

BRANCH OF WILDLIFE REFUGES

Narrative Report Routing Slip

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Refuge MONTEZUMA \_\_\_\_\_

Period Jan - Apr 1960 \_\_\_\_\_

NARRATIVE REPORT  
MONTEZUMA NATIONAL WILDLIFE REFUGE  
January - April, 1960

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# NARRATIVE REPORT

## MONTEZUMA NATIONAL WILDLIFE REFUGE

January - April, 1960

### I. GENERAL

A.

#### A. Weather Conditions

The following summary of weather conditions, with the exception of temperatures, is taken from the records of the New York State Barge Canal's May's Point Lock, which is located on the refuge boundary. Temperature records are obtained from our own maximum-minimum thermometer located at our headquarters.

	Snowfall		Precipitation		Temperature	
	1960	Normal*	1960	Normal**	Max.	Min.
January	15.25	16.96	2.38	1.68	40	6
February	39.38	15.40	4.19	2.26	52	5
March	16.50	12.74	1.13	2.78	54	-8
April	1.00	1.04	2.32	2.80	82	26
TOTALS	72.13	46.14	10.02	9.52	82	-8

\* 13 year average (1948 - 1960) in inches.

\*\* 30 year average (1930 - 1959) in inches.

As indicated by the above table, precipitation was about normal but snowfall was considerable above normal. This is the third year in a row that has seen abnormal amounts of snow. Through 1957, the 10 year average snowfall was 37.49 inches during the reporting period. Then came snowfalls of 85.88 inches in 1958, 67.00 inches in 1959 and 72.13 inches in 1960. This has raised the average snowfall to 46.14 inches for a 13 year period, a rise of 8.65 inches, while the precipitation has remained the same. Thus the increased snowfall must have been the result of colder temperatures.

In 1960, January and the first part of February were relatively mild with no accumulation of snow. Then came abnormally cold weather accompanied by severe snow storms. Temperatures remained consistently below normal levels, with March being the coldest on record, until March 27th. Then followed five days of thawing temperatures, accompanied by light rain. Six weeks accumulation of snow melted in four days. These conditions brought about a major flood on the Clyde River, with water levels as high as any that have been reached in the past 15 or 20 years. Ice on the Main Pool started to break-up on April 6th but the area was not completely free of ice until April 10th. Weather conditions in April were about normal, although precipitation was slightly below the monthly average.



## B. Habitat Conditions

### 1. Water

Rains in January and the first half of February kept our pools at or slightly above normal pool levels. The first of March we started to draw our pools down in preparation for break-up. The Main Pool was drawn down 18 inches and the Storage Pool 8 inches below normal levels. These levels were held until the thaw commenced on March 27th. To equalize our pool levels with the rising Clyde River, we opened the May's Point Spillway on March 30th and the Black Brook Spillway on March 31st (the Seneca Spillway was opened throughout the month, with depth of water being controlled by stoplogs). By the evening of March 31st, the Clyde River topped the Main Pool dike north of the Thruway. The river crested on April 1st and held that level for 24 hours. At its highest level, water was an inch deep over the floor of the catwalk at White Brook spillway and the section of the Storage Pool dike usually visible from that location was entirely submerged. In that area water was flowing into the pool over a wide area and flowing out over the dike in the vicinity of Black Brook spillway and the section of the dike paralleling highway 89 (formerly 414). The Storage Pool also reversed its flow under the Thruway and backed up into the Spring Pool, forcing water over the low place in the new dike opposite the culvert under highway 89. In the Main Pool section north of the Thruway, water flowed over the dike into the area from the equalizer almost to the May's Point Spillway and out over the dike from the May's Point Spillway almost to the Thruway. This was caused by the fact that the structures under the Thruway could not carry the volume of water pouring into the area and thus causing the Thruway to act as a dam. On April 3rd the Clyde River started to slowly recede, although the Seneca-Cayuga canal continued to rise until the afternoon of April 4th. On that day the gates on Mud Lake were opened, allowing the water to flow backward into Cayuga Lake. Previous to opening the gates, the canal was about a foot higher than the lake and water was flowing in reverse over the fishway back into the lake. At this height, Field # 9 opposite headquarters was inundated and water was backing up through the cellar drain into the cellar of Residence # 1. The Main Pool south of the Thruway crested on April 6th, with water within 6" of the top of the dike just south of the Thruway and over the cross-arm on the Seneca Spillway control structure. Water continued to flow over low spots in our Main Pool dike north of the Thruway through April 4th and over the Storage Pool dike through April 5th. Highway 89 was closed to traffic because of the high water from the evening of March 31st until the morning of April 7th. Our pools did not reach normal levels until April 20th.

On the refuge, the section of the Main Pool dike lying north of the Thruway received the most damage. All gravel was washed from the center of the road for 7/10ths of a mile. Two severe cuts, with the dike washing out from the pool side through the road, occurred in the area between the equalizer and May's Point Spillway, plus

many minor washouts of less serious nature. Fortunately the sod cover on the river side of the dike held and no complete breakthroughs occurred. On the Storage Pool dike, except for minor cuts in the section paralleling highway 89, damage was limited to logs and debris left by the receding water along a mile and a half of dike. The new dike on the Spring Pool just south of the Thruway had a cut opposite the culvert under highway 89. Winter grain crops were completely drowned out in Field # 18 and partially drowned out on Fields # 14 and # 17.

## 2. Food and Cover

Food supplies for deer and pheasants in the refuge fields were plentiful until the middle of February, when deep snows blanketed the area. Deer then had to depend on browse in the areas where the snow caught them. We put out extra corn adjacent to our grainery at headquarters and the corn crib at subheadquarters for pheasants. We also established a feeding station north of the Thruway for pheasants in that area. Elsewhere the pheasants faced starvation conditions. Aquatics in our Main Pool were not available until the ice broke up in the period between April 5th and April 10th. Food supplies for ducks, however, were plentiful in the flooded fields and bottomlands, both on and off the refuge, during the first two weeks of April. During the last two weeks of April geese fed extensively on refuge fields # 8, 12, 14 and 17.

