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INTRODUCTION

The Ottawa National Wildlife Refuge Complex (NWR) consists of 3 refuges and 5 separate units: the Ottawa Refuge has 3 units- Ottawa (4,580 acres), Navarre (614 acres), and Darby (540 acres); Cedar Point Refuge (2,500 acres); and West Sister Island Refuge (82 acres).

The total refuge acreage is 8,316 acres, of which 5,350 acres are either open pools, marsh, or moist soils units. Water levels in 3,306 acres can be controlled by gravity drainage and filling; 1,250 acres, water is uncontrolled; 576 acres of marsh are controlled by pumps; and in 749 acres of moist soil units, water levels are controlled by pumping. The remaining acreage is a mixture of grassland, forest and cropland.

Soil conditions in all of the western basin Lake Erie marshes contain botulism type C bacteria. Whenever conditions are right, the bacteria will grow and present serious potential loss of waterfowl and shorebirds. Anaerobic conditions in August and September in shallow, warm water create ideal botulism conditions. Carp carcasses in August can fill with fly maggots that concentrate the botulism toxin. The carp-maggot cycle of potential spread to waterfowl was documented on the refuge in maggots in August 1987. In the preparation of water management plans and in the manipulation of water levels, botulism must always be considered a serious threat in late summer.

Refuge personnel could be requested to assist if disease problems arise in local state and privately owned marshes. Refer to APPENDIX A for maps of the local area.

DISEASE SURVEILLANCE

No formal wildlife disease monitoring is currently done at the refuge. The majority of the refuge is accessible by the dike system and is frequently travelled when doing routine maintenance, waterfowl population census and purple loosestrife surveillance and spraying.

The refuge airboat is heavy and difficult to get in and out of the marshes because there are few access ramps into pools and units. The refuge will be purchasing a lighter, more maneuverable boat and constructing ramps to improve access.

When sick or dead birds are located and contagious disease suspected, the Health Lab is notified immediately and specimens sent to them to identify the cause of death. The U.S. FWS Health Lab has facilities to quickly diagnose and/or confirm suspected wildlife disease outbreaks.

DISEASE RESPONSE

I. Logistical Considerations

A. Personnel Sources

U.S. Fish and Wildlife Service

1. Region III, Division of Refuges (RF1); Minneapolis, MN; Regional Refuge Supervisor (612) 725-3701
2. National Wildlife Health Laboratory; Madison, WI
Karen Roertgen; Mississippi Flyway Contact
(608) 364-5422
3. Ecological Services; Reynoldsburg, OH; Kent
Kroonemeyer, Field Supervisor, (614) 469-6923

Ohio Department of Natural Resources

1. Crane Creek Wildlife Experiment Station; Oak Harbor, OH; Jack Weeks, Head Biologist, (419) 898-0960.

Volunteers

A list of current refuge volunteers is kept in refuge files. No outside volunteer help would be requested.

B. Equipment

1. Vehicles

a. Conventional

Cargo trucks (3/4 ton, manual trans) one each
(1/2 ton, manual trans) three each
Van (15 passenger capacity) one each
Station wagon (4 passenger capacity) one each

b. All terrain

Four-wheel drive Ramcharger (auto trans) one each
Four-wheel drive cargo truck (1/2 ton, manual trans) one each
Honda four-wheel all terrain motor bike - one each

2. Aircraft

a. Fixed wing

The ODNR would assist the refuge with fixed winged aircraft in a major outbreak. Contact through Crane Creek Wildlife Experiment Station; Oak Harbor, OH; (419) 898-0960.

b. Rotary

The ODNR would assist the refuge with rotary aircraft in a major outbreak. Contact through Crane Creek Wildlife Experiment Station; Oak Harbor, OH; (419) 898-0960.

3. Heavy Equipment

Case backhoe/loader - one each
John Deere dozer - JD450C - one each
Dump truck - one each
Soilmover scraper - 7CY - one each
John Deere tractor - 410 - one each
John Deere tractor (PYO, Cab and AC) model 2750
one each
White tractor (Cab and AC) model 2-135 - one
each
Allis-Chalmers tractor (Cab and AC) model 7010 -
one each

4. Boats

a. Motor

21 foot Starcraft (140 HP Motor) one each
16 foot Boston Whaler (55 HP Evinrude) one
Outboard motors 90 HP w/pwr TRM and tilt
9.9 HP 20" shaft - one each
Aluminum v-bottom (12') - one each
Aluminum flat-bottom boat - one each

b. Self-propelled

Aluminum canoe (14', 16') - one each

c. Airboats

Aluminum airboat (350 cubic inch auto engine)
one each

5. Radios

a. Portable

Motorola handheld portable - four each
Charging unit - two each
Motorola Packset - one each

b. Fixed

Kenwood base station - one each
Motorola vehicle mounted radio units - seven
each
Uniden Maritime boat mounted radio unit (band J)
one each
Regency desk mounted unit - one each

6. Incinerator

None at the refuge - one will be built onsite.

7. Decontamination Units

a. Sprayers

50 gallon, 3 HP engine, nozzle spray gun
250 gallon John Deere, 8 nozzle boom or spray gun
400 gallon fire pumping unit, 16 HP Briggs and
Stratton engine (for water hauling only)
5 gallon backpack sprayers, hand pumped, variety
of nozzles, 4 each

b. Spray Tanks

There are no spray tanks on the refuge.

8. Scaring Devices

Propane exploders - two each
Shell crackers - several thousand rounds
Zingers - several boxes

9. Pumps

Pump Station (15,000 gallons/minute) - one each
Crisafulli pump (standard lift, PTO, tires; 10,000
gallons/minute) - 2 each
Ford pump - 8 inch; 200gpm - one each

10. Other

Oil Spill Trailer (located Ecological Services Office

in Columbus, Ohio) The spill trailer could be a valuable unit in a large disease outbreak, especially one located some distance from the refuge. For a listing of the equipment and supplies maintained in the spill trailer see Appendix M.

C. Supply Sources

1. Disinfectants/chemicals, plastic bags, field clothes (gloves, rainwear, coveralls), plastic trash barrels, tubs, scrub brushes:

Fremont, OH

Farm and Fleet, 3801 W. State St. (419) 332-5557

Oak Harbor, OH

Gordon Lumber, 127 S. Locust (419) 898-2241

Lucky Farmers, 640 N. Locust (419) 898-4441

Toledo, OH

Howard T. Moriarity Co., 143 Broadway St.

(419) 243-5544

2. Fuel for Carcass Burning

Approximately 2,000 gallons of fuel oil is stored at the refuge for construction purposes. This supply will be utilized if needed.

3. Dry Ice

Toledo, OH

Carbonic Enterprises Dry Ice, 2733 Glendale Avenue
(419) 385-4145

Sandusky, OH

Sandusky Ice Co., 1215 Filmore (419) 627-0479

D. Lodging for Temporary Personnel Assigned to Disease Control Operations

No facilities available on-site at refuge. Majority of personnel assisting with disease control operations live in the immediate area. Refer to APPENDIX B for a list of alternative lodging facilities available in nearby communities.

E. Food Sources for Temporary Personnel Assigned to Disease Control Operations

1. On-site capabilities

No facilities available on-site at the refuge.

2. Off-site capabilities

Refer to APPENDIX C for list of sources off-site.

F. Identification of Working Areas

1. Clean Areas

a. Command post

Refuge is the only location with phone service. Refuge phone numbers are (419) 898-0014, 898-7985.

b. "Press" and briefing room

Refuge office reception room area is the only suitable location.

c. Parking

Refuge office maintenance area, Butternut Lodge and public use parking lots are available for parking. These areas combined will handle up to 100 vehicles.

d. Eating Areas

Refuge manager's office and the reception area are both lighted, heated and have tables. Butternut Lodge is lighted, can be heated and has several large tables that can be utilized if necessary.

e. Staff Congregation and Rest Area

Same as above.

2. Transition Areas

Decontamination of personnel and equipment will be done at the YACC building. This building is located away from the clean areas but is not heated and water would have to be hauled in. The only shower and clothes washing facilities at the refuge are located at the refuge shop, which could be used for secondary disinfecting.

3. Contaminated Areas

a. Carcass Disposal

Refuge does not own an incinerator. Carcasses will be buried in the farm fields or burned in a pit in an appropriate location near the outbreak area.

b. Laboratory Investigations

No facilities available on the refuge. Specimens will be stored temporarily in the ODNR freezer until they could be sent to the FWS National Wildlife Health Lab in Madison, WI. An excellent lab facility is available at the adjacent ODNR facility and could be used if needed.

c. Animal Holding

Temporary enclosures could be set up in the YACC building's cold bays or at the Q-9 barn.

II. Biological Considerations

A. Species and Population Data-By Relative Abundance and Season of Presence on Horicon NWR

1. Waterfowl

a. Average Monthly Waterfowl Population, 1987 - APPENDIX D

b. Peak Monthly Waterfowl Population, 1987 - APPENDIX E

c. Waterfowl Use Days, 1987 - APPENDIX F

2. Federal and State Threatened/Endangered Species

APPENDIX G

3. Marsh and Water Birds; Shorebirds, Gulls and Terns

Use Days, 1985 - APPENDIX I

4. Raptorial Birds

Use Days, 1985 - APPENDIX J

5. Mammals

Use Days, 1985 - APPENDIX K

B. Animal Movement Patterns

Major portions (3/4) of the refuge are diked and intensively managed. Large areas are drawn down and refilled annually, so movement patterns change too frequently to map. General trends - ducks and geese use the refuge as a nesting/roosting area and move south west into agricultural fields to feed. Migrating waterfowl congregate at the refuge moving north and south in a normal migration pattern, and too a lesser extent moving east and west between the Sandusky Bay - Ottawa/Magee marsh complexes. Peak concentrations occur in the fall.

