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Water Quality/Use Findings Document

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**WATER QUALITY/USE
FINDINGS DOCUMENT**

for

Long Pond

Cranberry Pond

Round Pond

Buck Pond

December, 1995

Prepared by the:

Water Quality Bureau of the
Monroe County Health Department
350 East Henrietta Road
Iola Building #5
Rochester, NY 14620



Andrew Doniger M.D., M.P.H., Director
Health Department

John D. Doyle, County Executive

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Members of the Monroe County Water Quality Coordinating Committee

Members of the Monroe County Water Quality Management Agency

Members of the Lake Ontario West Basin Subcommittee of the Water Quality Management Advisory Committee

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	<i>i</i>
TABLE OF CONTENTS	<i>ii</i>
PREFACE	<i>iii</i>
I. INTRODUCTION	1
II. ENVIRONMENTAL SETTING	5
III. CURRENT USES OF THE FOUR PONDS	19
IV. IMPAIRED USES AND POSSIBLE CAUSES	25
V. GOALS FOR THE FOUR PONDS	32
VI. ACTIONS NEEDED TO ACHIEVE GOALS	41
VII. FURTHER NEEDED INFORMATION	54
REFERENCES	55

Figures & Tables

Figure 1. Location Map	2
Figure 2. Major Streams and Watershed Divides	6
Figure 3. Watershed of Four Greece Ponds	7
Table 3. General Ranges of Ambient Phosphorus Concentrations	16
Table 4. Mean Annual Concentrations of Various Parameters	16

Appendices

APPENDIX A:	Figures and Tables for Chapter 2: Environmental Setting
APPENDIX B:	Water Quality Monitoring Plan
APPENDIX C:	Fish and Wildlife Inventories and Fishery Goals
APPENDIX D:	July 1993 Public Meeting Minutes & January 1994 Public Meeting Minutes
APPENDIX E:	List of Attendees at Public Meetings
APPENDIX F:	List of Resource Persons
APPENDIX G:	Inter-municipal Agreement between Monroe County & the Town of Greece

PREFACE

This document is being written for **YOUR** use. In July 1993, a public forum was held to hear presentations on what is known about the water quality and wildlife of Long, Cranberry, Round, and Buck Ponds. Over 100 citizens, most of whom are residents along the shores of the ponds, attended. It was very encouraging to hear almost every person participate in this meeting in some way, either at the meeting or afterwards. For a month following the meeting, over 60 "pond user survey forms" and letters poured into the Water Quality Bureau of the Monroe County Planning & Development Department (this Bureau has since then become part of the Department of Health). In January 1994, a second public forum was held to comment on the draft of this document and to express additional concerns (see Appendix E for list of attendees at both public meetings).

This level of public participation shows a tremendous amount of dedication to the care of this unique natural region. Summed up into one word, people have a sense of *stewardship* for this area. Although there were many conflicting suggestions brought up at the meetings regarding the management of the four ponds, it appears that the participants agree on one thing for certain: the four ponds and surrounding land should be managed so that people and fish and wildlife can benefit from its presence now and well into the future.

The purpose of this document is to present as much useful information as is available on the water quality and usage of the four ponds to assist in community decision-making and action. The document also summarizes the concerns and suggestions made at the July 1993 and January 1994 public forums and suggests ways in which people can achieve results. Appendix F offers a list of resource persons and how to contact them. **It is hoped that this document will be used by YOU and shared with others so that the communities who use these precious resources will be able to work together for solutions and improvements.**

I INTRODUCTION

A. Description of Location & Uniqueness of Area

This document is being written for the users of the four ponds along the northern border of the Town of Greece in Monroe County east of Braddock Bay. Long Pond, Cranberry Pond, Buck Pond, and Round Pond are connected to Lake Ontario by intermittent channels (see Figure 1). These ponds and their surrounding wetlands and marshes provide valuable habitat for fish and wildlife and serve as a unique migration route for birds of prey. The ponds are also ideal for many uses by humans such as recreational activities and sightseeing. Little is known about the water quality of these ponds but limited testing of the four ponds has shown an overabundance of plant and algae growth in all the ponds. Excessive plant and algae growth can impede the survival and reproduction of some fish and wildlife and also impair several ways in which people would like to use the ponds.

Of particular importance to water quality is land use. The land use surrounding the ponds can contribute to water pollution when rainfall washes pollutants off of the land surface. Stormwater runoff, or snowmelt, can wash fertilizer, pesticides, road salt, sediment and other pollutants into the ponds.

B. Description of Water Quality/Use Findings Document Project

It is important that human uses of the four ponds and surrounding lands is done responsibly to preserve this unique natural area.

1. Purpose of Findings Document

The purpose of developing a findings document for these four ponds is to 1) ensure current and future human uses, 2) preserve current and future fish and wildlife populations and habitat, and 3) ensure that the water quality can support those uses. This document, as well as the *process* of planning, will work towards achieving the three-fold purpose by doing the following: 1) provide an inventory of current uses and problems of the four ponds; 2) gather data about the water quality of the four ponds; 3) identify conflicting issues so that steps can be taken to reach a compromise; and perhaps most importantly, 4) identify ways in which the community can work together to improve the area.

2. Other Planning Efforts

This findings document is one of many tools to be used in community planning for water quality. The Town of Greece in cooperation with New York State has also established a plan for the management of the Braddock Bay State Fish & Wildlife Management Area. The management area currently contains portions of Cranberry, Long, and Buck Ponds. This plan is discussed in more detail in the following chapters. The information in this findings document will be incorporated into the Management Area Plan.

In order to incorporate this planning effort into the big picture, we must discuss the Rochester Embayment Remedial Action Plan and its three basin plans. These are examples of planning on a watershed level. A watershed can be defined as all the land that catches the snow and rain which flows towards a specific area (e.g. Lake Ontario). The International Joint Commission, consisting of U.S. and Canadian officials, has identified 43 areas along the Great Lakes in both the U.S. and Canada that they believe need remedial action plans to work towards improving water quality. The Rochester Embayment of Lake Ontario is one of those areas. Monroe County has been working with New York State, and citizen advisory and technical committees to develop such a plan. As of the summer of 1995, a Stage I RAP has been completed that identifies Embayment use impairments, goals, pollutants, and pollutant sources. The Stage II RAP which describes and recommends actions to address water quality will be available for public review and comment in 1996.

Related to the RAP is a Lake Ontario West Basin Plan. This is a plan to improve water quality in the streams that together constitute the Lake Ontario West Basin. The Lakeshore Ponds in the town of Greece are a part of the Lake Ontario West Sub Basin (See figure 2 in chapter 2). The information from this findings document will be incorporated into the Lake Ontario West Basin Plan.

3. Public Participation

On July 21, 1993, a public forum was held at the Braddock Bay Lodge to present and get public input on information on water quality and current uses and problems of the four ponds. The meeting was hosted by the Lake Ontario West Basin Subcommittee of the Monroe County Water Quality Management Committee and the Town of Greece, and was staffed by the Monroe County Planning & Development

Department. Over 100 people attended that meeting, most of whom live along or near one of the four ponds. Those involved in the public forum and the planning process were pond shore residents, representatives of homeowners associations, the Town of Greece, Monroe County Planning & Development Department, Monroe County Environmental Health Laboratory, State University of New York at Brockport, Braddock Bay Raptor Research Project, New York State Department of Environmental Conservation, the Monroe County Water Quality Coordinating Committee, the Lake Ontario West Basin Subcommittee, and other users of the area. The results of the July public meeting have been incorporated into this document. A second public meeting was held in January 1994 to get feedback on the *draft* of this document and update people on current water quality monitoring efforts.

4. Funding Source

Approximately \$9,000 of State Aid to Localities funding was awarded to Monroe County from New York State via the Finger Lakes Water Resources Board. The funding was primarily for the coordination of public participation, water quality monitoring, and the development of this document.

