recent year. The increase was more apparent than real; personnel on the woodcock banding project spent much more time in areas frequented by grouse so a higher percentage of the population was observed. However, these birds appear to be at a rather high point in their cycle. After heavy rains of mid-May, weather was favorable for brood rearing through July. The number of young grouse on the wing at the end of the period indicates a successful breeding season.

### C. Big Game Animals

Early in the period white-tailed deer were reported with normal frequency. However, fewer fawns were reported than last year, and observations dropped later in the summer. It is possible that the unusually deep snow which persisted well into April, may have taken a greater toll of the deer herd than had been estimated. More

information on this will be obtained from the coming hunting season.

Black bears were seen much more frequently than in any previous year. Females with 2 and 3 cubs were reported several times and a number of singles were observed.

One transient moose was reported early in the period.

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

Raccoons and Red Foxes are very abundant on the refuge. The latter have increased this year in proportion to the high peak reached by snowshoe hares in the past two years. 'Coons were a problem at woodcock traps. Red Foxes also gave trouble at the woodcock traps. Mink seem to be quite abundant. Frequent losses of thrushes, robins and an occasional woodcock or grouse in the woodcock traps quite evidently were the work of this animal. Two mink were taken in steel traps in one locality and losses were sustained at other localities.

Snowshoe hares followed a pattern similar to last year on a reduced scale - abundant early in the season but much less in evidence later in the summer. Our increasing fox population is probably the answer to this.

Muskrats show little change in number from last year. They are moderately abundant on the better marshes and present in smaller numbers on all flowages and streams.

Beaver show little change in number in spite of the fact that 40 were removed last year. Several areas which supposedly were trapped out last winter showed some activity during the summer. This is due to movement of yearlings and a few lone adults.

Woodchucks appear to be increasing but are still far from abundant. It is doubtful if they will ever become a problem.

#### E. Hawks, Eagles, Owls, Crows and Ravens

There is nothing of significance to report on birds in this group. All maintain their relatively small numbers and none is a serious menace to desirable species.

Only 3 records of bald eagles (all adults) were reported this period. However, it is believed that most sight records were not reported.

#### F. Other Birds

Nothing to report this period.

### G. Fish

Rainfall was light from late May through July. Flow in smaller streams was substantially reduced. Record high temperatures in July resulted in some fish losses. However, most of the dead fish observed were suckers. A few dead trout and perch were reported but the number was very small. Above normal rainfall and cooler temperatures in August alleviated these conditions. By the end of the period favorable conditions prevailed for fish life.

### H. Reptiles

A few snapping turtles were picked up and several highway kills of this species were noted. Otherwise there is nothing to report in this category.

### I. Disease

No evidence of disease in refuge wildlife this period.



## III - Refuge Development and Maintenance

A. Physical Development1. Buildings

With the exception of the Visitor's Center which will be covered in Section AA of this report under the Accelerated Public Works Program no major building construction on the primary unit was accomplished. However, the usual routine building maintenance did occur.

Overhead track repaired on sliding doors of the Stewart Barn.

Exterior of refuge shop painted and spot painting completed on exterior of office bldg..

The counter adjacent to the refuge clerks desk was renovated during the period.

2. Impoundments

Considerable impoundment work was completed this period, however, this was primarily accomplished under our APWP and will be covered under Section AA of this report.

A shocker was constructed for the Dudley swamp flowage culvert and the lower Goodell Heath structure. These shockers are powered by an electric fence charger and used for the purpose of discouraging beaver from plugging the inlets to the structures.

The new water control structures on U.S. Route 1 at Magurrewock and Barn Meadow streams, being constructed by a local contractor in conjunction with the re-construction of Route 1 are progressing quite favorably. The structure at Magurrewock is a 5 bay concrete structure with bridge and fishway, while the structure at Barn Meadow is a 3 bay structure with a 54 inch concrete pipe. Both structures are well designed and were very badly needed to control the levels on our two most important waterfowl areas.

Hardwood logs are now being cut and will be sawed into 3 inch planks. These will be used in our water control structures.

The usual maintenance occurred around impoundments such as repairing and replacing of stop-logs, hauling fill and crib work around wing walls, re-seeding of dikes, replacing of water gauges and the cleaning of beaver debris from the control structures.

3. Roads

All refuge roads were graded during the period.

Considerable road construction was completed during the period. This was primarily under the APWP which is in detail in Section AA of this report.

Gravel was hauled on various sections of the Goodell Heath and Conic Lake Roads.

A concrete bridge with wood top was constructed on the Goodell Heath road crossing West Magurrewack Stream. This bridge is 18' long, 14' wide, and 7' high.

The roadside of the headquarters entrance road was mowed on several occasions.

#### 4. Fencing and Posting

The Barn Meadow grazing unit fence was checked. Very little had to be done since this was a new fence constructed during the summer of 1962, however, with the heavy snowfall and frost damage it is necessary to check these fences in the spring before grazing.

Boundary work continued during the first of the period. This consisted of brushing and marking. Approx. 8 miles was brushed this period. To date approx. 44 acres have been completed.

Refuge roadside boundary signs were checked and battered-up signs replaced.

#### 5. Surplus Property Acquired

The following surplus property was received this period:

1956 Chevrolet Courier  
1957 Chevrolet Courier  
1955 Ford 2½ Ton Rack truck  
Roustabout Crane - 10,000 lb capacity

#### 6. Soil and Moisture Program

The perimeter of the pond in the second goose pen adjacent to the Stewart Barn was levelled, harrowed, fertilized and seeded with grass seed.

Bearce's, Conic, and Crossman's dikes were graded and seeded.

#### 7. Vehicle and Heavy Equipment Maintenance

Following is a list of some of the major equipment repairs accomplished this period. The minor repairs are too numerous to mention.

1. Complete motor overhaul on 1955 - 2½ ton truck.
2. Clutch installed in GMC dump truck.
3. C frame welded several times on TD-18a tractor.
4. Front idlers and track rollers repaired on D-7 tractor.
5. Spring installed on D-4 tractor.
6. New shaft in front winch installed on cable blade D-7 tractor.

7. 3,000 and 5,000 mile vehicle checks.

8. Head gasket installed on refuge jeep.

In addition to the above the usual and routine maintenance occurred.

#### 8. Miscellaneous

Roadside, dike and field mowing was completed this period.

Several new duck traps were constructed and old traps repaired during the month of July.

Considerable time was spent during the period on grounds maintenance.

A new flag pole was installed at refuge headquarters.

On May 17th, 450 - 6 to 9 inch brook trout were stocked in West Magurrewock and Moosehorn Streams.

Several new pole type gates were installed at entrances to refuge roads.

#### B. Planting

##### 1. Aquatic and Marsh Planting

None this period.

##### 2. Trees and Shrubs

None this period.

##### 3. Upland Herbaceous Plants

None this period.

##### 4. Cultivated Crops

There is no permittee cooperative farming at this station.

The following planting was done by refuge personnel.

<u>Waterfowl Unit</u>	<u>Crop</u>	<u>Acres</u>
Center Magurrewock	Buckwheat	11
Lower Magurrewock	Buckwheat	6
Lower Magurrewock	Corn	1
Barn Meadow Field	Winter Rye	20



One hundred and seventy tons of lime and 41 tons of fertilizer were placed on refuge fields and pasture lands during the period. Fields treated included Barn Meadow fields, Stewart fields, Brandy Brook and MacDougall fields on the Baring Unit and Bills Hill and Nat Smith and fields on the Edmunds Unit. The three (3) refuge goose pens received an application of lime and fertilizer.

C. Collections and Receipts

1. Seed and Other Propagules

Buckwheat - 1,800 lbs., Eastern States Farmers Exchange  
Corn - 25 lbs., Eastern States Farmers Exchange

2. Specimens

None

D. Control of Vegetation

Not reported this period.

E. Planned Burning

Not reported this period.

F. Fires

Due to a wet summer there was only a short period during July that the fire danger was critical. No fires occurred on the refuge.

AA - Accelerated Public Works Program

In October, 1962 word was received that Moosehorn would receive an allotment of \$360,000 under the Accelerated Public Works Program. This money was to be spent on recreational facilities, wildlife habitat, and timber. The extreme heavy snowfall this past winter hampered our APW Program tremendously, however, following is a list of accomplishments under this program.

Roads

Approx.  $11\frac{1}{2}$  miles of road completed and surfaced with gravel. This consisted of cutting right-of-ways, rough dozing, gravelling and grading.

.4 miles of the Charlotte Road was re-located and constructed according to state specifications. This also included access road to the parking lot of the Visitor's Center building..

Paving for the re-location of the Charlotte Road, access road to the Visitor's Center and parking lot has been completed. This was done by a local contractor.

Approx. 100,000 cubic yds. of gravel were hauled on roads completed.

Water Control Structures

The following water control structures were constructed during the APW Program.

Two concrete structures on the outlet of Vose Lake. These structures with bridge and fishways are 8' high, 25' long (excluding core walls), 14' wide, with 9' wing walls on all four corners.

Nine additional structures were constructed. These were constructed w/metal half circle spillways, metal diaphragms or seep rings, and metal pipes. All pipes covered with earth dikes. They are as follows:

<u>Structure Title</u>	<u>Metal Half Circle</u>	<u>Size of</u>
	<u>Spillway Size</u>	<u>Metal Pipe</u>
	84" x 48" x 8'	48 inch
Bearce Brook Flowage (2 Str.)	84" x 42" x 6'	42 inch
Snare Meadow Structure	72" x 42" x 6'	36 inch
Barn Meadow Cross Dike	84" x 48" x 7'	48 inch
Beaver Flowage (Vose Lake)	72" x 30" x 6'	30 inch
Crane Flowage #1	72" x 36" x 7'	36 inch
Crane Flowage #2	84" x 48" x 7'	48 inch
Cranberry Inlet Flowage	84" x 42" x 7'	42 inch
Conic Brook Flowage	84" x 48" x 7'	48 inch
Crossman Flowage	72" x 36" x 7'	36 inch
Drumlin Pond	72" x 36" x 7'	36 inch

These structures were installed during the APWP. However, all dikes were not completed during the program. Throughout the summer we have

been putting finishing touches on these dikes and work still remains to be done on three of them.

Approx. 1 mile of earth dike was constructed on the above structures.

#### Timber Stand Improvement

Timber stand improvement consisted primarily of tree thinning by use of herbicides. Approx. 430 acres of timber stand improvement was carried out.

#### Woodcock Habitat Development

10 - one acre woodcock plots were clear cut w/slash burned.

#### Buildings

A Visitors Center building is being constructed at the junction of Route 1 and the Charlotte Road. This building is constructed of concrete blocks and is faced with brick. The building is progressing quite favorably and is scheduled to be completed by the first of December. It is being constructed by A.K. Mormile, Inc. of Rutland, Vermont. Furniture and supplies are on hand for use in this building when completed.

#### Edmunds Recreation Area

With the expanded Edmunds Recreation Area the following construction was completed.

A Reception building was constructed at the entrance of the recreation area. It is a wood frame building 27 x 16 ft. in size, with 8 foot walls.

Two wood storage buildings were constructed for use in storage of firewood for use at the camping and picnic sites. These are wood frame buildings 24' x 40' x 12" with open sides.

1. Boat landing and ramp
2. 27 mobile camp sites
3. 74 tent camp sites
4. 49 picnic sites
5. 26 picnic shelters
6. 1 fire circle
7. 1 campers circle
8. 143 picnic tables
9. 127 concrete fireplaces
10. 16 Habachi type fireplaces procured and installed
11. 2 miles of trail brushed out
12. 10 wells drilled
13. 2 flagpoles constructed
14. Pond constructed



44 latrines were constructed and installed in the recreation area under contract. 32 of these are doubles and 12 are singles. These were constructed by A.P. Whittaker & Sons of Randolph, Mass.

550 feet of utility right-of-way was cut in the recreation area.

Personnel

Under the Accelerated Public Works Program 149 employees were working at this station (this includes equipment contractors).

#### IV. Resource Management

##### A. Grazing

During the period, prior to the start of grazing all fences were checked for breaks and general discrepancy. All damaged fences were repaired.

Five tons of lime was applied to the Stuart Field grazing unit and three tons were applied to Brandy Brook grazing unit.

Nine special use permits were issued during the period for grazing. The revenue received from these permits was \$65.50, final payment on several of these permits will be received on or prior to expiration of the permits on October 15th.

