# NARRATIVE REPORT ROUTING SLIP

EFUGE MORTON PERIOD September-December 1962

CHIEF'S OFFICE: Mr. Gillett _____ Mr. Ackerknecht _____

~~Mr. Fermanich~~ _____ Mr. Goldman _____

WILDLIFE MANAGEMENT: Mr. Banko _____ Mr. Stiles _____

RESOURCE MANAGEMENT: ~~Dr. Morley~~ _____ ~~Mr. Stoltberg~~ _____ Mr. Lumb _____

OPERATIONS: Mr. Hickok _____ ~~Mr. Regnat~~ _____

PUBLIC USE: ~~Mr. DeMont~~ _____ Mr. Monson _____

ADMINISTRATIVE SERVICES: Miss Baum _____

STANDARD FORM NO. 64

# *Office Memorandum* • UNITED STATES GOVERNMENT

TO : The Director, Bureau of Sport Fisheries and Wildlife, Washington, D.C.

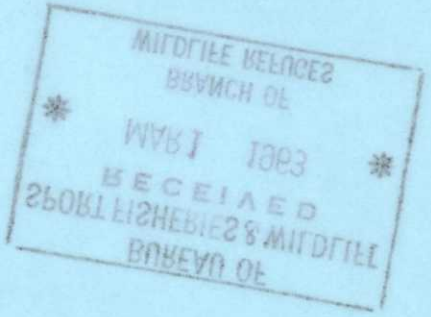
DATE: February 27, 1963

FROM : Chief, Division of Wildlife, Boston, Mass.

SUBJECT: Narrative Report-Sept.-Dec., 1962 - (Insect Control Operations) - Morton

Attached is a copy of a report on insect control operations at Morton Refuge during calendar year 1962. It is for attachment to your copy of the refuge Sept.-Dec., 1962 Narrative Report. We asked all refuge managers to include such information in Section VII of Narrative Reports beginning with the December 1962 report.

Eugene E. Gaylord




# Office Memorandum • UNITED STATES GOVERNMENT



TO : Regional Director, Boston 11, Mass. ATT: Mr. Sutherland, Refuges DATE: February 21, 1963

FROM : Refuge Manager, Morton N. W. Refuge, Sag Harbor, L.I., New York

SUBJECT: NARRATIVE REPORTS - Insect Control Operations - Morton Refuge

File

Reference is made to Mr.Sutherland's memorandum of February 15, 1963, re subject caption. The following is submitted as an amendment to Section VII "Other Items" of this station's Narrative Report for the period ending December 31, 1962:

During calendar year 1962 insect control on the Morton National Wildlife Refuge followed a pattern similar to that established in previous years. Operations were carried out by the Suffolk County Mosquito Control Commission, the main goal being mosquito-encephalitis control. Verbal permission to conduct limited operations under the supervision of Refuge personnel was granted at the time of each entry.

Early in June ditch cleaning (upland - 1 mile; salt meadow - 1 mile) was completed. The Commission's standard operating procedure of spraying or dusting in conjunction with the ditch cleaning was put off until the mosquito population became bothersome in mid-July. At that time the several stagnant seepage holes on the mainland and Neck were sprayed or dusted and the ditches checked. In order to keep the mosquito population at a minimum it was recommended that periodic (every 4-5 weeks) followup operations be conducted by Refuge personnel, using the commercially available "Teesit" capsules, which were provided by the Commission, on the small seepage holes. I believe that one complete followup was made by temporary Refuge personnel while I was on special assignment to Maine. A second, partial followup in September was conducted on the more accessible stagnant holes.

Ditch maintenance of the upland takes place annually and that on the salt marsh every three years. Chemical control using a 2.5% DDT sprayed liquid emulsion or 2.5% DDT dusting compound is limited to the stagnant water holes. Followup operations using "Teesit" capsules which contain a 12.5% DDT compound are recommended on seepage holes every 4-5 weeks throughout the summer and early fall. A total of less than one acre of stagnant seepage water was involved in the above chemical treatment operations during 1962, with the exception being the 4.5-acre Brackish Pond.

Recommendations for future mosquito control operations aimed at insuring the health and comfort of future personnel and visitors at the Morton Refuge are:

1. Permit the Suffolk County Mosquito Control Commission to maintain the two miles of drainage ditch on the Refuge.
2. Permit the continued treatment (chemical) of the small stagnant seepage holes. These areas are not utilized by wildlife nor fish.
3. Conversely, do not permit chemical treatment on the larger bodies of water, specifically the Fresh Pond and the Brackish Pond, which are utilized by migratory birds and resident animals.

Your comments and suggestions are welcomed.

Dale F. Coggeshall

# NARRATIVE REPORT

# MORTON NATIONAL WILDLIFE REFUGE

# SEPTEMBER - DECEMBER, 1962

PERMANENT PERSONNEL

Dale T. Coggeshall . . . . . Refuge Manager

UNITED STATES DEPARTMENT OF THE INTERIOR
FISH & WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES & WILDLIFE
SAG HARBOR, LONG ISLAND, NEW YORK

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NARRATIVE REPORT
MORTON NATIONAL WILDLIFE REFUGE
SEPTEMBER - DECEMBER, 1962

## I. GENERAL

### A. Weather Conditions.

| | Snowfall | Precipitation This Month | Precipitation Normal | | Temperature Max. | Temperature Min. |
|---|---|---|---|---|---|---|
| September | - | 4.44 | 3.58 | | 81 | 36 |
| October | Trace | 4.83 | 3.41 | | 76 | 28 |
| November | Trace | 4.97 | 4.79 | | 60 | 26 |
| December | 5.4 | 2.67 | 3.95 | | 63 | -13 |
| TOTAL | 5.4 | 16.91 | 15.73 | Extremes | 81 | -13 |

September can be summarized as a cool, wet month. Maximum daily temperatures dropped slowly from the high seventies at the beginning of the month to the high sixties at the end with the peak of 81° being recorded on the 11th and the low of 36° on the 22nd during the one cool spell. Precipitation fell on six days with the greatest amount, 3.22 inches, being recorded on the 27th and 28th. The month's total precipitation of 4.44 inches, although 5.05 inches below September, 1961, is 0.86 inches above the long-term mean. There were no severe or strong winds during this month.

Conditions improved somewhat during the mild, wet month of October. Quite warm temperatures were experienced for the first two weeks, normal temperatures during the middle of the month, and rather cool temperatures during the last week. The season's first killing frost was recorded on the 25th when the temperature fell to 30°. The maximum of 76° noted on the 12th was followed by the minimum of 28° on the 13th. Rain fell on ten days for a total of 4.83 inches, 1.42 inches above the mean. Fog occurred on one day. Strong winds were recorded on three days. Fall foliage reached a reported exceptional brilliance this month. The season's first snow fell on the 24th with minimum accumulation. A trace of snow was recorded again on the 26th.

The trend of below mean temperatures and above average precipitation continued during November. Highest temperature recorded was only 60° on the 10th. Low to mid-forties temperatures were typical of most days. Most of the night-time temperatures ranged in the twenties and thirties. A low of 26° was noted on the 20th.