C. Weather Patterns

1. Freeze-up and Ice Out Periods

a. Freeze-up

General weather patterns at Ottawa NWR are affected by Lake Erie. The Refuge may be frozen when the lake still has open spots. Waterfowl will utilize these open areas until the marsh waters open. The last few mild winters, have prevented the lake from completely icing over for more than 1-2 weeks at a time. Ottawa has several freeze/ thaw periods during the course of one winter. Generally, freeze ups occur during Mid-December.

b. Ice out period

Generally, ice is completely gone by March 1-15th.

2. Precipitation Data

The following information is based on the rainwater level gauge monitored at the refuge.

	<u>Precipitation (Inches)</u>	
	<u>Average</u>	<u>Greatest amount recorded '85-87</u>
January	1.62	2.43
February	1.57	2.75

March	2.44	4.66
April	2.91	2.12
May	3.22	4.57
June	3.78	6.17
July	3.63	3.94
August	3.42	7.34
September	3.37	5.02
October	2.18	3.72
November	3.13	7.5
December	2.93	2.80
34.20		N/A

3. Temperature Profile

Average of temperatures automatically recorded at the refuge with NOAA equipment.

<u>Month</u>	<u>Average Temperature</u> <u>('85-'87) F</u>
January	25.40
February	25.92
March	40.57
April	51.05
May	63.98
June	70.55
July	70.51
August	66.86
September	65.64
October	52.19
November	43.74
December	30.91

D. Habitat and Population Manipulation Potential

1. Methods

a. Water Manipulation Capability

Pump Station - 15,000 gallons/minute or 65 acre ft/day capacity

16" Crisafulli Pump - 10,000 gallons/minute or 44 acre feet/day capacity (two each)

Water Control Structures - most units have a water control structure that can release water if the lake levels are below the unit's water level or increase levels if the lake is

higher.

Small electrical pumps - size and working condition vary

The pump station indirectly manipulates water levels in MSU 3, 4 and 5 by controlling the water level of the ditch that they drain into. The pump's culverts can be opened to allow the water to gravity drain, or it can be actively pumped.

Almost all of the small electrical pumps drain the cooperatively farmed fields by draining adjoining ditches.

Crisafulli pumps can be used to drain any of the pools or units should other methods of drainage be inadequate. Pumping the larger units such as Ottawa - Pool 1 or Cedar Point - Pool 1 would be extremely expensive and slow.

b. Scaring Devices

Propane exploders, shell crackers and/or hazing with aircraft or airboat are available tools for causing bird movement out of a target area on the refuge.

2. Anticipated Population Response to Habitat Manipulation

a. Water Manipulation

Water level manipulation of any pools or moist soil units will cause a shift in the bird use pattern. Lowering levels or draining an area will reduce the habitat for waterfowl but may increase habitat for shorebirds. Flooding or raising an area will increase the habitat for waterfowl. Draining areas with disease potential while flooding "safe" areas will redirect heavy use from problem areas and reduce the dieoff potential.

b. Scaring Devices

Birds will quickly become accustomed to routine noise. Propane exploders and/or airboats/ aircraft must be moved frequently to cause maximum disturbance in the area. Care must be taken not to disrupt nesting activities of

bald eagles. Use of the technique(s) that will cause the most localized impact is preferable.

E. Past History of Disease

The following table provides the known disease outbreaks on the refuge in recent years:

<u>Year</u>	<u>Months</u>	<u>Disease</u>	<u>Species Affected</u>	<u>Carcasses Retrieved</u>
1984	Aug.-Sept.	Botulism Suspected	Mallard	2
1983	Mid-Aug.	Botulism Type C	Ducks, Coots, Herons	500
1981	January	Botulism Suspected	Ducks, Geese	15
1980	Sept.-Dec.	Botulism	Ducks, Geese	2,871
1966	unknown	Lead Poisoning	Ducks, Geese	60
1964	unknown	Lead Poisoning	Ducks, Geese, Swans	150
1962	Feb.-March	Lead Poisoning	Swans	100

Since Ottawa was activated in 1961, there have only been two confirmed outbreaks of wildlife disease. Lead poisoning was a problem in the beginning because most of the refuge was originally hunting clubs that had deposited lead shot on the area for twenty years. Nature eventually corrected the problem by burying the shot deep enough that it was no longer heavily fed upon. A few birds (geese) continue to die on the refuge each year due to suspected lead poisoning although they have not been confirmed as lead killed.

In the bays and marshes around Ottawa, there have been two cases of poisoning. One incident involved lead in 1963 in which sixty waterfowl died and the other in 1965 involved Chlorinated Hydrocarbons that were stirred up from the bottom of Maumee Bay during a dredging project. There were also two

cases of botulism; in 1961 and in 1984 (250 ducks, gulls and shorebirds died). The refuge was called on for assistance in each case.

III. Communications

A. State Agencies

1. Conservation-Ohio Department of Natural Resources

- a. Crane Creek Wildlife Experiment Station
Gedo Tori - Supervisor
13229 W. St. Rt. 2
Oak Harbor, OH 43449
(419) 898-0960

2. Agriculture

- a. Ohio Department of Agriculture
Director Steve Mauer
Reynoldsburg, OH 43068
(614) 866-6361
(800) 282-1955

3. Ohio EPA

- a. Ohio Environmental Protection Agency
Northwest District Office
1035 Deviar Grove Drive
Bowling Green, OH 43402
(419) 352-8461
(800) 282-9378 (24 hour emergency line)

B. Federal Agencies

1. USDA

- a. U.S. Department of Agriculture
APHIS - Animal Damage Control
6100 Columbus Avenue
Sandusky, Ohio 44870
(419) 625-0242

2. EPA

- a. Environmental Protection Agency, Region 5
230 S. Dearborn Street
Chicago, IL 60604
(419) 535-2000

3. Public Health Service

- a. Regional Health Administrator
Public Health Service, Region 5
300 S. Wacker Dr.
Chicago, IL 60606
(312) 353-1385

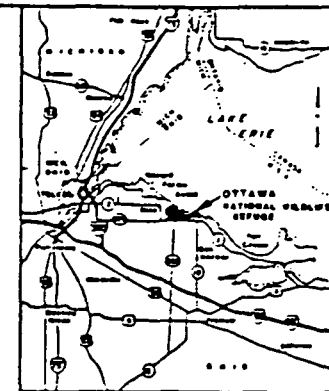
C. County Agencies-Public Health

- 1. Ottawa County Public Health Officer
Ottawa County Offices and Courthouse
315 Madison
Port Clinton, OH
(419) 734-4431
- 2. Lucas County Public Health Officer
One Government Center
Toledo, OH
(419) 245-4100

D. News Media - APPENDIX L

- 1. TV
- 2. Radio
- 3. Newspapers

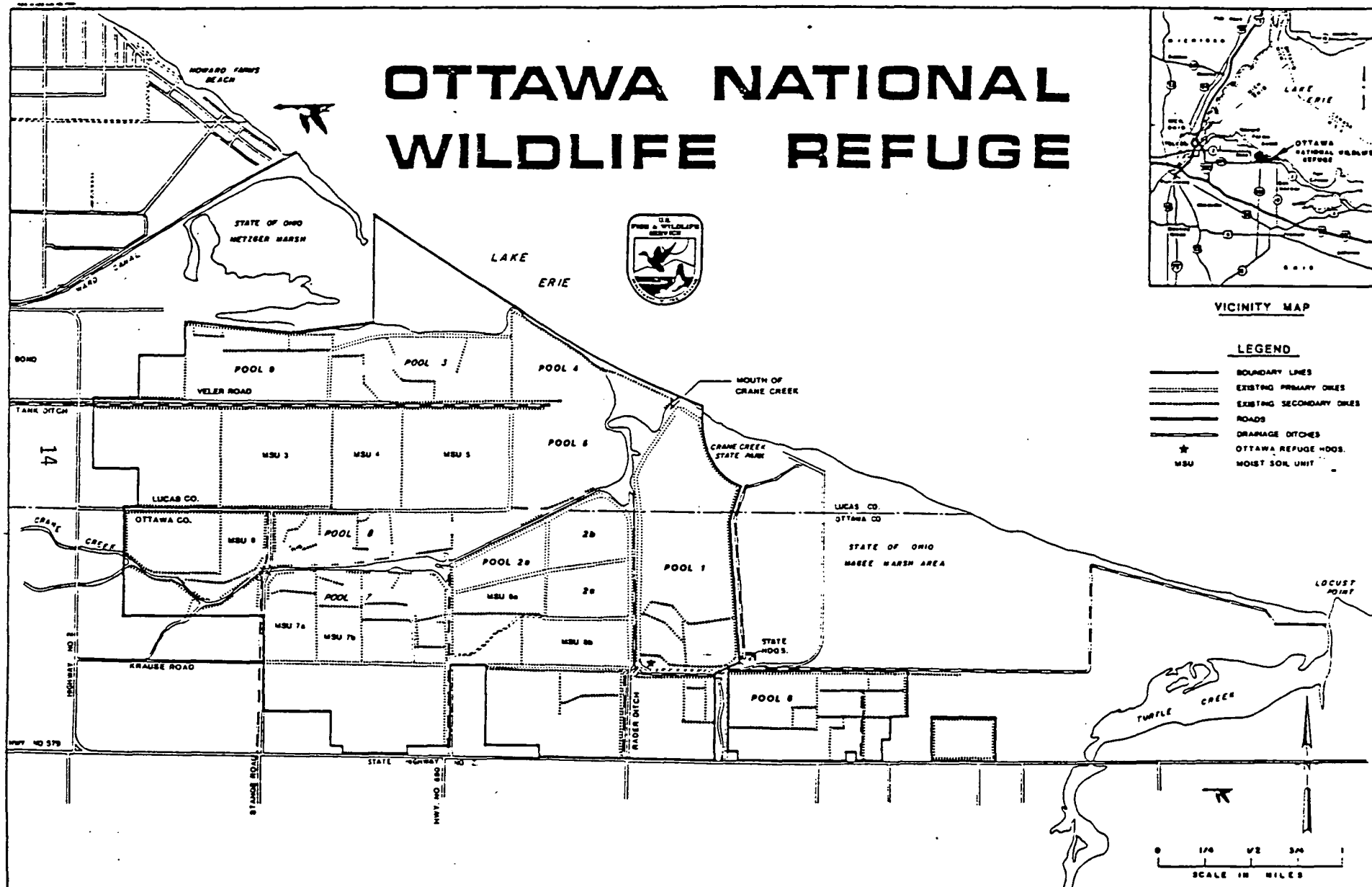
OTTAWA NATIONAL WILDLIFE REFUGE



VICINITY MAP

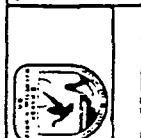
LEGEND

- BOUNDARY LINES
- EXISTING PRIMARY DIKES
- EXISTING SECONDARY DIKES
- ROADS
- DRAINAGE DITCHES
- ★ OTTAWA REFUGE HOODS.
- MSU MOIST SOIL UNIT