5. Benefits to Public

As stated in the preface, the importance of this document, and the planning process that has led up to it, will depend on the extent to which the community will work together now and in the future. The successful management of these four ponds will also depend on each individual's level of stewardship for this area. Stewardship begins with environmental awareness but goes one step further by individuals taking action to protect their environment in their everyday lives. The information in this document summarizes many of the concerns heard at the public meetings in 1993 and 1994 and allows people to see all sides of a water quality/use issues.

II. ENVIRONMENTAL SETTING

A. Historical and Current Setting of the Four Ponds

1. Watersheds

A watershed is a unit of land which catches rainfall and snowfall and directs it to a specific lake or pond. A basin is a collection of watersheds. The drainage area of the Greece Four Ponds region is located in the eastern portion of the Lake Ontario West Sub-Basin, just west of the City of Rochester in the Town of Greece. This portion of the sub-basin is divided into three separate watersheds (Long Pond/Cranberry Pond, Buck Pond, and Round Pond) which cover a total area of approximately 40,796 acres. Figure 2 shows the entire Lake Ontario West Basin while Figure 3 shows only the three watersheds of the four ponds (divided by dotted lines). Each of these watersheds is composed of various streams which flow into each of the ponds. The streams carry pollutant runoff from the land to the waterbodies that they flow into. Unfortunately, it is very difficult to measure the amount of runoff that ends up in the ponds. These streams have a variety of uses, including fishing and recreation.



The Long Pond/Cranberry Pond watershed covers an area of 15,560 acres. In addition to being the drainage area for Long Pond, it also includes Cranberry Pond within its boundaries. The two major streams within the Long Pond watershed are Northrup and Black Creek. Northrup Creek originates in the Town of Ogden at an elevation of 610 feet. This creek receives treated effluent from Spencerport Wastewater Treatment Plant. This stream flows directly into Long Pond. Black Creek originates just north of the Village of Spencerport, at an elevation of 470 ft. Black Creek is a major tributary of Northrup Creek, connecting at the northwestern section of the Town of Greece. Any pollutants entering Northrup and Black Creeks can affect the water quality of Long Pond. Long Pond and Cranberry Pond are connected via a narrow drainage channel. There is also a drainage channel between Long Pond and Lake Ontario. Neither of these channels are navigable.

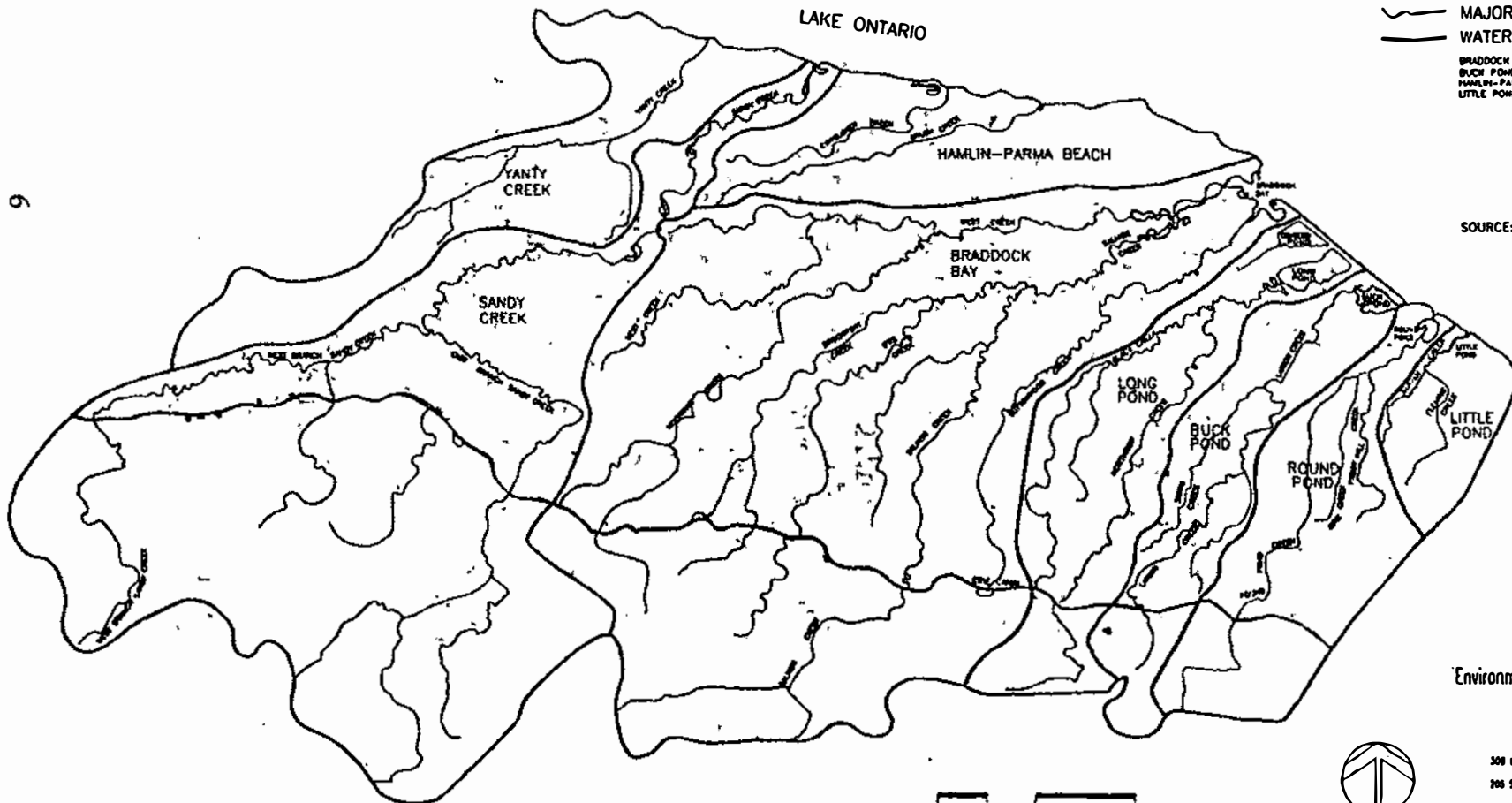
The Buck Pond watershed covers an area of 11,494 acres. The two major streams located within this watershed are Larkin and Smith Creek. The source of Larkin Creek is located in the Town of Ogden at an elevation of 585 feet. It flows into Buck Pond in the Town of Greece. Smith Creek originates in the southeast corner of the Town of Parma. This stream is a tributary of Larkin Creek, with its confluence located

LAKE ONTARIO WEST SUB-BASIN

MAJOR STREAMS AND WATERSHED DIVIDES

LEGEND

-  MAJOR STREAMS
 -  WATERSHED DIVIDES
- | | |
|--------------------|-------------|
| BRADDOCK BAY | LONG POND |
| BUCK POND | ROUND POND |
| HAMLIN-PARMA BEACH | SANDY CREEK |
| LITTLE POND | YANTY CREEK |



SOURCE: ENC. 1976
USGS TOPOGRAPHIC MAPS

Figure 2



Environmental Design & Research, P.C.