November, normally the wettest month surpassed normal expectations by 0.18 inches, as reflected in the above data. Rain was recorded on 13 days with 1 inch being exceeded on three occasions and with 1.48 inches being recorded on the 18th as the heaviest for the month. Traces of snowfall were recorded on the 19th and 20th. Fog was noted on one day and strong winds on seven days. Of the latter the strongest with gusts up to 55 mph was recorded on the 11th. A contributing factor for the below normal temperatures during this month was that on twenty-five out of the thirty days northerly winds prevailed. However, indian summer weather ended this period and carried over into December.

Ten days of cool indian summer weather ushered in December. This was followed by a mid-month cold spell which resulted in the freezing over of standing brackish water as well as fresh water on December 12. The most severe weather of the year was experienced on the 30th and 31st. Winds of 50 to 70 mph blew continually out of the northwest to north during this period carrying with it topsoil and fine sand at times well in excess of 400 feet. On the 30th the manager observed a dust cloud rise in the vicinity north of Riverhead and travel across the Peconic Bays reaching the Refuge in about 5-10 minutes, a distance of about 20 miles, and almost obscuring the mainland from view at a distance of about 3/4 mile. The minimum temperature of -13°F was recorded on the night of the 30th-31st at Refuge Headquarters. No severe snowfall occurred this month. Total recorded accumulation was 5.4 inches. Rainfall amounting to 2.67 inches was 1.28 inches below the mean.

Total rainfall for the year was 46.61 inches, 1.40 inches above the long-term mean. Above precipitation was recorded during seven of the twelve months, below-normal precipitation during the remaining five months. The winter and fall months were wet, the spring relatively dry, and the summer nearer the average. Extremes of 92° and -13° were recorded on July 20 and December 31, respectively, at Refuge Headquarters. 1962 at the Morton National Wildlife Refuge was variable with generally cool, wet weather prevailing.

NOTE: Most of the data for the above topic were obtained from Mr. Richard G. Hendrickson who operates the Bridgehampton Federal Cooperative Weather Station, which is located approximately four miles southeast of this refuge.

B. Habitat Conditions.

1. Water. The 1.5 acre Fresh Pond remained relatively dry during this period. The pond was drained in July of last period to facilitate dike reconstruction and habitat rehabilitation. Reflooding is expected to commence early next period. The recently installed "Calco" gate with 12" culvert and drop inlet structure will permit water manipulation in the future. No controlled management was feasible under the conditions

which existed prior to the reconstruction-rehabilitation projects Greatly improved nesting, feeding, and resting habitat will exist after the project's completion. The old spill-culvert when removed was inclined upward through the dike. This unconventional gradient probably resulted from the settling of loose soil following dike modification which occurred the summer of 1959. The present culvert rests within the base of the new dike and has a gradient of approximately 1 inch of fall per 10 feet over the course of the 24-foot culvert.

The larger Brackish Pond, 4.5 acres was maintained at capacity level during most of this period by the frequent flooding of above average high tides which occurred at the end of September, increased in frequency during October and November, and lessened to a very limited extent during December. The washing effect of the flowing of these tides aided by frequent choppy seas has resulted in a 12-feet wide by 4 feet deep cut in the west beach, which is often impassable at high tide. This tide water cut is an annual occurrence which, hopefully, will be repaired by natural means during the ensuing months. Tides have alternately opened, blocked, and reopened this cut during the period. This pond exists as a result of flood tides and will continue to be useful and productive for waterfowl only if future tides are allowed periodic entry at which time the pond is flushed and the water level renewed.

2. Food and Cover. The availability and abundance of natural food and cover were normally high during the first half of this period. By mid-November song birds had stripped the agricultural fields, which were allowed to lie fallow this past growing season, of the abundant and seemingly desireable seed produced by the 4-foot hard-stemed Composite which attained dominance during the first year of reversion.

Waterfowl, represented mostly by black ducks, heavily utilized the Brackish Pond on the point for feeding during September to November and for shelter and resting during ~~the~~ November and occassionally in December. The lagoon and east side of the point afforded both food and shelter for waterfowl during the last half of the period. At the very end of the period most of the feeding activity was on the lee side of the point and in the littoral zone of the shoreline. Aquatic plants comprised most of the black duck diet during the earlier portion of the period. However, as the vegetation was consumed and cold weather set in, the feeding habits switched to mollusks and crustaceans. The period of greatest stress occurred during the last two days of the period. However, ample food and cover were available throughout the whole period. The Refuge animal populations appear to be quite healthy at the writing of this report.

## II. WILDLIFE

### A. Migratory Birds.

1. Waterfowl. Waterfowl utilization of the Refuge during this period increased more than 300% of that reported for the same interval last year. In part this may be accounted for by an earlier and more evenly dispersed migration. In 1961 the fall migration was delayed by unseasonally warm weather until the last week in November at which time the black duck population began a rapid climb from 30 to the wintering population of 400 in three weeks. This year the unseasonably cool fall which hung on at a cool stage longer than normal brought the ducks south earlier yet over a greater span of time. Populations similar to last year were reached a full month and a half sooner. The 1962 peak black duck wintering population increased at least 25% over last year's 400.

Other species of waterfowl present this period but not reported during the fall of 1961, included mallard, baldpate, green-winged teal, wood duck, white-winged scoter, surf scoter, old squaw, red-breasted merganser, goldeneye, one pintail, and one Canada goose. White-winged scoters, locally called "coot", first appeared on the Refuge during the 3rd reporting week, 9/15-21 and peaked at 15 during the 6th NR week, 10/6-12. After the mild spell of early October cooled mallards, baldpate, green-winged teal, wood duck, and red-breasted mergansers appeared during the 7th period, 10/13-19 along with an influx of blacks. That was the only week during which baldpate were recorded. Green-winged teal peaked at 10 during the 9th week, 10/27-11/2 along with the peak of 5 woodies. On November 1 the only surf scoter seen on the Refuge was flushed from the north end of the lagoon. The first old squaw to utilize the Refuge was a wounded female on December 3; this species did not show itself again on the Refuge until the peak number of 6 were seen on cold, windy December 30. Red-breasted mergansers, locally called "sheldrakes", peaked at 20 during the first week in December. American Goldeneyes, the second most numerous bird presently using the Area, were first observed during the indian summer weather at the end of November. Peak goldeneye numbers have increased to 500 since this NR period's peak of 150 was recorded on December 30. This is attributed to the freeze up of this fresh water-loving diver's preferred habitat and the consequencial search for the next best thing.

Mention of the overall 1962, Long Island wintering waterfowl population is warranted at this point. The previously discussed Refuge population is indicative of the Long Island population in one respect, that is, it was spotty. In some

places, such as at the Refuge, local populations were up from 1961, in other spots they were down. Intermittent and recent reports received from U.S. Game Management Agent Daniel E. Russ, Agent-in-Charge of the Southern District of New York, indicate that the overall Long Island wintering waterfowl population has decreased fifty percent (50%) from 1961.

No swans nor brant were observed on or in the vicinity of the Refuge this period. Canada geese were seen and heard from time to time as they made their way to the rye cover cropped, potato fields of the southeastern shore of Long Island, or points beyond. One flock of an estimated 750 birds was observed resting about $\frac{1}{4}$ mile east of the Refuge on Noyac Bay on November 1. A week prior to that date a single "honker", the year's only, was observed on the Refuge's Brackish Pond. This is the first record of Canada goose utilization of the Refuge since 5 were seen in the company of 500 brant on the point on November 5, 1960. Neither Refuge fields nor impoundments are large enough to entice this species, save for an occasional visitor, away from the lush green fields in the vicinity of Mecox Bay.

