

OTTAWA; Cedar Point; West Sister Island

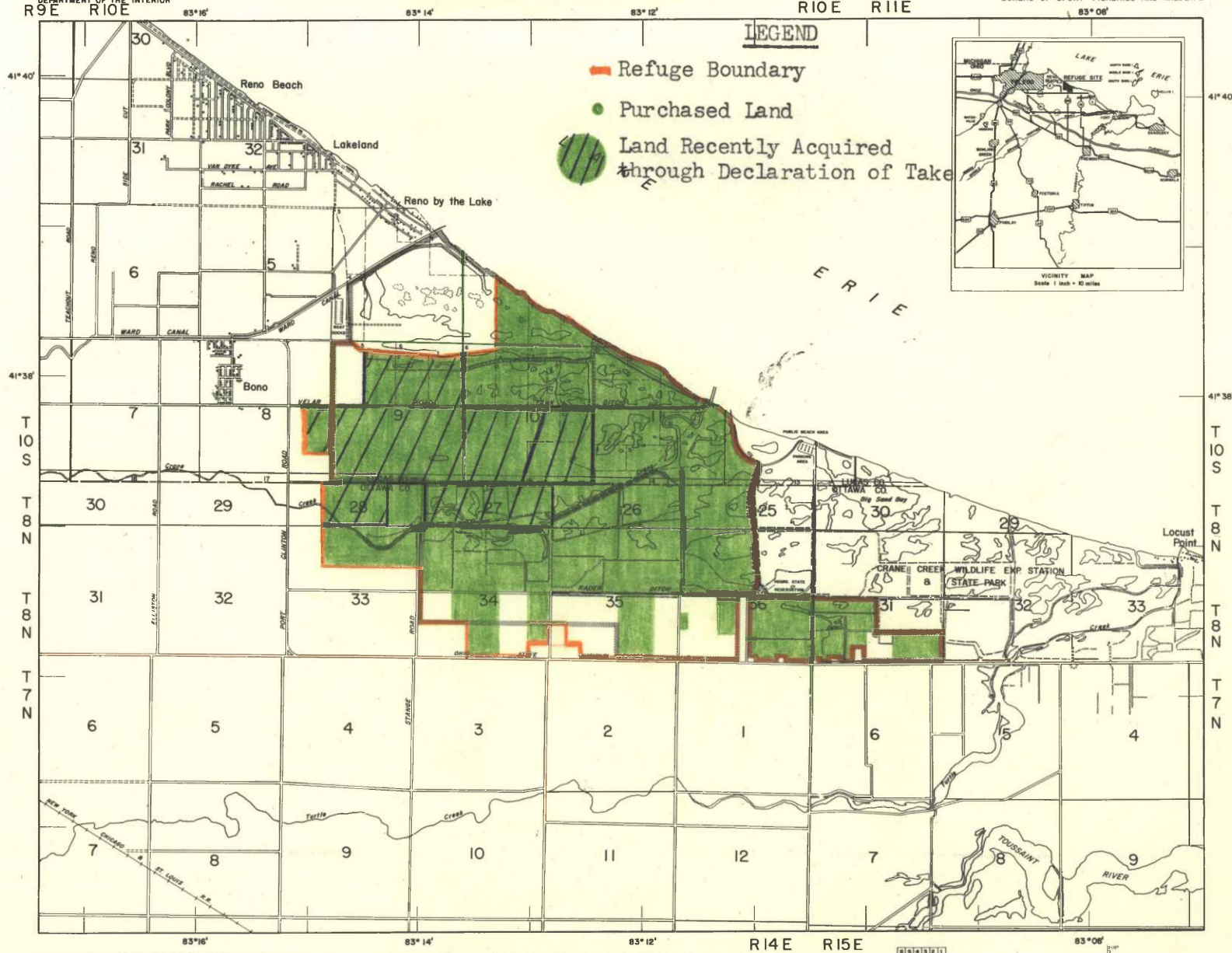
NARRATIVE REPORT

JANUARY - DECEMBER 1965

PURCHASE BOUNDARY
OTTAWA NATIONAL WILDLIFE REFUGE
LUCAS AND OTTAWA COUNTIES, OHIO

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE



N A R R A T I V E R E P O R T

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UNITED STATES DEPARTMENT OF THE INTERIOR
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OTTAWA NATIONAL WILDLIFE REFUGE
CEDAR POINT NATIONAL WILDLIFE REFUGE
WEST SISTER ISLAND NATIONAL WILDLIFE REFUGE
OAK HARBOR, OHIO

REGULAR PERSONNEL

Alfred O. Manke	Refuge Manager
Alson J. Radsick	Maintenanceman
Mary E. Bradley	Clerk-typist (Intermittent)

TEMPORARY PERSONNEL

Clarence Sayen	Laborer (EOD 01-04-65) (TERM. 12-31-65)
John Hutchinson	Maintenanceman (EOD 09-21-64) (TERM. 08-06-65)
Ervin Nickels	Dredge Operator (EOD 04-28-65) (TERM. 10-27-65)
Benjamin R. Chio, Jr.	Laborer (EOD 08-30-65)
Willard Hesselbart	Wildlife Aid (EOD 05-11-65) (TERM. 08-27-65)

Narrative Report for OTTAWA REFUGE January 1, 1965 through December 31, 1965.

I. GENERAL

A. Weather Conditions

	Month	<u>Precipitation</u>		Max. Temp.	Min. Temp.
		<u>Normal</u>	<u>Snowfall</u>		
January	<u>4.61</u>	<u>2.33</u>	<u>9.0</u>	<u>62</u>	<u>-9</u>
February	<u>1.96</u>	<u>1.88</u>	<u>12.6</u>	<u>59</u>	<u>-2</u>
March	<u>1.77</u>	<u>2.26</u>	<u>10.2</u>	<u>51</u>	<u>6</u>
April	<u>2.07</u>	<u>2.77</u>	<u>1.4</u>	<u>79</u>	<u>18</u>
May	<u>3.80</u>	<u>3.04</u>	<u>0</u>	<u>87</u>	<u>34</u>
June	<u>2.57</u>	<u>3.79</u>	<u>0</u>	<u>92</u>	<u>45</u>
July	<u>2.03</u>	<u>2.59</u>	<u>0</u>	<u>94</u>	<u>43</u>
August	<u>7.97</u>	<u>3.33</u>	<u>0</u>	<u>93</u>	<u>37</u>
September	<u>4.93</u>	<u>2.13</u>	<u>0</u>	<u>87</u>	<u>39</u>
October	<u>3.28</u>	<u>2.39</u>	<u>0</u>	<u>78</u>	<u>16</u>
November	<u>1.75</u>	<u>2.04</u>	<u>.1</u>	<u>72</u>	<u>18</u>
December	<u>3.61</u>	<u>1.95</u>	<u>.9</u>	<u>61</u>	<u>12</u>
Annual Totals	<u>40.35</u>	<u>30.50</u>	<u>34.2</u>	Extremes <u>94</u>	<u>-9</u>

Weather data as recorded at the Toledo Express Airport by the United States Department of Commerce Weather Bureau, approximately 30 miles west of the refuge. Weather conditions at the airport are believed close enough to those on the refuge to be used without modification.

A. Weather Conditions. (cont.)

Toledo Area weather produced a number of unusual extremes during 1965. Months of eccentric weather was topped only by the April twister. Precipitation for January, August, September and October was well above average. Temperatures were below normal in June, July and October. Above normal temperatures occurred in November and December.

Weather Statistics.

If there is such a thing as too much weather, Toledo Area residents received their first taste of it in January, 4.6 inches of precipitation was received, well above average for the month. Blizzard conditions prevailed January 15 and 16 with the temperature near 0° and the snow was driven by 40 mph winds. A sleet storm began January 22 and continued through the 23rd. Two inches of freezing rain took down telephone and power lines and greatly damaged trees. Power was off 52 hours due to this storm.

February was more of the same with snowfall above normal and temperatures below normal. A blizzard occurred February 25 dropping 4.7 inches of snow with 22 mph winds. Snow and ice covered the area for a number of days.

March temperatures remained below normal. Only two clear days were recorded for the month. We had typical March weather the third week, cold and windy. A record low of 6° was recorded on the 27th.

A "freak" 4 inches of snow was dumped in the immediate area along Lake Erie April 1. The Airport Weather Bureau recorded only 1.4 inches. The Palm Sunday rash of tornadoes will long be remembered in Ohio. All records were broken from the standpoint of property loss, number of storms occurring the same day and total area covered. April was considered by farmers to be a very wet month and as a result field progress was delayed 2 weeks.

May was wetter and warmer than usual. As in March there were only two clear days.

June and July were months of considerable sunshine with 72% to 76% of available time with the sun showing. Even with considerable sunshine in July it was the coolest July on record since 1895. All predictions say the cool trend for summers to come will continue. According to the experts the lingering effects of the Years of the Silent Sun are still upon us in the Northern Hemisphere. Only one or two days of the summer of 1965 were oppressively hot and humid. The below average rainfall for June and July was more than made up in August and September.

Weather Statistics. (cont.)

The first killing frost occurred October 4. Temperatures dropped to below freezing on six days during the month. The growing season was cut short this year with late planting due to rain and then an early frost.

November was the first time in recent memory when no measurable snow accumulated. Two outbreaks of thunderstorm activity during the month was considered rare.

December was comparatively mild with less than an inch of snow. Christmas Eve and New Years Eve were two of the warmest days during the month. New Years Eve held the all time high of 61 degrees, the highest for December in the four years of narrative reporting for Ottawa Refuge. The low of twelve above is also a record as the previous four years showed a low average of -4° .

B. Habitat Conditions.

I. Water. Although the waterlevels of Lake Erie remained below average, above normal precipitation in 1965 permitted rather close adherence to the approved Water Program.

Crane Creek, the refuges primary source of water, became polluted with wastes from a tomato processing plant in September. Water-pumping operations had to be suspended until a heavy rain flushed and diluted the pollutants to an acceptable level. For a period of about two weeks the water in Crane Creek was black, stunk like a sewer, and contained no oxygen.

Goosehaven, Pool 1. Pool provided excellent food and feeding conditions for early spring and late fall migrants. Almost all of the whistling swans on the refuge fed and rested in this pool. The pool was held dry from about mid-May to late-October to facilitate dike rehabilitation.

Swandive, Pool 2. Pool 2 contained an adequate amount of water throughout the year. Nesters and broods made this area home-base, and migrants fed and rested here. Almost all of the geese on the refuge stayed in this pool. The water level was held rather low from about mid-May to early-September to facilitate dike rehabilitation. Water was pumped into the pool during September.

Pintail Marsh, Pool 3. As much water as possible was held in the Pintail Marsh. Water was pumped into the marsh whenever possible. Even so, a fluctuation of nearly two feet occurred between minimum and maximum pool levels. Maximum flooding of this pool was attempted to reduce cattail cover and to tap all available food producing areas within the Pool.

Willow Point, Pool 4. This pool was not under refuge management in 1965. Holes in the dikes permitted the water in the pool to fluctuate with Crane Creek. Consequently, it was almost dry the whole year.

Redhead Flat, Pool 5. The water area in this pool fluctuated from 0 to 125 acres depending upon the water levels of Crane Creek. All attempts to patch and hold the dike failed. Because of the very poor condition of the dike, no water was pumped into the pool. As would be expected waterfowl use in this pool was sporadic.

Mallard Bay, Pool 6. Pool 6 provided moderately good habitat for nesters and migrants. Water in Mallard Bay was permitted to decrease during the spring and summer to establish a grass-legume cover on some slightly higher ground within the pool. Water was pumped into the pool in September and October for optimum waterfowl use.

Widgeon Slough, Pool 7. Pool 7 was not under refuge management in 1965. It contained little water throughout the summer. Enough water was pumped into Widgeon Slough in September and October to flood about 150 acres.

Woodies Roost, Pool 8. As much water as possible was held in this unit, but it fluctuated markedly because of inadequate water supply and poor dikes. Water was pumped into the marsh at every opportunity. This unit contains a permanent pond with an artesian well as its source of water. During the summer, however, evaporation equals the flow of the well and only the pond remains full without additional water from an outside source. As the name implies, this is a favorite haunt of the wood ducks.

2. Food and Cover. Food and cover were considered adequate for all species inhabiting the refuge. No artificial feeding was necessary.

Waterfowl. Standing corn was the primary source of food in January. The marshes were frozen and few waterfowl were present. An increase in the number of waterfowl on the refuge in early February prompted chopping of some 30 acres of standing corn. On February 10, a heavy rain coupled with melting snow flooded much of the cropland on the refuge providing a bonanza. The waterfowl responded accordingly and fed heavily in the chopped corn fields. Alternate freezing and thawing caused food and cover conditions to vary between moderate and excellent through March. Frozen periods were of rather short duration and the majority of the waterfowl remained on the refuge apparently willing to accept the conditions as they were.

From early April through July almost all of the waterfowl remained in the marsh areas to feed, brood, and rest. Canada geese fed heavily in the rye and grass-legume meadows bordering Pool 2 prior to their departure in mid-April.

Beginning early in August mallards, blacks, woodducks, and blue-winged teal fed heavily in harvested wheat fields on and off the refuge. As the wheat was gleaned and/or resprouted duck use tapered off. Canada geese arriving in September and early October also fed heavily in these harvested wheat fields, particularly those that had been sown to alfalfa. A field near pool 2 containing alfalfa and volunteer wheat over a foot tall seemed especially attractive.

From October through December conditions were excellent. The water in the marshes remained open. Harvested soybean fields, and natural food plants in the marshes provided a varied and abundant supply of food.

Other Wildlife. This was a mild year with no prolonged periods of severe weather. Food and cover were considered adequate for all other species of wildlife. Dwarf cornfields were well accepted, particularly by pheasants and doves. Also, less blackbird damage was noted in the dwarf corn than in the normally tall corn. This combination of acceptance by desirable species, and at least partial rejection by undesirable species makes dwarf corn a promising crop.

II. WILDLIFE

A. Migratory Birds.

1. Waterfowl. Ottawa Refuge began the new year (1965) with some 500 Canada geese and 1,000 mallard and black ducks still present. Shortly thereafter, however, the waterfowl population decreased to about 200 Canada geese and 500 mallard and black ducks. This population remained rather stable until about the second week in February when the duck population increased to about 2,000. The winter population in 1965 was larger than in 1964 when only 40 Canada geese and 200 ducks "sweated" out the winter. The larger winter population is attributed to milder weather rather than a trend towards a larger wintering flock.