308 North Street, Syracuse, NY 13204-1143
205 S. Paul Street, Binghamton, NY 14901-1187



0 1 2 4 MILES

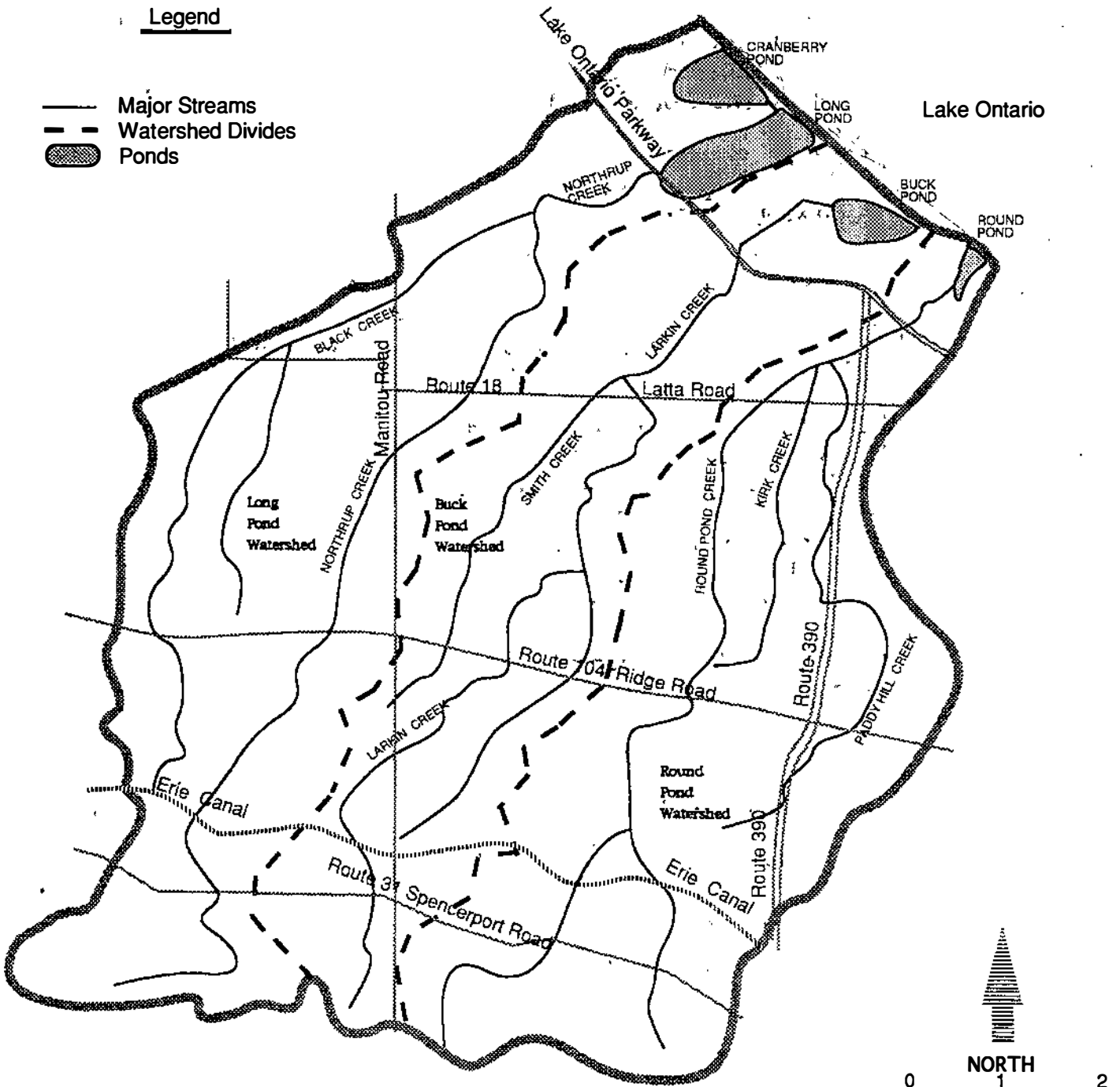
FIGURE 3 DATE 1/2/82

Figure 3

WATERSHED OF FOUR GREECE PONDS IN MONROE COUNTY NEW YORK

Legend

- Major Streams
- - - Watershed Divides
- ▨ Ponds



just north of Latta Road. A non-navigable drainage channel connects Buck Pond to Lake Ontario.

The Round Pond watershed covers an area of 13,742 acres. The three major streams located within this watershed include Round Pond Creek, Kirk Creek, and Paddy Hill Creek. Round Pond Creek originates in the Town of Gates at an elevation of 583 ft. (Lake Ontario West Sub-Basin Plan, Unpublished). This stream flows directly into Round Pond. Kirk Creek is a tributary of Round Pond Creek which originates in south central Greece. Paddy Hill Creek is also a tributary of Round Pond Creek. It originates in a southeastern portion of Greece, bordering the eastern side of Route 390. A non-navigable drainage channel connects Round Pond to Lake Ontario.

2. Stream & Pond Classification

In New York State a stream classification system has been developed to protect the highest and best use of state water resources. This system refers to a waterbody's *best use* as determined by the New York State Department of Environmental Conservation. It does not necessarily reflect existing water use or quality. The classification system is as follows:

- Class A Special - International Boundary Waters
- Class A - Drinking and all other uses
- Class B - Primary contact recreation (i.e., swimming)
- Class C(ts) - Trout spawning
- Class C(t) - Trout fishing
- Class C - Fishing and secondary contact recreation (i.e., boating)
- Class D - Secondary contact recreation and fish survival

The following classification codes have been assigned to the four ponds and their major tributaries:

- Long Pond - Class B
- Cranberry Pond - Class B
- Buck Pond - Class B
- Round Pond - Class C
- Round Pond Creek - Class C
- Paddy Hill Creek - Class C
- Black Creek - Class C
- Smith Creek - Class C
- Kirk Creek - Class C
- Northrup Creek - Class B from mouth to the tributary that

is west of North Greece Rd. and 3/10 mile north of Post Ave.; then Class C to source Larkin Creek-Class B from mouth to Long Pond Rd.; then Class C

3. Environmentally Sensitive Areas

The unique characteristics of this area depend on the protection and maintenance of its natural resources. It is important to be aware of environmentally sensitive areas such as wetlands when planning for the future of the watersheds of these four ponds. Although the definition of a wetland has been argued continuously, the following general definition is widely accepted: *a wetland is an area that is periodically inundated or saturated by surface or ground water on an annual or seasonal basis, that displays hydric soils, and that typically supports or is capable of supporting hydrophytic vegetation* (Black, 1991). Wetlands are important for several reasons: 1) they provide habitat for wildlife; 2) they act as a "filter" for pollutants that would otherwise enter the open waters and cause excessive plant growth; and, 3) flood and stormwater control. With the exception of Long Pond, all of the ponds and their surrounding wetlands are currently protected under Environmental Conservation Law (ECL) Article 24 (protection of freshwater wetlands). The reason for this is that Long Pond did not fit the wetland criteria at the time the area was mapped. The ponds are also protected under ECL 15 (protection of waters) since they are considered to be navigable. Figures 4 and 5 in Appendix A show the general locations of wetlands, and significant fish and wildlife habitats, respectively.

4. Wastewater Treatment and Discharge

Portions of the watersheds are served by public sanitary sewers or by individual on-site sewage disposal systems (septic systems). Figure 6 in Appendix A shows the areas of the watersheds that are served by public sanitary sewers. The public sanitary sewers discharge to one of three wastewater treatment plants that serve the communities: The Northwest Quadrant Wastewater Treatment Plant operated by Monroe County, the Gates-Chili-Ogden Treatment Plan operated by Monroe County, and the Village of Spencerport Wastewater Treatment Plant. In addition to individual on-site sewage disposal systems (which serve some individual homes where public sewers are not available), there are also some on-site sand filter systems that serve commercial establishments.

Wastewater discharge from "point sources", where discharge is from a

specific and traceable source, can contribute to pollution in the watershed. The State Pollution Discharge Elimination System (SPDES) is a regulatory means to control water pollution. SPDES permits were developed in order to keep the quality of receiving water within established parameters in order to protect human health and aquatic life. They are issued, regularly reviewed, and updated by the New York State Department of Environmental Conservation (NYSDEC). Point source pollutant loading information as reported by dischargers can be readily obtained from the NYSDEC. Figure 7 in Appendix A shows the locations of the SPDES discharges and the corresponding Table 1 gives information about those discharges.