APPROVED BY DATE	DESIGNED BY DATE	DRAWN BY DATE
	J.V.R. JAN. 1968	M.C.G. JAN. 1968

APPROVED BY DATE	DESIGNED BY DATE	DRAWN BY DATE
	J.V.R. JAN. 1968	M.C.G. JAN. 1968



OTTAWA NATIONAL WILDLIFE REFUGE	STATE OF OHIO
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STATION LAYOUT & VICINITY MAP	OTTAWA CO.
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LUCAS CO.	OTTAWA CO.
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STATE OF OHIO	OTTAWA CO.
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STATE OF OHIO	OTTAWA CO.
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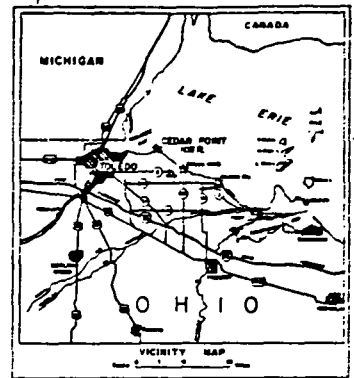
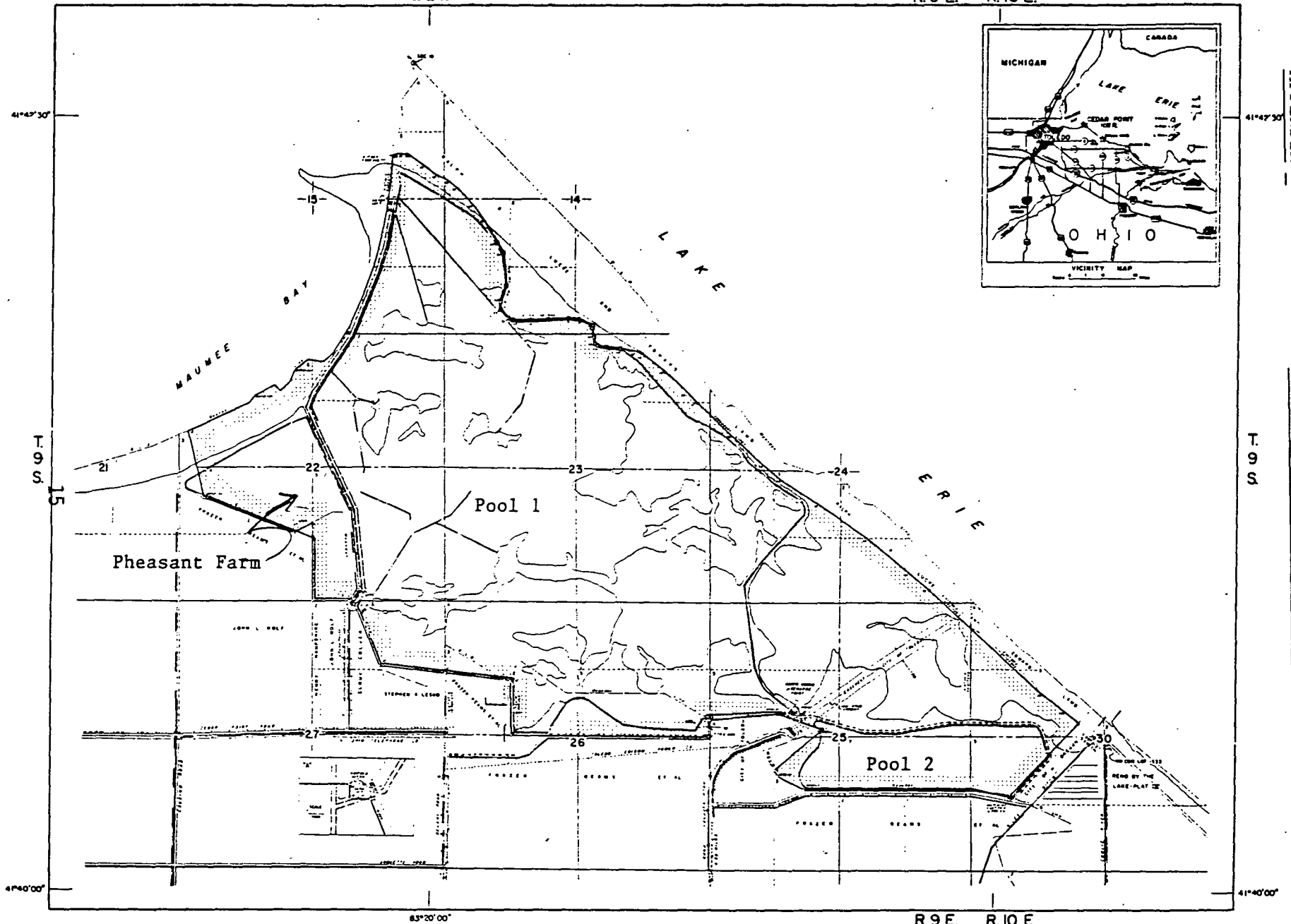
CEDAR POINT NATIONAL WILDLIFE REFUGE

AS COUNTY, OHIO

UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

R.9 E. R.10 E.

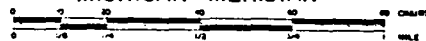


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FROM AERIAL PHOTOGRAPHS AND SURVEYS
BY THE B.S.F.W. & S.L.M.

MINNEAPOLIS, MINNESOTA

APRIL, 1967

MICHIGAN MERIDIAN



R.9 E. R.10 E.

61°14'32.7"
71°18'10.1"
81°17'10.1"
91°17'10.1"
101°17'10.1"
111°17'10.1"
121°17'10.1"
131°17'10.1"
141°17'10.1"
151°17'10.1"

TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1963

APPENDIX A

MAPS OF OTTAWA NWR COMPLEX

T.9 S.

41°40'00"

OTTAWA NATIONAL WILDLIFE REFUGE (DARBY DIVISION)

OTTAWA COUNTY, OHIO

R. 16 E.

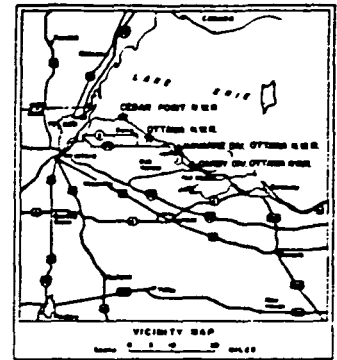
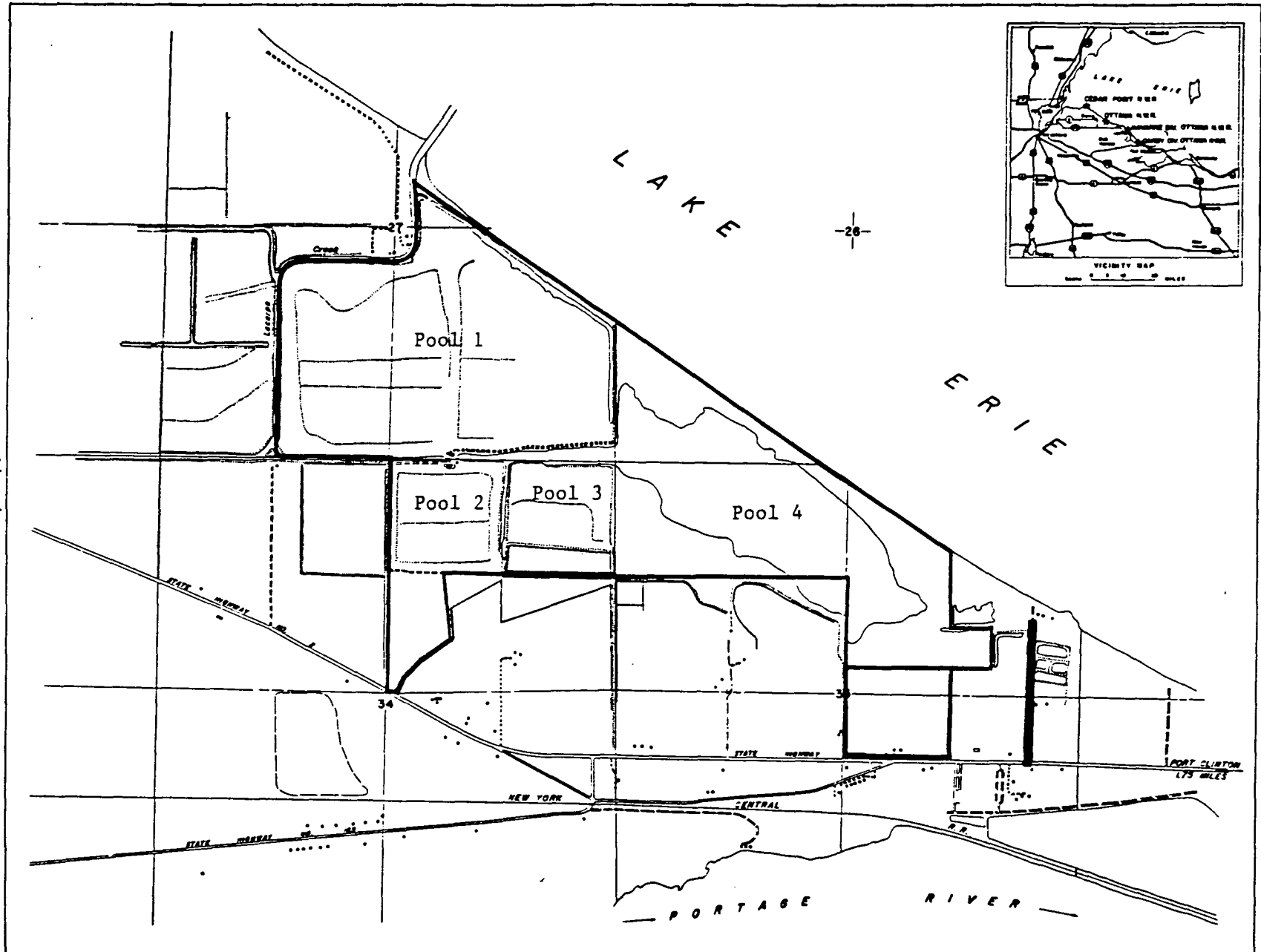
UNITED STATES
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

APPENDIX A

MAPS OF OTTAWA NWR COMPLEX

T. 7 N.



COMPILED IN THE BRANCH OF ENGINEERING
FROM AERIAL PHOTOGRAPHS, SURVEYS BY
THE S.L.H. & S.M. BARTON SURVEY CO.