The spring migration started about the second week of February with the ducks leading the way. Migrant Canada geese started to arrive the last week in February and whistling swan about a week later. A peak population of some 1,500 whistling swan, 2,500 Canada geese, and 16,500 ducks occurred about the last week in March. The peak waterfowl population in 1965 was a little earlier and much below that of 1964. Only the number of Canada geese remained about the same.

Almost all of the migrants had departed by about the first week in May and the refuge waterfowl population dwindled to about 2,000 ducks. These summer residents produced an estimated 1,000 ducklings, primarily wood ducks and mallards. Blue-winged teal produced an estimated 50 young. Blue-winged teal nests seemed to be more susceptible to predation and desertion than the mallard and wood duck nests.

A noticeable increase in the duck population began about the first week in August. The duck population gradually increased to a peak of about 8,500 in the early part of November. This is a substantial drop from previous years. Canada geese reappeared about the middle of September and the flock soon increased to 1,000 birds. After that the goose population remained rather static for the rest of the year. This was a great disappointment. A much larger population was anticipated, particularly after the auspicious beginning. On the mid-winter inventory conducted on January 4, 1966, however, some 3,400 Canada geese and 6,000 ducks were counted on the refuge. This is in marked contrast to 1,000 or less geese recorded throughout much of October, November and December. Both the goose and duck populations dropped shortly after the inventory, and it is assumed that the refuge was the gathering place just prior to their "big push" to the south. No swans were observed on Ottawa Refuge during the fall migration. This is quite normal. At times as many as 150 swans stop for a short time in the fall, but there is no large concentration as in the spring.

2. Other Waterbirds. Migration numbers, feeding habits, and nesting locations were all regarded as reasonably normal. American egrets, black-crowned night herons, great blue herons, and green herons are the most conspicuous species present during the warm months (April - September). A few great blue herons remain here throughout the year. Except for short periods during spring and fall migrations there was a moderate decline in the number of coots and gallinules.
3. Shorebirds. Fewer shorebirds were observed in 1965 than in previous years. This decline is attributed to less "mud-flat" area. Several pools were dry and water levels in the others were held more constant. In past years shrinking pools provided excellent feeding conditions.
4. Doves. Doves are year-round residents with peak populations coinciding with spring and fall migrations. No noticeable change in the number of doves was observed. The dwarf corn, sorghum and buckwheat patches planted this year were well accepted by the doves. Several hundred doves could be flushed from these areas just about anytime of the day from early fall through the end of the reporting period, in fact, up to the present writing in February. As mentioned in previous narratives, the dove population is well below expectations considering

that there is no open season in Ohio, and a large amount of corn and cereal grains are produced in this area. This seemingly small population is attributed to clean farming, lack of fencerows, brushy thickets, and woodlots. A contributing factor may be the dearth of old-fashioned, thicket-edged gravel lanes. All roads are hard-topped with berms mowed and burned regularly.

- B. Upland Game Birds. The hue and cry of no pheasants was heard loud, long and clear this year. Hunters, farmers, and outdoor writers blamed the fox, raccoon, and discontinuation of restocking for this lack of feathered targets. Actually, the pheasant population on the refuge, where adequate cover was available, remained quite high. No undue decimating pressures from disease, predators, weather, or famine were observed.

Dike work on a portion of the woodcock, census route established in 1964 prevented its being run in 1965. It was thought that no census was better than a biased one, or changing the route. The woodcock census route will be run again in 1966.

Bobwhite quail have not been seen or heard on the refuge for over a year. Consequently, it is assumed there are no more, and this species is being dropped from the refuge's upland game bird list. There seems to be no good reasons why bobwhite quail should not inhabit the refuge. Perhaps some of the same factors that limit the number of doves also limit the quail.

- C. Big Game Animals. Sightings of white-tailed deer are increasing each year. The estimated number of deer spending at least part of their time on the refuge is 20. This may be a conservative estimate since a herd of 15 was observed in January 1966. A complete census will be attempted with Job Corpsmen in 1966. All animals observed appear to be healthy, and no noticeable browse line or crop damage has occurred.

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

1. Fur Animals. Muskrat, raccoon, mink, and skunk are the fur-bearing species in this area. Muskrats are by far the most important economically. Drouthy conditions and dry pools of the previous four years reduced the muskrat and mink populations. The muskrat population rebounded very well this year with better marsh conditions. If a 45-acre segment of Pool 2 that contained water throughout 1964 and 1965 prognosticates possible recovery rates, the population explosion is upon us. Some 435 muskrat houses were counted in this 45-acre segment. This segment had been clogged with cattails. The muskrat accomplished an almost complete eat-out. This area will be watched with extreme interest this next spring and summer to determine the lasting effects of the eat-out. Although a high population is desirable to help open cattail clogged marshes, some become nuisance animals by burrowing through the dikes.

Raccoon and skunk populations remained about the same as in previous years. Few trappers seek these species. No rabid animals were observed or reported during the year. Only a small population of mink inhabits the refuge and surrounding area.

2. Predators. Raccoons, foxes, skunks, dogs, and cats are the primary predators. The predator population is sufficient to exert some undesirable pressures. Our major concern is the adverse effect on duck nesting and success. Raccoon and skunk populations remained about the same as in previous years. More sightings indicate that the fox population increased in 1965. Dogs and cats are far too plentiful on the refuge. Dogs and cats will probably always be a problem at Ottawa Refuge because of its close proximity to towns and farms.
3. Rodents. Groundhogs continue to be the problem species. To date no extensive eradication program has been initiated. With the advent of the Ottawa Job Corps, a more intensive and extensive war will be waged against these pesky rodents in 1966.

No noticeable change in the squirrel population was observed. Fox squirrels are by far the most numerous, but a few flying and red squirrels are present. As stated in previous narratives, the squirrel population is large for the amount of timber on the refuge. A comparatively large population of squirrels can be sustained because oak and hickory trees predominate.

Several old barns on the refuge are infested with Norway rats. No determination has been made as to their impact on wildlife populations, but it is believed to be slight.

4. Other Mammals. Cottontail rabbits continue to flourish, but it is doubtful that there is any conflict between this species and other desirable species. No diseased cottontails were observed.

- E. Hawks, Eagles, Owls, Crows, Ravens, and Magpies. Spring and fall migrations of hawks through the refuge were not as spectacular as last year. The resident population of hawks, however, was larger. Red-tailed, rough-legged, marsh, and sparrow hawks could be seen almost every day of the year.

Owl population continues to remain large considering the small amount of woods on the refuge. Screech, barn, barred, great horned, and short-eared owls were observed on the refuge.

Two adult and one immature bald eagles were observed rather regularly throughout 1965. The property upon which the eagles nest is located was recently acquired, and all concerned are breathing easier. This pair has had their nest disrupted and have had to rebuild twice in the past four years. The nest is located close to the center of the refuge and can now be afforded good protection.

Undoubtedly this large population of predatory birds exerts some pressure on other species of wildlife. At this time, however, no control measures are recommended. Poll-trapping will probably be initiated around the goose-pen as soon as the captive flock begins to nest. This may not occur in 1966.

Crow migrations through the area were also less spectacular than in previous years. Few crows remain to nest in the area, and there appears to be little strife or competition between crows and other wildlife on the refuge.

F. Other Birds. No unusual observations or sightings to report.

Red-winged blackbirds again plagued the refuge and surrounding area. It is believed that the red-wings exert much more pressure on other species than all of the predatory mammals and birds combined. Their impact on waterfowl and other species is felt directly and indirectly. Directly, they consume and spoil a tremendous amount of food. Yields of corn, oats, and wheat are reduced by as much as 90 percent. In some marsh areas, they consume all of the smartweed and wild millet. They glean an estimated 90 percent of the waste-grain left after harvests. It is believed that the sheer number of the red-wings displaces other more desirable species of wildlife including waterfowl. Indirectly, wildlife foods are reduced because farmers no longer attempt to grow crops, and particularly corn, that are attacked by the red-wings. On the refuge blackbird depredations have discouraged the planting of millet on mud flats. Consequently, red-winged blackbirds are considered a major limiting factor for other wildlife on Ottawa Refuge.

Unless someone can present a satisfactory solution to this problem, the country and primarily the Service will be faced with unsatisfactory solutions. A "Bye, Bye, Blackbird" group has already been formed and is rapidly spreading and gaining momentum. Some of their proposals must have "Rachel" spinning like a top. Although the majority of the blackbirds migrate, several thousands remain here through the winter.

- G. Fish. Drawdowns and carp affected fish life on the refuge. Pools 1 and 3 are essentially sterile of fish life from drying in 1964 and 1965. Pools 4 and 5 contain some carp. These pools fluctuated with Crane Creek because of breaks in the dikes, but have a few borrow pits deep and large enough to still contain some carp. Pools 2, 6, 7, and 8 are heavily infested with carp. Carp action keeps the silt stirred to a degree that it excludes almost all other species of fish. No fishing was permitted, and no stocking or chemical eradication programs were undertaken on the refuge.
- H. Reptiles. This group continues to be of little consequence to the refuge. There were several inquiries regarding the trapping of turtles on the refuge, but no permits were issued. At this time it is thought that a turtle-trapping program would be more of a detriment than a benefit to the refuge.
- I. Disease. Fewer sick and dead birds were observed on the refuge this year than in any previous year. However, a large number of dead ducks and gulls was reported and investigated in Maumee Bay some 20 miles west of the refuge. Specimens examined at the State Research Laboratory at Ohio State University contained chlorinated hydrocarbons. It is thought that dredging operations stirred and uncovered residues which had settled in Maumee Bay from previous years mass sprayings.

III. REFUGE DEVELOPMENT AND MAINTENANCE

- A. Physical Development. Again this year, over 50 percent of the man-hours were utilized in water management. This included replacing two old gasoline engines with a new (excess) engines to power marsh pumps. Three other pumps were completely overhauled. Four tubes with control gates were installed. Some 10 tube-ends were ripped. Approximately two miles of dike were rehabilitated (contract), and numerous holes and seepages in other dikes were repaired. The two miles of dike that were rehabilitated were seeded and gravelling of the tops was started. Approximately 1,000 acres of marsh was flooded.

A retaining wall to hold the lawn in front of the headquarters was completed. Three old buildings were razed. Two dwellings were made ready for occupancy.

About one mile of field border work consisting of brush removal and reshaping was completed. Seeding will be accomplished in 1966. Some 10 miles of dike tops and 100 acres of wet meadow were mowed.

All boundary signs were checked with replacements made and weed and brush cutting done as needed. The refuge entrance sign was repainted.

B. Plantings.1. Aquatic and marsh plants. None.

2. Trees and Shrubs. Approximately 50 spruce seedlings were donated to the refuge in June. These were interseeded in the woodlot that is transected by the nature trail. The stock was received rather late in the season and not in the best of condition and survival was poor.

3. Upland Herbaceous Plants. Approximately 125 acres of marginal cropland were sown to a grass-legume mixture in 1964 to encourage duck nesting. A better than anticipated catch and survival resulted. An additional 50 acres were sown in 1965. It is too early to determine catch and survival information, but better results are anticipated than for the 1964 seedlings because of better climatic conditions prevailing in 1965. These areas are classed as wet meadows and are the low, untiled areas surrounding marshes. Some acceptance by ducks for nesting areas was noted last spring, and geese browsed the mowed portions in the fall. A cover crop of wheat was sown with the grass-legume seed on the wet meadow areas and also the newly rehabilitated dikes this year. Geese were observed grazing in the meadow areas and on the dikes.

4. Cultivated crops. Seven cooperators farmed 632 acres. Refuge personnel farmed 65 acres which includes the 50 acres reported in the preceding paragraph, Upland Herbaceous Plants. The other 15 acres were planted to dwarf corn and buckwheat. Dwarf corn was tried to determine its acceptance by waterfowl without manipulation, and its resistance to blackbird depredations. It shows good promise. Less blackbird damage occurred in the fields of dwarf corn than the fields of normal sized corn. Canada geese and some ducks fed rather freely in the standing, dwarf-corn fields but refused to enter the fields of normal sized corn.

Yields of cereal grain crops were rather poor. Wheat yields averaged about 25 bushels per acre; Oats about 40. One 20-acre field of wheat appeared to be so poor that it was disced and resown to oats. It might just as well have remained in wheat. Blackbirds greatly damaged the field and the yield was less than 30 bushels per acre.

Soybeans and corn yields were a little below normal. Soybean yields averaged about 20 bushels per acre. Corn would have averaged about 65 bushels per acre sans blackbird damage. Actual corn yields averaged about 40 bushels per acre. One hundred percent of the corn grown was the refuges, none was harvested. As in previous years, farm cooperators were permitted to substitute soybeans for corn on their two-thirds of the acreage scheduled for corn because of blackbird depredations.

Approximately 4 tons actual nitrogen, 33 tons actual phosphate, and 15 tons actual potash were applied on refuge fields. In addition, some 300 tons of lime were applied. The total value of the fertilizers and lime amounted to about \$8,000. The total value of the crops grown amounted to approximately \$25,000.

C. Collections and Receipts.

1. Seed or other propagules. None.

2. Specimens. None.

D. Control of Vegetation. Approximately 50 acres of ditch, dike, and trail sides were sprayed with a mixture of 2,4,5-T (Trade name Tippon-6) and diesel fuel in February. A tractor power-takeoff, directed nozzle, spray-rig was used. The mixture consisted of 2 gallons (12# acid equivalent) of Tippon-6 with 148 gallons of No. 2 diesel fuel. Application rates varied with the density of the brush, but averaged about 3 lbs. acid equivalent per acre. It was a basal bark treatment of willow (*Salix* spp.) and dogwood (*Cornus* spp.) 8 to 15 feet tall in a dormant stage. A kill of 95 percent was achieved. No detrimental effects to crops or wildlife were observed. Cost of the operation as follows: Materials \$536.58, Labor \$157.54, Equipment \$50.00: Total - \$744.12 or about \$14.88 per acre.

A similar spraying was conducted on about 40 acres in 1964. Actual kill from this operation was over 90 percent.