5. Landfills, Hazardous Waste Sites, and Hazardous Material Spills

There are many waste disposal sites found within the Long Pond, Cranberry Pond, Round Pond, and Buck Pond watersheds. There are three types of waste sites:

Confirmed waste sites: Sites that contain waste. Types of waste include but are not limited to municipal, agricultural, and industrial waste, debris from demolition/construction practices, ash, and trees/brush.

Suspected fill areas: Areas that show up on aerial photographs as a surface disturbance involving unidentified material that does not appear to be clean fill. Many of the soil disturbances were actually sites that were being cleared for development. Therefore, many of these sites do not contain any buried waste.

Registry sites: Sites that are known or suspected to contain hazardous waste. These sites are listed in "Inactive Hazardous Waste Disposal Sites in New York State" prepared by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health. This report is published annually and updated quarterly.

See Table 2 in Appendix A for a listing of confirmed waste sites and the suspected fill areas within the four ponds' watersheds. Three remaining registry sites which are located within the watersheds of the four ponds are listed below. (Note: The NYSDEC treats a registry site as a hazardous waste site until it has been proven otherwise through monitoring. The waste site located on Flynn Road, which was once considered a registry site, is no longer listed as a registry site. It was delisted as a registry waste site in April 1993 because NYSDEC monitoring results found there was no evidence of hazardous waste at the site. A

visit by Monroe County Health Department in December 1993 found no visual evidence of a significant environmental problem at the site.)

a. The Burroughs-Unisys site is located at 1225 Ridgeway Avenue. It is owned by Unisys Corporation. The priority classification (level of threat to public health or environment) assigned to this site is a code 2. A code 2 indicates that a significant threat is posed to the public health or environment and that remedial action is required. Unknown quantities of hazardous wastes disposed of at this site included Isopropanol, Acetone, other volatile organics, Toluene, and 2-Butanone (a.k.a. Methyl ethyl ketone). Volatile substances are those which rapidly turn from liquid to gas state. Remedial measures have been taken and are currently in progress at the site. However, groundwater contamination discovered north of the site will require remediation. In assessing health problems, volatile organic compounds were found in on-site groundwater samples at levels exceeding New York State Groundwater Standards. The use of groundwater as a drinking water source is unlikely because the entire area is served by public water. It is also unlikely that exposure to contaminated soil will occur because the site is capped by asphalt.

b. The Kodak Park "M" site is located south of Ridge Road, between Route 390 and Mount Read Boulevard. Its priority classification is a code 2 (for definition see Burroughs-Unisys site description). Unknown quantities of chemicals including Acetone, Methanol, Ethyl acetate, Isopropanol, Ethyl glycol, 1,4 - Dioxane, and Methylene Chloride have been found at this site. A groundwater interceptor trench was built north of the site to control the spread of off-site groundwater contamination. Further investigation/sampling is currently underway. In assessing health problems, contaminated groundwater was found in one sump system in a nearby neighborhood, but exposures to this contaminated groundwater are minimal due to the low concentration and low volatility of the contaminants found.

c. The Spencerport Village Dump, which is owned by the Village of Spencerport, is located on Trimmer Road, immediately south of the Erie Canal. The priority classification assigned to this site is a code 3. A code 3 indicates that the site does not present a significant threat to the public health or the environment and remedial action may be deferred. The only

hazardous wastes disposed at this site were unknown quantities of pesticides.

{The above information was provided by the Monroe County Environmental Management Council, a division of the Monroe County Department of Environmental Services}

Accidental hazardous material spills occur periodically at fixed facilities, and by various kinds of vehicles. Hazardous materials teams respond to reported spills, but there is the potential for some portion of spills to drain into nearby waterways before hazardous materials teams arrive. An analysis of countywide spills data for the period October 1989 through July 1991 indicates that the greatest quantity of spills were solvents and various kinds of oils.

6. Zoning and Land Use

Land use in the watershed of the four ponds region is a combination of residential, commercial-industrial, agricultural, open space, and government owned land areas (eg: parks). See Figure 8 for a map of general land use in the watershed area and Figure 9 for a more specific map of land use north of the Lake Ontario State Parkway, both in Appendix A.

Figure 8 shows that the predominant land use in the eastern part of the watershed is residential with some business/industrial usage. In the western half of the watershed, agricultural lands are most common.

In Figure 9, residential uses are found bordering the Lake Ontario side of Edgemere Drive, which runs along the Lake Ontario shoreline extending from Little Pond just west of Rochester to the Braddock Marina. This road was built on a sand bar in the early 1930's. Edgemere Drive itself, and protective barriers built by residents along the road, have served as stabilizing forces for this dividing sand bar which would have otherwise been washed away by coastal erosion. In addition, residential areas are located on both sides of the northern portion of East Manitou Road. They are also located between the southern shore of Cranberry Pond that runs along North Drive and Lowden Point Road. Residential uses virtually surround Long Pond except for the southern end. The remaining residential uses border the east side of Island Cottage Road between Buck and Round Ponds.

Commercial-industrial uses are found mainly along the eastern shores of Round Pond, running south to the Ontario State Parkway. Included

in this area are the Kodak Water Treatment Plant, Wegmans, and vacant land zoned for industrial purposes.

The remaining land in this area can be classified as government owned land. The Town of Greece owns a few parcels of land within residential areas around Cranberry and Long Ponds. Some of the accessways to Long and Cranberry Ponds along North and South Drives were granted to the Grandview Heights Neighborhood tract. The Monroe County Water Authority owns the land north of the Ontario State Parkway and west of Dewey Ave. The State of New York owns the 2500 acres of Braddock Bay Fish and Wildlife Management Area that encompasses the southern ends of Cranberry and Long Ponds, all of Buck Pond, and part the tributary to Round Pond. In addition, there are four areas within the Management Area, consisting of 375 acres, that the Town of Greece leases from New York State.

7. Sanitary Sewers and On-site Septic Systems

There are currently two types of waste disposal systems serving the Greece Four Ponds area: sanitary sewers and on-site septic. A sanitary sewer system consists of a network of pipes that convey raw sewage from separate households to a common sewage treatment plant for treatment and discharge. The sanitary sewer system is available to almost all residents in the immediate vicinity of the four ponds. Specifically, this area is serviced by the 81st extension sewer district which conveys the raw sewage to the Northwest Quadrant Wastewater Treatment Plant. This sewer district contains approximately 30 miles of sewer line.

The households not connected to a sewer system are utilizing an on-site septic system. A conventional on-site septic system is composed of three primary parts: the main waste line, the septic tank, and the leach field. The main waste line transports raw sewage from the house to the septic tank. In the tank, raw sewage separates into insoluble solids and liquid wastes. Insoluble solid waste is then decomposed by bacterial action while the liquid portion flows through another pipe into the leachfield lines. The perforated leachfield lines allow for equal dispersion of the liquid waste throughout the leachfield. Once in the soil, the waste is broken down into plant supporting nutrients. Very few on-site septic systems are still in use in comparison to the number of residents using sanitary sewers in the area. Estimates from Greece Town Engineering Department and the Environmental Health Section of the Monroe County Health Department staff suggest that the number of households being served

by septic systems is less than ten percent. An historical record of sewer or septic related complaints with the Monroe County Health Department indicates that there has been virtually no official complaints filed from the four ponds area during the past five years.