##### B. Haying

Two special use permits were issued this period for hay removal. Revenues collected were \$26.00, a final payment on one of these permits will be made at a later date. All the hay removed was unimproved. Fifteen tons of lime was placed on Barn Meadow Field to promote a better quality hay as goose pasture. Dikes, marsh perimeters, and road sides were mowed and the hay left on the site.

##### C. Fur Harvest

None this period.

##### D. Timber Harvest

This is a slow time for timber harvest. Fourteen special use permits were issued during the period for removal of wood products from the refuge. The majority of these permits were for small units of fire wood, one to five cords. Twelve permits were for fire wood, one permit was for pulpwood, and one permit for a combination of fire wood, pulpwood and cedar posts, which had been cut during last years APW Program. Revenue received from these permits amounted to \$95.80 however, additional monies will be received on these permits at a later date.

##### E. Commercial Fishing

No commercial fishing is permitted on the refuge.

##### F. Other Uses

Six special use permits were issued for removal of gravel from the refuge. Revenue received was \$305.00, additional revenue will be received from these permits at a later date.

Three special use permits were issued for use of the Gov't owned cabin on Meddybemps Lake during the period. Revenue received from these permits was \$15.00.

A number of free use permits were issued for small amounts of gravel, poles, rocks, berries, etc.

May-Aug '63

## V. Field Investigations or Applied Research.

A. Woodcock Studies

The woodcock banding project started in June has been carried on throughout the summer. Activities in June consisted of brushing and marking traplines, cutting out and distributing traps, and procuring supplies such as mist nets and long handled nets for night lighting. A crew of six men increased to seven on July 9th started setting up traps July 1st and continued through July 16th. After that date traps were added or deleted from the lines whenever changes appeared desirable throughout the summer. The number of traps in operation fluctuated between 120 and 180 through most of July and August.

Mist nets were put in operation on July 10th. These were operated on an average of five nights weekly from that date through the end of August. Up to seven banks of mist nets were operated. These varied from six to twenty-six 12-meter mist nets per bank.

Night lighting operations were started on July 15th; they were continued throughout the balance of July and August whenever light conditions were at all favorable. Results were very disappointing on this segment of the project. Based on Martin's experience in 1962 this should have been the most productive part of the project. We had hoped to band at least three to four hundred birds by this method of capture. Through the last half of July night lighting was attempted on ten nights by crews of up to twelve men; only nine new birds were taken. After the full moon on August 5th success improved slightly. Lighting was attempted on 16 nights in August and 46 new birds were taken for a total of 55 banded by that method of capture. In contrast to 1962, a wet year when frequent dark rainy nights occurred, this year was very dry until mid-August. Suitable nights for lighting activity were infrequent.

Following is a summary of woodcock taken through August 31st:

Baring Unit:	New Birds	Returns*	Repeats	Total	Total All Methods
Trapping	59	13	22	94	
Mist Netting	126	6	17	149	
Lighting	21	0	1	22	
All Methods	206	19	40		265
Edmunds Unit:					
Trapping	61	0	27	88	
Mist Netting	69	0	29	98	
Lighting	34	0	18	52	
All Methods	164	0	74		238



May-Aug '63

Both Units:	New Birds	Returns*	Repeats	Total	Total All Methods
Trapping	120	13	49	182	
Mist Netting	195	6	46	247	
Lighting	55	0	19	74	
All Methods					503

\* Birds banded by Martin in 1962 on the Baring Unit.

In addition to woodcock, over 100 ruffed grouse and numerous robins, thrushes and other small birds were taken in the traps. A summary of all catches, predator losses, etc. will be included in the progress report to be submitted after woodcock activities are completed in October. We anticipated that numerous problems would be encountered in this first year of full scale operation of the woodcock project. In many cases the answers to the problems are quite evident. Earlier and more selective recruiting of personnel, improvement in layout of traplines, and pre-trapping predator control, among other things, will result in a much more successful program next year. Evaluation of trap design, net design, type of light, etc. will be a continuing process.

A large two-man net has been developed which may be a solution to our lighting problems. Birds have been taken on clear bright nights with this net. However, by the time this net was first used (Sept. 11) woodcock were behaving in an erratic manner (possibly due to molting, proximity of migrating time, or some other reason); blueberry fields which were used heavily through the summer were deserted or used lightly on most nights in September. The greatest difficulty usually was in finding areas that had birds. A second problem was that the birds flushed very wild - too far out to use the net. Earlier in the season these problems were not encountered. We hope the net will be very effective another year.

#### B. Marsh Surveys

Nothing to report this period.

#### C. Waterfowl Studies

Early summer brood counts indicated a decided scarcity of black ducks, compared with numbers experienced in the past several years.

By July 29, when waterfowl trapping was initiated, all traps were either newly constructed or rebuilt to eliminate trapping casualties. Twelve portable funnel type traps, 5'x5'x8' were constructed of either 1" x 2" weldwire, or 1" galvanized mesh mink wire over existing funnel trap frames. All traps were bottomed with 1" mesh galvanized mink wire, and topped with either 1" mesh nylon netting or 2" mesh galvanized wire.

Traps were set initially at Magurrewock marsh, Dudley swamp, Cranberry Lake, Howard Mill flowage and Nat Smith marsh. These were the areas



May-Aug '63

in which brood counts indicated relatively large concentrations of waterfowl, subsequent aerial and ground observations indicated concentrations on the St. Croix River, Pennamaquon River, Great Works marsh, and Lower Goodell Heath, traps were set in these locations.

When trapping started it became evident that many late or re-nest broods of blacks were present. Very young blacks appeared in the traps - some too small to band. Class 1 broods of ring-neck and blue winged teal were observed as late as August 15.

Trapping success was good and as of August 31st a total of 440 waterfowl had been banded; these included: 284 black ducks, 119 wood ducks, 17 ring-necks and 16 Canada geese. This was about 10% greater than the summer banding to the same date last year. Species comparison is about the same as last year. The increase probably represents greater trapping effectiveness rather than an increased refuge population.

Great pains were taken to eliminate trapping mortality - all traps were screened and all available steel traps were employed for predator control. Not a single bird was lost to predators in screened traps - with the smaller mesh used on the traps there was only one accidental drowning, a young wood duck caught in a funnel. Five raccoons were caught in screen traps, and 4 raccoons were caught elsewhere and transported away from the trapping areas.

#### D. Deer Studies

Nothing to report this period.

#### E. Fish Studies

Nothing to report this period.

#### F. Northern Bog Studies

Nothing to report this period.

## VI - Public Relations

A. Recreational Use

Recreational use of the refuge increased sharply during the summer months over use during previous years. This was due mainly to the enlargement of the recreation area on the Edmunds Unit, but there was also a big increase of fishermen and wildlife observers who used the refuge during the period.

The Edmunds Unit Recreation Area opened to the public on July 26th. A total of 1,381 visitors used the recreation area on the opening weekend. Through the end of August it was estimated that in excess of 5,000 campers and picnickers had used the area. A more complete report of recreation area usage will follow in the Sept. - Dec. Narrative.

B. Refuge Visitors

The following official visitors visited this station during the period.

<u>Date</u>	<u>Name and Title</u>	<u>Purpose</u>
6/20	John Ball, C/O Safety Coordinator	Inspection
6/20	Francis Schuler, R/O Safety Committee	"
7/16-18	Eugene Crawford, R/O Wildlife Div. Chief	Inspection and
" "	Thomas Horn, Reg. Supvr., Refuges	Woodcock Program
" "	Dale Sutherland, Ass't Reg. Supvr., Refuges	" "
" "	Alreid Geis, Ass't Chief, Migra. Birds, Patux.	" "
" "	Howard Wight, Chief, Migra. Upland Game Bird, Patux.	" "
8/8-9	Eugene Crawford, R/O Wildlife Div. Chief	Inspection and
" "	Merton Radway, Ass't Reg. Supvr., Refuges	Woodcock Program
" "	Carl Greuner, Supvr., Game Mgt. Div.	" "
P "	Phil Dumont, C/O	" "
" "	Ed Baker, Game Mgt. Agent	Woodcock Program
8/20	C. Dittman, Div. Chief of Engineers	Inspection of
8/20	I.T. Malmstrom, Regional Engineer	APWP Contractors
8/26	Richard Murphy, Prop. Mgt. Officer	APWP Contracts

Members of the Maine State Police, State Warden Service, Maine Forest Service, State Highway Commission, State Sea and Shore Fisheries Warden Service and the U.S. Border Patrol visited the refuge on many occasions during the period on both official business and general visits.

C. Refuge Participation

Requests are frequently made by clubs, etc. of members of the refuge staff to speak, show movies or slides, or to conduct guided tours of the refuge. An endeavor is always made to meet such requests whenever it is possible (even though at times they may have to re-schedule their meetings to evening hours) to do so without infringing upon the regular work program.



Following is a list of engagements for this period.

Date	Place	Speaker	Attendance
5/3	Jacksonville Grange	Clark	40
5/6	Calais Rod & Gun Club	Jones	20
5/6	Calais Hospital Aid Society	Davis	46
6/17	Univ. of Me. Science School	Davis	54
6/21	Stonington Church	Davis	80
7/24	WQDY Radio	Jones	Audience
8/20	Josselyn Botanical Society of Maine	Davis	68
8/27	Group of Campers	Tuckosh (Std. Ass't)	23

#### D. Hunting

No legal hunting occurred on the refuge during the period.

#### E. Violations

Many man hours were spent during the period on patrol during evening hours. This was mainly patrol for litter-bugs and drinkers (of which we have quite a problem w/Canadians in this area). No violators were apprehended during the period, but many parkers, etc. were given warnings regarding parking on refuge lands after dark, etc..

#### F. Safety

Following the excessive number of accidents during the previous reporting period, this period station personnel stressed safety to employees at every possible opportunity. During May and June when the large work force was employed under the Accelerated Public Works Program, daily safety sessions were held on both the Baring and Edmunds Units. Through July and August bi-weekly safety meetings were held, at some of these meetings safety films were shown with lectures following and at other meetings general sessions were held with different members of the staff and crew participating at each meeting.

In spite of our safety sessions three personal accidents occurred during the period.

On Friday, May 31, Malcolm Johnson was in the process of assembling sections of culvert when a black fly flew into his eye, causing swelling and then excessive inflammation of the eye. This was an un-avoidable lost time accident.

On June 3rd, while cutting brush on a woodcock trap line, Gary Wheelock cut his foot with an axe. Luckily, the cut was not serious, this accident could have been prevented by proper use of the axe.

On June 21st, an accident occurred to Student Ass't Charles Landreth while he was mowing grass on the side of a goose pen dike with a rotor type lawn mower. Mr. Landreth slipped, held on to the mower

and his right foot went up under the mower. This could have been a very serious accident if the employee had been wearing a regular pair of shoes. As it was, Mr. Landreth was wearing a new pair of hard toed shoes, the hard toe deflected and bent the blades of the mower and Mr. Landreth received just a slight cut on the small toe. The employee was at fault in this case as he should have been mowing the side of the dike (fairly steep bank) in a side-way motion rather than pulling the mower up and down. We feel that Mr. Landreth learned a lesson on safety with lawn mowers, as the right boot of his new pair of \$24.00 boots was of no use after the encounter with the mower.

Following is a list of some of the safety accomplishments this period.

1. Large "work safely", etc. signs constructed and posted at all construction sites, work shops, etc. on the refuge.
2. Helmets and shin-guards were procured for all employees who are to be doing woods work.
3. Special injection tools procured for use by timber stand improvement crews in order to do away with the use of hand axes.
4. First aid supplies procured from GSA.
5. All fire extinguishers checked at periodic intervals during the period.
6. No Smoking signs installed in shop attic and office cellar.



## VII - Other Items

A. Items of Interest

We are pleased to report that the station forester position was filled during the period with the appointment of James Harvey. Jim reported for duty on May 17th.

On July 16, 17 and 18, Messrs. Crawford, Horn and Sutherland of the Regional Office, and Messrs. Geis and Wight of Patuxent Research Refuge, visited the station in regard to the woodcock banding project in progress at the station and refuge insecton.

On June 20th, Mr. John Ball, Safety Coordinator from the Central Office and Mr. Francis Schuler, Chairman of the Regional Office safety committee visited the refuge in regards to safety practices, etc..

Mr. I.T. Malmstrom, Regional Engineer, visited the station on 3 occasions during the period in regard to contracts under the APWP program.

During the period 2 Chevrolet couriers, 1956 and 1957 models were picked up surplus from Bombay Hook N.W. Refuge, and a 1963 Chevrolet Carryall was received from Brigantine N.W. Refuge.