## II. WILDLIFE

### A. Migratory Birds

#### 1. Waterfowl

With spring break-up approximately two weeks later than usual, waterfowl migration didn't appear to follow the set pattern of the last few years. Prior to the actual breakup a small portion of the Main Pool, North of the Thruway, opened up due to current created by the manipulation of our control structures. This open water area attracted mallard, black duck, pintail, ring-neck and a scattering of other early migrants. During the break-up period of the first week in April to the end of the reporting period, peak numbers were as follows: pintails-1000; American widgeon-320; blue-winged teal-170; black duck-150; mallard-145; scaup-120; green-winged teal-100; with a scattering of shoveler, wood duck, ring-neck, goldeneye and redhead. In most cases, except the pintail, these peak numbers are more than 50 percent down from last year, probably due to weather conditions.

Canada geese were approximately one week later than last year appearing the last week in March and gradually building up to a peak of 15,000 by mid-April. A flock of some 20 blue geese and 5 snow geese were recorded the latter part of April for a brief period.

Under the "Three Pen System" of establishing a goose population, the first release of flock number 1 occurred this spring. The primaries on these birds were pulled in late December of 1959 and full flight occurred between February 1 and 11. A total of 32 geese were in this group and were observed on or near the area at the time other migrating geese started to arrive. Of the original 27 geese only 3 were lost over the two year period they were held. An additional 8 geese were infused into this flock during the period of holding, 4 were hand reared and 4 were found mixed with the flock.

#### 2. Other Waterbirds

Due to a good winter kill of carp and bullhead our early gull usage was good. Peak numbers in the first two weeks of April reached 1500 and gradually diminished as the fish supply became reduced, to some 100 birds during the end of the reporting period. None of the usual waterbirds (egrets, etc.) were observed during the reporting period with the exception of the horned grebe (April 13) and the great blue heron (April 7).

#### 3. Shorebirds

Again very few shorebirds were observed during the reporting period. The following were the only two species observed during the period, Killdeer and greater yellowlegs. Weather again is probably due to the lack of these birds.



#### 4. Doves

Only occasional birds observed during the reporting period.

#### B. Upland Game Birds

The ring-necked pheasant appears to be at its lowest level in many years and only with a successful nesting season will these birds reach even the introduction level.

No observations were noted on the ruffed grouse during the reporting period.

#### C. Big Game Animals

The white-tailed deer population appears to be down somewhat from last year. A total of 33 deer were observed at the spring break-up time as compared to 98 last year. Weather conditions affected the herd more this year than is normal. We had quite mild winter weather almost to the end of winter when severe snow storms caught most of the deer scattered and easy prey for dogs. The mild weather caused more movement of deer during the winter months and increased the road kill over past years. A total of 5 deer were killed on highways and another 2 by dogs, with losses from unknown causes totaling 3. Total known winter loss was 10, compared to 2 for the same period the previous year.. With the successful three day season of last year and existing conditions, it appears at this time only a one day season (archery) should be recommended this fall.

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

##### 1. Fur Animals

The muskrat is our primary fur animal. Population estimates in December and January were 10,250, just slightly more than a 50 per cent decline from the previous year. A total of 5,998 were harvested from the area and with other decimating factors, disease, predators, etc., the population at the end of this reporting period is approximately 3500. Figure 1 illustrates the past five years records of estimated populations and the actual trapping catch. This shows the recuperative ability of muskrats when marsh conditions (cattail, water depth, etc.) become ideal for them, these conditions occurred in 1957-58, peaked in 1959 and are on the down grade in 1960. The apparent under-trapping in 1958-59 was due to poor trapping conditions.

##### 2. Predators

Our major mammalian predators according to importance are raccoon, opossum, mink, weasel, fox, dogs and skunks. Although the raccoon and opossum appear to be at low levels the extent of damage on nesting birds (especially waterfowl) is still considerable. Mink,