B. Historical and Current Management of the Four Ponds

1. Braddock Bay Fish and Wildlife Management Area

The Braddock Bay Fish and Wildlife Management Area encompasses 2500 acres of land between the shoreline of Lake Ontario and the Lake Ontario State Parkway (see Figure 10 in Appendix A). Originally, this 2500 acre tract was administered by the New York State Office of Parks and Recreation. In 1981, four parcels of this land, totalling 375 acres, were leased to the Town of Greece by the State. They included the Braddock Bay Marina, Beatty Point, and portions of the former Braddock Bay State Park. In 1982, the remaining 2125 acres were transferred to the jurisdiction of the Department of Environmental Conservation. At this point, the area officially became known as the Braddock Bay Fish and Wildlife Management Area. To ensure that this entire area would be effectively protected and developed, the Town of Greece and New York State Department of Environmental Conservation (NYSDEC) entered into a management agreement on April 13, 1983. Specifically, the agreement held that "the parties [Greece and NYS Dept. of Environmental Conservation] shall operate, maintain and develop the Leased Areas and the Management Area in conformance with the Management Plan." (Greece and NYSDEC Management Agreement, 1983).

2. The Braddock Bay Fish and Wildlife Management Area Review Committee and other active citizen groups.

A Review Committee was established in order to advise and assist the Town of Greece and the NYSDEC on the management, maintenance, and development of the Braddock Bay Fish and Wildlife Area. (Carroll, 1980) The Review Committee consists of 16 representatives: 5 from the Town of Greece, 3 from the NYSDEC, and 1 each from Monroe County Environmental Management Council; the NYS Trappers Association, the Lake Plains Waterfowl Association, the Genesee Ornithological Society, the Greece Central School District, Braddock Bay Marina Inc., Braddock Bay Raptor Research, and Monroe County Conservation Council. This committee meets periodically and may make recommendations to the Town and the NYSDEC relative to improving the management of the area.

Other citizen groups active in the area include the Braddock Heights Neighborhood Association (Cranberry Pond residents), the Marland Shores Neighborhood Association (Long Pond residents), and the Grand View Heights Neighborhood Association (Long Pond and Cranberry Pond).

C. Current Water Quality Information

In 1989-90, the State University of New York (SUNY) at Brockport conducted a water quality sampling study that identified Long Pond as hypereutrophic (Makarewicz, et. al., 1990). The excessive drainage of nutrients, especially phosphorus, into a pond or lake causes the proliferation of algae and aquatic plant growth. A *hypereutrophic* pond contains excessive amounts of phosphorus and other plant growth nutrients. The results of this study indicate that Long Pond contains high levels of phosphorus and chlorophyll, two key indicators of eutrophication. The study also estimates that 89.1% of the nutrient load of Long Pond is coming from Northrup Creek. Other sources of nutrients into Long Pond are stormwater runoff and drainage from Cranberry Pond.

As part of the study, SUNY Brockport also gathered information on the physical characteristics of Long Pond. They estimated the area of the pond to be 2.03 square kilometers. The volume of the pond was estimated at 2020 cubic meters. The maximum depth was measured to be 1.6 meters and the mean depth was approximately 1 meter. The shallow depths allow the wind and waves to stir up the bottom of the pond and redistribute the sediment, which in turn causes the release of previously stored nutrients back into the water, thus making the pond more susceptible to the process of eutrophication (excessive plant growth).

In August of 1994, SUNY Brockport completed one year of limited water quality sampling of the four ponds under contract with the Monroe County Environmental Health Laboratory. See Appendix B for the detailed sampling plan. Excessive levels of Total Phosphorus and Chlorophyll-a continue to characterize three of the four ponds. Unfortunately, as shown in Table 3, Cranberry, Long, and Buck Ponds are well above the threshold of 100 ug/L of Total Phosphorus which indicates a *hypereutrophic* state. As displayed in Table 4, Long Pond contains the highest mean annual concentrations of Total Phosphorus and Chlorophyll-a, followed by Buck and Cranberry Ponds. Phosphorus levels in the ponds are much greater than in most other

Table 3. General Ranges of Ambient Phosphorus Concentrations in Lakes of Different Trophic Status. Values for Greece Ponds are for the Summer only.

	Total Phosphorus (ug/L)
Ultra-oligotrophic	<1-5
Oligotrophic	5-10
Mesotrophic	10-30
Eutrophic	30-100
Hypereutrophic	>100
Round Pond	45
Cranberry Pond	126
Buck Pond	172
Long Pond	319

Table 4. Mean Annual Concentrations of Various Parameters in the Greece Ponds

	Round	Buck	Lóng	Cranberry
Total Phosphorus (ug/L)	44.4	94.9	168.1	81.2
Chorophyll-a (ug/L)	6.13	103.72	122.02	93.39
Dissolved Oxygen (mg/L)	10.33	10.75	10.98	10.63
Temperature (°C)	11.34	11.7	11.31	11.69
Secchi Disk (cm)	Bottom	37	39	36
Sodium (mg/L)	59.85	40.93	40.35	45.98

area waters. For instance, the Total Phosphorus concentration in Lake Ontario is 13.0 ug/L and in Conesus Lake it is 19.8 ug/L. The levels of Total Phosphorus and Chlorophyll-a in Round Pond are relatively low compared to the other ponds. According to the 1994 SUNY Brockport study, this may be related to the large wetlands through which Round Pond Creek must pass prior to reaching the pond itself.

The concentration of oxygen is another important indicator of the health of a water body. The level of oxygen is a critical factor in determining what types of organisms can inhabit a particular water body. For instance, cold-water species of fish, including salmon and trout, require high concentrations of oxygen in order to survive. These ponds would not support a salmonid population because the ponds are too shallow and warm. However, warm-water species of fish such as Northern pike, bass, and perch can thrive at lower oxygen levels.

Many factors can impact oxygen concentration, including water temperature and the quantity of respiring organisms. Oxygen solubility in water increases as the temperature decreases. The Greece Ponds are relatively warm because they are so shallow, and therefore susceptible to low levels of oxygen. Eutrophication can also impact oxygen levels. The respiring micro-organisms, which break down the excessive quantities of algae and macrophytes associated with eutrophication, may deplete oxygen levels.

Despite the warmth and the eutrophic state of the ponds, the study states they are well oxygenated throughout the year. Oxygen values recorded in the ponds ranged between 5 and 16 mg/L. As displayed in Table 3, Long Pond contained the highest mean annual concentration of dissolved oxygen followed by Buck, Cranberry, and Round Ponds (Makarewicz and Lampman, 1994).

The Secchi Disk parameter is another useful indicator of the health of a water body. A Secchi Disk measurement involves the lowering of a weighted disk, attached to a measured line, into the water body. The distance at which the observer loses sight of the disk is the Secchi Disk measurement. The purpose of this measurement is to quantify water clarity. The higher the centimeter reading, the greater the clarity of that pond. A reduction in water clarity is frequently associated with excessive algal growth or siltation, problems which plague many of our water resources.

In the case of the Greece Ponds, the Secchi Disk values are fairly low,

indicating poor water clarity. As displayed in Table 3, the readings for all four ponds were about one third of one meter. Water clarity in nearby water bodies, such as Lake Ontario and Conesus Lake, is much greater than in the Greece Ponds. Secchi Disk readings for Lake Ontario are generally in the 3 - 5 meter range and for Conesus Lake in the 2-4 meter range (however, keep in mind the Greece Ponds are very shallow). The poor water clarity which characterizes the ponds is the result of excessive algal growth and siltation (Makarewicz and Lampman, 1994).

Lastly, high sodium chloride levels in freshwater lakes or ponds can degrade water quality and create an inhospitable environment for native species. The primary source of sodium chloride in freshwater lakes and ponds is the salt used for road deicing. Therefore, it is not surprising that sodium levels are greatest in the winter. According to report research, sodium levels in Buck, Round, and Long Ponds show significant increases during the winter months. However, Cranberry Pond was characterized by a relatively constant level of sodium throughout the sample period. This may be because there are no streams with road runoff flowing into Cranberry Pond (Makarewicz and Lampman, 1994).