NOTE: The 5-year records for Peak Waterfowl Populations and Waterfowl Use Days, as submitted on the respective forms supplementing NR-1 Form, do not reflect the true picture of waterfowl utilization of the Refuge during years 1958 through 1960. It is believed that prior to and during these years the waterfowl, principally diving ducks, which utilized the adjacent portions of Little Peconic and Noyac Bays were included in the weekly censuses and narrative reports wholly, or in part. Present census methods limit the censusing to those birds using the Refuge itself and those waters contained within the lagoon, as defined in the no hunting resolution held with the Board of Trustees of the Freeholders and Commonalty of the Town of Southampton, New York.

2. Other Water and Marsh Birds. Other water and marsh birds using the area included the double-crested cormorant, great blue heron, green heron, and American bittern. The former species, although limited in its utilization of the Refuge, was commonly seen in flight and/or in the vicinity of the commercial fish traps which extended out into the Bays from the Refuge shores. Great blue herons were frequently seen stalking food along the shores of the Brackish Pond, Lagoon, and east beach. A single green heron was observed in mid-September at the north end of the Lagoon. This species is more commonly observed at the Fresh Pond which was kept drained this period. The American bittern was flushed from the salt grass bordering the mainland portion of the Refuge.

3. Shorebirds, Gulls, and Terns. Shorebirds and gulls, but no terns were recorded during this period. Herring and great black-backed gulls were present throughout the period with numbers fluctualting directly with the availability of food. Greatest periods of use were during and immediately following storms, principally "northeasters", which littered the beach with a variety of mollusks and crustaceans, "Bug" scallops and quarter-decks dominating the former category. Lesser numbers of ring-billed gulls frequented the Refuge during the early portion of the period.

The "spirited" sanderling was the most common shorebird present this period. The more exposed portions of the west beach and point were its principal feeding areas. The early migration was also reflected by this species. Peak numbers were recorded a month earlier than last year and date last seen was 11/11/62 as compared to 12/1/61. A couple of late migrating piping plover frequented the Refuge beach, commonly above the high water mark, during September. Several pectoral sandpipers were seen feeding at the waterline along the northwestern shore of the Refuge during the third week in September. American woodcock were observed in limited numbers on 9/25 and then again 12/27. Since the woodcock is classified taxonomically as a shorebird and commonly as an upland gane bird, the species is reported appropriately and more completely by its incorporation into form NR-1A, as well as NR-2. The only yellowlegs sighted on the Refuge this period was a greater in shallow water at the Brackish Pond.

4. Doves. The morning dove migration reached its peak on the Refuge in mid-September, at which time 65 birds were seen at the Fresh Pond site. Smaller groups and singles of this species were commonly seen throughout October, with the last observation being recorded for one bird on the 30th of that month.

The neighboring State of Connecticut held its first open season on mourning doves this fall. All reports indicate that it was quite successful and will be continued. This state, New York, has yet to see the light and reclassify the mourning dove from its present protected songbird category to the more appropriate migratory game bird category.

B. Upland Game Birds.

Weather conditions during this period produced no prolonged periods of stress for upland game. Although some intermittent freezing and thawing of soil moisture took place earlier, the ground was not frozen until December 12. Snow cover was minimal both in amount and duration. Grit, food, and cover were readily available throughout the period.

Ring-necked pheasants continued to be the most commonly observed upland game bird on the Refuge. Early period activity was noted throughout the area, including out on the point and along the slightly vegetated portions of the beach. However, this widely dispersed activity decreased as colder weather set in. At the end of the period the segregated groups of hens as well as the lone cocks were seldom seen on exposed sites and most frequently observed in, or about dense cover.

Two covies of bobwhite quail were noted during this period. On several occasions a covey has been observed feeding in the section of woods just east of the Storage Barn. These birds appear to have entered the winter in good health and numbers.

Most of the 30 American woodcock reported on NR-2 as using Refuge passed through the Refuge during October. The author found it difficult to believe that he had flushed a single "timberdoodle" on December 27 from the vicinity of the Fresh Pond. However, his faith in his observations was restored when two biologists from River Basin Studies reported seeing an obstinate one in the middle of the entrance road on January 7.

C. Big Game Animals. Observations of white-tailed deer and/or their sign indicate the population to be high and quite active. The latter attribute is primarily due to two factors: (1) The population is almost entirely transcient, and (2) activity normally increases during the rutting season. Deer trails throughout the Refuge are well defined. The relatively high population can be attributed to no deer hunting on Long Island and fair to good habitat on this portion of the Island. It is not difficult to foresee the future of deer and other forms of wildlife on Long Island. The present building and development boom coupled with the expansion of metropolitan New York's population to Long Island paint a black picture for these relatively unmanaged, woodland creatures. Herein also lies the future of a major portion of the black duck and diving duck populations in the Atlantic Flyway if towns, State, and Federal programs for the retention of important wildlife habitat do not expand while some reasonable hope remains.

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

1. Fur Animals. With the retention of the Fresh Pond in its drained state during the past six months muskrat habitat was not available.

2. Predators. Red fox, raccoon, oppossum, and feral cats round out the better portion of the category. The few fox living on the area have never posed a problem during the Refuge's 8 year history. Mice, a more than adequate supply of cottontails, and crippled waterfowl and gulls comprised the major

portion of this inconspicuous mammal's diet during this period. Earlier in the fall berries, grapes, and other fruits were also consumed.

Only one oppossum was observed this period. In addition a few road kills were noted within 3-4 miles of the Refuge.

The raccoon is the most numerous predator on the area, so much so that coon hunting anywhere within 2-3 miles of the Refuge seemed to end up on the area during December. (More about this under Part VI., Section E. Violations.)

Feral cats increased during this period, following the annual movement of summer residents back to the city or Florida. Since this out-of-place predator constitutes the biggest potential threat to the bobwhite population, other upland game species, and birdlife in general control measures have been successfully carried on as the occasion permits.

No sighting nor reports of wild dogs have been recorded this period. Several lost beagles and wandering local pets have infrequently been observed on the area. However, these few dogs constituted no great problem.

3. Rodents. Gray squirrels and eastern chipmunks were occasionally seen. No rats were noted this period.

Upon returning to Refuge Quarters in mid-September the manager was faced with a mouse problem. However, these undesireable visitors were soon brought under control with the use of "Decon" and the blackage of key holes.

4. Other Mammals. The only noteworthy species under this heading is the cottontail rabbit, which entered the winter period at the normal relatively high breeding population. As the weather grew progressively cooler and cover less dense the rabbits' diurnal habits became more evident. Breeding behavior was evident at various times throughout this reporting period.

E. Hawks, Eagles, Owls, Crows, and Magpies.

Neither eagles nor owls were observed on, or over the Refuge during this period. Crows were present in varying numbers throughout the period. The peak number of 25 plus was observed on the morning of December 9 out on the Neck.

The only raptoral species noted on the area were marsh and sparrow hawks. Sightings of these birds were limited in number and duration. The greatest number observed of either of these species was two. Observations were limited to September and October.

F. Other Birds.

The fall songbird migration was sporadic. The yellow-shafted flicker and warbler migration was first evident during the first week in October, and lingered on until about mid-month. The warblers were most numerous out on the Neck, and the flickers on the mainland. Slate colored juncos were first noted on October 9 when a flock of 50 were seen fluttering about the headquarters' area. Robins followed on the 16th. Both of these latter two species were noted coming and going throughout the remainder of the month.