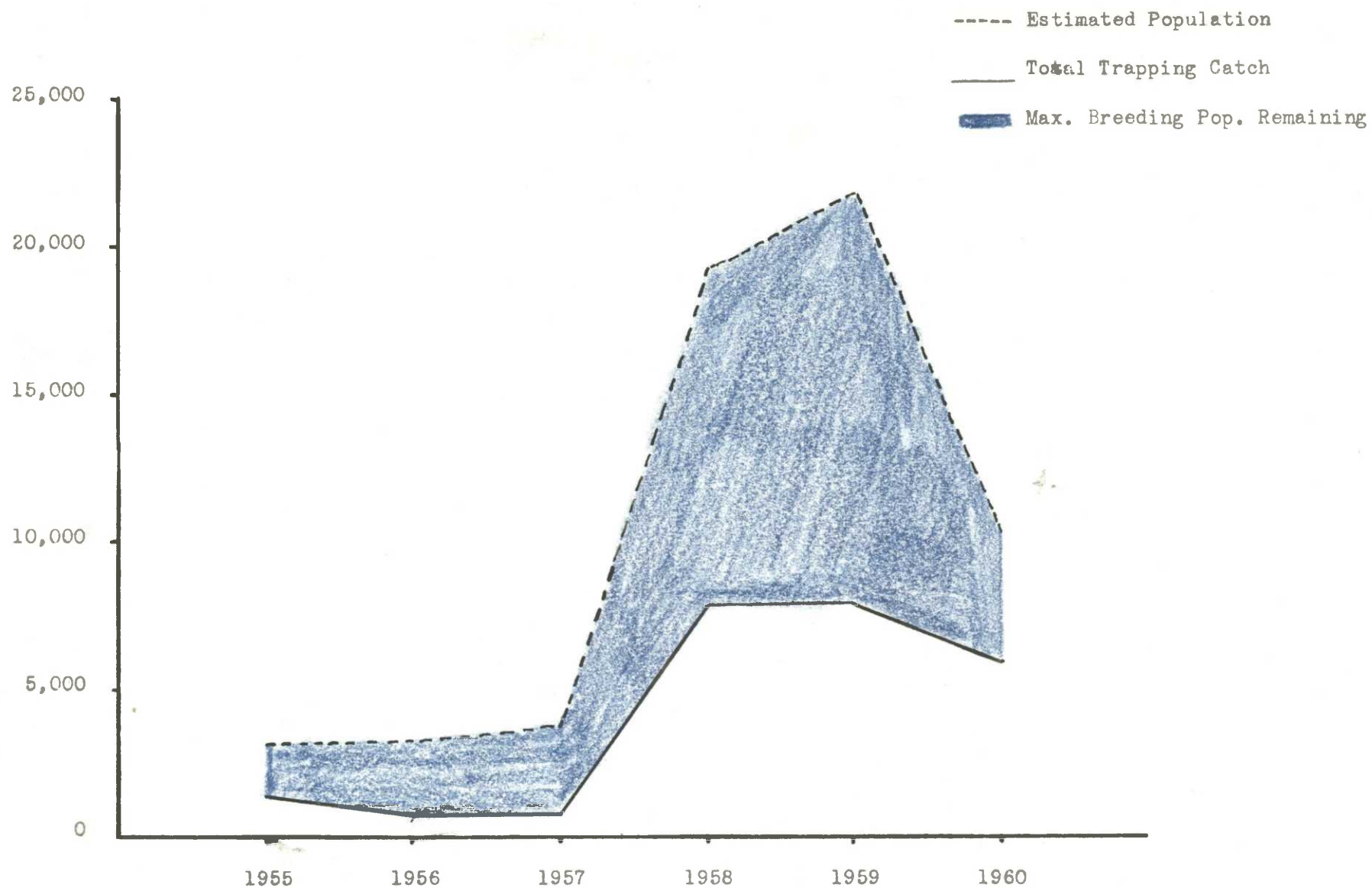


FIGURE 1 - Comparison of the total estimated Muskrat population to the total trapper catch with the maximum breeding stock remaining.

weasel, skunk and fox are at a stable level and although sufficient numbers are trapped under our permit system it is felt especially in the case of the mink, additional control is necessary. Dogs are on the increase and cause disturbance to nests and considerable harassment to our deer herd. To give the utmost protection to our nesting birds it is felt a concentrated predator program should be set up especially during April and May to create a partial vacuum at the height of the nesting period.

### 3. Rodents

Rodent populations appear to be stable with estimated populations in the past year. The control of woodchucks on our dikes was assisted by nature this year in that high water drowned many in their holes. We have given nature an assist with the use of our gas bombs.

### 4. Other Mammals

The cottontail rabbit is at a low level not only on the area but in the immediate vicinity.

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

In general most species are at a low level compared to previous years, although more rough-legs were present during this period than last year. Red-tail and sparrow hawks were observed throughout the period and marsh hawks appeared at a normal level. One osprey was noted on the Storage Pool area late in the reporting period. A peregrine falcon was observed north of Seneca Spillway on April 26th.

Our resident pair of bald eagles were observed late in March and the female was first noted on the nest April 11. During the reporting period the female has remained faithfully on the nest and we hope this will be a successful year for these birds.

At least two horned owls were observed throughout the reporting period, one of these near Maple Island and the other in the Storage Pool area. One long-eared and one short-eared owl were observed the first two weeks of January but haven't been seen since.

Crows were observed throughout the reporting period and appear to be more prevalent during the late part of the period, than in previous years. Duck egg shells are being found along the dikes and at odd places; apparently the nests were destroyed and the eggs scattered by this predator.

### F. Other Birds

Red-winged blackbirds are again scattered throughout the area. Many of the males appearing first during the latter part of the reporting period and females following at the end of the period to commence nesting.

#### G. Fish

Although we had an excellent winter kill of carp throughout our impoundments, all that was gained in carp reduction was lost in our extremely high floods which topped our dikes in a number of places and allowed carp to freely re-infest the area. The full extent of this action is not apparent at this date. An experimental shocking device was set up at the outlet of the Seneca Spillway; the only area where carp screens or barricades are not feasible during the critical time of the year. This proved quite effective in keeping most of the carp from entering the pipe but was operated only intermittently to test the function and practical aspects of such a device. This is further explained under "Field Investigation or Applied Research".

#### H. Reptiles

Nothing of interest to report during the period.

#### I. Diseases

We had what appeared to be some evidence of Tularemia occurring in one of our trapping sections. Although no positive identification of the disease was made, muskrat livers appeared to be infested with the disease and one of the trappers had all the symptoms that occur when humans contract the disease.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development

##### 1. Project 6212B

###### Repair of Dike Damage

Work commenced on the hauling of fill and grading of dikes in areas damaged by flood waters.

##### 2. Miscellaneous

- a. A new clutch assembly was installed in our D-6 bulldozer and OC-6 crawler.
- b. A new chlorinator was installed in the water system of the headquarters area.
- c. Four mats were constructed for our Bucyrus-Erie 15-B dragline.
- d. A total of 60 artificial nest forms were erected throughout the area.
- e. A valve job was done on the Chevrolet pick-up and minor body work.
- f. A "stone boat" was constructed by refuge personnel.
- g. The following surplus equipment was obtained during the period:

1. A D-4 Caterpillar tractor in almost new condition.
2. A 16mm Bell and Howell movie camera.
3. A Galion 4 wheel drive power grader.
4. A total of 75 nail kegs to use as wood duck boxes.
5. Two 55 gallon drums of hydraulic fluid.

#### B. Plantings

##### 1. Aquatic and Marsh Plants

None this period.

##### 2. Trees and Shrubs

None this period.

##### 3. Upland Herbaceous Plants

Birdsfoot trefoil (Empire Strain) was seeded by cyclone seeder on the goose pen canal and on both the Main Pool and Storage Pool dikes. Fields # 12 and # 14 were seeded to sweet clover as a cover crop.

##### 4. Cultivated Crops

None this period.



C. Collections and Receipts

1. Seed and Other Propagules

None this period.

2. Specimens

None this period.

D. Control of Vegetation .

None this period.

E. Planned Burning

None this period.

F. Fires

None this period.

#### IV. RESOURCE MANAGEMENT

##### A. Grazing

None this period.

##### B. Haying

None this period.

##### C. Fur Harvest

Muskrat trapping operations were conducted from January 1st through April 8th. Five permits were issued. One of the trappers had a part-time assistant. Trapping conditions were favorable until the heavy snow storms in mid February. By the first of March, trapping units # 7 and # 10 had such a high proportion of the muskrat population removed that continued trapping was not practical, until break-up. By mid-March trapping on unit # 6 and # 9 also ceased. All units were trapped during the break-up period from April 4th through April 8th. A total of 5998 muskrats were removed. Fur prices were slightly higher, with the trappers receiving from \$2.00 to \$2.25 for first quality skins compared to \$1.80 to \$2.10 the previous year.