III. CURRENT USES OF THE FOUR PONDS

A. Uses in the General Area

1. Fish and Wildlife

a. Waterfowl and Shorebird Use

The two main waterfowl uses of the Management Area are nesting and migration. Waterfowl commonly nesting on the area include blue-winged teal, mallards, and wood ducks. The less common nesters found in the area include shovelers, black tern, and hooded mergansers. Recent planting of switchgrass fields and the building of wood duck nesting boxes which were placed along Cranberry and Buck Ponds, have been very successful in promoting the reproduction habitats of certain waterfowl species. For example, of the 17 wood duck boxes in Cranberry Pond, all but one had successful hatches. In terms of switchgrass fields, there has been a 25-30% nest success rate in these fields compared to less than 1% in flooded timber, 5% on dike rights-of-ways, and 10-12% in natural fields of grass (Meeting Minutes, 1993).

b. Bird/Raptor Migration

The Braddock Bay Fish and Wildlife Management Area also serves as a feeding and resting ground for hundreds of species of birds during migration season. Tens of thousands of Canada Geese and several species of migratory ducks use the area each year in migration. In addition, the Management Area hosts one of the greatest springtime concentrations of migrating songbirds and raptors. Endangered species are often included in these groups of migratory birds, especially eagles and falcons. The osprey and northern harrier are threatened migratory raptors that use the Braddock Bay area (Jeff Dodge, July 1993 public forum).

c. Other

In addition, the Management Area provides optimum habitat for many other species of wildlife including mammals, reptiles, amphibians, and fish. For an inventory of all recorded animal species in the area see Appendix C.

2. Human Uses

The Management Area provides numerous activities and facilities for the nature lover. Activities include nature walks, bird watching, picnicking, cross country skiing, walking, canoeing, nature photography, and drawing and painting. Facilities include the

Braddock Bay Lodge and Pavilion, Cranberry Pond Nature Trail, Braddock Bay Trail, Braddock Bay Hawk Watch Platform, an owl interpretive trail (near Rose Marsh on the north side of Braddock Bay), small boat launches, and a Photography/Observation Blind.

a. Hunting, Fishing, and Trapping

The Braddock Bay Fish and Wildlife Management Area provides several public uses, including hunting, trapping, fishing and various wildlife recreational activities. These uses are conducted in accordance with statewide hunting and fishing regulations determined by the New York State Department of Environmental Conservation (NYSDEC).

Currently, there are no plans for a controlled or permit hunting program on the area. However, waterfowl hunting is prohibited in designated waterfowl refuges on Long Pond and Rose Marsh (just north of Braddock Bay). These areas are posted with yellow and green signs. Upland game and deer hunting is only permitted north of Manitou Beach Road. In addition, only shotguns are allowed (no rifles or pistols). Discharge of firearms is prohibited without landowner permission within 500 feet of a building and is a statewide regulation.

Trapping is allowed on the entire Management Area under a permit system. Permits are obtained from the NYSDEC. Trappers with permits are required to provide the NYSDEC with information concerning wildlife harvested, the weeks of the year that traps were placed, and average number of traps set per day.

Fishing is permitted in accordance with state regulations and the protection of critical spawning areas. Popular species include northern pike, perch, sunfish, and bullheads.

b. Environmental Education Use

In the summer of 1986, a naturalist was hired full-time to coordinate an educational program for the Fish and Wildlife Management Area. In addition, the lodge was constructed on the existing pavilion at Braddock Bay Park to be used as a nature education center. The naturalist coordinator developed a comprehensive work plan for a full-time educational program, but due to lack of funding it was abandoned. Currently, no active educational programs conducted by the Town of Greece or the NYSDEC exist at the lodge. Yet, the lodge is available to groups interested in using the facility for educational purposes.

c. Research Use

The Fish and Wildlife Management Area is currently the site of ongoing raptor (birds of prey) research. The Braddock Bay Raptor Research project monitors migrating raptor populations. To do this the raptors must be caught, identified, and then banded. One recent research study has shown a dangerous decline in the Sharp-Shinned Hawk population over the past few years (Dodge, 1992). Raptors are very important for several reasons including their value as an indicator species. In simple terms, because raptors are at the top of the food chain, contaminants in the environment will often show up in these creatures. By monitoring these birds of prey, the Braddock Bay Raptor Research group can better understand what must be done to sustain and preserve these populations.

d. Water Recreational Use

Recreation is the primary human use of all four ponds. A wide variety of recreational activities are currently taking place in the ponds area. Some uses may be more common in one of the ponds and not in another, but there are common uses among all four ponds.

Survey forms were handed out at the July 1993 public forum on the Four Ponds area. A total of 63 forms were completed and sent back to the Monroe County Department of Planning and Development. These forms and feedback from the public meeting gave a general idea of how each of the four ponds were being used. However, the estimates on pond usage may not be entirely accurate since the data was collected through an informal survey, not a formal scientific study.

According to the survey results, common uses for all four ponds include :

boating/canoeing	fishing
sight seeing	bird watching
swimming	hiking
ice skating	

Approximately 64% of the respondents live on waterfront property. In terms of boating, approximately 85% of the surveys indicated ownership of some type of watercraft. In addition, roughly 58% owned at least one power boat, 25% owned sailboats or wind surfers, 12% owned jet skis, and 36% owned handpowered boats.

e. Other

Water from Long Pond and Cranberry Pond is used by the Fire Department for drills on water safety.

B. Uses on specific ponds

1. Cranberry Pond

Cranberry Pond is the site of several recreational uses. According to the survey, the most common uses are as follows:

swimming	fishing
hiking	picnicking
sight seeing	ice skating
boating	bird watching

Other uses indicated by the survey include:

water skiing	sailing
windsurfing	snowmobiling
ice fishing	ice boating
cross country skiing	jet skiing
hunting	trapping

In terms of boating on Cranberry Pond, out of the 63 respondents, the survey indicated that approximately 27% use power boats, 11% use sailboats, 8% use personal watercraft, and 22% use handpowered boats. It appears that Cranberry Pond is used with equal frequency during fall, spring, and summer seasons, and slightly less during the winter.

2. Long Pond

Long Pond is a site for heavy recreational use. According to the survey, the most common uses include:

waterskiing	swimming
boating	ice skating
windsurfing	

Other uses indicated less frequently by the surveys include:

hunting	jet skiing
fishing	sailing
hiking	bird watching
picnicking	sight seeing
snowmobiling	ice fishing
ice boating	cross country skiing
sea plane landing	

In terms of boating on Long Pond, the surveys indicate that approximately 22% of the respondents use power boats, 17% use sailboats, 5% use personal watercraft, and 14% use handpowered boats. According to the survey results, Long Pond is used with equal frequency during fall, spring, and summer seasons, and less during winter.

3. Buck Pond

Buck Pond is used for recreational purposes to a significantly lesser extent than Cranberry and Long Ponds. Due to the lack of surveys that listed Buck Pond as the primary location for recreational activities, it is not possible to provide an accurate estimate of the most common uses of this pond at this time. However, the current uses indicated by the received surveys include:

fishing	ice skating
swimming	sailing
hiking	picnicking
sight seeing	cross country skiing
boating/canoeing	hunting/trapping
bird watching	snowmobiling

According to the surveys, less than 4% of the respondents use power boats on Buck Pond, less than 2% use handpowered boats, and none of the respondents indicated the use of sailboats or personal watercraft. The surveys also indicate that Buck Pond is used with equal frequency during all four seasons.

4. Round Pond

Round Pond, like Buck Pond, is also apparently used to a lesser extent for recreational purposes. A shortage of surveys that list Round Pond as the primary location of recreational activities does not make it possible at this time to provide an accurate description of the most common uses of this pond. The current uses indicated by the limited surveys received include :

swimming	communications tower
fishing	hiking
sight seeing	ice skating
boating	bird watching
hunting/trapping	snowmobiling

In terms of boating on Round Pond, only 2 surveys indicated the use of powerboats. None of the surveys listed sailboat, personal watercraft, or handpowered boat usage. It appears that Round Pond is used with equal frequency during all four seasons.