G. Fish.

No fishing occurred on the Refuge. The commercial fluke nets just off shore from the Refuge were pulled in mid-November due to limited catches.

H. Reptiles.

No snakes, turtles, or other reptiles were noted this period.

I. Diseases.

None. All animal populations appeared to have entered the winter in good health.

## III. REFUGE DEVELOPMENT & MAINTENANCE

A. Physical Development.

1. Fresh Pond Dike. Reconstruction of the Fresh Pond Dike with installation of a water control structure was finally completed on November 14. This project, which had been initiated and scheduled for completion in July, was delayed by the limited availability of gate and valve (Calco gate type), the manager's absence from the station (7/20-9/16), and staff reorganization within the contracting firm, Duryea & Baird of Southampton. Said contractor rebuilt the 240 feet, more or less, of dike at the Fresh Pond site to more symetrical proportions bringing the crest to a level grade and regraded the slopes of the Dike from the previous, steep grade, ranging from 1:1 to 2:1, to a more desireable grade, ranging from 3:1 to 5:1. Emergency spillways were provided at both ends of the dike. A 12-inch galvanized steel culvert, 24 feet in length, was incorporated in the base of the dike at the low point of the pond bottom, replacing the 14-inch overflow culvert

which had settled in an uphill position. To the inlet end of the new culvert a 12-inch drop inlet and control gate were attached. Upon completion the dike was planted to perennial rye grass. (See appended photographs.)

2. Fresh Pond Rehabilitation. Following the reconstruction of the dike a contract was awarded to the F. A. Bartlett Tree Expert Company for the rehabilitation of the Fresh Pond site. Job specifications included the cutting down flush with the ground of all dead and/or dying trees and brush in and around the perifery of the 1.5-acre pond; the removal of all stumps occupying the site in a like manner; the supervised piling and burning of light brush in designated areas; and the removal of all other wood by the contractor. Total acreage involved in the clearing operation approximates 0.65-acre. Following completion, the cleared area will greatly improve the value of the limited fresh water, waterfowl habitat available on the Refuge. Reflooding is expected to commence in January.

3. Office. Construction of the new office building was resumed this period. Work was performed by J. & J. Bennett of Southampton. Plumbing, sewerage, and water systems were installed. Due to open-market limitations limited forced account work remains to be accomplished before the foregoing systems can be utilized. A well point was driven through the basement floor, reaching portable water at a depth of 7 to 10 feet. Plumbing involved the installation of supply, drain, and vent lines for three toilets and three hand basins. Sewerage needs were met with the installation of a 600-gallon, concrete block septic tank and a 200 foot field disposal system of perforated orangeburg pipe. These aforementioned systems will serve the office lavatory and the two attached public rest rooms. Landings, steps, handrails, and slate walks were also provided to the public lavatories.

The appearance of the interior of the office was greatly enhanced with the aid of Agents Russ and Leskosky during October. This was accomplished by the removal of the old, wood furniture to the storage barn, pending disposal, and the arrangement of the new gray, steel furniture.

The updating of this station's files was continued at various times throughout the period. Fiscal Year 1956 records were sorted and the obsolete portions burned. Much more effort will have to be expended in this regard in order to put the station's records on a current level.

4. Q-2, Manager's Quarters. Renovation of the manager's quarters was continued to the extent necessary. Changes in the water system resulted from the occurrance of excess rust in the

water, low presure, and a leak in the hot water heater. In October the obsolete, "Paul", piston-type water pump was replaced by a new ½ H.P., heavy duty, "Red Jacket" pump. The old, 30-gallon storage tank, containing an excess amount of iron sediment, was replaced. In an effort to lower the iron content of the water and inhibit scaling and corrosion a Micromet Feeder was installed between the pump and tank. Water pressure was substancially improved with the replacement of about 20 feet of ½" supply line by 3/4" copper pipe. Early in December a new 30-gallon, gas hot water heater was installed in the cellar, replacing the 1947 model which had sprung a leak.

Other deferred maintenance tasks performed at Q-2 during this period included the replacement of the leaky, wood cellar door by a new steel, "Bilco" door, replacement of a rotted pair of sashes in the livingroom, and installation of a new front door and attic storm windows. In addition the rotted portion of the bathroom floor was repaired and inlaid linoleum laid on ¼" plywood underlayment. At this time the old, cracked and leaking toilet bowl and water closet were replaced by new facilities.

Miscellaneous maintenance needs of lower priority will be met in the near future as time, funds, and weather permit.

5. Q-1, Clubhouse. No use was made of the clubhouse on the Neck. An inspection of the premises during the latter part of the period revealed a leak in the roof over the northwest room. No signs of vandalism, or the like were noted.

6. Barn. Minor maintenance tasks were performed on this building during the period. An overall cleanup and reorganization of these premises are scheduled for next period.

7. Registration Booth. Routine maintenance was performed as required. A slate walk was laid leading from the parking area to the entrance of said building. The interior of this building should be painted before the influx of spring visitors.

8. Equipment. Attention was given to those items requiring routine maintenance , with emphasis on the preventive maintenance and safety inspections of motor vehicles. A review of the property inventory resulted in the formulation of a listing of 17 items of major property in excess to this station's needs. Prior to this "housecleaning" a 12-foot fiberglass boat ("Whiplash"), 5½ HP Johnson outboard motor, and boat trailer were transferred to Brigantine. That refuge also received one of this station's 35mm, Kodac, Pony IV cameras. The base radio transmitter - receiver was transferred

to the Oak Orchard N. W. Refuge with the aid of Agent John Buckalew. Bombay Hook received the TD-9 dozer transferred from this station during October.

Equipment acquired during this period was primarily in the form of accessories to the station's 1962 Dodge, W-100, Power Wagon. Free wheeling hubs were installed on the front end during October. At the end of December an order for a snow-plow to be installed on said vehicle was outstanding. The value of the plow will be twofold in that the replacement of the plow's safety trip springs with rigid braces will enable the piece of equipment to be used for light grading and back-filling. This angle dozer use should lend itself to the seasonal grading of the Refuge entrance and beach roads. Special sand tires and wheels for operation of this vehicle on the beach were also received.

B. Plantings.

1. Aquatics & Marsh Plants. - None

2. Trees & Shrubs. - None

3. Upland Herbaceous Plants. During the latter part of October the 80-yard Fresh Pond Dike was planted to perennial rye grass. This species was chosen because it is a relatively rapid germinating perennial which is capable of growing in poor soil, and which puts forth an extensive root system. Additional factors such as availability and ease of maintenance were considered. Most of the farmers on eastern Long Island use this grass for several of the foregoing reasons on the earth embankments they throw up against their potato storeage barns. Twenty-five pounds of seed was broadcast by the use of a hand-cranked cyclone seeder over the 80-yard dike. Germination and sprouting were successful in spite of the lateness of the planting. The grass had attained a height of 1.5-2 inches by the time the ground froze and growth ceased. This rye grass should be one jump ahead of the weeds when growth resumes next spring.

C. Collections & Receipts. - None

D. Control of Vegetation. - None

E. Planned Burning.

The only burning conducted this period, last period, and expected to be conducted next period is the burning of brush piles during the cleanup operations on the Fresh Pond site. Wildlife is not expected to loose nor gain directly from the burning operations.