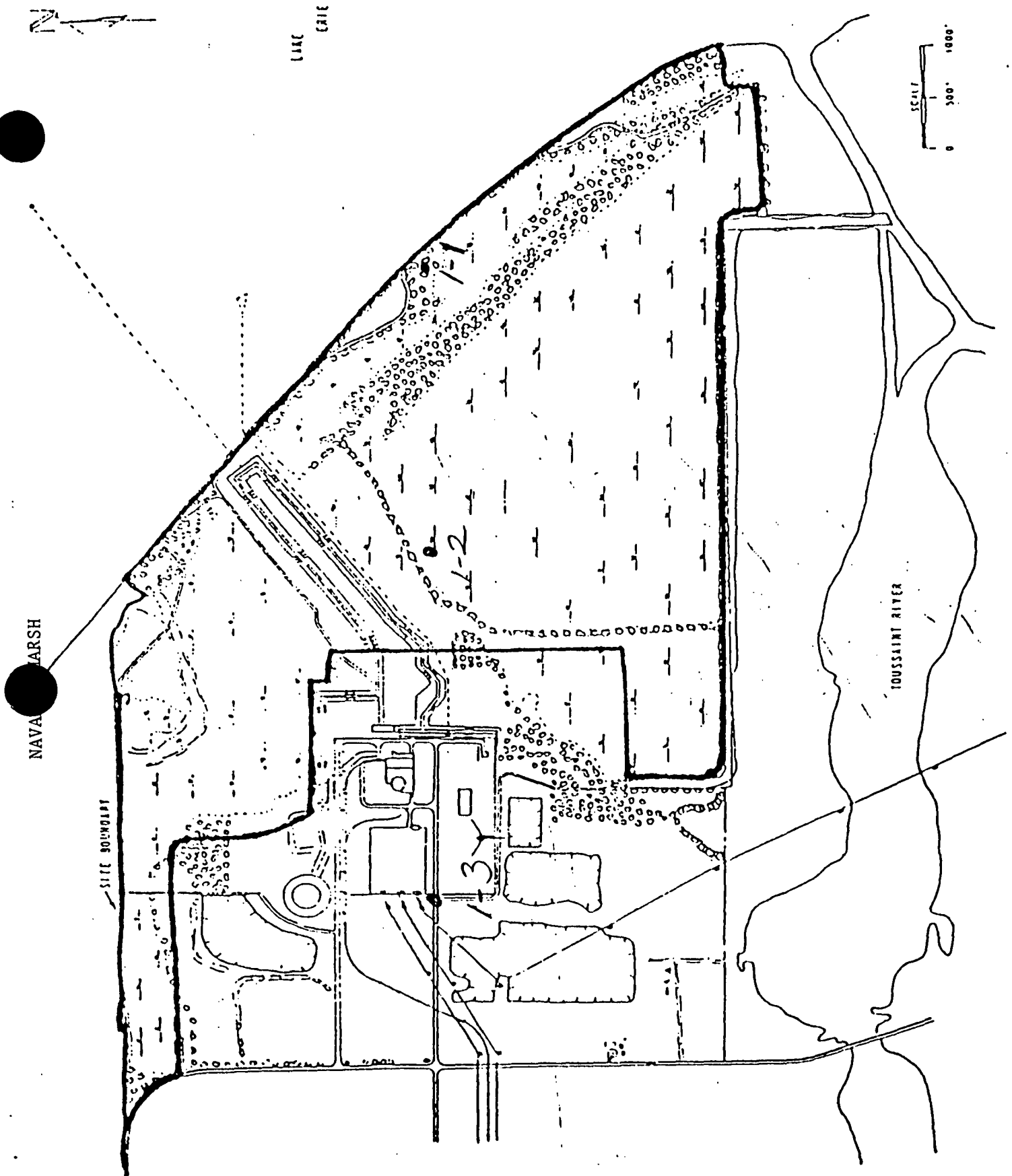
MINNEAPOLIS, MINNESOTA

SEPTEMBER, 1967

R. 16 E.
FIRST PRINCIPAL MERIDIAN
Scale 0 100 200 300 400 500 FEET

TOWNSHIP
DIAGRAM

MEAN
DECLINATION
1963



APPENDIX B

LODGING SOURCES FOR TEMPORARY PERSONNEL ASSIGNED TO DISEASE
CONTROL OPERATIONS

OAK HARBOR

Oak Harbor Hotel
200 W. Water Street
(419) 898-4841

PORT CLINTON

Edgewater Motel
1235 W. Lakeshore Dr.
(419) 734-1024

L & K Motel
1811 Harbor Rd.
(419) 732-2111

Old Island House Inn
102 Madison Street
(419) 734-2166

Whitecaps Motel
2186 W. Lakeshore Drive
(419) 734-3816

OREGON

Seneca Motel
2935 Navarre (W. St. Rt. 2)
(419) 691-0792

Quality Inn
2426 Oregon Rd.
(419) 666-2600

APPENDIX C

RESTAURANTS IN IMMEDIATE VICINITY OF OTTAWA NWR

OAK HARBOR

Beach Carte Tavern	898-1215
Green Derby	898-4052
Kozy Korner's Restaurant	898-2593
Oak Harbor Family Restaurant	898-3281
Oak Harbor Hotel	898-4841
Old Time Grill	898-6844

MARTIN

Blackberry Corners Tavern	836-8377
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GRAYTOWN

Ken and B.J.'s Restaurant	836-9924
The Country Keg	862-2939

PORT CLINTON

Golden Crown Restaurant	734-5579
Little Ceasar's Family Inn	734-5571
Madison Street Cafe	734-2166
Mayhew's Restaurant	732-3259

APPENDIX D

AVERAGE MONTHLY WATERFOWL POPULATION: 1987

Waterfowl Average Populations Report
 Ottawa National Wildlife Refuge
 Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Mon. Ave.
American Coot	0	0	40	720	0	20	30	30	100	100	500	0	128
Whistling Swan	5	8	150	0	0	0	0	0	0	0	10	10	15
Snow-Blue Goose	0	0	0	5	0	0	0	0	0	20	10	0	3
Canada Goose	10000	6000	5500	1700	900	1000	1200	1000	900	7500	13000	12000	5058
Mallard	2700	200	800	1000	400	300	1200	2000	3000	15000	12000	900	3292
Black Duck	800	50	200	350	50	0	0	30	100	4000	8000	5000	1548
Sadwall	0	0	100	200	10	10	30	30	0	300	100	0	65
Pintail	0	0	10	100	0	0	0	0	100	3000	500	0	309
Green-winged Te	10	0	50	300	50	0	0	0	50	1000	500	0	163
FW/Cinn Teal	0	0	0	200	100	20	50	400	300	50	0	0	93
Widgeon	10	20	200	150	0	10	0	0	50	1500	800	0	228
Shoveler	0	0	10	160	0	0	0	0	0	30	30	0	19
Wood Duck	0	0	20	180	400	200	300	400	200	400	100	0	183
Redhead	0	10	20	100	0	0	0	0	0	10	10	0	13
Long-Necked Duc	10	10	10	150	0	0	0	0	0	50	0	0	19
Canvasback	300	200	100	100	0	0	0	0	0	0	0	0	58
Lesser Scaup	20	0	100	80	0	0	0	0	0	300	30	0	44
Bufflehead	20	0	40	50	0	0	0	0	0	10	10	0	11
Black Duck	0	0	40	100	10	5	0	0	0	10	10	0	15
Blue-eye	50	400	100	100	0	0	0	0	0	0	0	50	58
Hooded Merganser	0	20	50	150	100	30	30	30	20	200	30	0	55
Common Merganser	50	100	200	100	0	0	0	0	0	0	200	500	96
Totals	13975	7018	7740	5995	2020	1595	2840	3920	4820	33480	35840	18460	11475
Total Geese	10000	6000	5500	1705	900	1000	1200	1000	900	7520	13010	12000	5061
Total Ducks	3920	890	1800	3320	1020	545	1580	2860	3800	25660	22090	5950	6120
Total Merg.	50	120	250	250	100	30	30	30	20	200	230	500	151