IV. IMPAIRED USES OF THE FOUR PONDS AND POSSIBLE CAUSES

This chapter discusses the ways in which humans, fish, and wildlife would perhaps like to use the four ponds but cannot do so because of water-related problems. These are called "use impairments." Problems identified at the public meetings and in the surveys are listed in this chapter. Since not all use impairments and problems are currently known, this chapter is incomplete until further information is obtained. Also, the impairments may change with time.

A. Impaired Uses and Causes in the General Area

1. Impairments/Problems for Fish and Wildlife

a. Loss of Waterfowl Population and Habitat

The decline in waterfowl populations throughout the Four Ponds area can be largely attributed to the loss of habitat belonging to particular waterfowl species. The following four factors have had negative impacts on waterfowl habitats: development in the area, the growth of an invasive plant known as Purple Loosestrife, artificial wave generation caused by recreational boating, and the seasonal fluctuation of lake levels.

- Development in the area has encroached upon wildlife habitats. Construction of new buildings, noise, and other human activities have either physically destroyed precious wetland habitat areas or have made the living conditions in certain wetlands intolerable. The increasing human populations also tends to inhibit the use of the area by raptors, particularly owls.
- The rapid spread of Purple Loosestrife, a plant not native to this area, is also responsible for the loss of vegetation that serves as waterfowl habitat. This plant is also known as a transition plant because it can transform the habitat from one state to another. It produces a tremendous amount of seeds and it is capable of growing from these seeds or from tubers that run underneath the ground. Loosestrife characteristically grows in moist areas and can be found in up to 12 inches of water. Currently, ways for dealing with this problem are being assessed by the New York State Department of Environmental Conservation's Bureau of Fish and Wildlife. (For more information on Loosestrife control see Chapter VI.) Surveys have been conducted by the Greece Environmental Board to inventory the spread of purple loosestrife within the four ponds area.

- Artificial wave generation, which is caused by recreational boating, has also had a negative impact on waterfowl habitat, especially that of black tern nesting. Black terns are sensitive to wave action because they build their nests on floating masses of vegetation that can be easily washed out. In a study of terns nesting in the St. Mary's River in Michigan, Smith and Heinz (1984) postulated that high water levels and waves produced by ship traffic, along with natural wave action are the reasons for tern nest failures (1984). Over the years, the black tern population has shown a sharp decline in the Four Ponds area. In the past, one could easily find up to 40 pairs of terns nesting in the Braddock Bay Fish and Wildlife Management Area. Now, finding three to four pairs is rare. Basically, the black tern has left the area because the present habitat is not suitable anymore for its nesting purposes.
- Seasonal fluctuation of lake levels can have a significant impact on waterfowl habitat and shoreline development. Flooding caused by excessive high lake levels can destroy certain nest sites and damage coastline property. However, if lake levels are too low, adjoining wetlands may be depleted. To control excessively high lake levels, the International Joint Commission (IJC) is permitted to drain water from Lake Ontario into the St. Lawrence River.

b. Decrease in Fish, Turtles, and Muskrats

According to anecdotal evidence provided by residents at the first public meeting in July 1993, it appears that fish, turtle, and muskrat populations may be declining. This evidence is based on visual observations by various local residents. As of yet, there has not been any formal research study completed in order to confirm these hypotheses. At least one citizen reports that about 100 turtles are removed (poached) from the ponds each spring.

2. Impairments/Problems for Human Uses

Several impairments and problems for humans are known or were identified at the first public meeting on the Four Ponds area and in the subsequent letters and survey forms that were filled out. The impairments/problems include:

- Recreational Impairments due to Eutrophication and Undesirable Algae: Eutrophication is the acceleration of the amount of nutrients (particularly the nutrient phosphorus) to a water body by natural or human induced causes. The increased rate of delivery of nutrients results in increased production of algae. The excessive algae and other plant growth spurred by the nutrients are impairing the use of the ponds for swimming. The excess plant growth also interferes with boating. Natural sources of the excess nutrients that cause the eutrophication include the decomposition of organic matter such as leaves and plants. Human induced sources include domestic sewage (from public and on-site systems), stormwater runoff, air deposition, and fertilizers. As stated in Chapter 2, Part C, Long Pond has about twice the amount of phosphorus as Cranberry Pond and is considered *hypereutrophic*.
- Degradation of Aesthetics: The natural beauty and scenic value of an area can be degraded by several factors. In this area those factors are littering, residue from bonfires, excessive algae in ponds, excessive sediment in ponds, odors (one neighbor mentioned odors at Lowden Point Road pump station), and noise from gunshots, jet skis, and motor boats.
- Personal & Public Safety Concerns: At the public meeting and through non-scientific surveys, many respondents had a concern for their personal safety. During hunting season, some are concerned about stray gunshots. Trespassing on private property was also cited as a problem. Swimmers are concerned with boats driving too close to the docks. There are also concerns for public safety during days when boater volume is heavy.
- Lack of Public Access: Many at the public meetings expressed a need for greater public access to the ponds by parking areas, access points and public boat launches.
- Restrictions on Fish and Wildlife Consumption: The New York State Department of Health issues an annually updated Fish Consumption Advisory which suggest limiting or omitting consumption of fish caught in Lake Ontario or connected waters. Since there are drainage channels that connect the four ponds to Lake Ontario, this advisory could hold true for the ponds. The chemicals that concentrate in the fish tissue are PCB's, Mirex, and heavy metals. Many of these chemicals are no longer in production but still remain in the lake sediments where they

bioaccumulate in the food chain.

B. Impaired Uses and Causes in the Specific Ponds

In addition to the use impairments stated above that apply to all of the ponds, the following is a list of current known impaired uses, specific to each of the four ponds. These were developed by residents at the public meetings and those who submitted survey forms.

1. Cranberry Pond

There is anecdotal evidence of tires breaking loose from docks (where they are used as bumpers) and littering the water. Another concern is for the deterioration of the northern shoreline of the pond which may be due to the cutting of willow trees near the shoreline. Also, in the fall/1994 and spring/1995, several residents called the Monroe County Health Department with complaints of foaming in the pond. Laboratory analysis and site inspections did not indicate that this was due to wastewater discharges, but rather was most likely a result of the decomposition of organic matter (leaves, algae, etc...).

2. Long Pond

In addition to the general use impairments, there are some impairments and problems unique to Long Pond and its watershed. Some people at the meetings complained of skin irritation from body contact with water. This may be due to excessive algae or bacteria in the water, but would need to be confirmed with laboratory testing. Odor problems from decomposing algae was also cited as a problem.

Two use impairments concerning Northrup Creek are mentioned here because it is a major tributary to Long Pond.

- a) High levels of phosphorus in Northrup Creek contribute to the eutrophication impairment in Long Pond. Limited information about Long Pond and Northrup Creek can be found in a 1990 study done by State University of New York at Brockport and the Monroe County Environmental Health Lab (Makarewicz, Burton, et al., 1990). This study indicates there are high levels of phosphorus in Northrup Creek which contribute to algae growth in Long Pond. See Chapter 2 for more recent

water quality monitoring data. Some major sources of phosphorus to Northrup Creek are the Spencerport Wastewater Treatment Plant, effluent from sand filters (individual sewage disposal systems), and stormwater runoff. Efforts to reduce phosphorus discharges from the Spencerport Wastewater Treatment Plant will be discussed further in Chapter VI.

b) Discharges from the Erie Canal into Northrup Creek pose problems of siltation and high water levels according to some neighbors who reside along the creek. Northrup Creek receives a substantial amount of water from the Erie Canal during canal operation, generally from mid-May to mid-December. There are two gates, east and west, that allow the Erie Canal water discharge to enter Northrup Creek. These gates are operated by the New York State Thruway Authority. The purpose of allowing Erie Canal discharge to enter the creek is: 1) to maintain a constant level of water in Northrup Creek without flooding downstream, 2) to dilute treated sewage effluent discharging from the Spencerport Sewage Treatment Plant, and 3) to maintain water levels in the Erie Canal. The actual amount of water that is discharged varies from season to season. An estimate for the rate of discharge during the 1993 season was approximately 13 cubic feet per second (cfs) or 8.8 million gallons per day. Currently, there is very little information on the amount of sediment and/or phosphorus that enters the creek as a part of the discharge. At least one neighbor has observed excessive silt entering Northrup Creek in the spring or when the canal is being drained due to the vertical gates (that control flow) located near the bottom of the canal.