F. Fires.

The fire hazard was quite low during this period. No uncontrolled fires took place on or directly adjacent to the Refuge.

## IV. RESOURCE MANAGEMENT

A. - F. Not Applicable.

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Progress Report. Not Applicable.

## VI. PUBLIC RELATIONS

A. Recreational Uses.

Total public use of the Refuge amounted to 7,700 visitor-days for the cool, calendar year 1962. This total can be catagorized entirely as Miscellaneous Use. Visitors represented a total of 19 states and Washington, D. C. Included in this total were the distant states of Florida, California, Oregon, and Michigan. In addition 5 foreign countries were represented. These were Ireland, Italy, France, Switz_erland, and the Bahamas.

Recreational pursuits, amounting to 93% of the Total Use, primarily involved picnicing, swimming, hiking, bird watching and photography. Official Use principally comprised of contract workers totaled 7%. The sharp decrease from 19,984 visitor days reported for 1961 can be almost entirely attributed to weather conditions. Calendar year 1962 was abnormally cool with above average precipitation during the visitor season. In contrast to 1962 the prior year, 1961, was characterized by a warm summer with below normal rainfall followed by an abnormally warm fall which brought people to the beach through September and on into October.

The posting of restricted areas, nature trails, and general restrictions remains outstanding at the close of the period. This deficency should be corrected as soon as possible, that is, as soon as the revised sign manual is available at field level.

Another factor accounting for decreased public use this year is that the Refuge was closed for the first time in its history for the period October 15, 1962 through January 7, 1963. This period afforded the Refuge waterfowl population limited disturbance for one week before, during, and one week after the waterfowl gunning season.

B. Refuge Visitors.

Official visitors included:

| | | |
|---|---|---|
| 1/24, 6/20 | Leonard R. Litman, GSA, Utilization & Sales | Exc. Prop. |
| 4/23 | Herbert Johnson, Mgr. Jamacia Bay Wildlife Ref. | Curtesy |
| Several | Kenneth C. Leihr, Killcohook N. W. Refuge | Curtesy |
| 6/3 | Merton F. Radway, Asst. Regional Refuge Sup. | Inspection |
| 6/7 | Churchill T. Smith, Bur. Com. Fish, Bluept., NY | Curtesy |
| 9/26 | Nicholas Catelano, NYSCD, Amagansett, LI, NY | Curtesy |
| 12/1 | Arthur Christ, NYSCD, Lindenhurst, LI, NY | Curtesy |
| Several | Daniel E. Russ, USGMA, Bellport, LI, NY | Enforce. |
| Several | Steve Leskosky, USGMA-Trainee, Bellport | Enforce. |
| *Several | Merle L. Gerhard, Clerk, Brigantine NWR | Fiscal Mat. |
| *8/28, 9/11 | Henry E. Whitley, Mgr. Brigantine NWR | Fiscal Mat. |
| 9/12 | J.E. Upson & Party, US Geol. Sur., Mineola, NY | Curtesy |
| 10/2 | Henry S. Bush, Bombay Hook NWR | Trans. TD-9 |
| 10/2 | Earl Carey, Jr., Bombay Hook NWR | Trans. TD-9 |
| 10/18 | Maurice H. Lundy, Asst. Reg. Sup., M & E | Curtesy |
| 11/20 | Erlin D. Perkins, Brigantine NWR | Trans. Boat |
| 11/20 | Clayton M. Hardy, Asst. Mgr. Brigantine NWR | Trans. Boat |
| 12/1 | John Buckalew, USGMA, Northern District, NY | Trans. Radio |
| 12/6 | Edward J. Baker, USGMA, NW Pennsylvania | Enforce. |
| 12/28-31 | Chas. R. Gillette, Waterfowl Biol., Maryland F&G | Relation |

*A special note of graditude is extended to Messrs. Whitley and Gerhard of Brigatine N. W. Refuge for their efforts at this station during my absence (7/20-9/16) while on banding assignment at Enfield, Maine.

Distinguished vistors included:

| | | |
|---|---|---|
| 6/28 | Peter Matthiessen, Author and Naturalist<br>Sagaponack, LI, NY | Tour |
| 9/11 | Elizabeth Alexandra Morton<br>Southampton, LI, NY (Refuge Doner) | Tour |

C. Refuge Participation.

Tours and extemporaneous question and answer periods with the public were carried on as part of the normal routine.

Time, available man-power, and program needs limited participation in more extensive public relations by personnel at this one-man station.

D. Hunting.

Hunting is not permitted on this Refuge. A limited amount of waterfowl hunting occurred on areas adjacent to the Refuge. This off-refuge gunning was primarily limited to one blind on Clam Island and pass shooting at low tide from the sand spit which extends north from the Refuge.

E. Violations.

The only violation which is strongly believed to have occurred on the Refuge is 'coon hunting during December. This matter is being investigated by U. S. Game Management Agent Daniel E. Russ, Agent-in-Charge, Southern District, New York.

F. Safety.

Due to the nature of the program at this one-man station monthly safety meetings are not held. Safety literature is reviewed and applied as necessary. Day to day safety precautions and periodic inspections are conducted in order to maintain this station's accident free record. The last known accident, involving loss-of-time and/or medical treatment, at this station occurred in 1956.

## VII. OTHER ITEMS

A. Items of Interest.

The Refuge Manager participated in the preseason banding of waterfowl in cooperation with the Branch of Management and Enforcement and the Maine Division of Game. Banding operations were carried out on the Penobscot River in the vicinity of Enfield, Lincoln, and Passadumkeag, Maine during the period July 24 thru September 1. September 5 thru 12 was spent banding waterfowl in the vicinity of Dresden, West Gardiner, and West Monmouth, Maine. Approximately 500 ducks, principally blacks and woodies were banded by the author during his tenure in Maine.

Further valuable training, as time would permit, was received by the Refuge Manager by working in cooperation with the local U. S. Game Management Agent in connection with the enforcement of the migratory bird laws during the waterfowl hunting season on southeastern Long Island.

The Manager attended a two-day administrative training session at the Boston Regional Office on November 27 and 28. Facets of the new cost accounting system, property management, and personnel

matters were discussed. A show-me tour of the various branch offices was conducted. The author feels that this session was informative and worthwhile.

Credit in the preparation of this report is gratefully extended to the author's wife, Lois, for taking time from her domestic chores to participate in the time-worn refuge tradition of typing her husband's narrative report. . . .

B. Photographs.

A selection of photographs depicting various aspects of the banding assignment, reconstruction of the Fresh Pond Dike, rehabilitation of the Fresh Pond site, installation of the sewerage systems, and white-tailed deer are appended.

C. Signature.

Respectfully submitted,

Dale T. Coggeshall

Dale T. Coggeshall
Refuge Manager

January 18, 1963

1/23/63 T.C.H.