##### D. Timber Removal

One permit was issued for the removal of \$400.00 worth of timber products, with a down payment of \$100.00. Deep snow in late winter and high water this spring has slowed down timber operations. Several timber operators wished to buy timber but, after looking over our areas, decided that the remaining timber was too inaccessible for removal at this time.

##### E. Commercial Fishing

None this period.

##### F. Other Uses

One permit was issued for the yearly rental of 1/10 acre of land to maintain and use a cobblestone garage - total receipts \$25.00.

## V. FIELD INVESTIGATION OR APPLIED RESEARCH

### A. Progress Report

Dr. Maurice Alexander of Syracuse University was again assisted in his gathering of sex, age and weight data on our muskrats. Also muskrat skulls were collected from various units for his research purposes.

### B. Carp Shocking Device

To determine if an engine operated shocker would be practical to keep carp from entering the 36" outlet pipe on the Seneca Spillway.

Our heaviest carp runs occur at spring break-up and last until the water recedes in late May, but any running water throughout the summer months will entice some carp. Our problem lasts approximately one month or until the Main Pool is low enough to close the Seneca Spillway gate blocking any flowage. This year it ran from April 2 to May 2. Also we found during this period that carp commenced their heavy runs up the spillway only at a certain water temperature which occurred between 9-10:00 A.M. and ended around 6:00 P.M.

Due to the lack of an operational generator we used our portable welding machine which generates 180 amps--25 volts. (Running at half speed, we were able to keep the carp about  $2\frac{1}{2}$ '--3' away from the entrance of the outlet pipe. At full speed and maximum output it would momentarily stun the fish.) We used two small blocks of wood fastened onto the surface of the cement spillway wall with regular cement nails. On the blocks of wood we stapled two rods ( $3/16$ ") spacing them to cover the outlet pipe entrance (as shown in drawing) but not touching the bottom of the discharge basin.

Although much of our efforts weren't of a scientific nature it has certainly given us clues in which way to head in the future solution of this problem. It is believed this could be a practical method of operation if the proper equipment is utilized.

### C. Waterfowl Nesting (See article from N.Y.S. Conservationist)

A total of 60 nest forms, for nesting black duck and mallard were placed throughout the area where they could readily be observed from our dikes. Many of the locations were not desirable and it is suggested in the future to place these throughout the desirable habitat we have rather than in proximity to our dikes. The first check on these forms was made April 26. A total of 50 nest forms were checked and of these 4 had no material and 1 was destroyed by wind (tree fell down). The remaining 45 were in good condition and of these 5 were being used; 2 by mallards, 2 by black duck and 1 unknown. At this time a black duck and a mallard were incubating and the other three were still laying. A complete analysis will be reported in the next Narrative Report.



# Housing for Ducks

by G. E. Cummings,  
Conservation Biologist

**H**UMANS have housing problems—and so do ducks. Waterfowl are not only beset with drouth-stricken or drained marsh lands but even where water is present, nesting sites may be at a minimum.

Mallards and black ducks sometimes select upland nesting sites in meadows or woods but here the hazards are great from mowing, Spring plowing and roving ground predators. In addition, these sites may be some distance from the water which creates problems when the female leaves the nest to feed and when the newly-hatched young are ready to be led to the water. A nesting site over the water is preferable, for there the duck is at home. Unfortunately, such sites are few and far between. Old stumps, tree crotches and muskrat houses may be used but these sites are often low, subject to flooding and convenient to muskrats as feeding stands. For the latter reason, nests may sometimes be disturbed or actually buried in residue from muskrat feeding.

Here's a partial solution to this problem that is being worked out at the 2,300-acre Oak Orchard Game Management Area in the Lake Plains District of western New York. During the Spring of the year, as the ice begins to break up and disappear, this area suddenly comes to life as thousands of migratory waterfowl wing north to their breeding grounds. Many mallards, black duck, blue-winged teal and wood duck don't bother to go any further. They select Oak Orchard as their home and seek out nesting sites to lay their eggs. Here, 30 per cent of the flowed lands have standing trees, some in extensive blocks. Construction of artificial nest sites in these areas gives promise of providing both safer and more widely distributed nesting for waterfowl throughout the tract.

The necessary prerequisites for artificial nest site construction are easy to come by—some old chicken wire, staples, hay or straw, a hammer, wire cutters and elbow grease. We have found, incidentally, that 1-inch mesh gauge poultry wire is the most desirable to use for nest forms, and that hay clings better to these than does straw. Procedure consists of selecting a clump of trees that lends itself to the stapling up of a wire nest form which gives the effect of a natural basket. This form is filled with hay or straw and shaped like a natural nest. Hay works better than straw as it is less likely to be blown out by the wind. Cat-tails, sedge and accumulated material

from the pond bottom also can be used. The accompanying pictures illustrate the type of sites selected and the construction of the form.

The easiest time for nest site construction was found to be the Winter months when the marsh was locked in ice. Then a sled could be used conveniently to haul the materials and the necessary reaching in stapling up the forms is simplified.

Nest sites were established at all sorts of locations—some no more than a foot above expected high water, others as much as six feet above pond level; more than 400 forms have been put up at Oak Orchard.

To check the effects of these nest forms, each was numbered with an orange metal tag. During the first year, only 28 forms were placed to determine utilization. Of these, three were not usable due to lack of nest material. Of the remainder, 12 forms were used by mallards or black ducks. Encouraged with this apparent success, an additional 177 were erected during the Winter of 1956-57. All nest forms were then numbered and checked twice in the Spring during the nesting and re-nesting period. Of the total of 205 placed in the two-year period, 195 were located in the 1957 Spring survey. Of these 16 had no nest material remaining in the wire forms, or the forms had been destroyed by falling trees or limbs, but 75 of the 179

artificial nests remaining had been used. The following Winter (1957-58) an additional 200 were distributed throughout the area making a total of 405 available sites. During the Spring survey, 359 of these nests forms were checked; 31 were found unusable and 104 had been used. Some sites were used two and even three times during a single nesting season, although all were not successful attempts.

During the period of the study, it was found that the height of the nest from water level had no effect on utilization. However, nests were built from six inches to five feet above the water to reduce danger of flooding and predation. For convenience, all nest forms are now erected an average of three feet above the water.