APPENDIX D

AVERAGE MONTHLY WATERFOWL POPULATION; 1987

Waterfowl Average Populations Report
Cedar Point National Wildlife Refuge
Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Mon.Ave
American Coot	0	0	20	100	200	100	80	130	200	1500	300	0	219
Whistling Swan	0	0	20	0	0	0	0	0	0	1	10	20	4
Snow-Blue Goose	2	0	0	0	0	0	0	0	0	10	0	0	1
Canada Goose	100	200	100	80	300	500	500	500	100	1200	600	1000	432
Mallard	30	100	200	400	800	500	700	1500	700	6000	7000	3000	1744
Black Duck	10	50	50	200	100	0	0	100	200	1000	3000	2000	559
Gadwall	0	0	50	300	50	20	20	40	40	1000	1000	0	210
Pintail	0	0	20	50	40	10	0	10	50	2000	700	0	240
Green-winged Te	0	0	20	50	50	10	0	10	100	1000	400	0	137
FW/Ginn Teal	0	0	0	200	400	70	120	300	100	200	0	0	116
Amer. Widgeon	0	0	50	100	10	10	0	30	200	1500	100	0	167
Sh. Wier	0	0	0	50	10	10	0	0	20	100	0	0	16
Wood Duck	0	0	10	80	300	300	400	400	150	200	50	0	158
Redhead	0	20	20	20	10	10	0	0	0	20	10	0	9
Ring-Necked Duc	0	0	200	100	10	0	0	0	0	20	50	0	32
Canvasback	100	100	50	50	0	0	0	0	0	0	0	0	25
Lesser Scaup	0	100	50	400	0	0	0	0	0	50	100	0	58
Pufflehead	0	50	0	50	10	10	0	0	0	10	30	0	13
Ruddy Duck	0	0	10	300	30	10	0	0	0	20	20	0	33
Goldfinch	200	50	10	40	0	0	0	0	0	0	0	100	33
W. Merganser	0	0	10	40	20	30	50	50	20	30	30	0	23
W. Merganser	100	100	40	50	0	0	0	0	0	10	400	1000	142
Totals	542	770	930	2650	2340	1590	1870	3070	1890	15871	13800	7120	4370
Total Geese	102	200	100	80	300	500	500	500	100	1210	600	1000	433
Total Ducks	340	470	740	2390	1820	960	1240	2390	1560	13120	12460	5100	3549
Total Merg.	100	100	50	90	20	30	50	50	20	40	430	1000	165

APPENDIX E

PEAK MONTHLY WATERFOWL POPULATIONS; 1987

Waterfowl Peak Populations Report
 Ottawa National Wildlife Refuge
 Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Mon. Ave.
American Coot	0	0	50	1000	75	30	50	40	200	200	1200	0	237
Whistling Swan	10	10	300	0	0	0	0	0	0	0	20	30	31
Snow-Blue Goose	0	0	0	10	0	0	0	0	0	60	20	0	8
Canada Goose	13000	6500	7000	2000	1200	1200	1500	1200	1100	10500	17000	17000	6500
Mallard	3000	300	950	1200	600	400	2000	5000	5000	22000	19000	12000	5954
Black Duck	900	100	300	500	75	0	0	100	200	7000	14000	7000	2515
Sadwall	0	0	210	400	20	15	50	90	0	450	600	0	153
Pintail	0	0	20	200	0	0	0	0	200	4500	1500	0	535
Green-winged Te	20	0	100	400	100	0	0	0	150	2500	1500	0	398
P. Ginn Teal	0	0	0	500	300	40	100	900	400	200	0	0	203
A. Widgeon	20	50	250	300	0	15	0	0	150	2500	2000	0	440
Shoveler	0	0	60	300	0	0	0	0	0	100	200	0	55
Wood Duck	0	0	20	280	700	300	400	500	300	800	200	0	292
Redhead	0	20	50	200	0	0	0	0	0	50	20	0	28
Ring-Necked Duc	10	20	10	300	0	0	0	0	0	100	0	0	37
Canvasback	500	300	100	200	0	0	0	0	0	0	0	0	72
Lesser Scaup	50	0	220	150	0	0	0	0	0	500	50	0	81
Redhead	40	0	60	100	0	0	0	0	0	30	20	0	21
Black Duck	0	0	100	250	20	10	0	0	0	30	30	0	37
Goldeneye	100	900	150	200	0	0	0	0	0	0	0	200	129
Hooded Merganse	0	50	100	300	150	40	50	50	30	400	50	0	102
Common Merganse	30	240	300	200	0	0	0	0	0	0	400	1000	185
Totals	17730	8490	10350	8990	3240	2050	4150	7880	7730	51920	57810	37230	19131
Geese	13000	6500	7000	2010	1200	1200	1500	1200	1100	10560	17020	17000	6608
Total Ducks	4640	1690	2600	5480	1815	780	2550	6590	6400	40760	39120	19200	10969
Total Merg.	80	290	400	500	150	40	50	50	30	400	450	1000	287

APPENDIX E

PEAK MONTHLY WATERFOWL POPULATIONS; 1987

Waterfowl Peak Populations Report
Cedar Point National Wildlife Refuge
Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Mon. Ave
American Coot	0	0	20	200	400	200	100	200	400	3000	700	0	435
Whistling Swan	0	0	50	0	0	0	0	0	0	10	40	50	13
Snow-Blue Goose	5	0	0	0	0	0	0	0	0	30	0	0	3
Canada Goose	200	200	200	200	500	700	700	700	200	2900	2000	2500	917
Mallard	50	300	200	600	1200	700	1200	3000	1500	10000	9000	7000	2896
Black Duck	20	100	100	300	200	0	0	150	400	3000	5000	4000	1106
Gadwall	0	0	50	400	75	40	30	120	100	3500	3500	0	651
Pintail	0	0	20	100	100	20	0	30	75	3500	2000	0	487
Green-winged Te	0	0	20	100	100	20	0	50	300	3500	1500	0	466
BW/Ginn Teal	0	0	0	300	700	120	200	800	300	400	0	0	235
Widgeon	0	0	100	200	20	20	0	120	800	3500	400	0	430
Shoveler	0	0	0	100	20	20	0	0	30	200	0	0	31
Wood Duck	0	0	50	100	600	500	500	500	300	400	100	0	254
Redhead	0	50	20	60	20	20	0	0	0	50	30	0	21
Ring-Necked Duc	0	0	300	200	20	0	0	0	0	100	100	0	60
Canvasback	200	200	50	100	0	0	0	0	0	0	0	0	46
Lesser Scaup	0	200	50	1500	0	0	0	0	0	200	400	0	196
Bufflehead	0	50	0	100	20	20	0	0	0	40	80	0	25
F Duck	0	0	50	800	50	20	0	0	0	50	50	0	85
Eye	300	100	10	100	0	0	0	0	0	0	0	300	68
Hooded Merganse	0	0	20	100	40	50	70	100	50	150	100	0	57
Common Merganse	200	100	100	200	0	0	0	0	0	100	1000	4000	475
Totals	975	1300	1410	5760	4065	2450	2800	5770	4455	34630	26000	17850	8955
Total Geese	205	200	200	200	500	700	700	700	200	2930	2000	2500	920
Total Ducks	570	1000	1020	5060	3125	1500	1930	4770	3305	28440	22160	11300	7057
Total Merg.	200	100	120	300	40	50	70	100	50	250	1100	4000	532

APPENDIX F

WATERFOWL USE DAYS; 1987

Waterfowl Use Days Report
 Ottawa National Wildlife Refuge
 Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
American Coot	0	0	1240	21600	0	600	930	930	3000	3100	15000	0	46400
Whistling Swan	155	224	4650	0	0	0	0	0	0	0	300	310	5639
Snow-Blue Goose	0	0	0	150	0	0	0	0	0	620	300	0	1070
Canada Goose	310000	168000	170500	51000	27900	30000	37200	31000	27000	232500	390000	372000	1847100
Mallard	83700	5600	24800	30000	12400	9000	37200	62000	90000	465000	360000	27900	1207600
Black Duck	24800	1400	6200	10500	1550	0	0	930	3000	124000	240000	155000	567380
Gadwall	0	0	3100	6000	310	300	930	930	0	9300	3000	0	23870
Pintail	0	0	310	3000	0	0	0	0	3000	93000	15000	0	114310
Green-winged Teal	310	0	1550	9000	1550	0	0	0	1500	31000	15000	0	59910
Common Teal	0	0	0	6000	3100	600	1550	12400	9000	1550	0	0	34200
Amer. Widgeon	310	560	6200	4500	0	300	0	0	1500	46500	24000	0	83870
Shoveler	0	0	310	4800	0	0	0	0	0	930	900	0	6940
Wood Duck	0	0	620	5400	12400	6000	9300	12400	6000	12400	3000	0	67520
Redhead	0	280	620	3000	0	0	0	0	0	310	300	0	4510
Ring-Necked Duck	310	280	310	4500	0	0	0	0	0	1550	0	0	6950
Canvasback	9300	5600	3100	3000	0	0	0	0	0	0	0	0	21000
Lesser Scaup	620	0	3100	2400	0	0	0	0	0	9300	900	0	16320
Redhead	620	0	1240	1500	0	0	0	0	0	310	300	0	3970
Goldeneye	0	0	1240	3000	310	150	0	0	0	310	300	0	5310
Goldeneye	1550	11200	3100	3000	0	0	0	0	0	0	0	1550	20400
Hooded Merganser	0	560	1550	4500	3100	900	930	930	600	6200	900	0	20170
Common Merganser	1550	2800	6200	3000	0	0	0	0	0	0	6000	15500	35050
Totals	433225	196504	239940	179850	62620	47850	88040	121520	144600	1037880	1075200	572260	4199489
1. Geese	310000	168000	170500	51150	27900	30000	37200	31000	27000	233120	390300	372000	1848170
Total Ducks	121520	24920	55800	99600	31620	16350	48980	88660	114000	795460	662700	184450	2244060
Total Merg.	1550	3360	7750	7500	3100	900	930	930	600	6200	6900	15500	55220

APPENDIX F

WATERFOWL USE DAYS; 1987

Waterfowl Use Days Report
Cedar Point National Wildlife Refuge
Calendar Year 1987