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

# WATERFOWL

REFUGE Morton National Wildlife Refuge MONTHS OF September TO December, 19 62

| (1) Species | (2) Weeks of reporting period: 9/1 - 7 (1) | 9/8 - 14 (2) | 9/15 - 21 (3) | 9/22 - 28 (4) | 9/29-10/5 (5) | 10/6-12 (6) | 10/13-19 (7) | 10/20-21 (8) | 10/27-11/2 (9) | 11/3-9 (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| Swans: | | | | | | | | | | |
| Whistling | | | | | | | | | | |
| Trumpeter | | | | | | | | | | |
| Geese: | | | | | | | | | | |
| Canada | | | | | | | | (1) | | |
| Cackling | | | | | | | | | | |
| Brant | | | | | | | | | | |
| White-fronted | | | | | | | | | | |
| Snow | | | | | | | | | | |
| Blue | | | | | | | | | | |
| Other | | | | | | | | | | |
| Ducks: | | | | | | | | | | |
| Mallard | | | | | | | 5 | | | |
| Black | 6 | 9 | 15 | 25 | 6 | 100 | 170 | 170 | 255 | 350 |
| Gadwall | | | | | | | | | | |
| Baldpate | | | | | | | 5 | | | |
| Pintail | | | | | | | | | | |
| Green-winged teal | | | | | | | 6 | 4 | 10 | 5 |
| Blue-winged teal | | | | | | | | | | |
| Cinnamon teal | | | | | | | | | | |
| Shoveler | | | | | | | | | | |
| Wood | | | | | | | 1 | | 5 | |
| Redhead | | | | | | | | | | |
| Ring-necked | | | | | | | | | | |
| Canvasback | | | | | | | | | | |
| Scaup | | | | | | | | | | |
| Goldeneye | | | | | | | | | | |
| Bufflehead | | | | | | | | | | |
| Ruddy | | | | | | | | | | |
| Other | | | | | | | | | | |
| W-Winged Scoter | | | 2 | 2 | 2 | 15 | | | 10 | 10 |
| Surf Scoter | | | | | | | | | (1) | |
| Old Squaw | | | | | | | | | | |
| R B Merganser | | | | | | | 4 | 4 | 15 | 15 |

3 -1750a

Cont. NR-1
(Rev. March 1953)

# WATERFOWL
(Continuation Sheet)

REFUGE Morton National Wildlife Refuge MONTHS OF September TO December, 1962

| (1) Species | (2) Weeks of reporting period: 11/10-16 (11) | 11/17-23 (12) | 11/24-30 (13) | 12/1-7 (14) | 12/8-14 (15) | 12/15-21 (16) | 12/22-28 (17) | 12/29-31 (18) | (3) Estimated waterfowl days use | (4) Production: Broods seen | Estimated total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Swans: | | | | | | | | | | | |
| Whistling | | | | | | | | | | | |
| Trumpeter | | | | | | | | | | | |
| Geese: | | | | | | | | | | | |
| Canada | | | | | | | | | 1 | | |
| Cackling | | | | | | | | | | | |
| Brant | | | | | | | | | | | |
| White-fronted | | | | | | | | | | | |
| Snow | | | | | | | | | | | |
| Blue | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| Ducks: | | | | | | | | | | | |
| Mallard | | | | 1 | | 1 | | | 49 | | |
| Black | 425 | 425 | 450 | 450 | 500 | 550 | 575 | 675 | 33,392 | | |
| Gadwall | | | | | | | | | | | |
| Baldpate | | | | | | | | | 35 | | |
| Pintail | | | | | | | | (1) | 1 | | |
| Green-winged teal | | | | | | | | | 175 | | |
| Blue-winged teal | | | | | | | | | | | |
| Cinnamon teal | | | | | | | | | | | |
| Shoveler | | | | | | | | | | | |
| Wood | | | | | | | | | 42 | | |
| Redhead | | | | | | | | | | | |
| Ring-necked | | | | | | | | | | | |
| Canvasback | | | | | | | | | | | |
| Scaup | | | | | | | | | | | |
| Goldeneye | | | 25 | 75 | 100 | 80 | 60 | 125 | 2,755 | | |
| Bufflehead | | | | | | | | | | | |
| Ruddy | | | | | | | | | | | |
| Other | | | | | | | | | | | |
| W-Winged Scoter | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 807 | | |
| Surf Scoter | | | | | | | | | 1 | | |
| Old Squaw | | | | (1) | | | | 5 | 16 | | |
| Coot: RB Merganser | 15 | 15 | 15 | 20 | 20 | 20 | 20 | 20 | 1,201 | | |

(over)

| | (5) Total Days Use | (6) Peak Number | (7) Total Production |
|---|---|---|---|
| Swans | -- | -- | -- |
| Geese | 1 | 1 | -- |
| Ducks | 38,474 | 872 | -- |
| Coots | -- | -- | -- |

SUMMARY

Principal feeding areas Brackish Pond, Lagoon, Point.

Principal nesting areas None. Occasional nesting has occurred adjacent to Fresh Pond.

Reported by Hale T. Campbell
Refuge Manager

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

762 42

Supplement to NR-1 Form — Morton National Wildlife Refuge
(Include in December Narrative Report only)

## WATERFOWL USE DAYS (5 Yr. Record)

(Total Waterfowl Use Days for Calendar Year 1962

Totals of Column 5, NR-1)

| Year | 19 58 | 19 59 | 1960 | 19 61 | 1962 |
|---|---|---|---|---|---|
| Species | Prior Year | Prior Year | Prior Year | Prior Year | Current Year |
| Swans | - | - | - | 35 | - |
| Geese | - | 140 | 3,535 | - | 1 |
| Brant | - | - | - | 140 | - |
| Ducks | 114,712 | 121,170 | 111,244 | 30,033 | 67,459 |
| Total Waterfowl | 114,712 | 121,310 | 114,779 | 30,208 | 67,460 |
| Coots | - | - | - | - | - |
| Grand Total Use | 114,712 | 121,310 | 114,779 | 30,208 | 67,460 |

## WATERFOWL DAYS OF USE PER ACRE OF WATERFOWL USE HABITAT

1. 67,460 — Waterfowl Use Days Current Year. Swans, Geese, Brant and Ducks. (Do not include Coots.)

÷

2. * 20 — Acres of Waterfowl Use Habitat. Include only areas actually used by waterfowl.

=

3. 3,373 — Waterfowl Use per Acre of Waterfowl Habitat.

* 20 acres of Waterfowl Use Habitat includes the following minimum acreages:

| | |
|---|---|
| Fresh Pond | 1.5 |
| Brackish Pond | 4.5 |
| Point | 0.5 |
| Lagoon | 12.0 |
| Shores | 1.5 |
| TOTAL | 20.0 |

7/12/61

Supplement to NR-1 Form — **Morton National Wildlife** Refuge

PEAK WATERFOWL POPULATIONS

(Include this form in December 31 NARRATIVE REPORT ONLY)

| Year | 1958 | 1959 | 1960 | 1961 | 1962 |
|---|---|---|---|---|---|
| Species | Prior Year | Prior Year | Prior Year | Prior Year | Current Year |
| Maximum Goose Population Peaks for yr.-Use figure from Weekly Columns of NR-1. | | | | | |
| Canada Goose | - | 16 | - | - | 1 |
| Brant | - | - | - | 20 | - |
| Snow Goose | - | - | - | - | - |
| Maximum Duck Population Peaks for yr.-Use figure from Weekly Columns of NR-1. | | | | | |
| Mallard | 10 | 25 | 36 | 25 | 5 |
| Black | 500 | 564 | 714 | 475 | 675 |
| Gadwall | | | | | |
| **Pintail** | - | - | - | - | 1 |
| Baldpate | - | - | - | - | 5 |
| Green-winged teal | - | - | - | - | 10 |
| Blue-winged teal | | | | | |
| Shoveler | | | | | |
| Wood duck | - | - | - | - | 5 |
| Redhead | | | | | |
| Ring-necked | | | | | |
| Canvasback | | | | | |
| Scaup | | | | | |
| Goldeneye | 800 | 421 | 185 | - | 125 |
| **Surf Scoter** | - | 652 | 150 | - | 1 |
| Bufflehead | | | | | |
| **W-Winged Scoter** | 900 | 1,167 | 536 | - | 15 |
| Ruddy | | | | | |
| **Old Squaw** | 700 | 5 | 200 | - | 5 |
| Common Merganser | | | | | |
| **R B Merganser** | - | 10 | 70 | - | 20 |
| Hooded Merganser | - | - | 2 | - | - |
| Coots | | | | | |
| Peak population all species at any single census | 2,000 | 3,168 | 1,213 | 475 | 872 |
| Date | 12/1-7 | 12/8-14 | 1/15-21 | 12/22-28 | 12/30 |