We aren't saying that these artificial nest sites are the complete solution to the duck housing problem. Some were well received, others were not. Preliminary studies indicate that nest predation is reduced; probably can be reduced further by more intensive control of raccoons, mink and crows—the principal predators under these circumstances.

We do know that the ducks are using these man-made nests and that it's "low cost duck housing." The ease and simplicity of erecting these forms throughout the flooded wooded sections of the area make them a valuable management tool for increasing the nesting opportunity of mallard and black duck.



*High - dry —  
and relatively  
safe nest site*

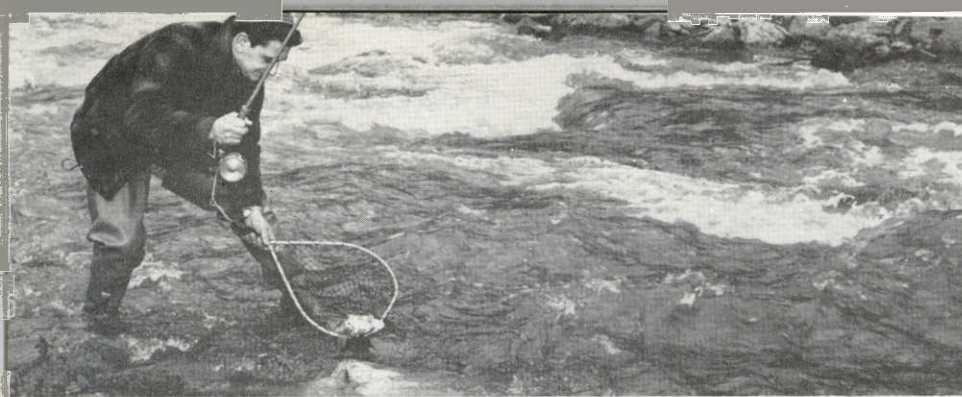


*Sprouted stump  
makes convenient  
nest cradle*

*Each nest site is  
marked for record-  
keeping purposes*







# Fishing-For-Fun

by John D. Gould, *District Fisheries Manager*

## Something New Under the Fishing Sun Will Have Legislative Attention This Year

**B**ACK in 1952, an almost heretical plan for producing trout fishing was proposed by Dr. Albert Hazzard, at that time Director of Michigan's Institute of Fisheries Research, and currently Assistant Director of the Pennsylvania Fish Commission. His proposal—catch all the trout you can but don't kill them; put them back. Al. Hazzard's suggestion, as can be imagined, was considered to be pretty fantastic.

"Where were all the fishermen," it was asked, "who would settle for this 'fishing-for-fun' idea; who would be happy to simply be out on the stream catching fish, with no thought of the freezer or frying pan in mind?"

Nevertheless, the idea took root and in 1954 the U.S. Fish and Wildlife Service gave it its first trial run, establishing two "fishing-for-fun" streams in the Great Smoky Mountains National Park—Bradley Fork in North Carolina and the West Prong of Little Pigeon River in Tennessee. To the amazement of many, enthusiasm grew steadily, and in 1955 additional mileage was added in the pilot program. It was not, however, until 1958 that any of the states picked up the ball. In that year, Pennsylvania's Fish Commission tried the plan out on the Left Branch of Young Woman's Creek. Here, too, the idea caught on and "fishing-for-fun" now has many staunch advocates in the Keystone State. It is not at all uncommon on this stream to have anglers report they have caught and released 30 to 40 trout in a day's fishing.

This year, sportsmen in New York

will have an opportunity to decide if they would like a trial run—on certain specified limited stretches of first quality trout streams—of this unique type of fishing.

A bill has been submitted to the Legislature to amend Section 268 of the Fish and Game Law to provide that "The Department may by order designate sections of trout streams not exceeding ten miles in length and provide special fishing regulations for such sections. These special regulations may include designation of lure, season, size and creel limits. The total length of such sections" (in the aggregate) "shall not exceed 50 miles..."

Now just why does the Department's Bureau of Fish feel that this legislation will be good for the fisherman? Well, it is no secret to the Fishery Biologist or to the present-day Izaak Walton that *good* trout fishing nowadays is hard to find. The reasons for this are many and varied, ranging from excess fishing pressure (a convenient but much overrated reason) to ever-changing patterns of land-use, pollution—both industrial and domestic—down to the fact that angling is one of the world's least effective means of catching fish. If today's large army of would-be "Izaacs" are to have the thrill of catching fish, which they do not need nor want for food, the Hazzard plan *may* be the answer on certain sections of high-class, self-maintaining trout streams. It certainly would appear to be worth a try.

The requested legislation is so worded that not more than ten miles of "fishing-for-fun" may be set up on any one stream. You will note also that there is