E. Planned Burning. None.

F. Fires. Two vacant dwellings were destroyed by fire in 1965. One started about 9:00 P.M., December 9, the other shortly after midnight December 23. The one dwelling was valued at \$5,000, the other \$1,000. Both were completely destroyed. Both were excess to the refuges needs. Arson was strongly suspected in both fires. An investigator from the State Fire Marshall's Office and F.B.I. agents investigated both fires. As of the end of this reporting period, no concrete evidence as to who, what, or why of the fires has been found. It is believed, however, that the investigations will at least deter future, destructive acts. Fire suppression costs of the two fires totaled \$511.50. The refuge depends upon township fire departments for suppressing building fires.

No grass or wood fires occurred on the refuge. Fire danger remained at a minimum in 1965. As noted in the weather section the area had above normal precipitation.

IV. RESOURCE MANAGEMENT

- A. Grazing. None.
- B. Haying. About 340 tons of good quality alfalfa hay were harvested from 113 acres by five cooperators. Alfalfa is used in the normal rotation on croplands, and was harvested under the cooperative farming agreements. Haylands remained in good condition throughout the season, and the yields can be described as normal. Nest searches was conducted before and after haying operations and none were observed. Consequently, it is assumed that these operations neither benefitted nor harmed nesting by game species. Canada geese grazed in several alfalfa fields during spring and fall migrations. It is thought that the geese prefer the closely cut alfalfa to that which has grown to six inches or taller.
- C. Fur Harvest. None.
- D. Timber Removal. None.
- E. Commercial Fishing. None.
- F. Other Uses. Twenty-four buildings (sheds to houses) were declared surplus and placed on a bid invitation. Seven were sold for a total of \$853.00.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

- A. Progress Report. Student Assistant Willard B. Hesselbart made vegetative transects and type-mapped the marsh areas.
- B. Refuge Banding Program. As shown in the following table.

Species	Adult Male	Imm. Male	Adult Female	Imm. Female	Total
Mallard	28	187	66	222	503
Black	117	26	38	10	191
Blue-winged Teal	6	32	5	29	72
Green-winged Teal	3	8	1	2	14
Wood	20	30	22	22	94
American Widgeon	12	0	1	0	13
Pintail	0	2	1	1	4
Ring-necked	55	0	20	0	75
Redhead	35	0	17	0	52
Canvasback	56	0	9	0	65
Lesser Scaup	3	0	0	0	3
Ruddy	1	0	0	0	1
Total	336	285	180	286	1087

In addition 2 coots, 2 Florida gallinules, and 28 doves were banded.

Band recoveries show a few individuals doing a migration in reverse of what is generally considered normal as shown in the following table.

<u>Species</u>	<u>Sex</u>	<u>Age</u>	<u>Date Banded</u>	<u>Date Recovered</u>	<u>Location of Recovery</u>
Mallard	Female	Imm.	07-26-65	10-08-65	Amherstburg, Ont.
Mallard	Male	Imm.	08-04-65	10-08-65	Amherstburg, Ont.
Mallard	Male	Imm.	08-07-65	10-04-65	LaSalle, Ont.
Mallard	Female	Imm.	08-07-65	10-11-65	Monroe Co., Mich.
Mallard	Female	Imm.	08-08-65	10-04-65	Amherstburg, Ont.
Blue-winged Teal	Male	Imm.	08-09-65	09-25-65	Arran L. Bruce Co., Ont.
Mallard	Male	Imm.	08-10-65	10-15-65	Pte. Mouillee Sga., Mich.
Black	Female	Imm.	08-25-65	10-02-65	Mouth Thames River, Ont.

It is interesting to note that all of these ducks that went "north" in the fall were immatures.

Another interesting note concerning banding only slightly involved the refuge. A female bat, Indiana Myotis (*Myotis soldalis*) was captured and tagged in Bat Cave, Carter County, Kentucky, by Dr. Wayne H. Davis of the University of Kentucky. It was released at Ballville, Ohio, October 9, and recaptured the same day in Fremont, Ohio, some 15 miles South of the refuge. It was brought to the refuge by a State Game Protector and subsequently released near the "bat barn" on the refuge. Evidently Dr. Davis is studying the homing characteristics of bats and this one decided to find a new home.

- C. Captive Goose Flock. A memorandum of understanding was drawn between the Bureau and State of Ohio providing for a cooperative venture to establish a free-flying, nesting flock of Canada geese at Ottawa Refuge. A goose-holding pen will be constructed on the Refuge. The State of Ohio will provide 50 mated pairs of pinioned geese. Young geese produced in the pen will be wing-clipped the first year, brailled the second year, and permitted to become free-flyers in January of the third year. It is believed that through this procedure the geese raised on the refuge will also nest on the refuge. Ohio has had some success in establishing flocks in other areas by following this procedure. The pen and breeders will be removed at the end of five years.

VI. PUBLIC RELATIONS

- A. Recreational Uses. Recreational use is limited to nature hikes. In connection with these hikes, refuge headquarters serves as a visitors center. Quite often sack lunches are eaten and slides, movies, or talks are presented in the headquarters building after the groups return from hikes. Refuge headquarters can accomodate up to about 40 persons on such occasions.

R E F U G E V I S I T O R S

B.* Refuge Visitors.

DATE	NAME	AFFILIATION OR ADDRESS	PURPOSE
Jan. 05	Nelson Purtee (contractor)	Nelson Purtee Inc.	Permission to haul rock across Cedar Point Refuge
Feb. 01-02 18	F. Martin J. Cooper	Regional Office Supt., East Harbor State Park	Refuge inspection Transfer of drums
March 04-15 11	Various contractors L. Borton E. Campbell G. Morris W. Ofer E. Pfeiffer	Immediate vicinity Conservationist, Lucas Co. Conservationist, Ottawa Co. S.C.S. District Supervisor S.C.S. District Supervisor Lucas Co. S.C.S. Board Chr.	Re bids on dike construction S.C.S. Agreements S.C.S. Agreements S.C.S. Agreements S.C.S. Agreements S.C.S. Agreements
12 17	A. Knieriem Mr. Angle	former employee Fisheries Biologist State of Ohio	Re re-employment Re netting northern pike for stripping.
17	Mr. Bashore	Fisheries Biologist State of Ohio	Re netting northern pike for stripping.
17 23-24	Mr. Bressley Mr. Krege	Monitor Reporter Sand Lake Refuge	Re story on Ottawa Refuge Missile container haul for Mark Twain Refuge.
25 26	C. Scheffe J. Staab R. Biggs	Regional Office Lucas Co. Game Protector Law Enf. Off., State of Ohio	Land acquisition Introduction, courtesy and storage facilities
April 02	Mr. Gillett	Chief, Division of Refuges	Refuge inspection tour and Erie Army Depot re Job Corps Center.
05-06	Mr. Hughlett Mr. Crandell	Regional Office Regional Office	Recon of refuges, discussion of proposed plans, problems, etc.

R E F U G E V I S I T O R S

B. Refuge Visitors. (cont.)

DATE	NAME	AFFILIATION OR ADDRESS	PURPOSE
April			
08	Messrs. Huenecke and Brewer	Washington Office	Job Corps
	Messrs. Martin and Knecht	Regional Office	Job Corps
09-10	J. Knecht	Regional Office	Measurement of bldgs. (Job Corps)
20	E. Cunningham	Dept. Dir. of Wks.	EOD - Ottawa Job Corps Center
21	Messrs. Burdine and Meyer	Lebanon Riv. Bas. Studies Off.	Proposed Crane Creek Project
27-29	Messrs. Richy and Johnston	Regional Office	Staking dike and pre-construction conference with contractor
29	Mr. Barney Old Coyote	Spec. Asst. to the Secretary	Job Corps Center Site inspection
29	J. Knecht	Regional Office	Job Corps Center Site inspection
28-30	Robinson	Shiawassee Refuge	Start dredge at Cedar Point Refuge
May			
03	Messrs. Flury and Lehman	Oak Harbor, Ohio	Re Job Corps job openings
06	Messrs. Carpenter, Reagan and Winship	Regional Office	Job Corps
18	Messrs. Woon and Knecht	Regional Office	Job Corps Center Site inspection
24	Dr. Bookhout	Ohio Cooperative Research Unit	Courtesy and acquaintance
28	Mr. & Mrs. Gillett	Chief, Div. of Refuges	Awaiting Director Gottschalk
June			
03	F. Davis	Regional Office	Courtesy visit
07	E. Martell	Dep. Dir. for Education	EOD - Ottawa Job Corps Center
14	Messrs. Kesting, Smith, Ozalin, and Carmichael	Lucas Co. Engr's Office	Discussion on dredging of Crane Creek
14	Messrs. Sommer, Hassler, and Barton	S.C.S. representatives Lucas and Ottawa Counties	Discussion on dredging of Crane Creek

R E F U G E V I S I T O R S

B. Refuge Visitors. (cont.)

<u>DATE</u>	<u>NAME</u>	<u>AFFILIATION OR ADDRESS</u>	<u>PURPOSE</u>
<u>June</u>			
21	D. Russ	Director, Job Corps Center	Entered on duty
25	Mr. Barshel	Lamb Enterprises	Cedar Point shoreline erosion
<u>July</u>			
09	Mr. Owens	Dist. Rep. International Union of Operating Engineers	Re dike construction workers
12	C. Scheffe	Regional Office	Land acquisition
15-16	Johnston	Regional Office	Re dike construction & inspection
21-22	F. Martin	Regional Office	Refuge inspection
<u>August</u>			
04	J. Murray	Civil Service Representative	
12	Colonel Spencer and Major Wilcox	Erie Army Depot	Courtesy and Job Corps Information
25-26	Messrs. Dill and Crozier	Regional Office	Re captive goose flock and familiarization of Refuges
26	Crozier	Regional Office	Master planning
<u>Sept.</u>			
13-14	Messrs. Huenecke and Ferguson	Washington Office	Job Corps discussion & planning
	Messrs. Woon and Knecht	Regional Office	Job Corps discussion & planning
22	E. Walz	GSA Area Utilization Officer	Excess property
28	L. Dorman	Michigan Dept. of Conservation	Excess property

R E F U G E V I S I T O R S

B. Refuge Visitors. (cont.)

<u>DATE</u>	<u>NAME</u>	<u>AFFILIATION OR ADDRESS</u>	<u>PURPOSE</u>
<u>Oct.</u> 07	J. Knecht	Regional Office	Re Job Corps contracts and contractors schedules.
11-12-13	Messrs. Johnston and Wright	Regional Office	Final dike inspection and erosion control at Cedar Point Refuge
19	Mr. Sidell	Dept. of Commerce Weather Bureau	Re weather instruments on West Sister Island Refuge
13	Lou Campbell	Outdoor Editor, Toledo Times	Refuge tour
<u>Nov.</u> 03	C. Scheffe	Regional Office	Re condemnation proceedings
18	Bekeris	Regional Office	Land acquisition

Numerous visits by E. Bosak, GMA - Ohio (in charge); W. Fuchs, GMA - Ohio; Ottawa Job Corps Center employees; L. VanCamp, D. Prest, T. Wharton, R. Biggs, J. Staab, P. Weinert, G. Ledbetter, Ohio State Game Protectors and Enforcement Agents; Karl Bednarik, Supervisor, Crane Creek Wildlife Experiment Station; present and potential farm cooperators; numerous birders and nature enthusiasts; several hunters and trappers re boundaries of Ottawa and Cedar Point Refuges.

C. Refuge Participation.

<u>Date</u>	<u>Name</u>	<u>Nature of participation (off refuge)</u>
01-05	Manke	Slide talk to 25 members of St. Boniface Church, Oak Harbor, Ohio.
01-11	Manke	Attended "Blackbird" Meeting at Ohio State University, Columbus, Ohio.
02-08	Manke	Judged twenty student science projects at Genoa Jr. High School, Genoa, Ohio
02-08	Manke	To Toledo, contacted Mr. York, Safety Director, Oregon, Ohio and Mr. Frank Backstrum, Toledo City Manager re Job Corps Center opinion.
02-09	Manke	Contacted Pastor Wilson, Ministerial Association re Job Corps Center opinion.
02-12	Manke	Attended Ohio Wildlife Management Association meeting at Columbus, Ohio to give paper on Ottawa Refuge.
02-15	Manke	Contacted Mr. Richard Heymann, Jr., Lucas County Fight Poverty Campaign Chairman and Mr. Arthur Kochendorfer, Executive Secretary of Toledo Chamber of Commerce re Job Corps Center opinion.
02-23 to 02-26	Manke	Attended Law Enforcement Workshop, Crab Orchard Refuge, Carterville, Illinois.
03-05	Manke	Supplied "props" for slide-demonstration talk by daughter Susan on refuge work and bird banding to freshman Science Class of Salem Oak Harbor High School.
03-05	Manke	Contacted Mr. Whitty, Jerusalem Township Trustee re Job Corps Center opinion.
03-10	Manke	Contacted Don Foreman, Mayor of Oak Harbor and Colonel Conard, Commanding Officer of Camp Perry re Job Corps Center location.
03-11	Manke	Contacted Colonel Conard re Job Corps enrollees working at Camp Perry.
03-16	Manke	Contacted Colonel Conard re Adjutant General Hostettler's response to Job Corps site.
03-18	Manke	Contacted Mr. Walz, GSA Area Utilization Officer, Colonel Stoddard, Commanding Officer of Erie Army Depot, and Colonel Spencer, Commanding Officer of Erie Proving Ground re Job Corps site at Erie Army Depot.
03-18	Manke	Contacted Mayor of Port Clinton, Gordon Cooper re Job Corps site at Erie Army Depot.
03-29	Manke	Attended committee meeting to discuss future "agri-business" needs and problems in Ottawa County.
04-02	Manke	With Mr. Gillette, Chief, Division of Refuges, Washington, D.C. re use of buildings at Erie Army Depot for Job Corps Center.