7/12/61

Supplement to NR-1 Form

Morton National Wildlife Refuge
(Refuge)

WATERFOWL PRODUCTION
5-YEAR RECORD

(Include in December 31 NARRATIVE REPORT ONLY)

(Production transcribed from Column 4, - May-August NR-1)

| Year | 1958 | 1959 | 1960 | 1961 | 1962 |
|---|---|---|---|---|---|
| Species | Prior Year | Prior Year | Prior Year | Prior Year | Current Year |
| Canada Goose | | | | | |
| Mallard | | | 7 | | |
| Black | None | 12 | 6 | None | None |
| Gadwall | | | | | |
| Baldpate | | | | | |
| Pintail | | | | | |
| Green-winged teal | | | | | |
| Blue-winged teal | | | | | |
| Shoveler | | | | | |
| Wood duck | | | | | |
| Redhead | | | | | |
| Ring-necked | | | | | |
| Canvasback | | | | | |
| Scaup | | | | | |
| Goldeneye | | | | | |
| Bufflehead | | | | | |
| Ruddy | | | | | |
| Common Merganser | | | | | |
| Hooded Merganser | | | | | |
| *Total Duck Production | -- | 12 | 13 | -- | -- |
| Total Production per acre# | -- | 6 | 6 | -- | -- |

*(Use figure from Column 7, reverse of NR-1)

#Waterfowl produced divided by acres of nesting habitat equals production per habitat acre.

7/12/61

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

MIGRATORY BIRDS
(other than waterfowl)

Refuge Morton National Wildlife Refuge Months of September to December 1962

| (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. Water and Marsh Birds: | | | | | | | | | | |
| Great Blue Heron | 2 | 9/17 | 3 | 9/20 | 1 | 12/8 | - | - | - | 10 |
| Green Heron | 1 | 9/17 | 1 | 9/17 | 1 | 9/17 | - | - | - | 2 |
| American Bittern | 1 | 9/25 | 1 | 9/25 | 1 | 9/25 | - | - | - | 1 |
| Double-crested Cormorant | 3 | 9/28 | 6 | 10/7 | 1 | 12/27 | - | - | - | 50 |
| II. Shorebirds, Gulls and Terns: | | | | | | | | | | |
| Herring Gull | 50 | 9/17 | 600 | 9/29 | 175 | 12/30 | - | - | - | 1,000 |
| Great Black-backed Gull | 50 | 9/17 | 175 | 10/1 | 15 | 12/30 | - | - | - | 300 |
| Ring-billed Gull | 5 | 9/28 | 10 | 10/2 | 4 | 10/7 | - | - | - | 12 |
| Sanderling | 9 | 9/20 | 40 | 10/2 | 5 | 11/11 | - | - | - | 200 |
| Piping Plover | 1 | 9/18 | 1 | 9/28 | 1 | 9/28 | - | - | - | 2 |
| Pectoral Sandpiper | 2 | 9/20 | 7 | 9/21 | 7 | 9/21 | - | - | - | 10 |
| American Woodcock | 2 | 9/25 | Unknown | October | 1 | 12/27 | - | - | - | Unknown |
| Greater Yellowlegs | 1 | 9/28 | 1 | 9/28 | 1 | 9/28 | - | - | - | 1 |

(over)

| (1) | (2) | | (3) | | (4) | | (5) | | | (6) |
|---|---|---|---|---|---|---|---|---|---|---|
| III. Doves and Pigeons: | | | | | | | | | | |
| Mourning dove | 65 | 9/17 | 75 | 9/17 | 1 | 10/30 | - | - | - | 400 |
| White-winged dove | | | | | | | | | | |
| IV. Predaceous Birds: | | | | | | | | | | |
| Golden eagle | | | | | | | | | | |
| Duck hawk | | | | | | | | | | |
| Horned owl | | | | | | | | | | |
| Magpie | | | | | | | | | | |
| Raven | | | | | | | | | | |
| Crow | 4 | 10/1 | 25 | 12/9 | Present | 12/29 | - | - | - | 100 |
| **Marsh Hawk** | 2 | 9/23 | 2 | 9/23 | 1 | 10/12 | - | - | - | 4 |
| **Sparrow Hawk** | 2 | 9/25 | 2 | 10/22 | 2 | 10/22 | - | - | - | 4 |

Reported by Dale T. Coggeshall

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 Gruiiformes)
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.

INT.-DUP. SEC., WASH., D.C.

M17058

3-1752
Form NR-2
(April 1946)

# UPLAND GAME BIRDS

Refuge **Morton National Wildlife Refuge** Months of **September** to **December**, 19 **62**

| (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'v'd. | Estimated Total | M:F Percentage | Hunting | For Re-stocking | For Research | Estimated number using Refuge | Pertinent information not specifically requested. List introductions here. |
| American Woodcock | Reverting agricultural lands, brush types, and fields 100 acres | 3.3 | - | - | Unknown | - | - | - | 30 | 1 noted Dec. 29, 1962 |
| Bobwhite Quail | Upland cover types- reverting agricultural land, hardwoods, fields 50 acres | 2 | - | - | 50:50 | - | - | - | 24 | Believe some emigration to have taken place by past seasons production. |
| Ring-neck Pheasant | Reverting agricultural land, mixed hardwoods-ever green types, agricultural fields, hardwoods, and beach in part. 175 acres | 7 | - | - | 20:80 | - | - | - | 25 | No particular influx noted during hunting season. Believe that most of the production emigrated to less heavily populated habitat outside the Refuge. |

## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.*

(1) SPECIES: Use correct common name.

(2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.

(3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.

(4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.

(5) REMOVALS: Indicate total number in each category removed during the report period.

(6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.

(7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

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

3-1753
Form NR-3
(June 1945)

BIG GAME

Refuge Morton National Wildlife Refuge Calendar Year 1962

| (1) Species | (2) Density | (3) Young Produced | (4) Removals | | | | (5) *Losses | | | (6) Introductions | | (7) Estimated Total Refuge Population | | (8) Sex Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Common Name | Cover types, total Acreage of Habitat | Number | Hunting | For Re-stocking | Sold | For Research | Predation | Disease | Winter Loss | Number | Source | At period of Greatest use | **As of Dec. 31 | % M:F |
| White-tail Deer | Upland Hardwoods, mixed hardwoods and conifers, reverting agricultural land, open beach and fallow agricultural fields - 187 acres | 6 | - | - | - | - | - | - | - | - | - | 30 | 25 | 34:66 |

Remarks: Losses - * Two (2) road kills adjacent to Refuge only known losses.
** Entire population is transcient.