Two surplus vehicles were received from Brunswick Naval Air Station during the period; these were a 1955 Ford 2½ ton truck with a rack body and Roustabout Crane w/10,000 lb. lifting capacity.

On August 8th and 9th Messrs. Crawford, Radway and Greuner of the Regional Office, Mr. Dumonth of the Central Office and Game Mgt. Agent Baker visited the refuge in regard to the woodcock banding project and refuge inspection.

On August 8th and 9th Mr. Crawford, Chief of the Wildlife Division of the Regional Office and Refuge Manager Jones attended the 43th meeting of the Northeast Field Committee of the Dept. of the Interior held at Calais, Maine. The following listed Bureaus were represented at the meeting: Bur Sport F & W; Bur of Outdoor Recreation; Bur of Commercial Fisheries; Bureau of Mines; National Park Service; Geological Survey and the Office of the Secretary. Following the closing of the meeting on the morning of Aug. 9th, the members of the Committee were given a guided tour of the refuge, the Edmunds Unit Recreation area, and the site of the proposed Passamaquoddy tidal project by Refuge Manager Jones.

We are pleased to report that we have had 13 college students working on the refuge this summer. Five of the students were employed as Student Assistants. These included: Frank Gramlich, graduate of the Univ. of Maine who will return to school this fall to work on his Master's; Warren Callings (Univ. of Mass.); Alan Page and Joseph Tuckosh (Cornell Univ.); and Charles Landreth who will enter Syracuse Univ. in the fall.

Five students were employed under the woodcock banding project carried out at the station. These included: Rollie Reed, graduate of Univ. of Michigan; Joe Johnson (Univ. of Mich.); LeRoy Ellis (Univ. of Maine); Carl Morrison (Bates College); and Steve Nesbitt (Univ. of Texas);

In addition two other students; Bruce Hellman and Jeremy Horne were employed as Caretakers in the Recreation Area and Stanley Clark was employed on the Baring Unit doing general refuge work.

The original Accelerated Public Works Program which was instituted at this station in November, 1962 ended on June 30th. During the period the station had as high as 149 employees on duty. The backlog of paper work, etc. was still piled high (and still is), from the original program, when, during the latter part of August we received word from the Regional Office of 2 supplemental appropriations totalling \$285,000 under APWP funds for this station. This is another "crash" program with funds to be used for forest preservation and development. As of this writing 66 employees have been hired under the APWP (including equipment w/operators) with more being hired daily.

A welcome addition to the staff during the latter part of the period (although for only a 4 month period) was the appointment of Mrs. Naomi Perry as a Clerk Typist. Mrs. Perry has proven to be a very cheerful and willing worker.

Thanks are given to the students employed as rangers and caretakers during the period in the recreation area, the students and employees working on the woodcock banding project and to Frank Gramlich on the waterfowl banding program. Without the voluntary overtime contributed by these employees during the period these projects would have met with only limited success.

During the period much voluntary overtime was contributed by the stations permanent staff, due mainly to the extra work load brought on by the Accelerated Public Works Program projects.



## I - General (Edmunds Unit)

A. Weather Conditions

The following is a summary of weather data compiled from the Eastport, Maine, U.S. Weather station records, approximately 10 miles distant across Cobscook Bay.

	Snowfall		Total Precipitation		Mean Temperatures			
	1963	Normal	1963	Normal	Max.	Min.	Mean	Normal
May	3.00	0	4.66	2.49	58	40	49	48
June	0	0	1.71	2.92	70	48	59	55
July	0	0	1.86	2.92	73	54	63	61
Aug.	0	0	4.32	2.95	71	53	62	61
Totals	3.11	0	12.55	12.17	Extr 96	37		

The high temperature of 96 degrees was recorded on July 26th, and the low of 37 was recorded on May 11.

B. Habitat Conditions

Heavy rainfall during May, light rainfall during June and July, and heavy rainfall again during August resulted in excellent water conditions throughout the period. No spring floods were experienced and impoundment levels held up well throughout the period.

C. Food and Cover

Plant growth was slightly retarded by the late spring break-up and cool weather in May. Both food and cover plants showed excellent growth through the remaining thre months of the period.

Food and cover conditions for woodcock and other upland species were excellent throughout the period.

A. Migratory Birds1. Waterfowl

Apparently the success of early waterfowl broods was below average. Late season observations of broods was decidedly higher than in previous years. A substantial decrease in blacks, woodies and ring-necks accounted for a decrease of over 4,000 use-days over the same period of last year. Green-winged teal and bufflehead showed a slight increase for the period.

2. Other Waterbirds

The usual small number of loons, great-blue herons, grebes and bitterns were observed during the period.

Great-blue herons visit our tide water areas each year during migration and following the nesting period on off-shore islands. The number of adults and young using the refuge remains fairly stable from year to year.

3. Shorebirds

The annual woodcock census was completed in May. Data compiled from this survey argumented by observations during the summer months indicates little or no change over the past few years.

Other shorebirds showed little or no change in numbers over previous years.

4. Doves

Observations of Mourning Doves were decidedly down from the corresponding period of last year. Reports from outside areas also indicate a sharp decrease in numbers of these birds in the area.

B. Upland Game Birds

A much higher than usual number of ruffed grouse broods were observed during the period. From observations it appears that these birds may well be at the peak of their cycle.

No spruce grouse broods were observed but the usual occasional adults appearing along the trails indicate little or no change in numbers.

C. Big Game Animals

The white-tailed deer is our only big game animal of consequence. Early in the period observations were made quite frequently but dropped markedly later in the summer. Fewer fawns were reported than last year.



Black bears are evidently increasing in numbers in the area. A few observations were made during the period and signs are very common around fields and orchards.

Although moose occasionally cross the unit, none were reported during the period.

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

Raccoons and Red Fox are very abundant on the refuge. Observations of both were made quite frequently during the period.

With the increase of Red Fox the numbers of snowshoe hares are on the decrease.

Beaver, mink and muskrat show little or no change in numbers from the corresponding period of a year ago.

#### E. Hawks, Eagles, Owls, Crows and Ravens

No change in numbers appear to have occurred in this group except possibly a slight increase in the number of crows and ravens.

#### F. Other Birds

Nothing to report this period.

#### G. Fish

Brook trout are the major game fish on the unit, and white perch are of some interest to fishermen. Hobart Stream and Crane Mill Stream are stocked with trout each Spring.

#### H. Reptiles

No reptile activities were noted or reported during the period.

#### I. Disease

No disease among wildlife has been noted or reported during the period.

### III - Refuge Development and Maintenance (Edmunds)

#### A. Physical Development

##### 1. Buildings

The exterior walls and foundation of the Edmunds office was completely renovated. The sills and exterior walls were deteriorated and in very poor condition. The repair of this building consisted of replacing sills, lower framing, boarding in and putting on siding. Three sides of this building were painted.

Aluminum windows installed on quarters No. 2 and 3.

The old obsolete and decayed wooden tower has been replaced with a steel tower. The steel tower was originally the radio tower that was used at the headquarters unit. This tower was dismantled and erected by the Maine State Forest Service. They also constructed a modern wood cab, lumber was supplied by the refuge.

Interior painting of Edmunds Reception building completed.

##### 2. Impoundments

Major construction of impoundments is listed under section AA of the Accelerated Public Works Program.

The usual routine maintenance was carried out in regard to stop-log replacing, water gauge replacement and cleaning out of water control structures.

##### 3. Roads

Refuge roads were graded, and several loads of gravel were hauled in washed out sections of the North Trail.

New roads were constructed in the Edmunds recreation area.

Roadside mowing was completed in the Edmunds recreation area and around the headquarters buildings.

##### 4. Vehicle and Heavy Equipment Maintenance

All major repairs to equipment are made at the primary headquarters. The routine maintenance was performed as necessary.

##### 5. Miscellaneous

Considerable clean-up work was done around the recreation area after the termination of our Accelerated Public Works Program.

Several pole type gates were installed in the Edmunds recreation area.

#### B. Planting

##### 1. Aquatic and Marsh Planting

None this period.

2. Trees and Shrubs

None this period.

3. Upland Herbaceous Plants

None this period.

4. Cultivated Crops

There is no cooperative permittee farming on this unit.

The only area planted for waterfowl crops on the Edmunds Unit is the Nat Smith field. Four acres of buckwheat were planted in this field.

C. Collection and Receipts

1. Seed or Other Propagules

None this period.

2. Specimens

None

D. Control of Vegetation

Not to be reported this period.

E. Planned Burning

Not reported this period.

F. Fires

No uncontrolled fires occurred on the refuge throughout the period. One small fire occurred adjacent to the refuge in the Great Works area. Throughout the period no critical fire hazard existed.

The fire tower watchman at Little's Mountain fire tower remained on duty throughout the period.

The following listed sections of the Narrative are combined with the Primary Unit report:

- IV - Resource Management
- V - Field Investigations or Applied Research
- VI - Public Relations
- VII- Other Items

This report was prepared by refuge personnel as follows and edited by the Refuge Manager:

I	General (Primary Unit)	Daniel D. Dineen, Refuge Clerk
II	Wildlife (Primary Unit)	Eldon R. Clark, Wildlife Mgt. Bio
III	Refuge Development & Maintenance	Stanley E. McConvey, Wildlife Aid
IV	Resource Management	James F. Harvey, Refuge Forester
V	Field Investigations	Eldon R. Clark, Wildlife Mgt. Bio
		Francis Gramlich, Student Ass't
VI	Public Relations	Daniel D. Dineen, Refuge Clerk
VII	Other Items	Daniel D. Dineen, Refuge Clerk
I	General (Edmunds Unit)	Daniel D. Dineen, Refuge Clerk
II	Wildlife (Edmunds Unit)	Daniel D. Dineen, Refuge Clerk
III	Refuge Devel. & Maint. (Edmunds)	Stanley E. McConvey, Wildlife Aid
	N.R. Forms	Eldon R. Clark, Wildlife Mgt. Bio

Typing was by clerk Dineen and Clerk Typist Naomi Perry

### B. Photographs

A section of photographs and newspaper releases is appended.

### C. N.R. Forms

N.R. Forms 1, 1A, 1B and 2 are appended.

Respectfully Submitted

*Wesley R. Jones*

Wesley R. Jones  
Refuge Manager

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
Regional Refuge Supervisor

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
Regional Director



SEP • 63



SEP • 65



Reception center at entrance to Edmonds Unit  
Recreation Area.

Boat launching ramp in recreation area, constructed  
on shore of Cobscook Bay under the APWP.

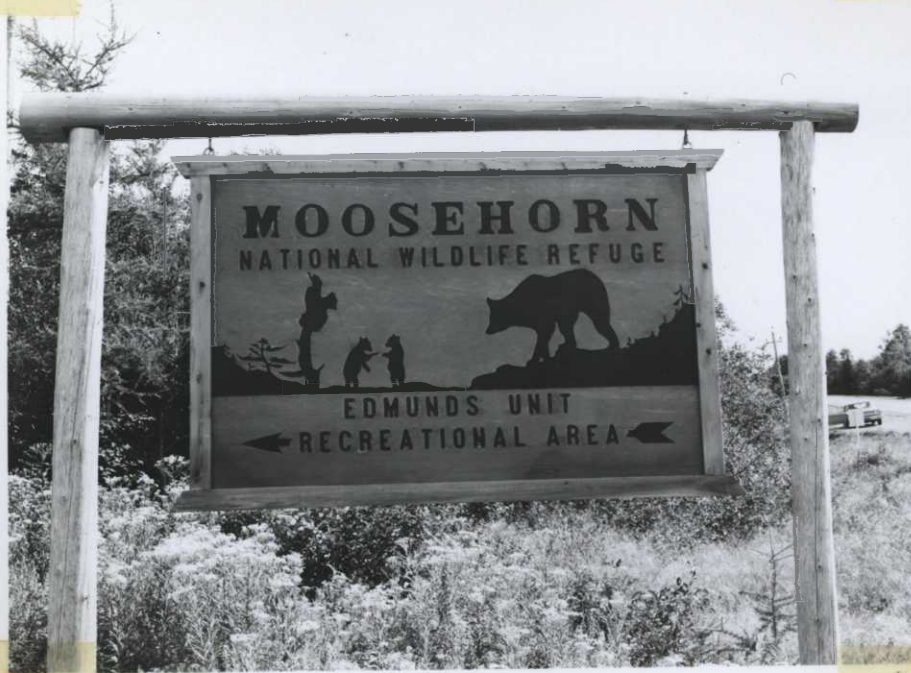
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• SEP • 63







Fire circle with set of single latrines in  
background at Burnt Cove picnic area at  
Edmunds Unit recreation area.