Species	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
American Coot	0	0	620	3000	6200	3000	2480	4030	6000	46500	9000	0	80830
Whistling Swan	0	0	620	0	0	0	0	0	0	31	300	620	1571
Snow-Blue Goose	62	0	0	0	0	0	0	0	0	310	0	0	372
Canada Goose	3100	5600	3100	2400	9300	15000	15500	15500	3000	37200	18000	31000	158700
Mallard	930	2800	6200	12000	24600	15000	21700	46500	21000	186000	210000	93000	639930
Black Duck	310	1400	1550	6000	3100	0	0	3100	6000	31000	90000	62000	204460
Gadwall	0	0	1550	9000	1550	600	620	1240	1200	31000	30000	0	75760
Pintail	0	0	620	1500	1240	300	0	310	1500	62000	21000	0	88470
Green-winged Te	0	0	620	1500	1550	300	0	310	3000	31000	12000	0	50280
BW/Cinn Teal	0	0	0	6000	12400	2100	3720	9300	3000	6200	0	0	42720
Widgeon	0	0	1550	3000	310	300	0	930	6000	46500	3000	0	61590
Shoveler	0	0	0	1500	310	300	0	0	600	3100	0	0	5810
Wood Duck	0	0	310	2400	9300	9000	12400	12400	4500	6200	1500	0	58010
Redhead	0	560	620	600	310	300	0	0	0	620	300	0	3310
Ring-Necked Duc	0	0	6200	3000	310	0	0	0	0	620	1500	0	11630
Canvasback	3100	2800	1550	1500	0	0	0	0	0	0	0	0	8950
Lesser Scaup	0	2800	1550	12000	0	0	0	0	0	1550	3000	0	20900
Bufflehead	0	1400	0	1500	310	300	0	0	0	310	900	0	4720
Duck	0	0	310	9000	930	300	0	0	0	620	600	0	11760
Wye	6200	1400	310	1200	0	0	0	0	0	0	0	3100	12210
Hooded Merganse	0	0	310	1200	620	900	1550	1550	600	930	900	0	8560
Common Merganse	3100	2800	1240	1500	0	0	0	0	0	310	12000	31000	51950
Totals	16802	21560	28830	79800	72540	47700	57970	95170	56400	492001	414000	220720	1603493
Total Geese	3162	5600	3100	2400	9300	15000	15500	15500	3000	37510	18000	31000	159072
Total Ducks	10540	13160	22940	71700	56420	28800	38440	74090	46800	406720	373900	158100	1301510
Total Merg.	3100	2800	1550	2700	620	900	1550	1550	600	1240	12900	31000	60510

APPENDIX G

FEDERAL AND STATE LISTED ENDANGERED SPECIES, 1987

FEDERAL

Endangered

Bald Eagle
Peregrine Falcon
Piping Plover
Kirtland's Warbler

Use Days, APPENDIX L
Rare Migrant, Spring/Fall
Rare, Spring/Summer/Fall
Accidental Spring Migrant

STATE OF OHIO

Endangered

Peregrine Falcon
Sharp-shinned Hawk
Kirtland's Warbler
Upland Sandpiper
King Rail
Bald Eagle

Spring/Fall Migrant
Spring/Fall Migrant
Accidental Spring Migrant
Spring/Fall Migrant
Observed Regularly
Use Days, APPENDIX L

Ottawa NWR does not have any Federally threatened species and Ohio does not have a threatened list.

APPENDIX H

FEDERAL ENDANGERED SPECIES REPORT; BALD EAGLE USE DAYS; FY 1985

DATE 03/31/86

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
ENDANGERED SPECIES REPORT
FY 85 SURVEYS
FY-85

PAGE 141

OTTAWA
3-1540-OTW

SPECIES NAME	*****--USE DAYS-----*****					FY-NO. OCT-DEC 84	BREEDING JAN-MAR 85	POP. APR-JUN 85	FY-NO. JUL-SEP 85	FY-TOTAL PRODUCED	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO DQ
THREATENED SPECIES													
ENDANGERED													
SOUTHERN BALD EAGLE	250	450	450	350	1500	0	0	0			8	02 CCCC	
TOTAL ENDANGERED	250	450	450	350	1500	0	0	0					
TOTAL THREATENED SPECIES	250	450	450	350	1500	0	0	0					
GRAND TOTAL	250	450	450	350	1500	0	0	0					

** There was one active eagle nest in 1987 that produced one eaglet.

APPENDIX HFEDERAL ENDANGERED SPECIES REPORT; BALD EAGLE DAYS; FY 1985

DATE 03/31/86

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
ENDANGERED SPECIES REPORT
FY 85 SURVEYS
FY-85

PAGE 142

CEDAR POINT
3-1541-CDP

SPECIES NAME	*****--USE DAYS-----*****				FY-NO.	BREEDING POP.	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO DD
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85					
THREATENED SPECIES									
ENDANGERED									
SOUTHERN BALD EAGLE	100	360	450	400	1310	3	0	0	6 04 0000
TOTAL ENDANGERED	100	360	450	400	1310	3	0	0	
TOTAL THREATENED SPECIES	100	360	450	400	1310	3	0	0	
GRAND TOTAL	100	360	450	400	1310	3	0	0	

** There was one active eagle nest at Cedar Point in 1987, however it failed to produce young.

APPENDIX I

USE DAYS; MARSH AND WATER BIRDS; SHOREBIRDS, GULLS, AND TERNS; FY 1985

DATE 04/02/86

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
SPECIAL RECOGNITION SPECIES
(EXCLUDING WATERFOWL)
FY-85

PAGE 479

OTTAWA
3-1540-OTW

SPECIES NAME	-----USE DAYS-----					FY-NO. OCT-DEC 84	BREEDING POP.	FY-NO. JAN-MAR 85	FY-PEAK APR-JUN 85	PEAK JUL-SEP 85	MO	DQ
	APR-JUN 85	JUL-SEP 85	FY-TOTAL	PRODUCED								
OTHER MIG. BIRD MAINT.												
MARSH & WATER BIRDS												
DOUBLE-CRESTED CORMORANT	100	0	180	300	580	0	0	0	20	04	C	CC
AMERICAN BITTERN	100	90	900	200	1290	0	0	0	50	06	CCCC	
LEAST BITTERN	0	0	900	1000	1900	0	0	0	50	05	CC	
GREAT BLUE HERON	3000	2700	27000	10000	42700	0	0	0	500	05	CCCC	
GREAT (COMMON) EGRET	2500	900	9000	5000	17400	0	0	0	200	05	CCCC	
SNOWY EGRET	500	0	900	100	1500	0	0	0	10	10	C	CC
LITTLE BLUE HERON	0	0	900	20	920	0	0	0	10	06	CC	
CATTLE EGRET	30	0	90	0	120	0	0	0	5	06	C	C
GREEN HERON	200	0	4500	2000	6700	0	0	0	50	06	C	CC
BLACK-CROWNED NIGHT HERON	100	0	4500	7000	11500	0	0	0	150	06	C	CC
VIRGINIA RAIL	500	0	900	1000	2400	0	0	0	50	09	C	CC
SORA	200	0	900	2000	3100	0	0	0	100	09	C	CC
COMMON GALLINULE	0	27000	18000	1000	46000	0	0	0	1000	03	CCC	
TOTAL MARSH & WATER BIRDS	7730	33930	73170	29720	144550	0	0	0				
SHRBIRDS, GULLS, TERNS												
GREAT BLACK-BACKED GULL	800	4500	6300	2000	11600	0	0	0	150	03	CCC	
HERRING GULL	6000	3500	5400	2000	15000	0	0	0	200	03	CCC	
RING-BILLED GULL	20000	7200	36000	2000	63200	0	0	0	500	03	CCC	
FRANKLIN'S GULL	60	1800	9000	2000	10800	0	0	0	400	03	CCC	
BONAPARTE'S GULL	10000	900	2700	0	13600	0	0	0	2100	10	CCC	
CASPIAN TERN	30	0	0	0	30	0	0	0	5	10	C	
FORSTER'S TERN	60	0	0	0	60	0	0	0	10	10	C	
COMMON TERN	1000	900	2700	0	4600	0	0	0	100	10	CCC	
BLACK TERN	0	450	900	2000	1350	0	0	0	50	03	CC	
AMERICAN WOODCOCK	0	5400	3600	2000	9000	0	0	0	200	03	CC	
COMMON SNIPER	1500	900	2700	2000	5100	0	0	0	40	11	CCC	
PECTORAL SANDPIPER	0	0	4500	0	4500	0	0	0	100	05	C	
LEAST SANDPIPER	0	0	2700	0	2700	0	0	0	100	05	C	
DUNLIN	1000	0	12000	0	13000	0	0	0	400	05	C	C
SEMPALMATED SANDPIPER	0	0	4500	0	4500	0	0	0	100	05	C	C
SANDERLING	30	0	0	0	30	0	0	0	2	10	C	
GREATER YELLOWLEGS	200	0	900	2000	1100	0	0	0	30	05	C	C
LESSER YELLOWLEGS	400	0	900	2000	1300	0	0	0	30	05	C	C
SOLITARY SANDPIPER	0	0	3600	2000	3600	0	0	0	100	05	C	C
SPOTTED SANDPIPER	600	0	3600	2000	4200	0	0	0	110	05	C	C
BLACK-BELLIED PLOVER	0	0	900	0	900	0	0	0	30	05	C	
KILLDEER	0	4500	9000	2000	13500	0	0	0	200	03	CC	
SEMPALMATED PLOVER	0	0	5400	0	5400	0	0	0	100	05	C	