Reported by Walter T. Engelhardt

# 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: 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 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</u> <u>species</u> on the refuge at period of its greatest abundance and also as of Dec. 31.

(8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

116008

3-1756
Form NR-6
(Rev. August 1957)

PUBLIC USE

Refuge Morton National Wildlife Refuge Calendar Year 1962

| Total Use Visitor-Days | Hunting Use | Fishing Use | Miscellaneous Use |
|---|---|---|---|
| 7,700 | No Legal Use | None | 7,700 |

Where practical, by means of occasional spot checks, or other methods, show by percent and visitor-days the breakdown of the above figures and other related information:

| Hunting (on refuge lands): | Percent | Visitor-Days | Acres |
|---|---|---|---|
| Waterfowl | None | - | - |
| Upland Game | None | - | - |
| Big Game | None | - | - |

Supervised by refuge - by State - No. of blinds -

Hunting (off refuge lands): Estimated man-days of hunting on lands adjacent to the refuge 100** (These figures should not be included in hunting-use totals above).

Fishing:

Acres of ponds or lakes None and miles of streams None open to fishing.

| Miscellaneous: | Percent | Visitor-Days |
|---|---|---|
| Recreation * | 93 | 7,200 |
| Official (includes contract workers) | 7 | 500 |
| Economic Use | - | - |
| Other | - | - |

Comments:

** Adjacent lands include Clam Island and tidal portion of point extending north from Refuge. Due to the fact that the above figures are basically estimates, Visitor-Days have been rounded to the nearest hundred and Percentages to the nearest whole percent.

*(including picnicking, swimming, boating, camping, viewing wildlife, and photographing)

INT.-DUP. SEC., WASH., D.C. 22919

3-1757
Form NR-7
(Rev. June 1960)

(1)

# NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

Refuge Morton National Wildlife Refuge Year 19 62

| | Collections and Receipts (Seeds, rootstocks, trees, shrubs) | | | | | | Plantings (Marsh - Aquatic - Upland) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Species | Amount (Lbs., bus., etc.) | (2) C or R | Date | Method or Source | Cost | (3) Total Amount on Hand | Location of Area Planted | Rate of Seeding or Planting | Amount Planted (Acres or Yards of Shoreline) | Amount and Nature of Propagules | Date | Survival | Cause of Loss |
| Perennial Rye Grass | | | | | | | Fresh Pond Dike | 75lb/acre | 80 yds. | 25 lb seed Broadcast | 10/29 | Good | |

(1) Report agronomic farm crops on Form NR-8
(2) C = Collections and R = Receipts
(3) Use "S" to denote surplus

Total acreage planted:
Marsh and aquatic None
Hedgerows, cover patches 0.33 acres
Food strips, food patches None
Forest plantings None

Remarks: Seed sprowted and attained a heighth of 1.5 - 2 inches before the ground froze. It appears to be faring well as of the end of this period. Should provide a good start come spring.

76148

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Morton National Wildlife Refuge County Suffolk State New York

| Cultivated Crops Grown | Permittee's Share Harvested | | Government's Share or Return | | | | Total Acreage Planted | Green Manure, Cover and Waterfowl Browsing Crops Type and Kind | Total Acreage |
|---|---|---|---|---|---|---|---|---|---|
| | | | Harvested | | Unharvested | | | | |
| | Acres | Bu./Tons | Acres | Bu./Tons | Acres | Bu./Tons | | | |
| None | | | | | | | | | |
| | | | | | | | | Fallow Ag. Land | 7 |

No. of Permittees: Agricultural Operations - Haying Operations - Grazing Operations -

| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash Revenue | GRAZING | Number Animals | AUM'S | Cash Revenue | ACREAGE |
|---|---|---|---|---|---|---|---|---|
| None | | | | 1. Cattle | | | | None |
| | | | | 2. Other | | | | None |
| | | | | 1. Total Refuge Acreage Under Cultivation | | | | None |
| Hay - Wild | | | | 2. Acreage Cultivated as Service Operation | | | | None |

# DIRECTIONS FOR PREPARING FORM NR-8
# CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested - Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested - Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C.91767

Camp Mohawk - Operations center during banding detail at Enfield, Me.
D. T. Coggeshall 9/2/62 Personal

Penobscot River, Enfield, Me. (¼ total width). Beautiful ... but heavily polluted by pulp mills' wastes.
D. T. Coggeshall 8/16/62 Personal

Manager's "right hand" with wood duckling. One of the few times the task of banding the captured birds did not hamper photography. Note the mode of transportation at the lower right.
D. T. Coggeshall 8/16/62 Personal

Doe with twin button bucks. The "bite-size" Bartlett pears which littered the Office lawn were gone by mid-November.
D. T. Coggeshall 10/10/62, R-1-9

Before - Fresh Pond overflow culvert and debris around it.
D. T. Coggeshall 7/6/62 Personal

After - "Calco" gate with drop inlet. Approximately 1 foot will be cut off the drop inlet to bring it to the desired pool level.
D. T. Coggeshall 12/3/62, R-3-6

Before - Looking WNW along Fresh Pond Dike.
D. T. Coggeshall 7/6/62 Personal

During - Making room for reconstruction operations. (Compare with right half of above photo.)
D. T. Coggeshall 7/6/62 Personal

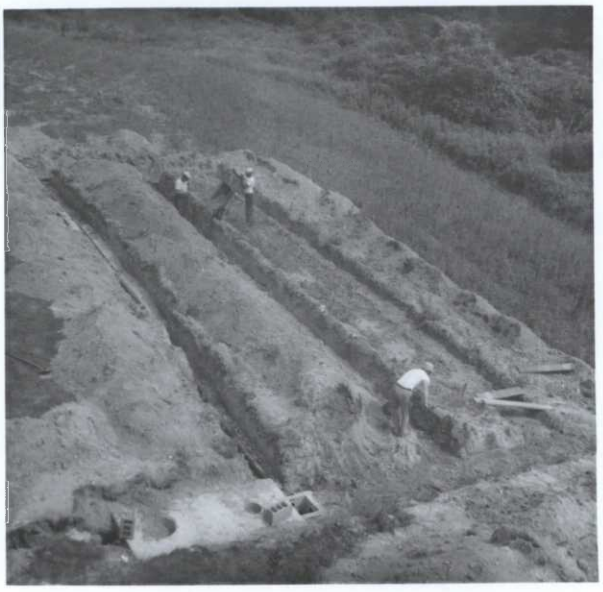
After - Looking WNW along Reconstructed Fresh Pond Dike.
D. T. Coggeshall 12/3/62, R-3-5

Habitat Rehabilitation at Fresh Pond. The perifery of the Pool being cleared of dead trees, brush, and snags.
D. T. Coggeshall 12/10/62, R-3-7

Excavating in preparation for the installation of a septic tank at Q-2. (Note: Printed backwards - that's what comes of using the ordinary commercial printing services.)
D. T. Coggeshall 6/26/62, R-0-8

Leveling the first course of concrete blocks.
D. T. Coggeshall 6/26/62, R-0-9

Capping the tank which will serve the Office and Public lavatories. (Outlet View)
D. T. Coggeshall 11/8/62, R-3-1



View of the septic tank with 200' of field drain which serves the Manager's Quarters, Q-2. (Looking NNE from radio tower.)
D. T. Coggeshall 7/12/62, R-1-8