Cobscook Bay tenting area as seen from the  
new fire tower.

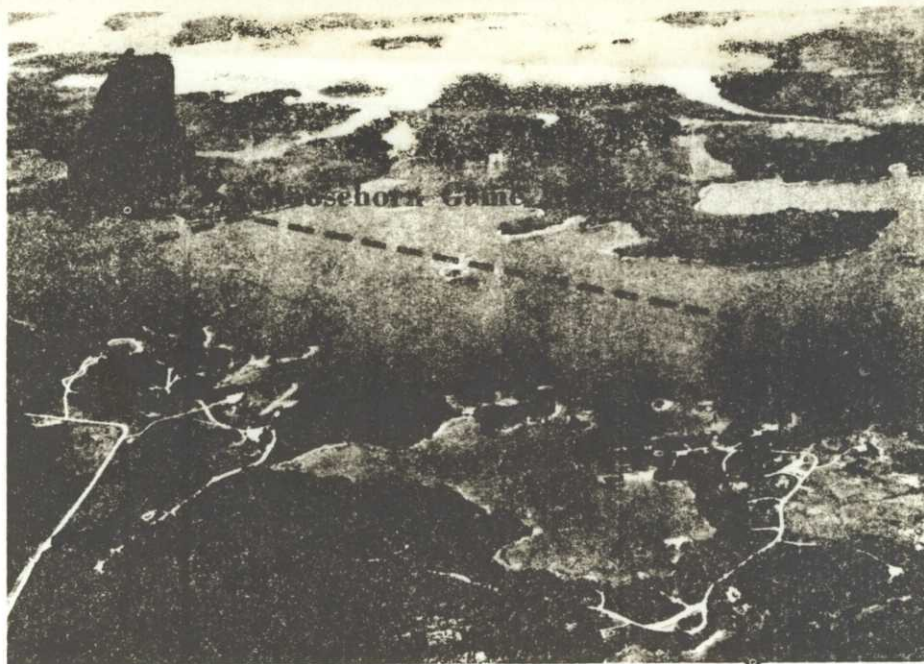


October 1963

# Down East

The Magazine of Maine

50 Cents



*COASTAL UNIT of the Moosehorn National Wildlife Refuge's 22,565-acre preserve is located on the shores of Dennys Bay at Edmunds. The salt water camping area has tenting, trailer, picnicking and boating facilities.*

*—Calais Advertiser Photo*

## **Moosehorn Game Refuge Greatly Expands Public Camping Areas**

The Moosehorn National Wildlife Refuge in eastern Washington County has greatly expanded its public tenting and picnic areas this year. The original 16 sites have been increased to 150, including 26 trailer, 75 camping, and 49 picnicking locations scattered about the refuge's 22,565 acres of wooded hills and valleys.

The federal game refuge, established in 1937 primarily for the study and improvement of waterfowl, woodcock, and deer, has grown by gift and pur-

chase to its present size. Moosehorn actually is a two-unit sanctuary, the major portion lying within the boundaries of Calais, Baring, and Meddybemps, while the other section is farther south in Edmunds on the shores of tidal Dennys Bay west of Lubec and Eastport. The Edmunds unit was the location of much of the recent expansion in public facilities.

Moosehorn lies in the Atlantic waterfowl flyway, and is also within the principal breeding range of the American woodcock. Wildlife is found in abundance throughout the refuge, and over 150 species of birds have been recorded by Moosehorn rangers.



## Greatly Expanded Downeast Camping Area Opens Friday

EDMUNDS — Despite two setbacks in their scheduled opening, spokesmen at the Moosehorn National Wildlife Refuge predict a booming business this summer for the newly expanded tenting and picnic areas located at the Edmunds unit of the game refuge.

The wildlife preserve recreation area in eastern Washington County has been expanded from its original 16 camp sites to a total of 150 camping and picnic sites at the cost of a half million dollars.

Student Assistant Ranger Joe Tuckosh, a Cornell wildlife management student from Newburgh, N. Y., during the winter months, told The NEWS that construction was just about completed on the 27 trailer, 74 camping and 49 picnic sites at the refuge.

Tuckosh said the only thing

that was holding them back now was lagging construction on the toilet facilities at the camping grounds.

He said, "We could have opened to a limited number of campers on July 1, our original scheduled opening, but government regulations stipulate that all the grounds' latrine facilities must be in working order, or the contract is void.

"The opening is now definitely set for Friday, July 26."

The Moosehorn National Wildlife Refuge consists of two separate units—one located at Barling, near Calais, and the other at Edmunds on Route 1, north of Machias.

Combined, the two wildlife refuges encompass 22,565 acres of rolling hills, valleys, streams, lakes, bogs and marshes. A De-

(Continued on Page 2, Col. 1)

## Downeast Campsites Ready

(Continued from Page 1)

partment of the Interior pamphlet states there are at least 30 flowages on the combined refuge which are maintained by up-

wards of 100 beaver.

The Moosehorn Refuge was established in 1937 on public and gift acreage.

It is maintained, according to the Department of the Interior, primarily for the improvement of waterfowl, woodcock and deer

habitat. The refuge is located in the principal breeding range of the American woodcock and in the Atlantic waterfowl flyway.

One hundred and ninety species of birds have been recorded by rangers at the refuge.

Ranger Tuckosh said that Friday, day of the Edmunds unit's camping site opening, will be primarily reserved for townspeople in the Moosehorn area. He said that publicity letters sent out on the camping grounds stress these plans and urge that campers not check in until Saturday.

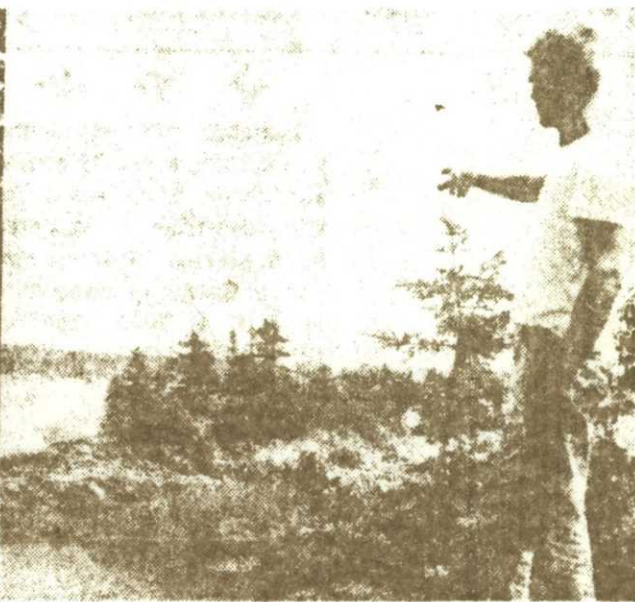
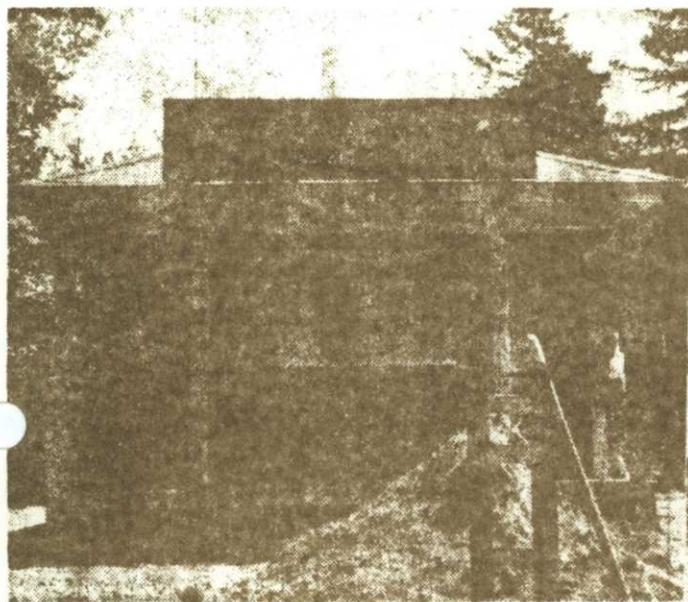
Regular hours at the sites are 7 a.m. to 9 p.m. This is when campers should check in at the ranger station, located at the area's entrance.

There will be, however, at least one ranger on duty 24 hours a day in case of emergencies. In addition to Tuckosh, Al Page of Old Chatham, N. Y., another Cornell student, will be on ranger service at the camping grounds.

Spokesmen at the recreational area said that a fully equipped fire wagon is housed there.

There are no electrical outlets anywhere on the grounds, but water and fire wood are supplied by the Park Service.

# STATE AND COUNTY NEWS



**READY FOR MORE CAMPERS** — The new Ranger station will be the first view and check-in point for campers as they enter Moosehorn Wildlife Refuge at Whiting. In right photo, student assistant ranger Joe Tuckosh of Newburgh, N.Y. points

out one of the small islands that dot Whiting Bay. Two rangers are on 24-hour duty in case of emergency at the expanded camping area. (NEWS photos by Day)



## Vermont Firm Contracted For Refuge Construction

CHARLOTTE—The accelerated public works program at Moosehorn Refuge in the Charlotte and Edmunds area is already under way with the announcement that a contract has been awarded to a Vermont firm for the construction of an exhibits building.

Receiving the contract for construction of the visitors center at the intersection of the Charlotte Road and Route One is A. K. Mormike, Inc., of Rutland, Vt.

Some \$360,000 will be spent at the refuge from November, 1962, to June 30, 1963.

The visitors center will be a one-story brick building measuring 40 by 104 feet. A new approach will also be constructed from Route One to the Charlotte Road. This part of the project is expected to start within a week.

The building will be used for exhibits and will be divided into an exhibit room, auditorium, information center, entry, office and workroom. It will include a projection booth, two washrooms, a boiler room, walks and patio. A large picture window will face Maguerrewock Marsh and there

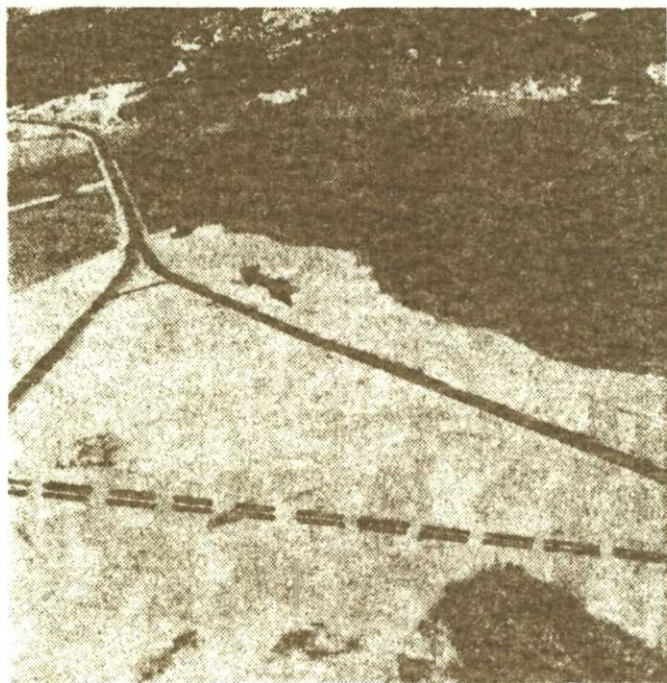
will be parking space for about 100 cars adjacent to the building.

During the winter months 80 men have been making roads through the recreation area and more than half of the 15 miles of roadwork has been completed.

According to refuge manager Wesley R. Jones, it has been a tough winter for work on the roads. First, a crew of 10 to 12 men was needed to clear the right of way of trees. Then a bulldozer did the rough grading and the road was graveled with material taken from refuge pits. Besides the refuge employees, about a dozen pieces of equipment were hired from contractors.

In the Edmunds unit five and one-half miles of road are under construction. Some 101 camping sites are being expanded to make provisions for tenting, mobile camping, a boat launching ramp, a 50-site picnic area and a recreation building.

According to Jones some four or five feet of snow remains in the woods in much of the work area.



**REFUGE DEVELOPMENT**—The first steps in a \$360,000 accelerated public works program at Moosehorn Refuge in Charlotte and Edmunds have been undertaken with the awarding of a contract for the construction of a visitors center and the building of a new approach road between Route One and the Charlotte Road. The visitors center will be located adjacent to Maguerrewock Marsh (see arrow) while the approach road will be located as shown by the dotted lines.