C. Refuge Participation. (cont.)

<u>Date</u>	<u>Name</u>	<u>Nature of participation (off refuge)</u>
04-08	Manke	With Messrs. Huenecke, Brewer, Martin and Knecht to Erie Army Depot re Job Corps site.
04-09	Hutchinson	With Knecht to Erie Army Depot re building measurements re Job Corps site.
04-10	Hutchinson	With Knecht to Erie Army Depot re building measurements re Job Corps site.
04-15 & 04-16	Radsick	To Marion and Columbus, Ohio re excess property inspection for Job Corps.
04-16	Hutchinson	To New Haven, Indiana re excess property inspection for Job Corps.
04-22	Manke	With Messrs. Burdine and Meyer, Lebanon River Basin Studies Station to Lucas County Engineer's Office re discussion of Crane Creek Project.
04-26	Manke	To Erie Army Depot with Earl Cunningham, Deputy Director for Work, re orientation and location of Job Corps Site.
04-29	Manke	With Mr. Barney Old Coyote, Special Assistant to the Secretary of the Interior, Earl Cunningham, and Knecht, Regional Office Engineer re inspection of Job Corps Site at Erie Army Depot.
05-04	Manke	To Camp Perry, contacted Colonel Conard re information on proposed Job Corps Site.
05-06	Manke	With Messrs. Carpenter, Reagan, and Winship to Camp Perry and Erie Army Depot re proposed Job Corps Sites.
05-10	Hutchinson and Radsick	To Wright-Patterson Air Force Base re excess vehicle pick-up for Job Corps.
05-11	Manke	With Earl Cunningham to Camp Perry to meet with General Hostettler and Colonel Conard re proposed Job Corps Center Site.
05-12	Manke	Slide talk in P.M. to Lutheran Brotherhood, Oak Harbor. (25 persons in attendance)
05-17	Manke	To Camp Perry, contacted Colonel Conard re appointment with General Hostettler.
05-18	Manke	To Camp Perry with Messrs. Woon, Knecht and Cunningham re Job Corps Site inspection and contact with Col. Conard.
05-21	Manke	To Columbus re meeting with General Hostettler, Colonel Conard and Messrs. Knecht, Woon, and Cunningham re Job Corps.
05-25	Hutchinson	To Lordstown Military Reservation re screening and pick-up of excess property for Job Corps.
05-26	Manke	With Cunningham to Erie Army Depot re excess property acquisition and to Cleveland for pick-up of GSA vehicle for Job Corps.

C. Refuge Participation. (cont.)

<u>Date</u>	<u>Name</u>	<u>Nature of Participation (off refuge)</u>
06-02	Manke	Slide talk to Elmore Kiwanis - 40 members in attendance and 15 visiting Kiwanians from Bowling Green, Ohio.
06-04	Radsick	To Lordstown Military Reservation with Cunningham for Job Corps excess property pick-up.
06-08	Hesselbart	To Lordstown Military Reservation with Cunningham and Gene Martell, Deputy Director for Education (Job Corps) for Job Corps excess property pick-up.
06-09	Manke	To Camp Perry with Martell re introduction to Colonel Conard and measurements of sewer and water lines at Job Corps Site.
06-14	Radsick	With Martell to Marion, Ohio for Job Corps excess property pick-up.
06-24	Manke	Slide talk to Bowling Green Kiwanis Club - 40 members in attendance.
07-01	Hutchinson	To Lordstown Military Reservation for Job Corps excess property pick-up.
07-05 to 07-17	Manke	In attendance at Job Corps Orientation and Managerial Grid Seminar, Continental Divide Training Center, Albuquerque, New Mexico.
08-15 to 08-21	Manke	In attendance at U.S.D.I. Departmental Training Center, Manassas, Virginia.
08-23	Manke	Attended planning meeting at S.C.S. Offices, Oak Harbor, re Ottawa County 6th Grade Conservation Field Day.
09-08	Manke	In attendance at Bureau Employees Meeting, Columbus, O.
09-13 & 09-14	Manke	With Messrs. Huenecke, Ferguson, Woon, and Knecht re Job Corps discussion and planning.
09-21	Manke	Manned Wildlife Station at Ottawa County 6th Grade Conservation Field Day (900 in attendance).
09-27	Manke	Slide talk to Graytown P.T.A. (75 members in attendance).
09-27 to 10-01	Radsick	In attendance at Game Law Enforcement Workshop, Minneapolis, Minnesota.
09-29	Manke	To Job Corps Center re quarters occupancy of Headquarters guest rooms.
10-11	Manke	In attendance at Oak Harbor Conservation Club Meeting in cooperation with the State's Waterfowl Clinic night.
10-26	Manke	To Job Corps Center re construction progress.
11-15 & 11-16	Manke	To Regional Office re Master Planning.
11-30	Manke	To Job Corps Center re progress and mail handling.
12-08	Manke	To Job Corps Center to meet with Messrs. Huenecke, Woon, and Trouty re Job Corps discussion and planning.

C. Refuge Participation. (cont.)

Refuge Tours

- 03-20 - Escorted Dr. Meyer's Biology Class from Bowling Green University for waterfowl observation. (25 persons)
- 03-21 - Escorted 75 persons on annual swan hike (members of Toledo Naturalist Association and Willoughby Nature Club).
Lou Campbell, Outdoor Editor for Toledo Times, leader.
- 04-13 - Escorted 33 sixth graders and Mr. Jester, teacher, from Carroll Township School on nature study hike.
- 04-24 - 10 students under the leadership of a TNA member toured Ottawa Refuge on a nature study hike.
- 09-19 - Toledo Naturalist Association bird hike. Twenty members participated.
- 10-24 - Escorted thirty members of TNA on bird hike which was followed by a slide showing.
- 11-21 - Escorted thirty-two members of TNA on bird hike which was followed by a slide showing.

- D. Hunting. No hunting is permitted on the refuge. Some 1,260 acres acquired through a Declaration of Take while hunting seasons were in progress, however, were not closed.

Hunting pressure and success were moderate. Hunter comments ran the entire scale from, "should have closed the season", to "never had it as good". An estimated 5,000 ducks and 300 Canada geese were harvested adjacent to the refuge a total of 10,000 hunter-days use.

Two State-owned public hunting areas border the refuge. On one of these areas, Magee Marsh, hunting pressure is controlled; on the other, it is catch-as-catch-can. At Magee Marsh 465 hunters bagged 641 ducks during the first part of a split season. Magee Marsh was thrown open to all for the second part of the split season of five days. During these five days an estimated 750 hunters bagged an estimated 500 ducks and 25 Canada geese.

- E. Violations. Nine apprehensions were made for hunting on the Ottawa and Cedar Point refuges. Four were apprehended by refuge personnel, and five by State Game Protectors. All were turned over to Game Management Agent Fuchs for filing in Federal Court. None have been heard as yet. The refuge has received excellent cooperation from the State Game Protectors and Federal Game Management Agents. This is greatly appreciated to say the least.

- F. Safety. No accidents occurred. This makes a total of 1537 calendar days without an accident at this station. Twelve informal safety discussions were held. Subject matter followed the Regional Safety Committee's suggestions to a large degree. In addition, specific problems and cautions were discussed whenever a new or seemingly hazardous job was to be undertaken. Several informal discussions have been held regarding the added responsibilities of the Job Corps, and the refuge's part in helping to eliminate accidents to Corpsmen and refuge personnel working with them. These discussions plus the "Hazards Report" have helped greatly in pinning-down specific hazards, problem areas, and responsibilities. In other words, all personnel are more sharply conscious of need to act safely and be safer than ever before. All personnel are well aware that safety is given much weight in performance ratings.

VII. OTHER ITEMS

A. Items of Interest.

1. Land Acquisition. Ottawa Refuge received a big injection of adrenalin with the recent Declaration of Take made on 1,263 acres. The center is now solid refuge. About 1,000 acres of the 1,263 acquired is the prime farm land needed to produce food. In addition, payment was made and the refuge gained control of four other tracts of land in 1965. As of December 31, 1965, a total of 4,280 acres have been acquired. Last year at this time only 2,775 acres had been acquired. Payments amounting to \$1,200,318.68 have been made. This expenditure does not include what will have to be paid for the 1,263 acres taken through condemnation. Also, 507 acres remains to be purchased. But at least Ottawa Refuge will get off-the-pad in 1966.
2. Ottawa Job Corps Conservation Center. About the end of 1964, Ottawa Refuge was one of many refuges tentatively being considered for a Job Corps Conservation Center. Routine information was gathered and submitted in numerous reports concerning the advisability of establishing a center at Ottawa Refuge. Then one day out of a snowy, grey sky, PRESIDENT JOHNSON DROPPED THE BOMB! The President announced that Ottawa Refuge will have a Job Corps Center and everything hit the fan. It went from a "tentative consideration with a weak possibility of its establishment in the future", one day, to an actuality the next. From there on it was a steady parade of V.I.P.'s, and training sessions, work programming, etc.. The staff was assembled and Center construction began. The Center is actually located some ten miles east of the refuge at Camp Perry. The first target date for full operation was scheduled for November 1965.

Complications prevented meeting this date, and the first enrollees arrived February 1, 1966. Despite some rather hectic times Ottawa Refuge welcomes the Job Corps. Center Director, Dan Russ, is a former Game Management Agent. The rest of the staff is liberally sprinkled with other Bureau employees as well as for State Conservation employees. Even those who have had no previous experience with conservation agencies seem enthused and interested in getting conservation work accomplished. Consequently, there is no doubt but that the refuge will greatly benefit from the Job Corps Center's operation.

3. Personnel. Mrs. Mary Bradley, intermittent clerk, deserves much credit for the preparation of this report. Mrs. Bradley compiled many statistics as well as the laborious aspects of typing, duplicating, and mounting the photographs.

Having a Job Corps Center was not a complete gain. The refuge lost a good man, John Hutchinson, to the Tamarac Job Corps Center. Ottawa's loss is Tamarac's gain.

Ben Chio, temporary laborer, is to be credited with the drawing gracing the cover. Mr. Chio is very much interested in the work being carried on at the refuge and hopes to become a permanent employee.



JAN • 66

Headquarters showing retaining wall to save lawn.
August 1965 - Hesselbart



JAN • 66

Completing retaining wall.
August 1965 - Hesselbart



Inside Headquarters - Taxpayer getting the straight scoop.
No. 65-14-16 - F. Martin - 02-01-65



Inside Headquarters - Note octagonal "work bench" and "display" bar.
No. 65-14-17 - F. Martin - 02-01-65



Inside Headquarters - Visitors Center
No. 65-14-18 - F. Martin - 02-01-65



JAN 66

Approximately two miles of dike were rehabilitated by contract.
No. 65-11-9A-10 - Manke - 06-09-65



JAN 66

Contract dike rehabilitation equipment at work.
No. 65-11-5A6 - Manke - 06-09-65



JAN 66

Ready for shaping and finishing.
No. 65-11-20A - Manke - 06-09-65



JAN 66

Several nice potholes developed in connection
with dike rehabilitation.
No. 65-11-17A-18 - Manke - 06-09-65



• JAN • 66

"Excess" pump helping Messrs. Hutchinson
and Sayen repair tube gate.
Radsick - April 1965



JAN • 66

Buckwheat strips separated several varieties of
dwarf corn.
No. 65-C10-15 - Manke - August 1965



Cattail Control Work
 435 muskrat houses counted in this 45-acre marsh.
 No. 65-C10-16 - Manke - December 1965



What made this track? Turn page for answer.
 No. 65-C10-17 - Manke - August 1965



JAN • 66

Answer. A high centered box tortoise.
No. 65-C10-18 - Manke - August 1965



JAN 66

Bookends
No. 65-8-9 - Manke - 05-29-65



Mixed catch
Radsick - April 1965



A couple of Greenwings being admired by Hutchinson.
Radsick - April 1965



• JAN • 66

One of 65 Canvasbacks banded at this spot
being displayed by Hutchinson.
Radsick - April 1965



• JAN • 66

One of 53 Redheads banded at the same spot.
Sayen displaying and Hutchinson nodding approval.
Radsick - April 1965



JAN • 66 •

Coot play.
Radsick - April 1965



JAN • 66 •

Same area still producing several months later.
Hesselbart - August 1965



Student Assistant Bill Hesselbart now doing the honors.
Hesselbart - August 1965

TRACT PURCHASE OKAYED

Waterfowl Program Receives Big Boost

Federal officials have approved a reappraisal price of six tracts of land in the Ottawa National Wildlife Refuge, in Ottawa and Lucas counties.

The decision came at a conference of the Migratory Bird Commission in Washington, D. C.

Karl Bednark, Ohio Division of Wildlife waterfowl supervisor, operating out of Oak Harbor, met with U. S. officials

last week and approval came at that session.

Dale E. Whitesell, chief of the Ohio Division of Wildlife, stated that this was the sole remaining waterfowl acreage available in the area.

"A total of 1,072 acres is involved in the six tracts. We are delighted at this move on the part of the federal government because this additional land will make it possible for us to provide the sportsmen of Ohio with a greatly improved waterfowl program."

"The approval was made on the basis of reappraised prices for the various tracts," Bednark said. "This means that the U. S. Bureau of Sports Fisheries and Wildlife will now have authorization to proceed with the purchase."

Whitesell, commented that the Ohio Division of Wildlife greatly appreciated this assurance by the federal government that these valued waterfowl lands would now be preserved in perpetuity for further preservation of migratory waterfowl populations — and increased harvest opportunity for Ohio's hunters.

Daily News

March 22, 1965

U.S. Condemns 1,263 Acres For Ottawa Wildlife Refuge

Government Gains Immediate Possession Of Property In Lucas, Ottawa Counties

Condemnation of 1,263 acres in Lucas and Ottawa counties as part of the Ottawa National Wildlife Refuge was announced yesterday by the Government.

The land is part of a 5,000-acre wildlife site in the two counties created in March, 1961, by the U.S. Migratory Bird Conservation Commission.

John G. Mattimoe, assistant U.S. attorney, who filed condemnation papers and a declaration of taking in U.S. District Court, said the action means that the Government gained immediate possession of the new acreage.

He deposited \$687,100 with the clerk of court as the Government's estimate of just

compensation due property owners for the 1,263 acres.

The acreage is owned principally by Dale Schimming and Walter Apling, both of Benton Township, Ottawa County, and Minnie Weidner, Otto H. Turnow, Agnes Putz, and the John B. Kidd estate, all of Jerusalem Township, Lucas County.

Mr. Mattimoe said government title to the land means that duck hunters are banned from hunting on the property, which will be posted.

The new acreage will be added to about 3,000 acres already purchased by the Government.