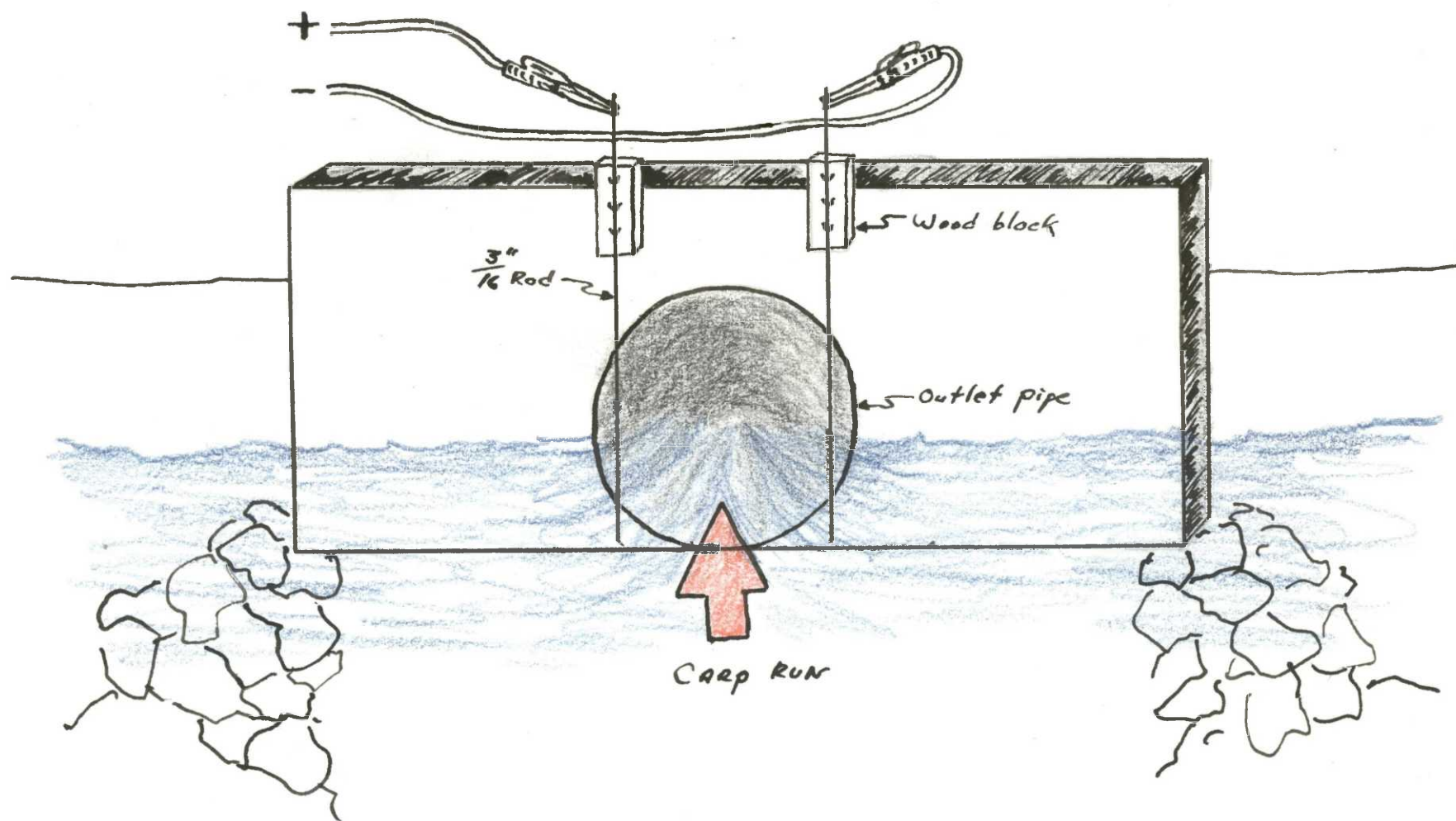
a limit of 50 miles of this type of stream management for the entire State. Moreover, the requested legislation specifically and directly enables the private landowner to "include himself out" of a "fishing-for-fun" section if he so chooses.

In the Great Smokies and in Pennsylvania angler success was excellent, some poor fish being caught several times. So, fishermen, lie back and dream of the possibilities—no more fishing one or two hours for a "bite." Think of it—you may be able to catch three or four fish per hour of fishing effort! Does that beat your present score? There are all sorts of possibilities, not the least being the greater opportunity it would give the biologist to study the ups and downs of a trout population. By co-ordinating biological studies with angler activity, many facts concerning trout growth, migration, etc. could be determined. Biologists of the United States Fish and Wildlife Service and the Pennsylvania Fish Commission are already collecting information which will prove useful in the management of other trout streams in the future. In New York State, if the proposed bill becomes law, Bureau of Fish biologists plan to spend the current year (1960) making detailed studies of the designated stream (not as yet named) so they will have a basis for comparison when and if the "fishing-for-fun" idea becomes a reality.

New York State's present trout management program is designed to produce fishing for the great mass of license holders. The Hazzard type of fish management would make it possible to manage certain streams for top quality angling; the kind of fishing that existed in the "good old days!" Since only 50 miles out of the 7,171 miles of streams now stocked with State trout would be involved in this new program, no serious encroachment on general fishing opportunity would result.

One fact turned up on Pennsylvania's "fishing-for-fun" pilot stream was quite amazing. That state allows only fly fishing in Young Woman's Creek, yet in spite of this they reported the following: "The most startling development was the frequency with which family groups were observed. It was anticipated that this stream would be most utilized by the pro fly fisherman, but the 'pros' were actually outnumbered by 'Ma-Pa-kids' and all on camping-fishing trips. Much enthusiasm was found among parents teaching their children to fish for trout."

When we add it all up, it seems to us that the "fishing-for-fun" idea is worth a try. If you think so too—or if you don't—your views will be important with reference to the enabling bill before this session of the Legislature.



#### D. Cannon Net Trapping

A total of 23 geese were caught and banded during the period. Difficulties in the wiring system and a reluctance of the geese to enter the baited area except late in the evening presented minor problems which could be worked out in the future.

## VI. PUBLIC RELATIONS

### A. Recreational Uses

The two principal recreational uses of the area are bird watching (wildlife observation) and fishing. The established fishing areas at May's Point and the open section of our dikes receives heavy usage during the spring and summer months.

### B. Refuge Visitors

(See following page)

### C. Refuge Participation

(See following page)

### D. Hunting

Nothing to report this period.

### E. Violations

As in the past several warnings were issued for trespass, most of these being to fishermen.