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# STATE AND COUNTY NEWS

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## Game Refuge Head Discusses Development

EASTPORT — The Eastport Chamber of Commerce held their monthly supper meeting Wednesday evening at the Sunbeam Restaurant.

Guest speaker was Wesley Jones, head of the Moosehorn Game Refuge. Jones' topic was the accelerated public works fund of \$360,000, which has been made available by the federal government for use at the Moosehorn Game Refuge. The Moosehorn Game Refuge is composed of Baring and Edmunds units.

Jones said that he was notified in November that he was to participate in this accelerated public works program and was told that the project must be completed by June 30, 1963.

He said that new camp sites, tenting areas and mobile areas have been under construction and new roads have been built. Work has been held up at times because of the heavy snow which made some areas inaccessible. However, he expects to have these additional areas and roads completed by the deadline, thus making them available to the public this summer.

Jones stated that Moosehorn Game Refuge is the only refuge in the country that is devoted to woodcock. He said the only other refuge in the area that is also participating in this program is at Erie, Pa.

Plans are being made for a good-sized building to be erected on the Baring unit, according to Jones. During his talk Jones displayed many charts and maps showing the new roads that are being constructed. He stressed that a project of this sort provides employment for many through the Maine Employment Service.

A question and answer period followed his talk.

Twenty one persons attended the meeting.

January, 1963

## MAINE FARMER and HOMEMAKER

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### Moosehorn:

Under new authorities that permit recreation development and with Accelerated Public Works funds, the Moosehorn Refuge staff is going ahead with expanding their recreation facilities. State agencies and County representatives were invited to meet with Fish and Wildlife personnel to discuss the development. It was interesting to find that plans developed by former Mgr. Dave Hickok were used as a basis for present plans.

RD committee members spent time with Dave with this sort of thing in mind in 1958. Along with the opportunities this presents, a few problems are presented to refuge Manager Wes Jones and his staff. A deadline exists and the work has to be planned and completed in a relatively short time. In the race of our winter weather, this is not a small task.

## Moosehorn Refuge Granted Funds

A supplemental appropriation has been granted to the Moosehorn National Wildlife Refuge, Calais, Me., under President Kennedy's Accelerated Public Works Program. The purpose of this program is preservation and development of forest lands under the jurisdiction of the Department of Interior.

Included will be projects which will protect forest lands from fire, insects, disease, erosion and floods; and the conservation of the timber and related forest resources. Typical projects will be reforestation and the improvement of timber stands; forest road and trail construction and maintenance which provide access for fire protection purposes or for salvage of blown down, infected, or overmature timber stands; fireproofed camp and picnic area construction which concentrates forest visitor use in improved areas and thus reduces for-

est fire risk, and related measures for the rehabilitation of forest lands. Scheduled completion date is January 31, 1964.

The hiring of all employees for this project will be done through the Maine Employment Security Commission at Calais, Maine. All men interested in employment in this program should register at the Maine Employment Security Commission office.

Those wishing to rent equipment (dump truck, bulldozer, front-end loaders, and power shovels), with operators, to the Government for use on the Moosehorn National Wildlife Refuge between September 1, 1963, and January 31, 1964 are requested to contact refuge headquarters immediately. Offers made will be considered by the Government and a standard hourly rate will be negotiated for each unit. Offers must be received at the headquarters of the Moosehorn National Wildlife Refuge, Calais, Maine, in writing, on or before 1 p.m. EST August 29, 1963. The

initial award of contracts will be made on August 30, 1963.



RECREATION AREA  
MOOSEHORN NATIONAL WILDLIFE REFUGE  
EDMUNDS, MAINE

The recreation area of the Moosehorn N.W. Refuge lies in the eastern part of Washington County, on the eastern tip of Maine, at the Edmunds Unit. The recreation area is directly adjacent to salt water along U.S. Route 1 about 6 miles from Dennysville.

There are three tenting areas, a mobile camping area, a picnic area, and a boat launching site for your use. Permits for the use of the facilities are to be picked up at the reception center. Normal operating hours are from 7 AM to 9 PM daily. Anyone wishing to leave at times other than these may make prior arrangements. The picnic area will be closed at 9 PM. Your cooperation will be appreciated in observance of these times.

Firewood for all areas is available at either of the two wood storage areas. No wood will be cut in this recreation area. Please do not peel the birch bark; it will kill the trees. Campfires must be confined to fireplaces provided. Trash disposal units are provided at each site and must be used at all times. The speed within the recreation area is 15 MPH except where otherwise posted. The lower speed limits have been set for your comfort and safety because of narrow winding dirt roads. Please observe them!

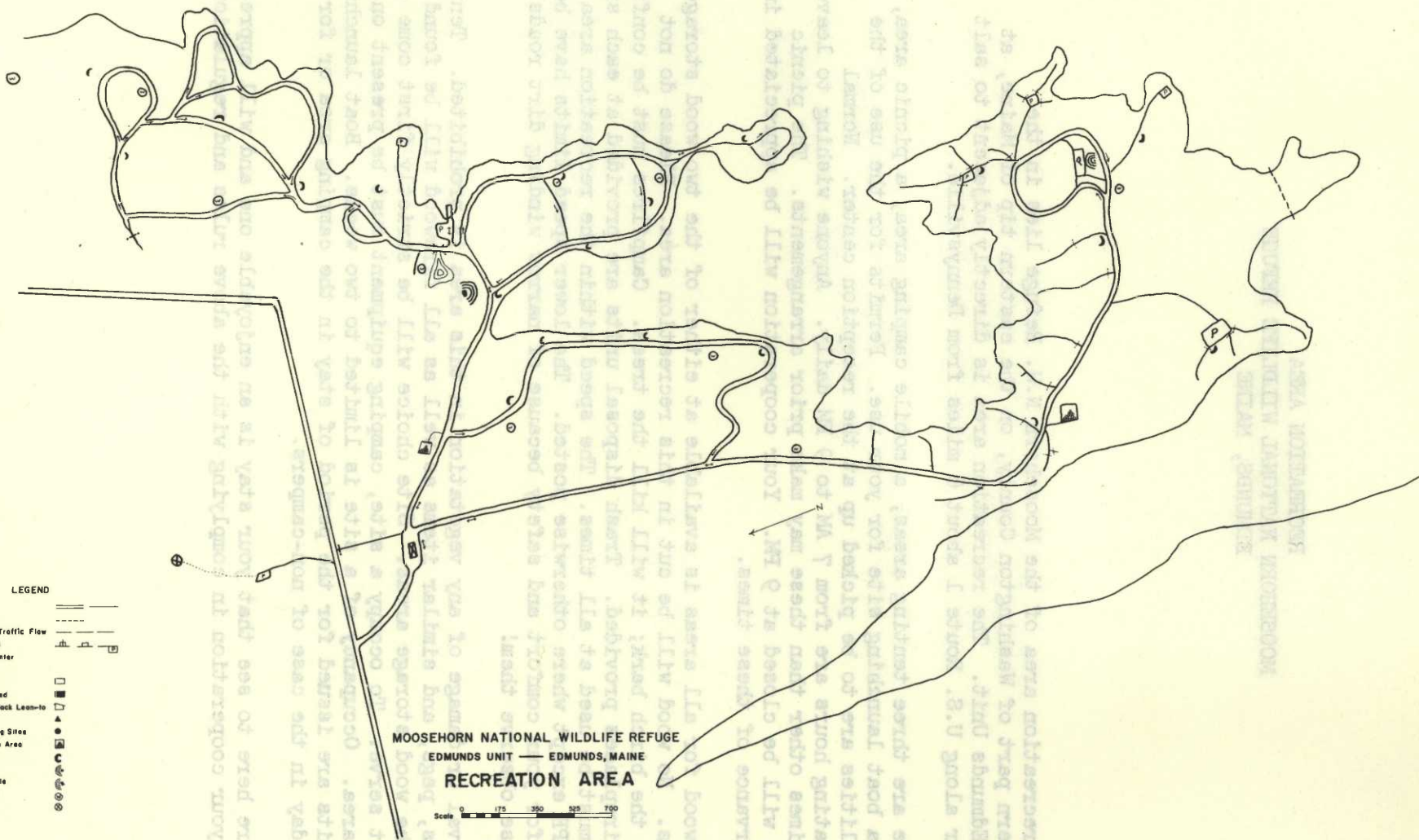
Removal or damage of any vegetation in this area is prohibited. Tent poles, pegs, and similar items as well as all firewood will be found at the wood storage areas. Site choice will be strictly first come - first serve. To occupy a site, camping equipment must be present on the area. Occupancy of a site is limited to two weeks. Boat launching permits are issued for the period of stay in the camping area or for one day in the case of non-campers.

We are here to see that your stay is an enjoyable one and will appreciate your cooperation in complying with the above rules and regulations.

- LEGEND
- Roads ———
  - Trails - - - - -
  - Direction of Traffic Flow ———>
  - Parking Areas
  - Reception Center
  - Picnic Area
  - Open
  - Sheltered
  - Adirondack Lean-to
  - Tent Sites
  - Mobile Camping Sites
  - Wood Storage Area
  - Latrines
  - Fire Circle
  - Campers Circle
  - Water Supply
  - Fire Tower

MOOSEHORN NATIONAL WILDLIFE REFUGE  
EDMUNDS UNIT — EDMUNDS, MAINE  
RECREATION AREA

Scale 0 175 350 525 700



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

CAMPING PERMIT

Cobscook Tenting Area

Site # \_\_\_\_\_

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of camping from \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

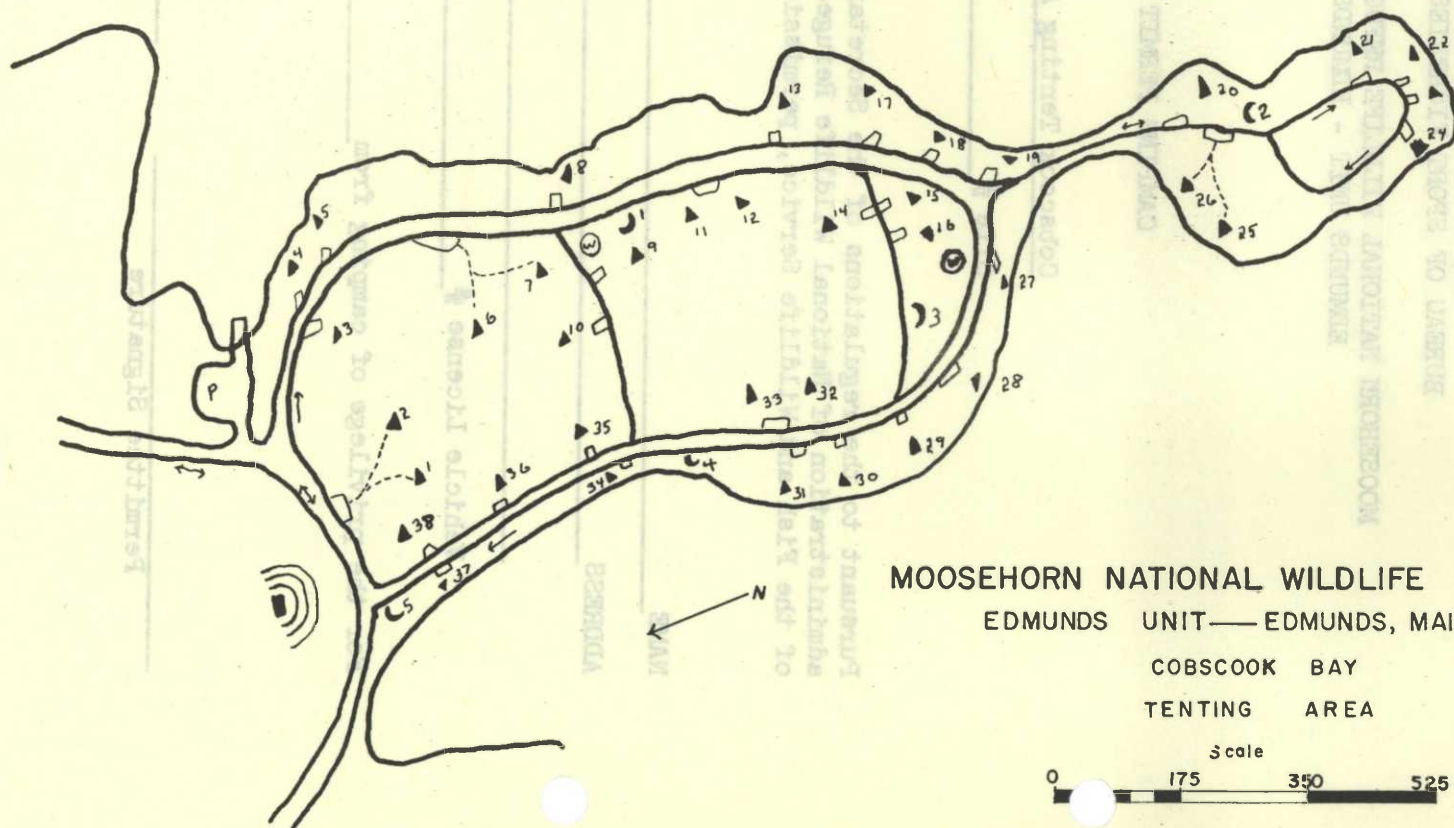
\_\_\_\_\_  
Issuing Officer

LEGEND



# LEGEND

- Roads
- Trails
- Direction of Traffic Flow
- Parking Areas
- Reception Center
- Tent Sites
- Wood Storage Area
- Latrines
- Campers Circle
- Water Supply
- Fire Tower