The federal wildlife refuge is bounded by Metzger Marsh, State Rt. 2, Magee Marsh, and Lake Erie.

Mr. Mattimoe explained that property owners can accept the Government's offer for their property or can demand a court trial to establish a price.

Toledo Blade
October 26, 1965

1,263 Acres Added To Wildlife Haven

The federal government has obtained 1,263 acres of land in Lucas and Ottawa counties which will be added to the Ottawa National Wildlife Refuge.

The 5,000-acre refuge was formed in March of 1961 by the U. S. Migratory Bird Conservation Commission. It is bounded by Metzger Marsh, Route 2, Magee Marsh, and Lake Erie.

A federal agent deposited \$687,100 as the government's estimate of a fair price to property owners for the 1,263 acres

which were condemned to allow the government to gain immediate possession of it.

Dale Schimming and Walter Apling, both of Benton-twp. are the principal Ottawa County landowners involved. They may either accept the government's offer for their property or demand a court trial to establish a price, the agent said.

The government title to the land will ban duck hunters from using the property, which will be posted.

Daily News
October 27, 1965

Toledo Blade
March 27, 1965

Whistling Swans Return For Yearly Stopover

★ ★ ★ ★ ★ ★ ★ ★ ★ ★
Visitors Likely To Stay Around Western Lake Erie Until Late April

By LOU KLEWER
Blade Outdoors Editor

The whistling swans are here. From Sandusky Bay to Magee Marsh, the Ottawa National Wildlife Refuge, North Cape, Toledo Beach, Bolles Harbor, Sterling Park, and around to the mouth of the Detroit River, these large white swans can be found.

Sometimes in flocks of a dozen, sometimes in flocks numbering a thousand, the swans are back on their an-

nual stopover en route to their breeding grounds on the Arctic islands and the Barren Lands of Canada.

These birds, the biggest of all wild waterfowl to visit western Lake Erie, generally winter in the Chesapeake Bay area and south but seldom as far south as Florida. In March they head north to nest as far away as the Alaskan peninsula.

With a wing spread of about seven feet, the big bird is a

graceful performer once it gets in the air, but to get there it has to run on the water, land, or ice from 10 to 20 feet before it can take off into the wind.

They are noisy birds and, once heard, the call or clamor of a flock of whistling swans is never mistaken for anything else. They are seldom silent, whether resting on open water, feeding on underwater plants, or traveling in the air. Their calls are usually

what attract the observer. At times the sounds can be heard for several miles.

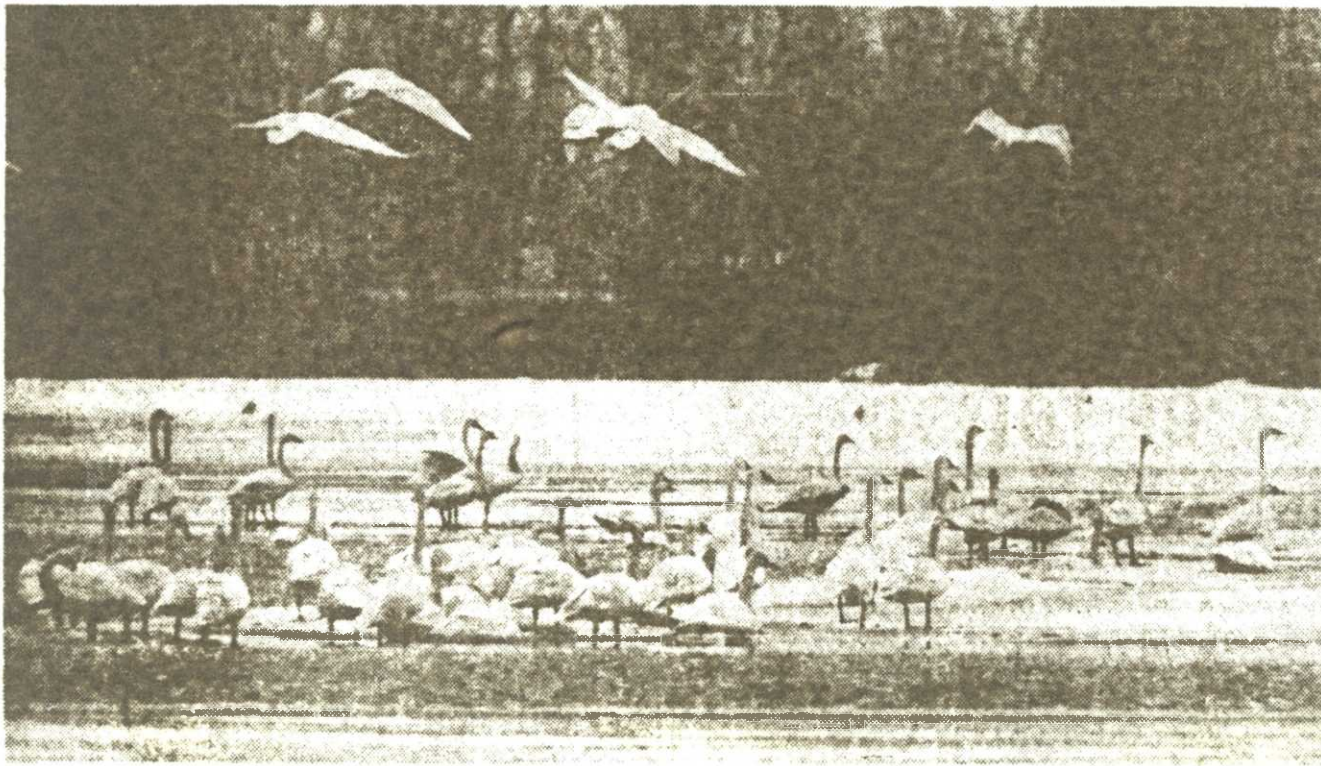
In the Far North, the Eskimos use the eggs and flesh for food and the down for clothing. Northern Indians, mainly the Crees, also find them an excellent source of food in season but elsewhere the birds have been protected for several years.

In Utah, where they are reported to do some crop damage, there has been a special shooting season, by permit only, for the last two hunting seasons. Here a total take of 1,000 of these big birds is allowed during the season but this is the only place hunting for them has been legal, with the exception of the natives of the far North.

They usually arrive in the western end of Lake Erie about the 10th of March, and their stay is quite a long one. It is the first stop on their northern migration and a few are still here at the end of April. By the middle of May, all are gone with the possible exception of a few that may be crippled.

Those wishing to see the swans can usually find some at Magee Marsh, the Ottawa National Wildlife Refuge, both east of Bono on State Rt 2, various places along the south shore of Lake Erie including the Toledo Water Intake at the end of Yuma Road, at times feeding in the fields in this area, at the end of the Erie Road, off Luna Pier and Toledo Beach, Bolles Harbor, and Sterling Park.

Locations of the birds vary at times from hour to hour but some can usually be seen in the locations mentioned above.



—Blade Photo by Jack Ackerman

GRACEFUL WHITE SWANS USE LOCAL SETTING AS STAGE FOR ANNUAL MARSH BALLET

A flock settles down for a month-long stopover before continuing flight to the north

'Bye, Bye, Blackbird,'

Organizational Meeting Set To Plan Battle Against Pest

"Bye-Bye" Blackbird is the farmers, fruit growers, truck gardeners and others seeking to control red-winged blackbirds that are causing millions

of dollars damage to all kind of crops.

An organizational meeting for Ottawa County residents interested in controlling blackbirds

has been called for 8 p.m. Monday, Oct. 18 at the Salem-Oak Harbor High School cafeteria. Plans call for three representatives from each township in Ottawa County where blackbirds are a problem for growers.

Township representatives, according to tentative plans, are to attempt to sign up friends and neighbors as "Bye-Bye" Blackbird members. One goal of the new organization is to have the red-wing blackbird removed from the federal song bird list in order to permit their shooting or otherwise bring the birds under control.

A spokesman estimated that damage from blackbirds will total several million dollars in Ottawa County alone. Besides damaging field corn, the birds have also hit popcorn, sweet corn, apples, peaches, grapes and cherries, tomatoes and cabbage.

County organizations are being planned throughout Ohio where blackbird populations are heavy, along with similar counties in Michigan and Indiana.

Anti-Blackbird Unit Elects Lester Goetz

Lester Goetz of Harris - township chairman of the Ottawa County "Bye-Bye Blackbird" organization during a recent organizational meeting. Township chairmen appointed were:

Reynold Helle, Allen; Doug Cartledge, Put-in-Bay; A. F. Niehausmeyer, Clay; Donald Beyer, Harris; Walter Milbrodt, Salem; Charles Humphrey, Carroll; and Ronald Pfeiffer, Benton.

An organizational meeting will be held in Lucas County this week followed by meetings in counties of Ohio and Michigan where the Red Wing Blackbird and Starling have become

a serious problem.

At the Ottawa County meeting, 46 farmers representing 1,636 acres of field corn attended. The meeting was held in the Salem-Oak Harbor high school cafeteria.

Lester Toll of Sandusky outlined plans followed in Erie and Sandusky counties to reduce the problem. Farmer and other interested citizens will be asked to sign petitions requesting that these birds be removed from the government song bird listing so that enough of them can be destroyed to reduce the millions of dollars of damage they are doing to area corn.

Straight From The Shoulder

by Lowell C. Wodrich

We hear by the grapevine that some good man, area off EAD was declared surplus, and when the wildlife service tried to pick it up to provide public waterfowl hunting along Lake Erie, they lost out to Port Clinton and Washington influence. While we need industry, we are also going to need public lands for recreation and waterfowl hunting is a highly regarded form of recreation, only places in which to hunt are too far and few between. With a 35 hour work week looming in the future, and extra time on the hands of men and women, state and federal governments had better do one of two things, either acquire more lands for public use, or start on an expansion program at the state mental institutions.

Ottawa County Exponent
November 25, 1965

...FOR RESOURCES

Udall Signs Accord With Soil District

By GLENN D. EVERETT
DAILY NEWS

Washington Correspondent

WASHINGTON — (Special) — Secretary of Interior Stewart L. Udall has signed an agreement between the Department of Interior and the Ottawa Soil and Water Conservation District of Port Clinton pledging mutual cooperation in development of the area's natural resources.

The agreement is one of 41 which Secretary Udall signed with similar conservation districts in 18 states.

It is the second such agreement in Ohio, the first having been signed last July between the Interior Department and the Clark County Soil Conservation District in southwestern Ohio.

Secretary Udall said in a covering letter sent to officials of the district that he is sending a copy of the agreement to the Bureau of Sport Fisheries and Wildlife with the suggestion that its field office in the Great Lakes area negotiate a similar auxiliary compact with the Ottawa District.

The agreement follows the same pattern as the agreements which such districts customarily sign with the Department of Agriculture and its agencies, such as the Soil Conservation Service, and lays the groundwork for cooperative action of the various government agencies on all problems of mutual concern.

Development of the Ottawa National Wildlife Refuge will be one of the principal areas for cooperative action in the local area, and Interior Department spokesman said.

A total of 241 agreements between the Interior Department and local conservation districts are now in effect in 38 states and provide the basis for a broad program of Federal assistance and advice in developing natural resources for future public use.

Under terms of the agreement the Ottawa district can go to any agency of the Department of Interior when it has need of help and it is assured maximum assistance within the bounds of Federal statutory authority and available funds.

...JUST LIKE THE CCC?

Lucas Sees Job Corps Role In River Cleanup

You've got to be 35 or more to remember the CCC and the part it played in keeping depression-era youths busy.

Lawrence J. Lucas, vice president of the Ottawa County Labor Council, recalls the CCC well — he was a member.

And because he remembers it could be that the contemporary version of the CCC, the Job Corps, might be called into action to assist Port Clinton in its current beautification campaign.

Mr. Lucas, a member of the mayor's beautification committee, feels that Corpsmen assigned to the Ottawa Job Corps Center could be sent to Port Clinton to aid in dredging the Portage River, observing that in the 1930s, the CCC force to which he belonged took over the job of river renovation at Portage, Ohio, near Bowling Green.

He has passed along his

thoughts to Sen. Stephen M. Young, who in turn has been contacting affected Federal departments.

While not ruling on the idea, Gillis W. Long, assistant director of the Office of Economic Opportunity in Washington, did send along a description of the work Corpsmen will be handling at the Ottawa National Wildlife Refuge, managed by Alfred O. Manke of Route 3, Oak Harbor.

Mr. Long, in his statement, observed:

"Ottawa National Wildlife Refuge and its satellite unit, Little Cedar Point, contain approximately 40 miles of dikes. These dikes are in poor repair and brush covered. Using hand tools and machinery the entire system will be cleared, shaped, sodded, rip rapped where needed and maintained. A few additional miles of dike need to be constructed.

"Approximately 50 miles of ditch and four miles of stream are in need of cleaning and bankerosion control. Using hand tools and machinery Corpsmen will clean, reshape, sod, and rip rap these systems. About two miles of Lake Erie shoreline needs stabilization. The lake shoreline and portions of the stream and ditch banks will require extensive rip rapping. Corpsmen will be utilized extensively in the placement of the rip rap.

"Approximately 4,000 acres of marsh is clogged and overgrown with cattails. Corpsmen using hand tools, machinery, and chemical sprays will reduce the cattail cover, and where necessary make plantings of more desirable vegetation. Marshes are periodically reinfested with carp. Corpsmen using mechanical and chemical means will reduce and/or eliminate this pest species from the water areas of approximately 2,000 acres.

"The refuge and vicinity is plagued with blackbirds that do much damage to crops and reduce the amount of available food for waterfowl. Corpsmen will use and maintain various means of controlling these pest species on about 7,000 acres.

"Corpsmen will fence and post the exterior boundaries of Ottawa and Little Cedar Point (approximately 25 miles). Corpsmen will construct and place artificial nesting structures. Corpsmen will be called upon to revegetate approximately 500 acres of moist meadows to encourage duck nesting. Corpsmen will also make animal censuses and nest searches on roughly 7,000 acres to measure the biological values of these and other practices.

"Any water control facilities used in the management of crop and marsh land will be operated and maintained. Much of the cropland is in need of tiling to insure good crops each year. Corpsmen will install adequate tile systems on about 1,000 acres.