APPENDIX I USE DAYS; MARSH AND WATER BIRDS; SEABIRDS, GULLS, AND TERN; FY 1985

DATE 04/02/86

NATIONAL WILDLIFE REFUGE SYSTEM WILDLIFE USE REPORT SPECIAL RECOGNITION SPECIES (EXCLUDING WATERFOWL) FY-85

PAGE 182

CEDAR POINT
3-1541-CDP

SPECIES NAME	-----USE DAYS-----					FY-NO. BREEDING		FY-NO. HARVESTED		FY-PEAK POPULATION		PEAK MO DO	
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85	FY-TOTAL PRODUCED	POP.							
OTHER MIG. BIRD MAINT.													
MARSH & WATER BIRDS													
AMERICAN BITTERN	100	4500	1800	600	7000	0	0	0	50	03	CCCC		
LEAST BITTERN	200	4500	4500	4000	13200	0	0	0	100	09	CCCC		
GREAT BLUE HERON	1500	9000	27000	30000	67500	0	0	0	600	09	CCCC		
GREAT (COMMON) EGRET	800	4500	9000	10000	24300	0	0	0	200	03	CCCC		
SNOWY EGRET	50	0	1800	200	2050	0	0	0	40	06	C CC		
LITTLE BLUE HERON	0	0	900	100	1000	0	0	0	10	06	CC		
CATTLE EGRET	0	0	900	0	900	0	0	0	10	06	C		
GREEN HERON	100	1800	4500	1000	7400	0	0	0	60	09	CCCC		
BLACK-CROWNED NIGHT HERON	200	4500	27000	50000	81700	0	0	0	700	09	CCCC		
VIRGINIA RAIL	400	0	4500	10000	14900	0	0	0	200	09	C CC		
SCRA	500	0	4500	10000	15000	0	0	0	300	09	C CC		
COMMON GALLINULE	0	27000	36000	30000	93000	0	0	0	2000	03	CCC		
TOTAL MARSH & WATER BIRDS	4955	66600	136350	147000	354905	0	0	0					
SHRBIRDS, GULLS, TERNS													
GREAT BLACK-BACKED GULL	400	900	1800	3800	6900	0	0	0	170	09	CCCC		
HERRING GULL	9000	900	1800	3000	14700	0	0	0	310	12	CCCC		
RING-BILLED GULL	7000	4500	54000	115000	180500	0	0	0	6000	09	CCCC		
FRANKLIN'S GULL	0	450	2700	6500	9650	0	0	0	600	09	CCC		
BONAPARTE'S GULL	900	0	0	0	900	0	0	0	25	11	C		
CASPIAN TERN	50	0	0	0	50	0	0	0	2	11	C		
FORSTER'S TERN	0	0	0	500	500	0	0	0	50	09	C		
COMMON TERN	0	900	900	3000	4800	0	0	0	300	03	CCC		
BLACK TERN	0	1350	1800	2000	5150	0	0	0	300	03	CCC		
AMERICAN WOODCOCK	0	0	450	1600	2050	0	0	0	30	09	CC		
COMMON SNIPER	500	1800	3600	1200	7100	0	0	0	100	05	CCCC		
PECTORAL SANDPIPER	0	0	0	1000	1000	0	0	0	50	09	C		
GREATER YELLOWLEGS	200	0	0	700	900	0	0	0	20	09	C C		
LESSER YELLOWLEGS	100	0	0	200	300	0	0	0	10	09	C C		
SOLITARY SANDPIPER	0	0	0	1000	1000	0	0	0	50	09	C		
SPOTTED SANDPIPER	0	0	0	1100	1100	0	0	0	110	09	C		
KILLDEER	50	900	1800	26800	29550	0	0	0	450	09	CCCC		
TOTAL SHRBIRDS, GULLS, TERN	18200	11700	68850	167400	266150	0	0	0					
RAPTORIAL BIRDS													
TURKEY VULTURE	0	0	450	450	900	0	0	0	10	06	CC		
MARSH HAWK	300	900	1000	1000	3200	0	0	0	20	05	CCCC		
RED-TAILED (HARLAN) HAWK	250	1800	900	900	3850	0	0	0	20	03	CCCC		
BROAD-WINGED HAWK	0	0	900	0	900	0	0	0	40	04	C		
AM. KESTREL (SPARROW HAWK)	200	1800	1000	1500	4500	0	0	0	30	08	CCCC		
SCREECH OWL	250	900	900	900	2950	0	0	0	15	03	CCCC		

APPENDIX I

USE DAYS; MARSH AND WATER BIRDS; SHOREBIRDS, GULLS, AND TERNS

DATE 04/02/86

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SPECIAL RECOGNITION SPECIES
(EXCLUDING WATERFOWL)
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WEST SISTER ISLAND
2-1542-WTS

SPECIES NAME	-----USE DAYS-----					FY-NO. PRODUCED	BREEDING POP.	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO	PEAK DO
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85	FY-TOTAL						
OTHER MIG. BIRD MAINT.											
MARSH & WATER BIRDS											
GREAT BLUE HERON	0	2700	360000	200000	562700	2000	0	0	5000	07	CCC
GREAT (COMMON) EGRET	0	900	36000	20000	56900	200	0	0	500	07	CCC
SNOWY EGRET	0	0	7200	3000	10200	40	0	0	80	05	CC
LITTLE BLUE HERON	0	0	1800	0	1800	10	0	0	20	05	C
CATTLE EGRET	0	0	3600	0	3600	20	0	0	40	05	C
BLACK-CROWNED NIGHT HERON	0	900	468000	200000	668900	2600	0	0	5200	05	CCC
TOTAL MARSH & WATER BIRDS	0	4500	876600	423000	1304100	4870	0	0			
SHRBIRODS,GULLS,TERNS											
GREAT BLACK-BACKED GULL	20	900	3600	2000	6520	0	0	0	160	04	CCCC
HERRING GULL	600	900	0	0	1500	0	0	0	50	03	CC
RING-BILLED GULL	2000	9000	54000	30000	95000	200	0	0	1500	06	CCCC
FRANKLIN'S GULL	0	1800	0	0	1800	0	0	0	100	03	C
BONAPARTE'S GULL	40	0	0	0	40	0	0	0	10	10	C
TOTAL SHRBIRODS,GULLS,TERN	2660	12600	57600	32000	104860	200	0	0			
TOTAL OTHER MIG. BIRD MAIN	2660	17100	934200	455000	1408960	5070	0	0			
GRAND TOTAL	2660	17100	934200	455000	1408960	5070	0	0			

APPENDIX J

USE DAYS; RAPTORIAL BIRDS; FY 1985

DATE 04/02/86

NATIONAL WILDLIFE REFUGE SYSTEM
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OTTAWA
3-1540-OTW

SPECIES NAME	*****--USE DAYS-----*****					FY-NO. PRODUCED	BREEDING POP.	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO DO
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85	FY-TOTAL					
OTHER MIG. BIRD MAINT.										
TOTAL SHRBIRDS,GULLS,TERN	41680	30150	117300	0	189130	0	0	0		
RAPTORIAL BIRDS										
TURKEY VULTURE	0	0	450	200	650	0	0	0	10	06 CC
MARSH HAWK	300	900	1350	400	2950	0	0	0	20	05 CCCC
SHARP-SHINNED HAWK	5	0	0	0	5	0	0	0	1	10 C
COOPER'S HAWK	10	0	90	10	110	0	0	0	4	05 C CC
RED-TAILED (HARLAN) HAWK	300	450	1800	1800	4350	0	0	0	20	03 CCCC
RED-SHOULDERED HAWK	0	0	900	200	1100	0	0	0	10	04 CC
BROAD-WINGED HAWK	0	0	1800	300	2100	0	0	0	150	04 CC
AM. KESTREL (SPARROW HAWK)	600	3600	2700	3000	9900	0	0	0	100	03 CCCC
SCREECH OWL	300	1800	2250	3000	7350	0	0	0	50	05 CCCC
GREAT HORNED OWL	900	1800	1800	1000	5500	0	0	0	30	03 CCCC
TOTAL RAPTORIAL BIRDS	2415	8550	13140	9910	34015	0	0	0		
OTHER BIRDS MIG & RES										
MOURNING DOVE	400	900	9000	12000	22300	0	0	0	3000	09 CCCC
TOTAL OTHER BIRDS MIG & RE	400	900	9000	12000	22300	0	0	0		
TOTAL OTHER MIG. BIRD MAIN	52225	73530	212610	51630	389995	0	0	0		
GRAND TOTAL	287280	154620	340500	194180	976580	0	0	3584		

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APPENDIX J

USE DAYS; RAPTORIAL BIRDS; FY 1985

DATE 04/02/86

NATIONAL WILDLIFE REFUGE SYSTEM
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CEDAR POINT
3-1511-CDP

SPECIES NAME	-----USE DAYS-----					FY-NO. FY-TOTAL PRODUCED	BREEDING POP.	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO DO
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85						
OTHER MIG. BIRD MAINT.										
RAPTORIAL BIRDS										
GREAT HORNED OWL	300	900	900	900	3000	0	0	0	10	03 CCCC
TOTAL RAPTORIAL BIRDS	1300	6300	6050	5650	19300	0	0	0		
OTHER BIRDS MIG & RES										
MOURNING DOVE	50	0	3000	6000	9050	0	0	0	100	C9 C CC
TOTAL OTHER BIRDS MIG & RE	50	0	3000	6000	9050	0	0	0		
TOTAL OTHER MIG. BIRD MAIN	24505	84600	214250	326050	649405	0	0	0		
GRAND TOTAL	935255	634950	590900	745300	2906405	3	0	6045		

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NATIONAL WILDLIFE REFUGE SYSTEM
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OTTAWA
3-1540-OTW