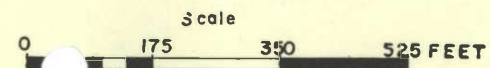


## MOOSEHORN NATIONAL WILDLIFE REFUGE

EDMUNDS UNIT — EDMUNDS, MAINE

COBSCOOK BAY

TENTING AREA



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

CAMPING PERMIT

Broad Cove Tenting Area

Site # \_\_\_\_\_

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

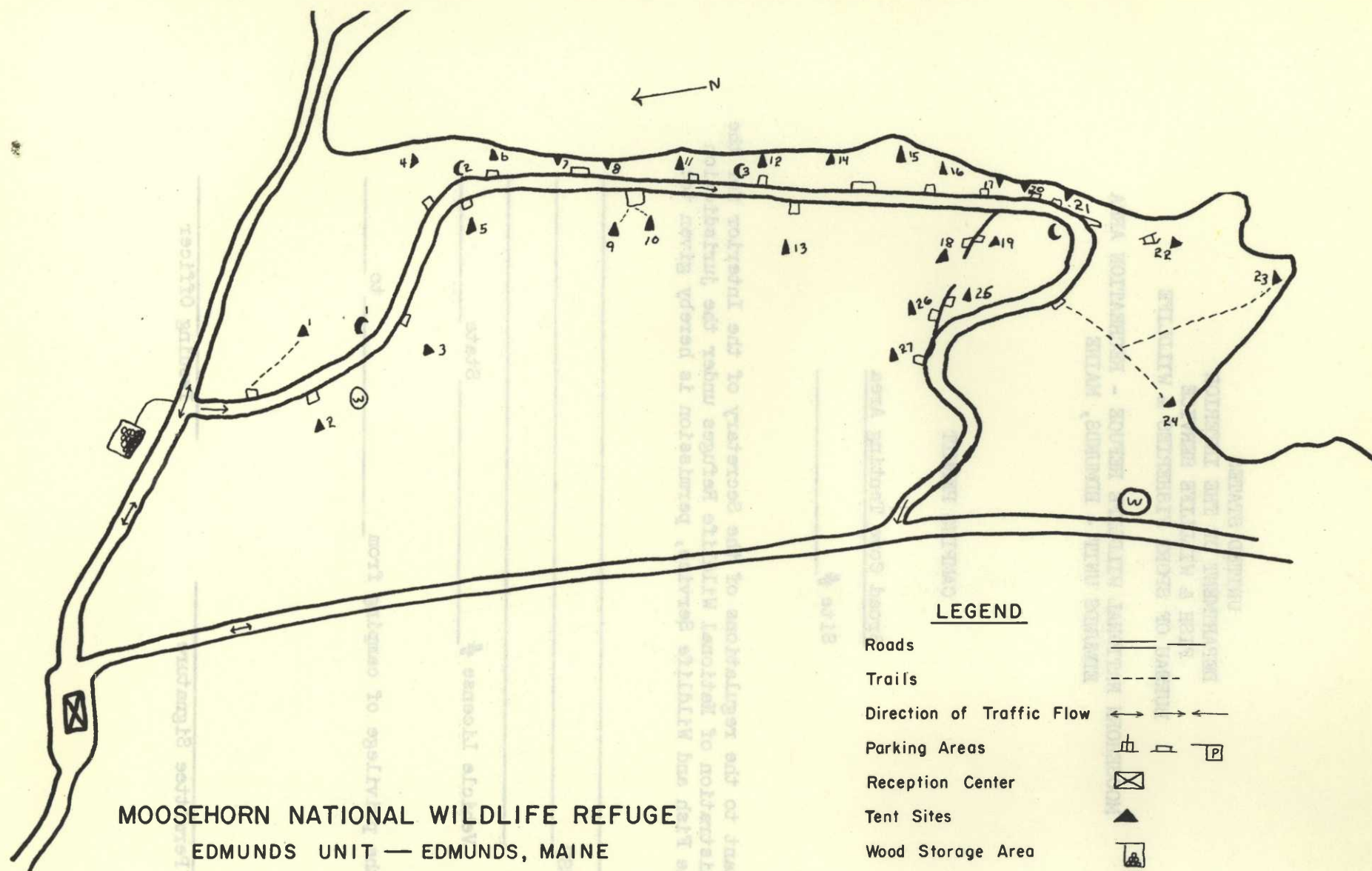
ADDRESS \_\_\_\_\_

Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of camping from \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Issuing Officer

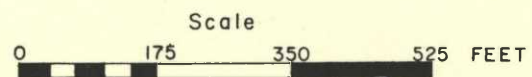


# MOOSEHORN NATIONAL WILDLIFE REFUGE

EDMUNDS UNIT — EDMUNDS, MAINE

BROAD COVE

TENTING AREA



## LEGEND

Roads	
Trails	
Direction of Traffic Flow	
Parking Areas	
Reception Center	
Tent Sites	
Wood Storage Area	
Latrines	
Campers Circle	
Water Supply	
Fire Tower	



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

PICNIC PERMIT

Burnt Cove Point Picnic Area

Site # \_\_\_\_\_

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

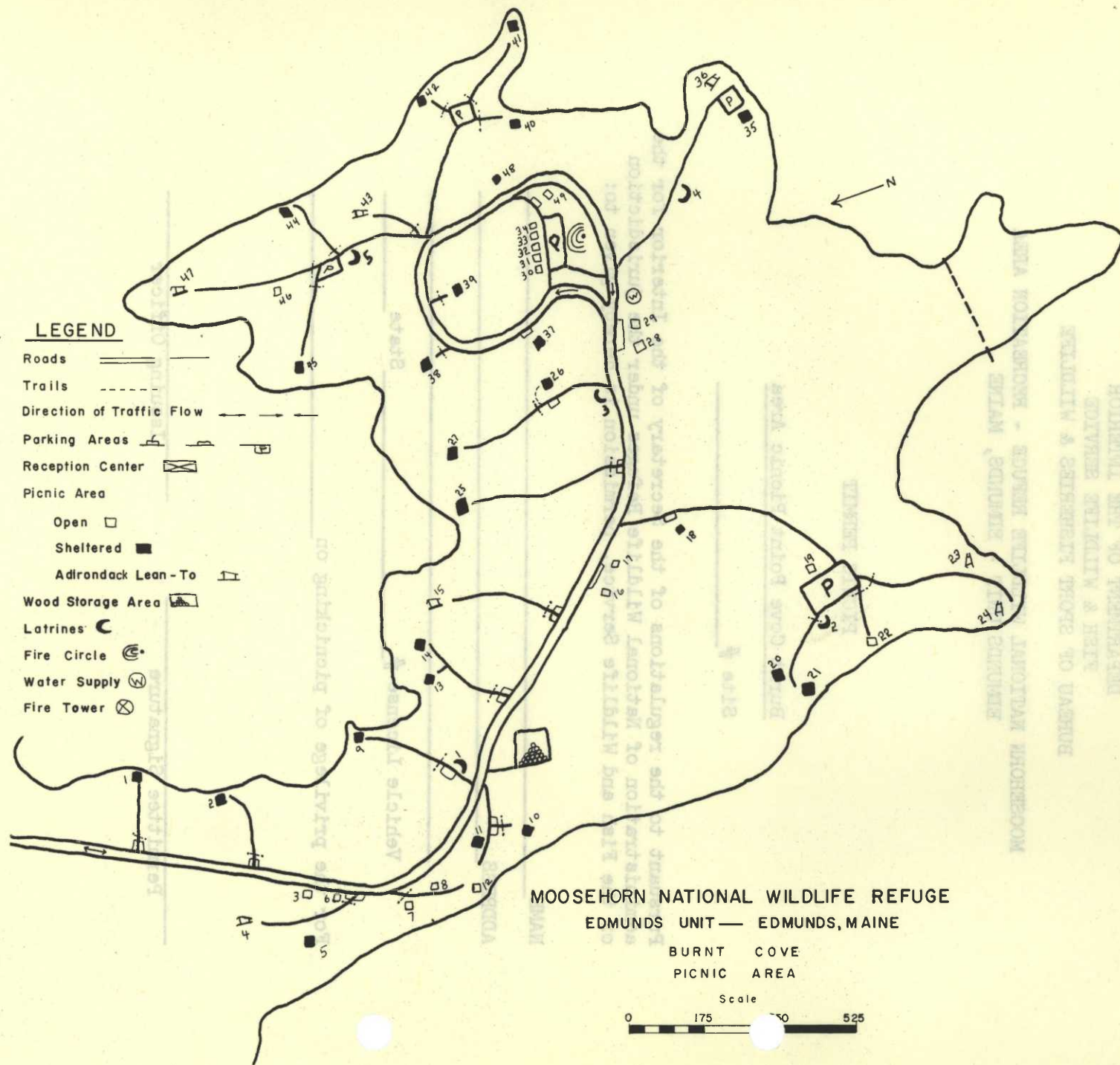
ADDRESS \_\_\_\_\_

Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of picnicking on \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Issuing Officer



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

CAMPING PERMIT

Harbor Point Tenting Area

Site # \_\_\_\_\_

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

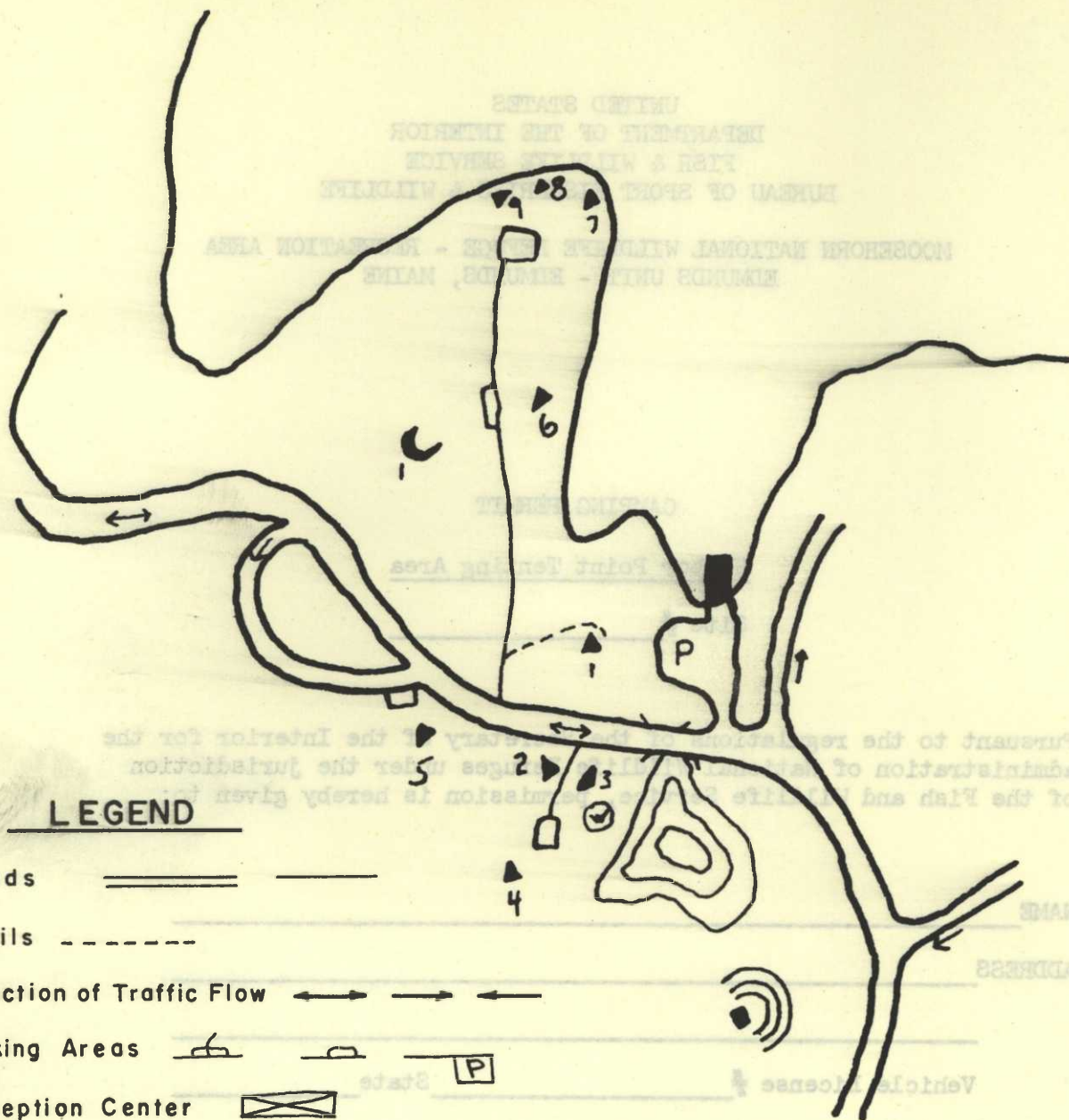
Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of camping from \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Issuing Officer