Corpsmen will build a nature trail, approximately .3 miles long, guided tour auto route (about 15 miles long), and an observation tower. They also will do some landscaping around buildings and some improvement cuttings in woodlots (about 125 acres).

"None of the work scheduled is part of the normal activity of the Ottawa National Wildlife Refuge. The scheduled Job Corps work and future projects will provide improvements for which there are no regular Department of the Interior appropriations."

Daily News
Port Clinton, Ohio

... Contracts Awarded

Camp Perry Site Set For Job Corps Center

The Ottawa Job Corps Center will be located on a tract at Camp Perry.

Contracts for building center facilities has been awarded to De Rose Industries, Inc., Post Office Box 4, Bonham, Tex., on a bid of \$330,645.

The Texas firm also was awarded a contract for construction of three staff residence quarters after a bid of \$31,416.30. All construction is ex-

pected to be completed within 90 days. The contracts were signed last week.

Tentative "readiness date" of the Ottawa center is Nov. 22, according to director Daniel E. Russ.

The facilities are to be situated at the camp under a lease from the State Adjutant General's Department to the Fed-

eral government, pursuant to the Economic Opportunity Act of 1964.

A staff of 26 tentatively is planned, with an initial total of Corpsmen at 112.

To be constructed are two dormitories, a combination education building and mess hall, an administrative building and a combination ship commissary.

The facilities will be on the old induction site at the front entrance of Camp Perry, a spokesman said.

Ex-Marine To Head Area Job Corps Unit

OAK HARBOR — (Special) — Daniel E. Russ, 40, has been named director of the Ottawa Conservation Center here, the Bureau of Sport Fisheries and Wildlife announced today.

The center is a federal Job Corps facility designed to furnish training to young men to make them employable. Located on the Ottawa National Wildlife Refuge, the center will accommodate 100 trainees plus the training staff headed by Mr. Russ.

A native of Lehman, Pa., Mr. Russ served in the U. S. Marines from 1942 to 1946. Prior to joining the Bureau as a federal game management agent,

he was employed as a law enforcement officer by the Pennsylvania Game Commission.

Prior to accepting the assignment with the Job Corps, he served as a federal game management agent at Bellport, Long Island, N. Y.

American Eagle Is Swan Hunt Bonus

By GRETTA PALLISTER

Although a cold gale swept across the lion-tawny marsh grasses and wind-tears filled our eyes, we knew the trip was worth it. We had just driven through a briefly blinding snow-storm on our way to the Ottawa National Wildlife Refuge, 15 miles east of Toledo.

The rivers and inlets along Lake Erie which usually provide interesting birding, were all frozen and deserted. So we began to think our swan expedition was a week too early and we would find the expanses of cattail marsh equally disappointing.

But as we started out the dike, the sun shone and a sharp-eyed Burroughs Nature Club member said, "There's one!" In a few minutes we saw half a dozen whistling swans flying up, and then the flock of some 300 at rest on the ice and open water.

MR. MANKE, refuge warden, estimated about five hundred swans to be resting in the marsh on their migration north.

The great white birds are an unforgettably thrilling sight as they pass through the Great Lakes region on their way to the arctic from their wintering grounds along the south Atlantic coast.

Easily distinguished from the familiar European or mute swan of parks by having black bills and straight instead of curving necks, they are impressive both in flight and as they set their wings and come down to rest. Young birds have a buffy neck, but in sunlight the whole flock seems to glisten pure white.

Flights of Canada geese came and went through the marsh, and two great blue herons flapped up at a distance. Coot, goldeneye and other ducks and even some robins were present.

We were watching a rough-legged hawk flying and hovering in its characteristic fashion when a bonus to the swan-day came over our heads — a

mature American eagle. It gave everyone a thrill and at least one of our group, a "life-list" bird.

THE BONE-CHILLING winds soon drove us back to the shelter of the warden's station, where we warmed up and chatted with old friends among our hosts, the Toledo Naturalists Assn.

Then we headed toward Castalia, knowing that, with the countryside frozen, the open waters of Castalia pond should be full of waterfowl.

Sure enough, the late afternoon sunlight glimmered on a colorful crowd of goldeneye, bald-pate, red-heads, mallard and black ducks, a pair of graceful pintails, coot and ring-necks. When some children began to toss out bread and corn, many of the birds came ashore gabbling and gobbling right at our feet.

On the way home we added killdeer, horned lark, another rough-legged hawk and two kestrel along with large flocks of grackles, starlings and red-wings, of course.

March winds blowing across the marshes, a gathering of swans and geese, new birds for some life-lists, topped by an eagle — one can't ask much more than this from a day in the out-of-doors.

FIELD TRIP: Holden Arboretum Stebbins Gulch walk tomorrow. Meet at the Cooper Building on Sperry Road at 1 p.m. This is a rugged walk. No small children, please.

FOR YOUNG NATURALISTS: On early warm days now, look and listen. In the low wet spots, listen for the first spring peepers to trill. You might use a thermometer to check whether there is a relationship between temperature and the number of trills per minute.

Watch, too, for the dark mourning cloak butterfly to be out in the sunshine as it emerges from hibernation.

All Outdoors

Plan Big Game for Ohio's New Wildlife Refuge

By LOUIS GALE
Outdoor Editor

A bit of Yellowstone National Park for Ohio?

Elk thriving in Ohio's lush Lake Erie marsh meadows in Ottawa County?

Both look more promising by the week, according to the U. S. Fish and Wildlife Service.

Recent approval of additional funds to purchase the balance of some 5,000 acres of marsh and farmland between Metzger and Magee marshes; Route 2 and Lake Erie update the time when deer and quite probably elk from Michigan's successful herd, can be introduced into this wildlife refuge area.

The wildlife vanguard is already making itself at home in more than 3,000 acres already obtained for the refuge. Raccoons, pheasant, rabbit, ducks, geese, groundhogs, squirrels, muskrats and an increasing number of deer are thriving in this protected area.

The refuge plans call for impoundments for waterfowl, patches of dry land and a considerable area of wet meadows which would provide excellent habitat for deer and elk. Some sportsmen and conservationists are also suggesting these wetlands might support a few moose as an added tourist feature.

As a wildlife area, there are no present plans to turn this refuge into a tourist center. No camping grounds are now planned. Visits to the area will be by permit and visitors will not be wandering around unguided in the marsh areas.

At present a number of farms purchased for the refuge are still being operated by former owners on a crop-sharing basis. One third of the annual crops are left as wildlife feed.

More ducks and geese are now coming to the marsh areas as the food supply increases and there is less pedestrian traffic in the ref-



LOUIS GALE

Cedar Point National Wildlife Refuge is located about 10 miles west and is managed by Ottawa Refuge personnel.

- A. Weather Conditions. Weather data for Cedar Point is the same as data used for Ottawa Refuge. The United States Department of Commerce Weather Bureau is located 18 miles west of Cedar Point Refuge.

High winds out of the northeast in April and May caused severe damage to the dike at Cedar Point. A tornado hit north and west Toledo, Palm Sunday evening killing 16 people. It swept a path for 10 miles through the City and then continued over Lake Erie (attached map shows tornadoes that hit Ohio the same day). Cedar Point was close to the path of the storm as it lies across Maumee Bay 6 miles east of the tornado area.

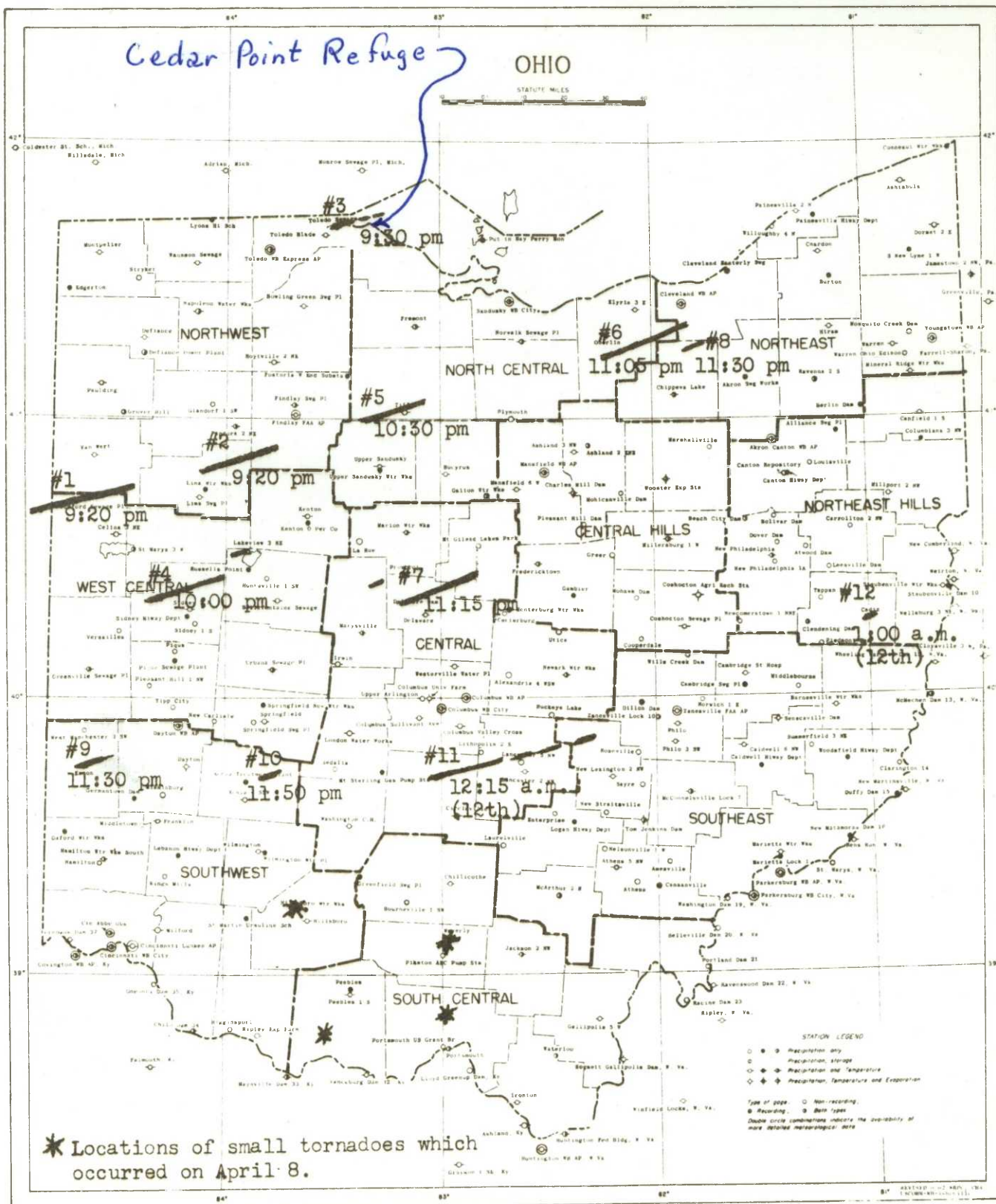
- B. Habitat Conditions.

1. Water. Cedar Point Refuge has three water units. The major portion of the refuge is managed as one water unit which contains approximately 1,650 acres. The water level was held constant from January through March. A large break in the dike in April resulted in the water level being lowered by about six inches. Evaporation from May through July resulted in another drop of about six inches. Water was pumped into the marsh at the rate of about six million gallons per day beginning July 20, and ending August 31. Pumping and precipitation raised the pool about one foot to the desired level. Rains in November and December raised the level another six inches. Except for the loss of water from the break in the dike, the water levels were in agreement with the Water Management Program. At no time was the pool considered inadequate to support the waterfowl on the refuge.

The second water unit contains about 150 acres. Only partial control of the water levels could be exercised for the first five months of the year. In explanation, water could be held but had to be trapped during periods of wind caused surges in Lake Erie. Installation of a double gated tube in May made it possible to shunt water between the first and second units. After the tube was installed water was held at the same levels as the large unit.

To call the third area a unit may be a misnomer. It contains about 300 acres that are open to Lake Erie, and no water control can be exercised. During periods of high water in Lake Erie almost all 300 acres are inundated. During periods of low water such as has been experienced for the past several years, only about a third of the area is flooded. Almost the entire 300 acres is choked with emergent vegetation, primarily cattails and giant smartweeds. This area was flooded on several occasions during periods when northeast winds prevailed. Generally, however, its state was that of a soggy, natural marsh.

LOCATIONS OF PALM SUNDAY TORNADES, APRIL 11-12, 1965



2. Food and Cover. Food and cover were deemed adequate for numbers and species of wildlife inhabiting the refuge and no artificial feeding was necessary. Wildlife of Cedar Point Refuge are to a great extent dependant upon natural foods because all but about 150 acres is marsh. About 100 acres are farmed. Waterfowl and pheasants regleaned the previous years soybean and wheat fields early in the spring. They became dependant upon wild foods through the summer, and again returned to the ag-land after the crops were harvested. A field containing tall wheat stubble and clover was greatly accepted by pheasants and rabbits. All of the corn grown belonged to the refuge. Blackbirds reduced the yield by more than 50 percent. The corn was not utilized by waterfowl until after it was chopped which did not occur within this reporting period. No artificial feeding was done.

II. WILDLIFE

A. Migratory Birds.

1. Waterfowl. Chronologically and numerically, waterfowl populations at Cedar Point were closely parallel to Ottawa Refuge. Some 200 to 500 ducks remained throughout the winter. Spring migrants began to return near the end of February. A peak was reached during the last week in March when some 1,000 whistling swan, 1,200 Canada geese, and 11,500 ducks were present. These peaks were considered near normal except that in some years two to three times as many whistling swans stop at Cedar Point.

Geese and swan were last seen the last week in April, and the duck population had decreased to about 4,000. During the next week the waterfowl population just about stabilized at between 2,000 and 2,500 ducks until the first of August.

By September the duck population had increased to nearly 5,000. A peak of 12,000 ducks, 150 Canada geese, and 50 whistling swan occurred close to the end of November. At the close of the reporting period the population had dwindled to about 4,500 ducks of which about half were mallards and half were blacks.

2. Other water birds. The name Cedar Point is just half correct. There are no Cedars, but there is a point. Cedar Point has a shoreline of over four miles. About three miles face Lake Erie and one and one-half face Maumee Bay. This makes it a natural for many other kinds of waterbirds as well as waterfowl. Birds can always find protection from the elements in or along side of the refuge. Great blue herons, American egrets, black-crowned night herons, green herons, coots, gallinules, grebes, American bitterns are common summer residents. A few great blue herons remain throughout the year.