Name	Address	Affiliation	Purpose of Visit	Length of Visit
Donald DeLamarter	N. Y. S. Conservation Dept.	State Game Protector	Catch C. goose in canal	1-7 2 hours
Robert Bauer	" " " " "	Howlands Is. G.M.A.	Courtesy call	1-22 1 hour
Dr. Maurice Alexander	Syracuse U., Syracuse, N.Y.	School of Forestry	Obtain muskrat data	2-5 1 hour
Vance D. Zook	Oak Orchard N. W. Refuge	Bu. S. F. & W	Establish bench marks	2-8 24 hours
Dave Priest	" " " " "	" " " " "	" " "	2-8 24 hours
Andrew Dunn	" " " " "	" " " " "	" " "	2-8 24 hours
Arthur F. Miller	BOSFAW, Boston, Mass.	Reg. Refuge Supervisor	Courtesy call	2-18 8 hours
Claude F. Land	" " " "	Asst. " "	" " "	2-18 8 hours
John Coash	Waterloo, N. Y.		obtain muskrats	3-6 1 hour
Dr. Maurice Alexander	Syracuse U., Syracuse, N. Y.	School of Forestry	Obtain muskrat data	3-16 2 hours
James R. Nolan	Cornell U, Ithaca, N. Y.	Student	Blackbird Project	3-29 3 hours
Niel Case	" " " " "	"	" "	3-29 3 hours
Dean Case	Ithaca, New York		" "	3-29 3 hours
Bill DeLancey	Geneva, N. Y.	Geneva Times	Waterfowl Migration data	3-30 1 hour
Dirch Benson	N.Y.S. Conservation Dept.	State Research Div.	Courtesy Call	4-6 3 hours
R. F. Baker	Schenectady, N. Y.	G. S. A. (surplus)	" "	4-12 2 hours
Dr. William Hamilton, Jr.	Cornell U, Ithaca, N. Y.	Professor, Zoology	Courtesy Call	4-13 1 hour
Stuart Cameron	N.Y.S. Conservation Dept.	Bureau of Game	Courtesy Call	4-15 1 hour
Robert Cottrell	N.Y.S. Conservation Dept.	" " "	" "	4-15 1 hour
Dr. Oliver Hewitt	Cornell U., Ithaca, N. Y.	Prof. Wildlife Mgt.	" "	4-19 2 hours
Bernolt W. Palas	BOSFAW, Boston, Mass.	Regional Supervisor	" "	4-22 1 hour
Eno Arclas	Helsinki, Finland		Wildlife Observation	4-23 3 hours
George Balzer, Jr.	BOSFAW, Boston, Mass.	Asst. Reg. Supervisor	Courtesy Call	4-24 2 hours
		(Hatcheries)		
Kenneth Grieb	Elbridge, N. Y.	Fish Hatchery Manager	" "	4-24 2 hours
Hubert Topel	BOSFAW, Washington, D. C.	Fish Hatcheries	" "	4-24 2 hours
Jerry O'Hanlon	Geneva, New York	F. B. I.	Stolen Property	4-25 2 hours

## DATE

## GROUP NAME

## NO. PRESENT

1-4	Mac Dougall 4-H Club - Movies - Cummings	25 present
1-8	St. Pauls Episcopal Church - Waterloo, N. Y., - Movie - Morse	75 present
1-9	Romulus 4-H Club - Romulus, N. Y. - Group Visit	16 "
1-11	Geneva Garden Club - Geneva, N. Y. - Movie - Morse	12 "
1-22	Seneca Falls Jr. High School - Seneca Falls, N. Y. - Slides - Cummings	300 "
2-16	Trinity Methodist Church - Auburn, N. Y. - Slides - Cummings	17 "
2-23	First Methodist Church - Port Byron - Movies - Morse	20 "
2-27	Cub Scout Banquet - St. Alphonsus Church - Auburn, N. Y. - Slides - Cummings	250 "
3-11	Burroughs Audobon Society - Rochester, N. Y. - Movies - Cummings	50 "
3-12	Couples Club - First Presbyterian Church - Weedsport, N. Y. - Movie - Cummings	20 "
4-13	Moravia Central School - P.T.A. - Moravia, N. Y. - Movie - Cummings	50 "
4-18	Geneva Cub Scouts - Geneva, N. Y. - group visit	10 "
4-20	Cortland College Ornithology Class - Cortland, N. Y. - Group Visit	11 "
4-20	Girl Scout Troop, Cato, N. Y. - Group Visit	14 "
4-20	Girl Scout Troop - Auburn, N. Y. - Group Visit	10 "
4-23	Tioga Bird Club - Owego, N. Y. - Group Visit	9 "
4-24	Cornell Ornithology Class, - Ithaca, N. Y. - Group Visit	55 "
4-25	Girl Scout Leaders - Wayne County - New York - Group Visit	14 "
4-29	Mynderse High School - Seneca Falls, N. Y. - Movie - Cummings	500 "
4-29	Syracuse University Game Management Class - Syracuse, N. Y. - Group Visit	12 "
4-30	Cayuga Boy Scouts - Cayuga, N. Y. - Group Visit	17 "

## VIII. OTHER ITEMS

### A. Items of Interest

Four safety meetings were held during the period with a First Aid film shown at one and group discussions of Safety Bulletins and safety precautions to be observed.

The humdrum of winter paper work was relieved by banding small birds that came to the office feeding station. We banded 16 common redpolls, 7 tree sparrows, 3 song sparrows and 3 black-capped chickadees. In addition we had returns from 3 tree sparrows that were banded-February 1958.

Gerald Cummings prepared Sections II, III, V and VI, and the N. R. forms. John Morse prepared Sections I, IV and VII. Vernon Dewey prepared photos, typed and assembled the completed report.

Respectfully submitted:

*John S. Morse*

John S. Morse,  
Refuge Manager.

18 May 1960

Approved: *Clarence L. Sand*

*mr 6/2*

Approved: \_\_\_\_\_

W A T E R F O W L

REFUGE MONTIZUMA

MONTHS OF JANUARY TO APRIL, 19 60

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
<u>Swans:</u>										
Whistling										
Trumpeter										
<u>Geese:</u>										
Canada										
Cackling										
Brant										
White-fronted										
Snow										
Blue										
Other										
<u>Ducks:</u>										
Mallard										
Black										
Gadwall										
Baldpate										
Pintail										
Green-winged teal										
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked										
Canvasback										
Scaup										
Goldeneye										
Bufflehead										
Ruddy										
Other										
<u>Coot:</u>										

ALL IMPOUNDMENTS FROZEN OVER DURING THIS PORTION OF THE PERIOD. NO WATERFOWL REAGE  
DURING THIS TIME.