# **LEGEND**

Roads

Trails

Direction of Traffic Flow

Parking Areas

Reception Center

Tent Sites

Wood Storage Area

Latrines

Campers Circle

Water Supply

Fire Tower

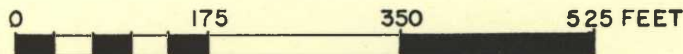
## **MOOSEHORN NATIONAL WILDLIFE REFUGE**

**EDMUNDS UNIT—EDMUNDS, MAINE**

**HARBOR POINT**

**TENTING AREA A**

Scale



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

CAMPING PERMIT

Whiting Bay Mobile Camping Area

Site # \_\_\_\_\_

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of camping from \_\_\_\_\_ to \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Issuing Officer

# LEGEND

- Roads 
- Trails 
- Direction of Traffic Flow 
- Parking Areas 
- Reception Center 
- Mobile Camping Sites 
- Wood Storage Area 
- Latrines 
- Water Supply 
- Fire Tower 

## MOOSEHORN NATIONAL WILDLIFE REFUGE

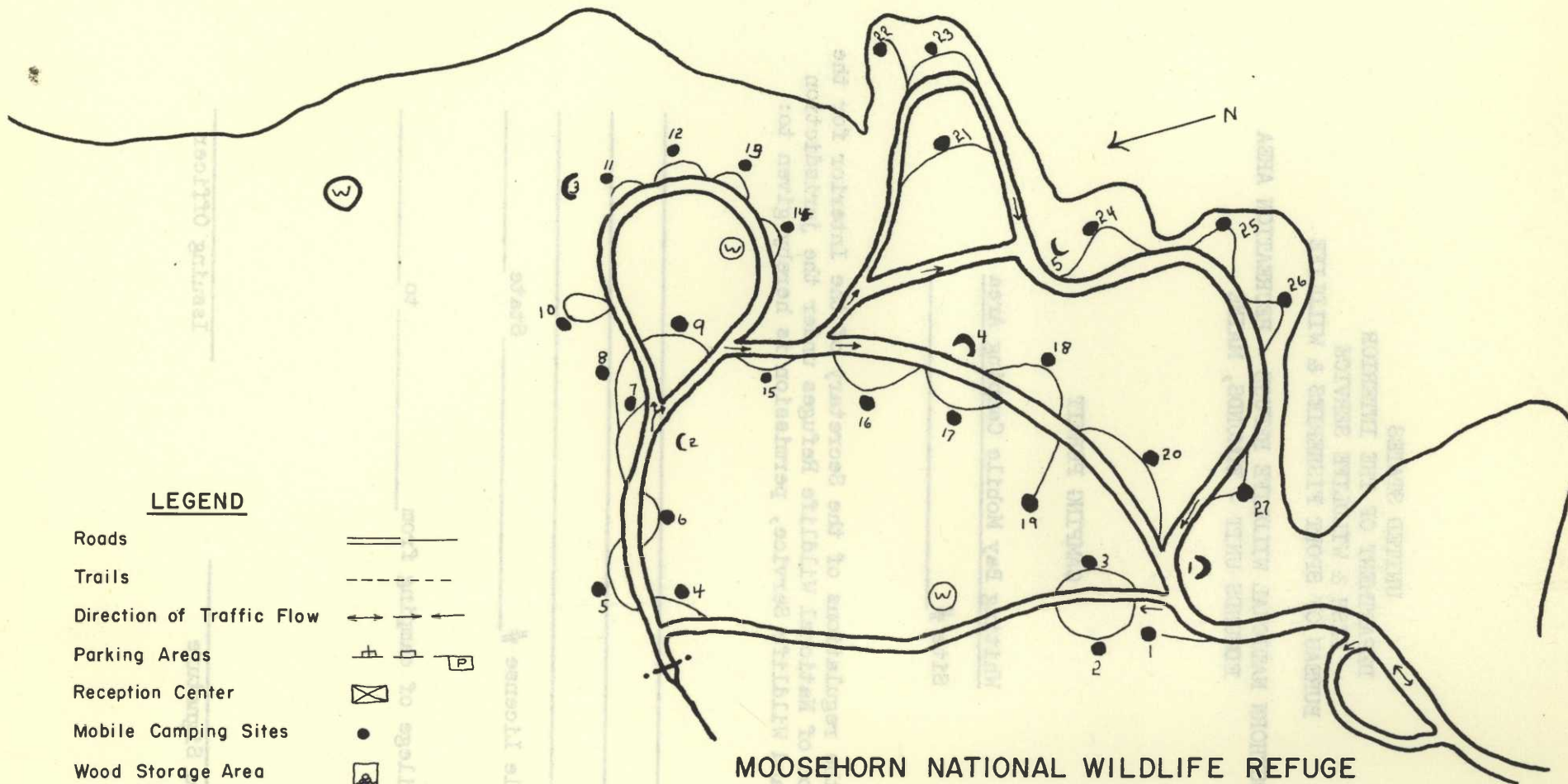
EDMUNDS UNIT — EDMUNDS, MAINE

WHITING BAY

MOBILE CAMPING AREA

Scale

0 175 350 525 FEET





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH & WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES & WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE - RECREATION AREA  
EDMUNDS UNIT - EDMUNDS, MAINE

BOAT LAUNCHING PERMIT

Cobscook Bay Boat Launching Ramp

Pursuant to the regulations of the Secretary of the Interior for the administration of National Wildlife Refuges under the jurisdiction of the Fish and Wildlife Service, permission is hereby given to:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_  
\_\_\_\_\_











Vehicle License # \_\_\_\_\_ State \_\_\_\_\_

For the privilege of using boat launching ramp from \_\_\_\_\_  
to \_\_\_\_\_

\_\_\_\_\_  
Permittee Signature

\_\_\_\_\_  
Issuing Officer

# **LEGEND**

- Roads 
- Trails 
- Direction of Traffic Flow 
- Parking Areas  
- Reception Center 
- Wood Storage Area 
- Latrines 
- Water Supply 
- Fire Tower 

## **MOOSEHORN NATIONAL WILDLIFE REFUGE**

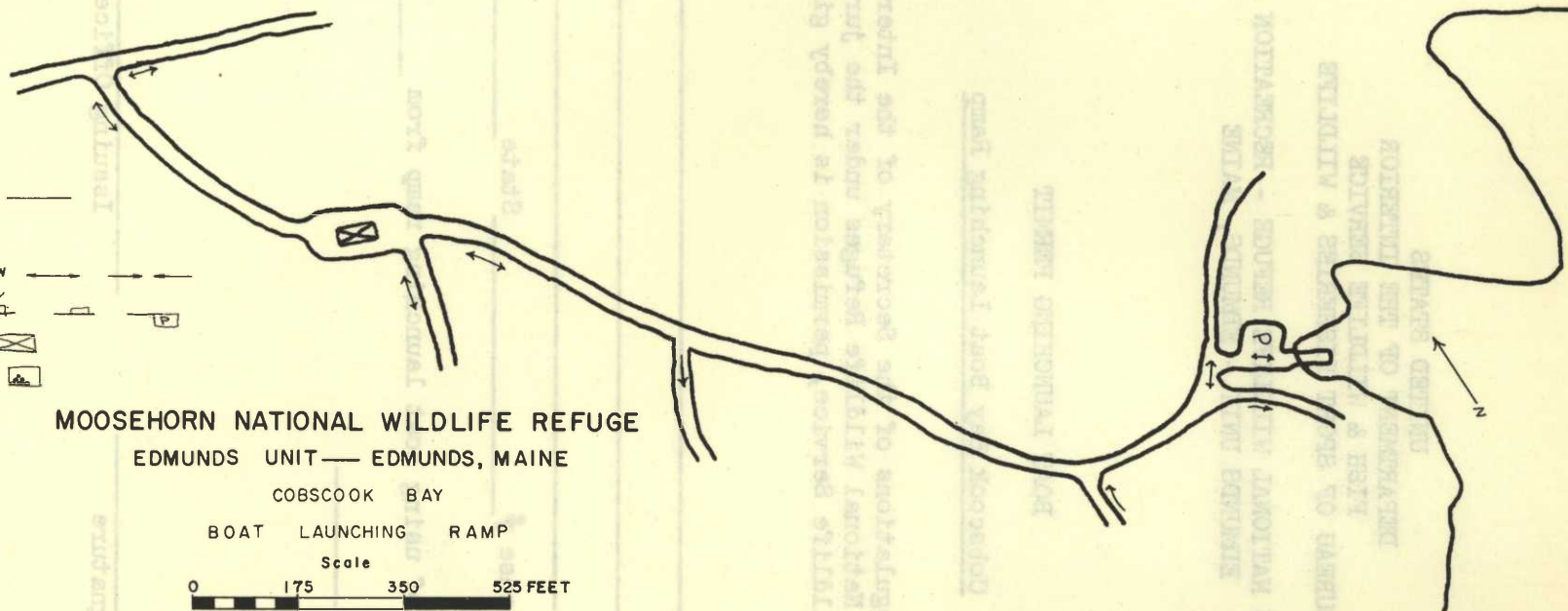
EDMUNDS UNIT — EDMUNDS, MAINE

COBSCOOK BAY

BOAT LAUNCHING RAMP

Scale

0 175 350 525 FEET



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

W A T E R F O W L

REFUGE Moosehorn (Primary Unit)

MONTHS OF May TO August, 1963

(1) Ending	(2) Weeks of reporting period									
	Week : 5/7	Week : 5/14	Week : 5/21	Week : 5/28	Week : 6/4	Week : 6/11	Week : 6/18	Week : 6/25	Week : 7/2	Week : 7/9
Species	: 1	: 2	: 3	: 4	: 5	: 6	: 7	: 8	: 9	: 10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada	48	47	38	49	46	53	46	53	57	44
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard	4	2						2		1
Black	252	202	190	184	241	303	337	392	407	445
Gadwall										
Baldpate										
Pintail										
Green-winged teal	60	49	29	20	18	32	46	74	70	73
Blue-winged teal	20	16	10	8	8	8	8	14	24	35
Cinnamon teal										
Shoveler										
Wood	68	70	62	62	72	74	72	108	184	203
Redhead										
Ring-necked	160	201	152	130	138	138	143	136	222	283
Canvasback										
Scaup										
Goldeneye	129	117	62	30	10					
Bufflehead	95	92	74	35						
Ruddy										
Other										
Hooded Merganser	76	70	70	72	72	58	90	112	140	154
Common Merganser	4	12	6	2	2	2	2	8	8	6



3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)

REFUGE Moosehorn ( Primary Unit)

MONTHS OF May TO August, 19 63

(1) Week Species Ending:	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	7/16 11	7/23 12	7/30 13	8/6 14	8/13 15	8/20 16	8/28 17	8/31 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada	44	47	50	34	42	40	42	42	5628	9	31
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard			1	1	2	2	3	3	138		
Black	475	440	430	400	400	360	360	360	42,166	14	265
Gadwall											
Baldpate											
Pintail				2	2	2	2	2	64		
Green-winged teal	70	68	68	66	71	66	60	60	6820	4	40
Blue-winged teal	35	31	30	35	35	43	35	35	2905	2	20
Cinnamon teal											
Shoveler											
Wood	200	192	190	195	195	200	205	205	17,284	5	100
Redhead											
Ring-necked	292	271	257	234	220	220	215	215	24,744	16	150
Canvasback											
Scaup											
Goldeneye									2436		
Bufflehead									2072		
Ruddy											
Other											
Hooded Merganser	158	139	125	123	110	110	95	95	12,798	7	70
Common Merganser	6	5	4	4	4	4	4	4	597		5
Coot:											

(over)



	(5)	(6)	(7)		SUMMARY
	Total Days Use	Peak Number	Total Production		
Swans				Principal feeding areas	Magurrewock Marsh
Geese	5628	57	31		Dudley Swamp
Ducks	112,024	1236	650	Principal nesting areas	Magurrewock Marsh, Barn Meadow
Coots					Dudley Swamp
				Reported by	

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

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).