3. Shorebirds. Several thousand gulls and terns ply the marsh and shoreline throughout much of the year. Herring and ring-billed gulls remain year-round. Refuse from boats (lakers) and cities provide them with much food in Maumee Bay. Commercial fishermen clearing their nets provide fish for them. Farmers plowing the fields provide grubs for them. Cedar Point jutting into Lake Erie and forming the east shore of Maumee Bay is the main interchange of the gulls crossroads to these various feeding and resting areas. Killdeer, greater and lesser yellow-legs, and several species of sandpipers also frequent the area.

4. Doves. A moderate population of doves inhabits the refuge. Some remain throughout the year. Cedar Point provides an abundance of nesting sites. Almost the entire 10 miles of dike surrounding the marsh is tree or brush covered. A more than adequate grit supply is readily available from the gravel-topped trail and sand-beach shoreline. There seems to be no shortage of food on or off the refuge. There is no open season on doves in Ohio. The population should be higher than it is.

B. Upland Game Birds. Upland game bird species include pheasants and woodcocks. No reliable censuses have been made on either species. On several occasions as many as 75 pheasants have been observed along a mile stretch of the dike-road that separates the farmland from the marsh. This would indicate a very high population. This is a concentration area, however, and this density does not exist throughout the refuge. The ag land is farmed in strips with the unfarmed strips providing excellent cover. This was the pheasant shooting area for the club prior to its becoming a refuge. It was stocked heavily. It will be interesting to see whether or not the pheasant population decreases sans the stocking.

As stated, no reliable census has been made of the number of woodcocks on the refuge. Casual observations indicate a moderate population. A few areas on the refuge appear to have excellent conditions for woodcock, and there may be more than observations indicate. A census route will be established in 1966.

C. Big-Game Animals. White-tailed deer is the only species of big-game animals on the refuge. Tracks and sightings indicate only a few animals present. It is doubtful that the number will increase very much because conditions are about the same now, and will continue to be about the same, as they have been for the past 10 years. This is in contrast to prognostications for Ottawa for several reasons. First, deer were hunted on areas now included in Ottawa, but were not hunted on Cedar Point. Two, Ottawa has a more varied habitat and land use pattern than Cedar Point which provides a better source of food and cover. Three, the small amount of habitat suitable for deer in the area surrounding the refuge is rapidly being destroyed.

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

1. Fur Animals. Fur animal species include muskrat, mink, raccoon, skunk, and fox. Population densities are similar to those on Ottawa Refuge. Some of the old timers tell of muskrat harvests of 15,000 to 20,000 or even more. These seem extremely high, and harvests in recent years nowhere approached these figures. Muskrat population in the various marshes throughout this area increased last year because more of the marshes contained water all year.

There are fewer mink, and more raccoon, fox, and skunk than desirable for a waterfowl refuge.

2. Predators. Cedar Point has a rather high predator population which includes raccoon, fox, skunk, hawks, owls, dogs and cats. In the opinion of the writer, the predator population is large enough to be detrimental to duck production. Another possible pressure working against duck production are the gulls. No great amount of concrete evidence has been found, and no detailed studies have been made to determine the effect gulls have on duck production at Cedar Point, but their habits and number make them suspects. Blackbirds are the ducks chief competitors for food and space. Their competition for food is easily recognized and obvious. The space factor is more subtle and difficult to assess. Included in the space factor is passive harassment. The writer has not observed direct attacks on ducks by blackbirds, but has observed many near mid-air collisions, and the ducks and almost all other birds give way to the huge flocks of blackbirds. Some blackbird flocks are so large and "thick" that many birds including ducks seem to have difficulty in extricating themselves from an involvement. Whether or not this discourages waterfowl and other birds from remaining in the area is not known.
3. Rodents. Groundhogs are the only rodents that appear to have much effect on the area. Groundhogs dig holes and eat legumes. Their holes cause havoc with roads, dikes, and hay fields. Their eating annoys farm cooperators. Control measures will be initiated in 1966.

A rather large, fox squirrel population adds greatly to the attractiveness of the refuge. It is thought that the squirrels have little influence on the refuge other than their aesthetic value. The squirrel population seems to be rather static.

4. Other Mammals. Cottontail rabbits, like the fox squirrels, are thought to have little influence on the area other than their aesthetic value. The cyclic phenomena generally associated with rabbit populations has not been noticeable at Cedar Point or Ottawa Refuges. Observations indicates that reproduction just about equals losses each year, or vice versa.

- E. Hawks, Eagles, Owls, Crows, Ravens, Magpies. One pair of bald eagles frequent the refuge. Their nest is very close to the refuge boundary, but thought to actually be on private property. A pair of eagles (probably the same pair) has had this nest at Cedar Point for many years. Reproduction, however, is thought to be nil, at least in the past five years.

Cedar Point, like Ottawa Refuge, supports rather large populations of hawks and owls. It is seldom that one cannot observe a sparrow hawk hovering, a red-tail soaring, a rough-leg searching, and a marsh hawk sweeping over the refuge. Great-horned, short-eared, barred, and screech owls are the most common owls inhabiting the refuge. The hawks and owls undoubtedly exert both desirable and undesirable pressures upon the other wildlife populations on the refuge. No determination has been made as to which is greater. Hawks and owls seem to offer a special attraction to birders and hence have an aesthetic value.

There are not enough crows staying on or near the refuge to exert any undue influence. Crows do become competitors for waste corn during spring migrations, but it is doubtful that this has any significant effect upon waterfowl.

- F. Other Birds. Cedar Point has been a birders paradise for many years. Its tree-lined entrance road harbors many species of song birds. Spring migrations of warblers attract particular attention.
- G. Fish. The preponderance of carp far overshadows all other fish in the marsh. In fact, this preponderance just about excludes all other fish. A carp eradication project will be attempted by Job Corpsmen in 1966.

Prior to Cedar Point becoming a refuge some fishing was done in and near the area open to Lake Erie. It is thought that this fishing pressure occurred more because of easy access than the catch. No fishing is permitted now that it is a refuge.

- H. Reptiles. Snakes and turtles are the only reptiles present that probably exert much influence on the refuge. The population of snapping turtles is large enough to effect duck survival rates.

To date, no poisonous snakes have been seen.

- I. Disease. As reported in the Ottawa Refuge section, many ducks and gulls died in and near Maumee Bay. Deaths were attributed to their feeding on foodstuffs containing lethal amounts of chlorinated hydrocarbons. Cedar Point Refuge borders Maumee Bay and a number of sick birds and carcasses were found on the refuge. No other abnormal conditions pertaining to diseases or lead poisoning were noted.

III. REFUGE DEVELOPMENT AND MAINTENANCE

- A. Physical Development. Cedar Point Refuge became a part of the refuge system in January 1965. Although it is a valuable piece of property and is indeed a most welcome addition, it needed many extensive and expensive repairs.

An old "dip-stick" dredge was inherited with the property. It was renovated to the point of being operable and put to work. Approximately three-quarters of a mile of dike was rebuilt with it.

An old agreement for the City of Toledo to furnish water for the marsh was brought up to date and "Bureauized". The water is furnished from the City's low-pressure water-pumping station which is located at the edge of the refuge. The basin wherein the water is discharged to the refuge was riprapped to prevent further erosion.

An excess missile container was adapted with gates and installed as a water-control structure. This structure and plug permits water control in the 150-acre unit previously described.

Approximately one mile of the entrance road was gravelled, and an entrance sign and gate was installed.

B. Plantings.

1. Aquatics and Marsh Plants. None..

2. Trees and Shrubs. None.

3. Upland Herbaceous Plants. None.

4. Cultivated Crops. Approximately 90 acres were farmed. Included were 10 acres of corn, 40 acres of soybeans, 15 acres of wheat, and 25 acres of tomatoes. The area farmed is good "muck" bottomland. Crops grew well and bumper yields were expected. Wet weather and soil, however, prevented normal harvesting, and blackbirds greatly damaged the wheat and corn. Consequently, the end value of the crops fell far below expectations.

Corn was damaged by an estimated 75 percent, and reduced the yield to about 25 bushels per acre. The field was chopped after the close of all hunting seasons and this reporting period.

The farm cooperator realized a harvest of about 20 bushels per acre, but an estimated 15 bushels per acre were lost. This of course was a loss to the farmer but increased the food available for wildlife.

Tomatoes were grown as a substitute crop for soybeans. Tomatoes were permitted because they are harvested early, and the fields can be readied for winter grains before soybean fields. The tomato harvest was below production because wet conditions prevented normal harvesting operations. Consequently, several tons of tomatoes rotted in the field. Also the grade and acceptability of many tons of tomatoes were reduced because of splitting induced by excess moisture.

The wheat was quite badly damaged by blackbirds, but an excellent stand of red clover was established. The clover will not be harvested. It will serve as food and cover for wildlife for a year, then turned under as a green-manure crop.

- C. Collections and Receipts.
 - 1. Seed or other Propagules. None.
 - 2. Specimens. None.
- D. Control of Vegetation. None.
- E. Planned Burning. None.
- F. Fires. None.

IV. RESOURCE MANAGEMENT

- A. Grazing. None, however, a couple of calves owned by a refuge neighbor got lost on the refuge late in December and have not as yet been captured. These calves were purchased for a 4-H project and broke loose before they knew their new home. One of these days we will have to declare an open season and go on a cow hunt.
- B. Haying. None.
- C. Fur Harvest. None.
- D. Timber Removal. None.
- E. Commercial Fishing. A permit was issued to Mr. David St.Clair to remove rough fish (carp) between August 1, and September 30, 1965. No charge was made. Carp concentrate at the discharge tube when water is being pumped into the marsh. This generally affords a good opportunity to remove some of them.

This particular year, however, was almost a complete bust. One load of about 40 tons were removed quickly. Then we had an unusual cool spell and the carp dispersed to the extent that operations became uneconomical.

- F. Other Uses. None.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

The Cedar Point Gun Club had permitted State Conservation Officers to install woodduck nesting structures and band ducks on the area for many years. Mr. John Staab, State Game Protector in Lucas County was granted permission to trap and band ducks again this year. The following table summarizes the bandings made at Cedar Point Refuge by Game Protector Staab.

<u>Species</u>	<u>Adult</u> <u>Male</u>	<u>Imm.</u> <u>Male</u>	<u>Adult</u> <u>Female</u>	<u>Imm.</u> <u>Female</u>	<u>Total</u>
Black	10	0	5	0	15
Mallard	8	10	3	5	26
Woodduck	19	37	11	42	109
Ring-necked	2	0	1	0	3
Total	39	47	20	47	153

VI. PUBLIC RELATIONS

A. Recreational Uses. Recreational use is limited to nature hikes and wildlife observations. Several organized groups and many individuals participated in this use.

B. Refuge Visitors.- See Ottawa Section.

C. Refuge Participation.

Refuge Tours

04-24-65 - Escorted 35 members of the Toledo Naturalists Association on a bird hike.

09-11-65 - Escorted 15 members of the Toledo Naturalists Association on a bird hike.

D. Hunting. No hunting was permitted on the refuge, and no public shooting areas are in close proximity except Lake Erie and Maumee Bay. Two private shooting clubs border the refuge on the south. An estimated 2,000 hunter-days-use occurred on the area immediately surrounding the refuge. Those hunters who bagged ducks were happy. Those who did not, blamed the refuge. They thought that the sanctuary provided by the refuge reduced shooting opportunities and consequently their harvests. The kill in the vicinity of the refuge is estimated to have been 2,500 ducks.

E. Violations. See Ottawa section. Five of the nine persons apprehended were hunting on Cedar Point Refuge.

F. Safety. See Ottawa section.

VIII. OTHER ITEMS

- A. Items of Interest. It is the custom that the first narrative report include a history of the area. Cedar Point National Wildlife Refuge is steeped in tradition and history. Several writers have caught the atmosphere that seems to surround this area. W. A. Ketchum has written a pamphlet which is attached that elequently describes these past happenings.

In present-day hard cold facts, however, Cedar Point contains approximately 2,250 acres. About 110 acres are "diked-off" and farmed. The remainder are marsh. It is valued at \$1,000,000. It was established as a gun club and managed as a waterfowl marsh since 1882. The first clubhouse was a barge on pilings. The members donated the area through the North American Wildlife Foundation to the Bureau to keep and to hold for wildlife.

The Bureau assumed management of the area on January 1, 1965, and the deed was presented to Secretary Udall by Mr. C. R. "Pinky" Gutermuth On January 22, 1965. Members and owners donating the buildings and grounds are former Secretary of the Treasury George M. Humphrey, R. L. Ireland, John Sherwin, Joseph H. Thompson, and John C. Virden, all of Cleveland and George H. Love and Melville H. Ireland of Pittsburgh. One of Cedar Points more recent claim to fame is that President Eisenhower hunted the marsh during his term in office.

As the following pictures show, Lake Erie is eroding the shoreline and portions of the dike. Most of this erosion occurred in about two months time in April and May of 1965. Almost the entire length of the dike surrounding the marsh (over 10 miles) will have to be rehabilitated. That portion facing Lake Erie is scheduled for completion in calendar year 1966. This will be a contract project. The old dip-stick dredge nicknamed the "Ruptured Duck" will be used to rebuild other sections as long as she floats.

There is little mention of Cedar Point, on Maumee Bay, in the written page of history. It has rested quietly by the margin of the Lake on one side and the Bay on the other, as the centuries rung their changes about it. War and strife have bubbled and seethed near by, -- greed and unrest have been rampant but serenely and tranquilly it has held itself aloof, in its trailing robes of marshland, in its wild and primitive beauty.

The seasons' miracles unfold there as they did in the dim past. Surrounded by a world of restless change,--it is changeless and the prayer of its lovers is that it may stay so.

Bountifully during the years it has provided for its children, especially its dearly beloved,--the children of the air. Each year the banquet has been spread anew in boundless profusion and faithfully and unerringly, twice each year, through the pathless air have they returned to its great warm sheltering bosom,--even from the end of the world,--and that is Love.

To its human lovers, it has been beautiful, loyal and kind and what more may a lover ask?