SPECIES NAME	*****USE DAYS*****					FY-NO. OCT-DEC 84	BREEDING JAN-MAR 85	POP.	FY-NO. APR-JUN 85	FY-PEAK JUL-SEP 85	PEAK FY-TOTAL	MO	DO
	PRODUCED	PRODUCED	PRODUCED	PRODUCED	PRODUCED								
NON-OUTPUT SPECIES													
OTH BIRD-MIG & RES													
RING-NECKED PHEASANT	1500	2250	2250	2000	8000	0	0	0	50	06	CCCC		
BELTED KINGFISHER	0	450	900	900	2250	0	0	0	30	06	CCC		
COMMON CROW	0	900	450	50	1400	0	0	0	50	02	CCC		
TOTAL OTH BIRD-MIG & RES	1500	3600	3600	2950	11650	0	0	0					
MAMMALS													
OPSSUM	2000	1800	1350	2000	7150	0	0	4	40	10	CCCC		
EASTERN COTTONTAIL	6000	7200	10800	15000	39000	0	0	0	250	08	CCCC		
WOODCHUCK (GROUND HOG)	8000	9000	13500	16000	46500	0	0	0	300	08	CCCC		
FOX SQUIRREL	3000	3600	5400	6000	18000	0	0	0	100	06	CCCC		
MUSKRAT	200000	45000	72000	80000	397000	0	0	3500	8000	08	CCCC		
RED FOX	1200	900	1350	900	4350	0	0	4	25	06	CCCC		
GRAY FOX	100	450	900	900	2350	0	0	0	15	06	CCCC		
RACCOON	6000	2700	6300	6300	21300	0	0	70	150	06	CCCC		
MINK	3000	2700	6300	6300	18300	0	0	4	150	06	CCCC		
STRIPED SKUNK	2000	1800	3600	3600	11000	0	0	2	100	06	CCCC		
WHITE-TAILED DEER	2000	1800	2250	2250	8300	0	0	0	40	06	CCCC		
TOTAL MAMMALS	233300	76950	123750	139250	573250	0	0	3584					
TOTAL NON-OUTPUT SPECIES	234800	80550	127350	142200	584900	0	0	3584					
THREATENED SPECIES													
ENDANGERED													
SOUTHERN BALD EAGLE	250	450	450	350	1500	0	0	0	8	02	CCCC		
TOTAL ENDANGERED	250	450	450	350	1500	0	0	0					
STATUS-UNDETERMINED													
OSPREY	5	90	90	0	185	0	0	0	3	03	CCC		
TOTAL STATUS-UNDETERMINED	5	90	90	0	185	0	0	0					
TOTAL THREATENED SPECIES	255	540	540	350	1685	0	0	0					
OTHER MIG. BIRD MAINT.													
MARSH & WATER BIRDS													
HORNED GREBE	0	900	1800	0	2700	0	0	0	50	03	CC		
PIED-BILLED GREBE	500	2250	2700	100	5550	0	0	0	80	04	CCCC		
COMMON LOON	0	90	0	0	90	0	0	0	3	03	C		

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APPENDIX K

USE DAYS; MAMMALS; FY 1985

DATE 04/02/86

NATIONAL WILDLIFE REFUGE SYSTEM
WILDLIFE USE REPORT
SPECIAL RECOGNITION SPECIES
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CEDAR POINT
3-1541-CDP

SPECIES NAME	*****-----USE DAYS-----*****					FY-NO. PRODUCED	BREEDING POP.	FY-NO. HARVESTED	FY-PEAK POPULATION	PEAK MO	DO
	OCT-DEC 84	JAN-MAR 85	APR-JUN 85	JUL-SEP 85	FY-TOTAL						
NGN-OUTPUT SPECIES											
OTH BIRD-MIG & RES											
RING-NECKED PHEASANT	30	0	0	0	30	0	0	0	5	10	C
BELTED KINGFISHER	0	0	450	450	900	0	0	0	20	05	CC
COMMON CROW	0	900	0	0	900	0	0	0	100	03	C
TOTAL OTH BIRD-MIG & RES	30	900	450	450	1830	0	0	0			
MAMMALS											
OPOSSUM	500	0	0	0	500	0	0	0	10	10	C
EASTERN COTTONTAIL	1000	2700	1800	2000	7500	0	0	0	75	08	CCCC
WOODCHUCK (GROUND HOG)	500	1800	3600	3000	8900	0	0	0	100	08	CCCC
FOX SQUIRREL	500	0	0	0	500	0	0	0	10	10	C
MUSKRAT	500000	540000	360000	400000	2200000	0	0	6000	12000	10	CCCC
RED FOX	1000	900	1350	2000	5250	0	0	4	30	08	CCCC
RACCOON	3000	2250	3600	4000	12850	0	0	40	60	10	CCCC
MINK	3000	900	3600	3600	11100	0	0	1	50	10	CCCC
STRIPED SKUNK	300	0	0	2000	2300	0	0	0	30	08	C C
WHITE-TAILED DEER	800	450	1800	1800	4850	0	0	0	22	06	CCCC
TOTAL MAMMALS	910600	549000	375750	418400	2253750	0	0	6045			
TOTAL NGN-OUTPUT SPECIES	910630	549900	376200	418650	2255580	0	0	6045			
THREATENED SPECIES											
ENDANGERED											
SOUTHERN BALD EAGLE	100	360	450	400	1310	3	0	0	6	04	CCCC
TOTAL ENDANGERED	100	360	450	400	1310	3	0	0			
STATUS-UNDETERMINED											
OSPREY	20	90	0	0	110	0	0	0	2	03	CC
TOTAL STATUS-UNDETERMINED	20	90	0	0	110	0	0	0			
TOTAL THREATENED SPECIES	120	450	450	400	1420	3	0	0			
OTHER MIG. BIRD MAINT.											
MARSH & WATER BIRDS											
HORNED GREBE	0	1800	4500	0	6300	0	0	0	100	03	CC
PIED-BILLED GREBE	1000	7200	9000	600	17800	0	0	0	200	03	CCCC
COMMON LOON	5	0	0	0	5	0	0	0	1	10	C
DOUBLE-CRESTED CORMORANT	100	1800	450	500	2850	0	0	0	60	03	CCCC

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APPENDIX L

NEWS MEDIA CONTACTS

Newspapers

Outdoor Beacon
East Portage Street
Oak Harbor, Ohio 43449

The Beacon
106 W. Perry
Port Clinton, Ohio 43452

News-Herald
115 West Second Street
Port Clinton, Ohio 43452

Suburban Press
P.O. Box 169
Millbury, Ohio 43447

Steve Pollick
Toledo Blade
541 Superior Street
Toledo, Ohio 43604

News-Messenger
1700 W. Cedar Street
Freemont, Ohio 43420

Sandusky Register
314 W. Market
Sandusky, Ohio 44870

Radio Stations

WCPZ-102.7 FM
105 W. Market
Sandusky, Ohio
(419) 625-1010

WOSE 94.5 FM
202 W. Market Street
Sandusky, Ohio
(419) 734-9450

WHME STEREO 92.5
46655 W. Bancroft Street
Toledo, Ohio
(419) 531-1681

WKKO K-100
3225 Arlington Av.
Toledo, Ohio
(419) 385-2536

WSPD RADIO 1370
125 S. Superior
Toledo, Ohio
(419) 244-8321

WGTE/WGLE
136 N. Huron Street
Toledo, Ohio
(419) 243-3091

Television Stations

WGTE - Channel 30
136 N. Huron St.
Toledo, OH
(419) 243-3091

WTVG - Channel 13
4247 Dorr
Toledo, OH
(419) 531-1313

WNWO - Channel 24
300 S. Byrne
Toledo, OH
(419) 248-1100

WUPW - Channel 36
4 Seagate
Toledo, OH
(419) 244-3600

WTOL - Channel 11
730 N. Summit
Toledo, OH
(419) 248-1100

APPENDIX M

CONTENTS OF USFWS SPILL RESPONSE TRAILER

5 boxes	Plastic bags 27" X 11" X 42" (100/box)
2	Titan portable electric heaters
1	Universal dial scale
1	Hand scale (inside Universal dial scale box)
1	Small First Aid Kit
1	Large First Aid Kit
1 roll	Disposable aprons (100/roll)
6	Westinghouse heating lamps
3	Extension cords (20 feet/cord)
1	Markel portable electric heater 1500 watts
6 pair	Scissors
1 box	Burlap bags (50/box)
1 bundle	Burlap bags (20/bundle)
2 boxes	3-gallon pails (12/box)
4	Heavy duty hoses (50 feet/hose)
1 bundle	Rags (50lbs.)
2	Heavy duty extension cords
11	Safety goggles (Cessco)
4 dozen	Socks (bird hoods)
4	Folding tables 72" X 30"
12 boxes	Amber Lux liquid detergent (4 1-gallon containers/box)
1 box	44-gallon plastic garbage cans (4 cans/box)

4 bundles	Cardboard boxes 16" X 12" X 12"
24 rolls	Adhesive tape (10 yards/roll)
2 boxes	Insulated gloves (1 dozen pair/box)
2 boxes	Rubber gloves (1 dozen pair/box)
3	Lanterns
5	Batteries
3 pair	Size 10 steel toe boots
2 pair	Size 9 steel toe boots
3 pair	Size 11 steel toe boots
3 pair	Size 8 steel toe boots
1 pair	Size 8 chestwaders
1 pair	Size 10 chestwaders
2 packages	Heavy duty aprons (1 dozen/package)
1	Size 36 coveralls (gray)
2	Size 38 coveralls (blue and white)
1	Size 38RG coveralls (blue)
3	Size 40 coveralls (gray)
1	Size 42L coveralls (gray)
1	Size 42RG coveralls (gray)
2	Size 44 coveralls (gray)
4 sets	Small rubber rainsuits (jacket and pants)
3 sets	Medium rubber rainsuits
4 sets	Large rubber rainsuits
25	SOS Manuals
4	HELP Manuals

3	Long handled nets
1	Large bale rags
8	Brown plastic 1/2 bushel tubs
2	1200 watt hair dryers
1	Package 400 Q-tips
5	Clamp style lamp holders
1	Tube KY lubricating jelly
1	Zodiac Mark II GR - 14' inflatable boat (6 man) including navigation lights, launching wheels, cover, bench seats, fuel tank seat box, and waterproof pouch
1	Evinrude 25 Hp manual start outboard motor
9	60 cc plastic syringes
19	12-14 French, 16 inch rubber catheters
10	Clinical thermometers (oral)
3 gross	Safety pins
5	1/2 oz. tubes opthalmic ointment
5	1-gallon containers of mineral oil
2	Bottles Hematest reagent tablets
1	1-pound container A & D ointment
1	1-gallon container of Zephrein disinfectant
3	Room thermometers
4	Personal flotation devices
3	Shotguns
	Cracker shells (250 rounds)

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Tool box equipped with:

pliers
wrenches
screw driver
tape
knife
measuring tape
hammer
scissor
marker pens

Key for spare tire located in the tool box
(taped to the inside top)