3-1751

Form NR-1A

(Nov. 1945)

## MIGRATORY BIRDS

(other than waterfowl)

Refuge Moosehorn (Primary Unit)Months of May to August 1963

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common Loon -----	Several single observations - summer resident -----								5	10
Pied-billed Grebe -----	Frequently observed - summer resident -----								25	50
Great Blue Heron -----	"	"	"	"						50
American Bittern -----	"	"	"	"					20	35
Virginia Rail -----	Occasionally heard		"	"					60	100
Sora Rail -----	"	"	"	"					25	40

(over)



(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	Occasional observations of 1 to 5 birds			5	20
White-winged dove					
IV. <u>Predaceous Birds:</u>					
Bald <del>Golden</del> eagle	Occasionally observed				6
Duck hawk					
Horned owl -----	Heard but not seen - permanent resident				15
Magpie					
Raven -----	Permanent resident			125	200
Crow -----	"	"		150	250
Saw-whet Owl -----	"	"			10
Barred Owl -----	"	"			15
Long-eared Owl -----	"	"			5
Broad-winged Hawk -----	Frequently observed				25
Red-shouldered Hawk -----	Several observations				15
Marsh Hawk -----	Frequently observed			20	40
Sparrow Hawk -----	"	"		30	50
Reported by.....					

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.



3-1750b  
Form NR-1B  
(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Moosehorn

For 12-month period ending August 31, 19 63

Reported by Eldon R. Clark

Title Wildlife Mgt. Biologist

(1) Area of Unit Designation	(2) Habitat			(3) Use-days	(4) Breeding Population	(5) Production
	Type	Acreage				
UNIT I  Magurrewock	Crops	151	Ducks	85,297	56	135
	Upland	1260	Geese	8,677	8	16
	Marsh	356	Swans			
	Water	31	Coots	12		
	Total	1798	Total	94,016		
-----						
UNIT II  East Magurrewock	Crops	0	Ducks	25,596	38	85
	Upland	922	Geese	1796	4	8
	Marsh	60	Swans			
	Water	82	Coots			
	Total	1064	Total	27,392		
-----						
UNIT III  Howard Mill	Crops	0	Ducks	13,599	24	50
	Upland	666	Geese	185		
	Marsh	54	Swans			
	Water	16	Coots			
	Total	736	Total	13,784		
-----						
UNIT IV  Barn Meadow	Crops	114	Ducks	27,882	60	130
	Upland	770	Geese	504		
	Marsh	158	Swans			
	Water	12	Coots			
	Total	1054	Total	28,386		
-----						
UNIT V  Two-Mile Meadow	Crops	0	Ducks	5,379	16	30
	Upland	889	Geese	84	2	1
	Marsh	15	Swans			
	Water	15	Coots			
	Total	919	Total	5,463		
-----						
UNIT VI  Moosehorn	Crops	2	Ducks	6,693	14	30
	Upland	1604	Geese	574	4	6
	Marsh	30	Swans			
	Water	12	Coots			
	Total	1648	Total	7,267		
-----						
UNIT VII  Cranberry Lake	Crops	0	Ducks	19,060	30	65
	Upland	1756	Geese	142		
	Marsh	80	Swans			
	Water	50	Coots			
	Total	1886	Total	19,202		



Refuge Moosehorn For 12-month period ending August 31, 1963  
Reported by Eldon R. Clark Title Wildlife Mgt. Biologist

(1) Area of Unit Designation	(2) Habitat		(3)	(4)	(5)	
	Type	Acreage	Use-days	Breeding Population	Production	
UNIT VIII Mahar Brook	Crops	8	Ducks	6,616	11	35
	Upland	774	Geese	100		
	Marsh	22	Swans			
	Water	8	Coots			
	Total	812	Total	6,716		
-----						
UNIT IX Snare Meadow	Crops	0	Ducks	651	4	5
	Upland	639	Geese			
	Marsh	45	Swans			
	Water	2	Coots			
	Total	686	Total	651		
-----						
UNIT X Conic Lake	Crops	17	Ducks	6,886	6	20
	Upland	880	Geese	100		
	Marsh	20	Swans			
	Water	45	Coots			
	Total	962	Total	6,986		
-----						
UNIT XI Bearce Lake	Crops	30	Ducks	20,889	28	65
	Upland	21,22	Geese	385		
	Marsh	30	Swans			
	Water	320	Coots			
	Total	2802	Total	21,274		
-----						
UNIT XII Round Pond	Crops	0	Ducks	1,283	6	10
	Upland	871	Geese			
	Marsh	5	Swans			
	Water	23	Coots			
	Total	899	Total	1,283		
-----						
UNIT XIII Hobart Bog	Crops	0	Ducks	18,333	30	70
	Upland	185	Geese			
	Marsh	95	Swans			
	Water	33	Coots			
	Total	613	Total	18,333		
-----						
UNIT XIV Hobart Stream	Crops	0	Ducks	11,232	28	60
	Upland	2875	Geese			
	Marsh	3	Swans			
	Water	30	Coots			
	Total	2908	Total	11,232		



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

Refuge Moosehorn For 12-month period ending August 31, 1963  
Reported by Eldon R. Clark Title Wildlife Mgt. Biologist

(1) Area of Unit Designation	(2) Habitat		(3)	(4) Breeding Population	(5) Production	
	Type	Acreage	Use-days			
UNIT XV	Crops	5	Ducks	29,838	10	25
	Upland	103	Geese			
Nat Smith	Marsh	4	Swans			
	Water	29	Coots			
	Total	141	Total	29,838		
-----						
UNIT XVI	Crops	4	Ducks	53,964	0	0
	Upland	450	Geese			
Lingley	Marsh	2	Swans			
Cove	Water	57	Coots			
	Total	513	Total	53,964		
-----						
UNIT XVII	Crops	4	Ducks	73,371	2	5
	Upland	2240	Geese	2,078		
Burnt-Broad	Marsh	2	Swans			
Cove	Water	132	Coots			
	Total	2,378	Total	75,449		
-----						
UNIT XVIII	Crops	4	Ducks		0	0
	Upland	926	Geese			
Crane Mill	Marsh	25	Swans			
	Water	2	Coots			
	Total	957	Total			
-----						
TOTALS	Crops	339	Ducks	406,569	366	810
	Upland	20532	Geese	14,625	20	31
	Marsh	1006	Swans			
	Water	899	Coots	42		
	Total	22,776	Total	421,236	386	841
-----						
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			
-----						
	Crops		Ducks			
	Upland		Geese			
	Marsh		Swans			
	Water		Coots			
	Total		Total			



3-1752  
Form NR-2  
(April 1946)

UPLAND GAME BIRDS

Refuge Moosehorn

Months of May to August, 19 63

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
	<u>PRIMARY UNIT</u>									
Ruffed Grouse	Forest, Brush & Edges 14,000 A.	28	15	350					500	
Spruce Grouse	Coniferous Forest 1000 A.	50		15					20	
	<u>EDMUNDS UNIT</u>									
Ruffed Grouse	Forest, Brush & Edges 6000 A.	24	10	150					250	
Spruce Grouse	Coniferous Forest 1500 A.	60		15					25	



## 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.



W A T E R F O W L

REFUGE Moosehorn (Edmunds Unit)

MONTHS OF May TO Aug., 1963

(1) Species	(2) Weeks of reporting period									
	Week Ending : 5/7 : 1	5/14 : 2	5/21 : 3	5/28 : 4	6/4 : 5	6/11 : 6	6/18 : 7	6/25 : 8	7/2 : 9	7/9 : 10
Swans:										
Whistling										
Trumpeter										
Geese:										
Canada	150									
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
Ducks:										
Mallard	13	4						1		1
Black	195	160	119	98	121	133	145	145	160	160
Gadwall										
Baldpate										
Pintail										
Green-winged teal	14	8	6	4	4	12	10	9	17	15
Blue-winged teal	4	2	2							
Cinnamon teal										
Shoveler										
Wood	14	12	12	14	12	12	12	20	38	34
Redhead										
Ring-necked	76	55	30	18	16	16	14	14	20	35
Canvasback										
Scaup										
Goldeneye	45	35	15	10	5					
Bufflehead	100	80	39	7						
Ruddy										
Other										
Hooded Merganser	14	14	14	12	12	10	16	21	24	27
Common Merganser	22	10	6	2	2	2	2	2	7	6



3 -1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)REFUGE Moosehorn (Edmunds Unit)MONTHS OF May TO August, 1963

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total	
	Week Ending : 7/16 : 11	7/23 : 12	7/30 : 13	8/6 : 14	8/13 : 15	8/20 : 16	8/27 : 17	8/31 : 18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada									1050		
Cackling											
Brant											
White-fronted											
Snow											
Blue											
Other											
Ducks:											
Mallard		1		2	2	2	2	2	204		
Black	160	165	125	140	145	140	145	145	17,842	5	80
Gadwall											
Baldpate											
Pintail											
Green-winged teal	15	14	17	17	20	25	25	25	1724		10
Blue-winged teal			2	7	10	15	10	10	404		
Cinnamon teal											
Shoveler											
Wood	30	33	34	34	40	40	30	30	3067		20
Redhead											
Ring-necked	42	39	35	25	25	25	304	30	3795	2	25
Canvasback											
Scaup											
Goldeneye									770		
Bufflehead									1582		
Ruddy											
Other											
Hooded Merganser	25	20	20	20	15	15	15	15	2118	1	20
Common Merganser	6	6	6	5	5	5	5	5	713		5
Coot:											
											160

(over)



	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans	:	:	:
Geese	1050	150	0
Ducks	32219	497	160
Coots	:	:	:

# SUMMARY

Principal feeding areas Nat Smith Marsh , Hobart Bog

Principal nesting areas Nat Smith Marsh, Hobart Bog

Reported by \_\_\_\_\_

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

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.  
1953



3-1751  
Form NR-1A  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Moosehorn - (Edmunds Unit)

Months of May to August

1963

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common Loon	Several Single Observations									10
Pied Bill Grebe	"	"	"							6
Great Blue Heron	"	"	"							20
American Bittern	"	"	"							15
Double-Crested Cormorant	"	"	"							200
II. <u>Shorebirds, Gulls and Terns:</u>										
Herring Gull	Permanent Residents									500
Black-backed Gull	"	"	"							200
American Woodcock	Summer Residents								150	250
Spotted Sandpiper	"	"	"							200
Sander ling	150	8/4	1500	8/29	1500	8/29				400
Least Sandpiper	10	8/1	300	8/27	300	8/27				500
Greater Yellow-Legs	5	8/2	20	8/28	30	8/30				35
Lesser Yellow-Legs	5	8/6	10	8/29	20	8/29				20
Black-Bellied Plover	10	8/7	10	8/7	20	8/30				20

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> :					
Mourning dove	Several observations of one to ten birds				25
White-winged dove					
IV. <u>Predaceous Birds</u> :					
Bald <del>screech</del> eagle	Permanent Resident				6
Duck hawk					
Horned owl	Permanent Resident				12
Magpie	"	"			
Raven	"	"			200
Crow	"	"			400
Barred Owl	Permanent Resident				15
Broad Wing Hawk	"	"			15
Marsh Hawk	Frequently Observed				10
Sparrow Hawk	"	"			50
Reported by <u>Eldon R. Clark, Wildlife Mgt.</u>					Biologist

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.