As it rested quietly during the years, within sight of its shores the warp and woof of destiny was woven,--back and forth. The River and Lake were a mighty highway. Brave true hearts and sordid vicious ones went by in restless procession. Those fearless "knight errants" of trade, the "courours de bois", traders, priests, explorers, soldiers of fortune,--and misfortune made up the pageant of the years.

A few, a very few, have left some record and it is, perhaps pardonable, to snatch from a faded yellow page a name or two from the dim light of old days to the glare of new. Probably the very first was some unknown voyageur, bearing a strange and wonderful elizir, distilled by the gods, to the simple children of the forest, for he was generally a lap ahead of the Gospel. The gods who distilled this magic liquor are, they say, dead now,--but they said that of the Great God Pan. The gospel, however, has the record for, at least among the first, was Dollier de Casson, a Sulpitian priest, whose stately canoe went by in 1669 on his way to the site of Detroit. Whether he stopped at the beckoning cedars (for the cedars were veritable) for lunch or only saw the dim coast line, we may not know.

In 1679, two brave gentlemen adventurers passed or stopped here,--let us hope they stopped,-- on a most momentous occasion. The first and only voyage of the first vessel on Lake Erie. The vessel was the Griffin of 40 tons and the gentlemen were: Reno' Robert Cavelier, Siour de la Salle and Henry de Tonty,--brave hearts both, "without fear and without reproach." When they arrived at Detroit, the bulwarks were hung with game, ducks, turkeys and geese. She went to Green Bay, Wis. and was lost on her return trip on Lake Huron. With her perished some dreams of the great LaSalle that might have come true.

As the great game went on, of which a continent was the stake, more and still more were the pilgrims on this road of destiny. In 1680 the Count de Frontenac, Governor General of Canada, sent an expedition that went by Cedar Point and up the Maumee River where they built Fort Miami, where Fort Wayne, Indiana, now stands.

There came priests, with a burning and fiery zeal, who bore the cross literally through fire,--who met mutilation, torture and death with quiet smile of a perfect faith. However misdirected and futile their efforts, all others in a similar direction seem puny.

They left behind them a vast mass of written material, describing minutely each journey. It is called the "Jesuit Relation" and makes sixty printed volumes. Parkman drew largely on the original for his wonderful history and does full justice to their splendid heroism and self-effacement.

That they were at Cedar Point goes without saying. Across the Bay are remnants of French pear trees and the originals were old trees when the first settlers came in 1770. Engraved crucifixes have been found in Indian burial grounds. One of them, found near where the Yacht Club house stands, bore the initials of R. C. Montreal,--and who was R.C.?

The most picturesque figure of these old days was the voyageur and they were many and varied. Gay and debonair, joyous and carefree, vicious and desperate. They sailed under a roving commission, leaving such trifles as the law and morality behind at Montreal. In the veins of many of them danced the best blood of France, from which country they were oftentimes banished for cause. In their dress of buckskin with a gaily colored kerchief about the brow and the inevitable red sash, the white teeth gleaming in the black beards: they were simply irresistible to one sex. Add to this that they carried with them veritable magic in the guise of the amber colored liquid distilled from the heart of the vineyards of France, which brought unbounded joy, wild gaiety, imbecility, blood lust, forgetfulness or madness as the human instrument varied. There were dark and sinister deeds hid in the wilderness,--the silences were long and profound, but there was song, and gaiety, red blood and boundless life and the moccasined foot of the voyageur trod unknowingly the path of empire. Let us be thankful that Cedar Point is now, except as Nature moulded it, as they found it.

That it opened its arms to another true lover, the Indian, there is ample testimony. There was good hunting and good camping on the Point after the long and weary work at the paddle. The marsh was a nourishing mother to him and for untold years his canoes grated on the sands of Cedar Point and his camp fires gleamed from its hospitable shores over the Lake or Bay. At Elm Point nearby "he took his burden for a pillow and laid down to pleasant dreams"--there is a large burial mound there. May his ashes rest in peace. He had little rest or peace after the white man came and he gave the white man very little.

He was a problem,--and it was solved, as this same white man solved many,--by simply rubbing it off the slate.

One of the most memorable and imposing of the many expeditions of the past to pass or stop at Cedar Point was that of Celeron de Bienville. There were about 250 men, French regulars, Canadian militia, Indians, a priest and 23 canoes. It was in October,--for days they had travelled on the noble River, lined to its margin with the stately and primitive forest, decked in the regal magnificence of the Autumn colors. It was jeweled with islands and rich with the nodding plumes of the wild rice. How welcome must have been the sheltering crescent of the Point to them, weary and toil worn. Vast flocks of ducks arose as they turned for the shore, as if to welcome them. Soon, camp fires gleamed among the trees and soon began the throb of the Indian drums and the wild, weird melody of the Indian songs. Then the clear tenor of a French voyageur, singing the refrain to an old canoe song:

"Fritaine, friton, friton poelon
Ha! Ha! Ha! frite a'l'huile
Frite au beurre a'l'ognon"

Celeron de Bienville, gentleman of France,--with his full and sonorous title,--Chevalier de l'Ordre Royal et Militaire de St. Louis, was a distinguished guest at Cedar Point 171 years ago and it is pleasant to think of him on that October evening when the gentle night closed in and the hunters moon shimmered on the vast fields of waving rice, enjoying a broiled teal with native mushrooms, washed down with his own genial Burgundy,--"Even as you and I"--a votre sante., Chevalier and bon voyage, into the night that awaits us all.

In the spring of 1757 a party of Caughnewaga and Ottawa Indians in a large chestnut canoe landed at Cedar Point, after a long and stormy trip from Sandusky Bay. These details could not be supplied were it not that among them was a young white man named James Smith, who was captured just before Braddock's defeat in 1755 and adopted by the Indians. He left a narrative of his captivity and put Cedar Point on the page of History for the first time. As he has it, "We put in at the mouth of the Miami of Lake Erie at Cedar Point." They left here in a few days for Detroit with their furs and remained in the Wyandot and Ottawa villages, opposite Fort Detroit, until November when "a number of families prepared for their winter hunt and agreed to cross the Lake together. We encamped at the mouth of the river (Detroit), the first night, and a council was held; whether we should cross by the three islands (East Sister, Middle Sister, and West Sister) or coast around the Lake. These islands lie in a line across the Lake and are just in sight of each other. We concluded to coast it around the Lake and in two days we came to the mouth of the Miami of the Lake. Here we held a council and concluded we would take a driving hunt in concert and in partnership. The River in this place is about a mile broad and it and the Lake form a kind of neck, which terminates in a point. All the hunters (which were fifty* three) went up the River and we scattered ourselves from the River to the Lake. When first we began to move we were not in sight of each other but as we all raised the yell, we could move regularly by the noise. At length we came in sight of each other and appeared to be marching in good order. Before we came to the point both the squaws and the boys in canoes were scattered up the River and along the Lake to prevent the deer from making

their escape by water. As we advanced near the point the guns began to crack slowly and after some time the firing was like a little engagement.

The squaws and boys were busy tomahawking the deer in the water and we shooting them down on land. We killed in all about thirty deer, although a great many made their escape by water.

We had now great feasting and rejoicing as we had plenty of hominy, venison and wild fowl. The geese at this time appeared to be preparing to move southward.

Here our company separated. The chief part of them went up the Miami River that empties into Lake Erie at Cedar Point whilst we proceeded on our journey." And so James Smith fades into the past.

On the tenth of February, 1763, French dominion ceased forever at Cedar Point and new faces were on the highway, the startling red of the British uniform was not uncommon.

During the early summer of 1794 many Indian war parties stopped at the Point, gaily decked and confident in full war paint. Colonel McKee, Superintendent of Indians, under his majesty also went by in state,--but in the late summer they came trailing back weary and war worn,--they had met Tony Wayne at Fallen Timbers.

On the evening of January 23rd, 1813, there arrived at Cedar Point a group of fear-stricken fugitives. The men with tense set faces, pulling heavy sleds;--the women, some with babies --red-eyed with weeping, pinched with cold, almost dropping with fatigue but still glancing back to the North West at the dull red blur in the sky, with awful dread, the children whimpering with the cold,--the group was Joseph Mominee, and the families Beaugrand, escaping from the massacre of the Raisin, over the ice, and back there the friends of hell were still at work. The sheltering arms opened,--there was a lee from the bitter wind, fire, food, sanctuary, and warmed back to life, they too go into the night to safety.

When the blue-winged teal had come back in September of 1813, to be exact on the tenth of that delectable month--there was a strange and beautiful sight from the Point. The sun shone on the sails of a fleet of war vessels and it flew the proud banner of St. George. It never came back. They were looking for Perry and they found him,--and they were his.

A faint echo came to the Point of the sound of guns on the lazy September noon, sometimes distinct enough to start the ducks out of the pond holes and as the last echo died away, Cedar Point came under the Stars and Stripes, surely and permanently. A few days after ghastly reminders were tossed up on the beach,--white drawn faces, which the rushes mercifully hid and the sands gave kindly sepulchre; for them the feverish journey was over and the highway knew them no more.

A picturesque character on the Point in early days was Ol' Joe Chevalier. His cabin stood very near the site of the Club House. He had numerous and presumably homely daughters, his wife was a squaw with alcoholic inclinations. He bought fur and sold whiskey, was a good hunter and hence must have possessed amiable qualities. The light from his cabin as it shone over the Bay was a lure to the recreant and a bait to the unwary, and he who succumbed to its charms must have his alibi ready for domestic use.

There was mirth, merriment and song, beauty and chivalry, and joy certainly was unrefined. They were not all French, the growing town was near and "Joe's" was a drawing card. The rafters must have rung to the old songs of "Rosin the Beau" and "Buffalo Gals" as well as "En Rouland ma Boule!"

Pierre Navarre and his brothers, Antoine La Cource, and many others were willing guests and old Antoine would tell you with tender regret: "Dat was de good h'ol time."

As the years roll on and the blur in the western sky grows larger, the highway becomes more and more crowded and noisy with the restless pant of Commerce. The great ships come and go, but, so far, they have left Cedar Point to its beautiful isolation.

Musing alone before the old fireplace in the Club House, whose lusty youth has passed, one may not feel along, kindly phantoms are in the quiet room, ghosts of the old lovers of the place, many and varied. One and all troop back as children to a mother's knee. It is their Golden Milestone and all roads end there. They are bound together by a mutual comradeship of love for their beautiful mistress. In life they may have roamed and toiled and wept but here is "respite and nepenthe". These old lovers knew her in all her manifold phases of loveliness, in her first robe of tender green, then the red-wing came and the heart stirring and clarion call of the geese and swan drifted down from the sky and the ducks came in joyous myriads. They knew her in the teaming life of summer,--in the "glory of the lilies" and the dreamy beds of lotus, when the wild rice tossed its fairy plumes to the breezes as far as the eye could see,--and the soft summer night stole on, and fire flies danced in dazzling millions.

They knew her in the rich fruition of the fall, gorgeous in color, merging gradually into the warm browne, wrapped in gossamer mists, when her winged lovers came again, a second advent, the fury of her storms, the quiet beauty of her reconciliation. Perhaps they loved her best at this time.

They knew her when the hush of winter came, when in her white drapery she rested, waiting for the coming Spring. True lovers all, they loved her in every mood, whether blythe and jocund in the sunlight, or tearful and pouting in the rain, always brimming with eternal youth.

Some of these kindly presences around the fire we may call by name: Miles D. Carrington, Peter Bordan, Oliver H. Payne, Robert Cummings, Joseph Secor,--Dear old Uncle Joe. How memory kindles and glows with "the tender grace of a day that is dead", of the talk that flowed here, stirring tales of the woods, of the trail, of the campfire, until the beckoning finger came and was gently laid upon their lips.

When the message comes to those of her living lovers who gather there now, and they step softly into the shadow, may they not return and join this goodly company and do homage to Our Dear Lady?

--W. A. Ketcham



JAN 66

Lodge at Cedar Point - "Ike" slept here.
No. 65-13-14 - Manke - 02-01-65



JAN 66

Another view.
No. 65-13-10 - Manke - 02-01-65



JAN 66

Boat and storage building.
No. 65-13-11 - Manke - 02-01-65



JAN 66

"Hanging Shed"
No. 65-13-19 - Manke - 02-01-65



Inherited dredge "The Ruptured Duck"
No. 65-14-19 - F. Martin - 02-01-65



JAN 66

Newly riprapped pumping basin
No. 65-12-5 - Manke - 06-14-65



JAN 66

Newly installed water control structure.
(gated excess rocket containers)
No. 65-12-10 - Manke - 06-14-65



JAN 66

On territory
No. 65-09-18 - Manke - 06-02-65



Dike Erosion
Marsh to left - Lake Erie to right
No. 65-C10-1 - Manke - 06-09-65



Same spot - no storm but with
25 MPH Northeast wind.
No. 65-C10-2 - Manke - 06-09-65



JAN • 66

All that separates Lake Erie from marsh.
No. 65-C10-3 - Manke - 06-09-65



JAN • 66

Same spot with 25 MPH Northeast wind.
No. 65-C10-4 - Manke - 06-09-65



A closer look at danger.
No. 65-C10-5 - Manke - 06-09-65



Exposed roots and debris, marsh in top background.
No. 65-C10-6 - Manke - 06-09-65



JAN • 66

Depth of eatout.
No. 65-C10-7 - Manke - 06-09-65



JAN • 66

Shoreline erosion.
No. 65-C10-8 - Manke - 06-09-65



JAN • 66

End of the line.
No. 65-C10-9 - Manke - 06-09-65



JAN • 66

Feeble attempt.
No. 65-C10-10 - Manke - 08-03-65



Oil spillage into marsh.
No. 65-C10-11 - Manke - 02-15-65



From whence it came, Toledo's Water Pumping Station.
No. 65-C10-12 - Manke - 02-15-65



A closer look at the tarlike substance.
No. 65-C10-13 - Manke - 02-15-65



Spreading with thaw.
No. 65-C10-14 - Manke - 02-25-65

SIGNATURE PAGE

Submitted by:

Alfred O. Manke
(Signature)

Alfred O. Manke
Refuge Manager

Title

Date: March 4, 1966

Approved, Regional Office:

Date: March 11, 1966

Frank R. Martin
(Signature)

Asst.
Regional Refuge Supervisor