WATERFOWL  
 (Continuation Sheet)

REFUGE MONTEZUMA MONTHS OF JANUARY TO APRIL, 1960

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production :Broods:Estimated : seen : total	
	11	12	13	14	15	16	17	18			
Swans:											
Whistling											
Trumpeter											
Geese:											
Canada			100	1000	15,000	11,000	11,515	11,500	293,305		
Cackling											
Brant											
White-fronted											
Snow				1	1	5	1	1	58		
Blue						10	20	20	250		
Other											
Ducks: Europ. Widgeon					1			2	11		
Mallard		60		70	115	145	50	50	3,180		
Black		90		150	105	80	40	40	3,335		
Gadwall				10	35	50	30	30	935		
Baldpate		12		320	235	105	180	180	6,324		
Pintail		45		160	75	20	1000	1000	11,100		
Green-winged teal				40	60	75	100	100	2,125		
Blue-winged teal				30	110	170	115	115	3,205		
<del>Green-winged</del> teal, Common					1				7		
Shoveler		1		20	20	45	30	30	872		
Wood		4		10		10	5	5	213		
Redhead				15	10	5	5	5	255		
Ring-necked		40		20	50	50	30	30	1,390		
Canvasback		2		5	10	5	5	5	199		
Scaup		5		100	120	25	100	100	2,650		
Goldeneye		20		30	105	15	5	5	1,235		
Bufflehead		10		5	20	10	5	5	360		
Ruddy							5	5	45		
Other Unidentified		15		75	105	30	10	10	1,665		
Hooded Merg.						20	5	5	185		
American Merg.						15	5	5	150		
Red-breasted Merg.		3							21		
Coot:		3		70	325	660	195	195	9,161		
				(over)							

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans			
Geese	293,613	15,000 <sup>1</sup>	
Ducks	39,462	1,800 <sup>27</sup>	
Coots	9,161	660	

# SUMMARY

Principal feeding areas winter wheat & rye fields, also

the paddy and low lying agricultural fields.

Principal nesting areas \_\_\_\_\_

Reported by G. E. Cummings (Assistant 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).

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)Refuge.....**MONTEZUMA**.....Months of.....**JANUARY**.....to.....**APRIL**.....19**60**.....

(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
<b>I. Water and Marsh Birds:</b>											
Red-necked Grebe		1	4-24	1	4-24	1	4-24				7
Horned Grebe		2	4-13	2	4-20	2	4-20				28
Pied-billed Grebe		2	4-7	17	4-20	9	4-30				228
Great Blue Heron		7	3-28	45	4-27	45	4-30				601
Little Blue Heron		1	4-24	1	4-24	1	4-24				7
American Bittern		1	4-25	1	4-25	1	4-25				7
Common Gallinule		1	4-20	27	4-27	27	4-30				252
<b>II. Shorebirds, Gulls and Terns:</b>											
Killdeer		1	3-27	5	4-7	5	4-30				77
Herring Gull				500	4-6	10	4-20				4,970
Ring-billed Gull				1000	4-6	75	4-30				8,561
Bonaparte Gull		2	4-20	2	4-20	2	4-30				14
Caspian Tern		10	4-13	10	4-13	10	4-13				70

(over)



(1)	(2)		(3)		(4)		(5)		(6)
III. <u>Doves and Pigeons:</u>									
Mourning dove	2	4-7	8	4-14	2	4-30			88
White-winged dove									
IV. <u>Predaceous Birds:</u>									
Golden eagle									
Duck hawk									
Horned owl									
Magpie									
Raven									
Crow									
						Reported by <u>G. E. Cummings</u>			

#### 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.



Refuge MONTIZUMA Months of JANUARY to APRIL, 1960

(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.
Pheasant	Grass, brush, cat- tail, swamp, culti- vated fields----- 1500 acres	60			35M-65F				25	These birds are now at or below an introduction level. The success or failure of spring nesting is now quite critical
Ruffed Grouse	No observations during this period.									

## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

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



3-1754  
Form NR-4  
(June 1945)

SMALL MAMMALS

Refuge MOTTZIMA

Year ending April 30, 1960

(1) Species	(2) Density	(3) Removals	(4) Disposition of Furs								(5) Total Popula tion		
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed
								Permit Number	Trappers Share	Refuge share			
Opossum	5000 acres marsh, hard wood swamp, bordering upland.	200			11			T-9259	11				50
Raccoon	"	100		4	3			T-9260	4			3	50
Red Fox	"	500			17			T-9261	13			4	10**
Gray Fox	"	None	observed										
Stripped Skunk	"	250			2			T-9262	2				20
Mink	"	250			9			T-9263	9				20
Weasel (2 species)	"	100											50
Muskrat	3000 acre pools & adjacent marsh.	1		5998				T-9264	2999	2999	2995	3	1 3000
Woodchuck	1500 acres upland & dikes	3											500
Cottontail Rabbit	"	10											150
Gray Squirrel	1500 acres swamp woodland	10											150
Red Squirrel	20 acres upland wood land border with some conifers	1											20

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS: Predator populations on trapping and random observations.

Muskrat populations based on house count and harvest.

Rabbit and Squirrel populations based on highway kill and random observations

\*\* Adult population.

Reported by G. E. Cummings.

# INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: - spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.

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





Placing band on red-tailed hawk, much against its wishes. Hawk was caught in muskrat trap, but suffered only a skinned leg where jaws clamped on. One thing was certain, it didn't improve its disposition.



Deer killed by dogs. Two fetus were torn out by the dogs, one almost completely eaten and other chewed on (arrow). Dogs ate very little of doe, as can be seen in picture.



Gerald Cummings (WoodyWoodpecker) pondering over where to drill the next hole. Fabrication of four mats was completed for use with our Bucyrus-Erie 15-B in dry marsh area. Mats were constructed of swamp oak obtained on area and sawed up at local mill.



Some ice damage to Main Pool dike was noted after high winds pushed ice up and over dike. View taken south of Seneca Spillway. Note level of New York Barge Canal to right of dike. Normal level is about 2-4 feet below row of trees in upper right-by arrow.



View of flood waters over Route 89, looking North from entrance to North side of Main Pool dike. Main Pool equalizer to right of picture taking the brunt of the flow of water. Main Pool dike noted by arrow.



Main Pool equalizer filled with flood waters. Water is about 4' deep in center and about 100' across on top.





Debris left by high waters on equalizer of Storage Pool.  
Retainer wall helped hold stone in road area very well.  
Little or no wash-out of stone was noted.



Inside of Main Pool dike where flood waters deposited gravel from road bed area on dike.



Results of our dikes worst enemies. Muskrat burrowed from inside dike and woodchuck burrowed from outside (view) thus weakening dike and allowing water to cut through.



Flood water washout of Main Pool equalizer.. Manager Morse is not on his knees, but standing in hole that was washed out.



Severe water damage to Main Pool dike. Note how well sod areas held up-compared to gravel roadbed.



Washout of new Spring Pool dike adjacent to Route 89, south of Thruway.



Debris deposited on our Storage Pool dike by high waters. About 1-1/2 miles of dike was littered this way, from Black Brook spillway (photo) to White Brook spillway.