3. Buck Pond

At least one neighbor complained of excessive trash along Edgemere Drive.

4. Round Pond

Round Pond is perhaps the least accessible of the four ponds because it is heavily surrounded by wetlands. Some would like to see greater public access to this pond.

C. Pond Use Conflicts

At both the July 1993 and January 1994 public meetings, it was apparent

that there is some disagreement on the ways in which the ponds should be managed. There was general consensus that the ponds and the watershed should be managed so that people and fish and wildlife can benefit from its presence, now and for the future. A conflict of agreement arose when specific ways to reach this desired goal were discussed. The survey forms and comments sent in by some of the people in attendance at the meeting also were an indication of a disagreement on some issues.

1. Fish and Wildlife Habitat Protection vs. Water Recreation

Many individuals feel that the protection of wildlife and their habitat should be a top priority. To do this, it was suggested that strict regulations on water recreational uses be enforced. Some specific concerns raised at the meetings include the detrimental effects of boat-generated wakes on certain waterfowl habitat, noise pollution generated by motor boat usage and jet skis, and the physical destruction of wetland habitat by various water recreation activities. On the other hand, recreation such as water skiing is considered by many as an integral part of living on the waterfront.

2. Fish and Wildlife Habitat Protection vs. Development

Existing development in this area has resulted in a net loss of habitat for fish and wildlife. Construction of buildings and parking lots encroaches upon valuable wetland areas and upland areas. Often, stormwater runoff from parking lots and construction sites contributes to degradation of water quality and thereby impairs habitat.

3. Hunting vs. Concern for Personal Safety

Hunting is allowed in much of the Braddock Bay Fish and Wildlife Management Area but not within 500 feet of a building. Many people at the public meetings had concerns for their personal safety during the hunting season.

4. Local Residential Use of Ponds vs. General Public Use of Ponds

Many local residents in the Four Ponds area voiced opposition to allowing the general public to have access to the four ponds. The reasons cited for such opposition included beliefs that outside users tend to abuse the area (eg. littering and trespassing on private property), that they are adding to the problem of overcrowding, and that they are exacerbating the noise pollution problem. Others argue

that the Braddock Bay Fish and Wildlife Management Area and the ponds themselves are public areas that should be available for public use and enjoyment. Some want to see easier access to the four ponds by land and by way of Lake Ontario so that this valuable resource can be broadly shared.

V. GOALS FOR THE FOUR PONDS

The first part of this chapter is intended to give you an idea of the goals that have been developed thus far in several documents concerned with the four ponds area. The second part of this chapter describes goals that were suggested at the public meetings and that strive to address the impaired uses described in Chapter IV.

A. Existing Goals

A number of goals currently exist for larger areas of which the Greece Four Ponds watershed is a part. It is important for these goals to be recognized in order to incorporate them into the Four Ponds area. Goal statements are quoted below from the Lake Ontario West Basin Goals and Objectives, the Braddock Bay Fish and Wildlife Management Plan, and the Town of Greece Master Plan.

1. Draft Lake Ontario West Basin Plan Goals and Objectives (unpublished)

The Lake Ontario West Basin Subcommittee of the Monroe County Water Quality Management Advisory Committee identified several goals and objectives for the Lake Ontario West Basin as of August 27, 1992. The subcommittee consists mainly of non-affiliated citizens, but also has representatives from town conservation boards, the county, business, elected officials, and public interest groups. The goals and objectives identified by the subcommittee are as follows:

GOAL: Shorelines and waterways are free of objectionable materials which degrade water quality and appearance.

Objectives:

No trash on shorelines or in waterways

No oil on shorelines or in waterways

No unnatural foam on shorelines or in waterways

Maintain unobstructed stream flow (that may have been altered due to ice storm debris, litter, etc.)

GOAL: Stabilized soil/reduced siltation

Objective: Stabilization of streambanks and reduction of erosion from bare or exposed soil (eg. construction sites)

GOAL: Increased citizen awareness of water quality/environmental issues

Objectives:

More public access to water for environmental education

More public access to water for recreation purposes/land acquisition

GOAL: Preservation of natural wetlands/no net reduction of wetlands

Objectives:

Maintain and protect present wetlands

Creation of new wetlands

GOAL: Provide good fish and wildlife habitat

Objective:

Maintain shorelines, wetlands, and waterways

GOAL: Improved communication between all parties involved in water quality management

Objective:

Land use/water quality information exchange network

GOAL: Optimum water quality of streams, bays, and ponds

Objectives:

Control plant and algae growth in ponds and waterways

Reduction of toxic substances in water bodies

2. Goals in the Braddock Bay Fish and Wildlife Management Plan

The Braddock Bay Fish and Wildlife Management Plan outlines several goals and objectives for the management area. To help foster the achievement of these goals and objectives, the Town of Greece along with the New York State Department of Environmental Conservation created a local review committee. The review committee's primary purpose is to advise and assist the Town and the NYSDEC with the management, development, and maintenance of the Braddock Bay Fish and Wildlife Management area. The goals and objectives of the plan focus on wildlife resource management and public use within the management area. The goals are stated here as they are in the Braddock Bay Fish and Wildlife Management Plan.

a. Wildlife Resource Management

(1) Waterfowl

(a) Brood production

Waterfowl brood production will be a high priority objective for the area. Production equal to hunter harvest would be within the goals of the Atlantic Waterfowl Council.

(b) Rest and feeding areas for Migrating Waterfowl

Important considerations will be to provide waterfowl with maximum resting and feeding areas during spring migrations, and two refuges for resting and feeding during fall migrations. High quality waterfowl forage will be maintained in the area by managing the uplands for legumes and grains, and the wetlands for desirable food plants.

(2) Fish

An important priority of the Braddock Bay area will be to protect critical spawning habitats for several species of pan and game fish common to Lake Ontario and/or its bays from filling and large scale dredging. Also, maximum fishing opportunity will be provided on the area consistent with management objectives.

(3) Upland game and big game

The carrying capacity of the area will provide good populations of those species consistent with the primary objectives of developing and/or maintaining prime wetlands and fish spawning habitat.

(4) Nongame species

Habitat will be enhanced for all wildlife species indigenous to the area, including songbirds and all marsh-associated wildlife. A special effort will be made to improve nesting and resting habitats for threatened and endangered species such as the Northern Harrier, Black Tern, and Osprey.

b. Public Use Objectives

Public use will be maximized where feasible without causing harmful impact on habitat or the various wildlife populations.

(1) Hunting

(a) Waterfowl

Public hunting opportunity with a refuge system will be provided, consistent with flyway production and maintenance of a quality recreation experience. Space between hunters, hunter friction, reasonable hunting success, and maintenance of an attractive natural atmosphere will be important concerns.

(b) Upland game and deer

Opportunity will be provided for the harvest of upland game and deer, but certain restrictions will apply.

(2) Trapping

Trapping will be allowed on the entire area under a permit system. Trappers receiving a trapping permit will be required to provide the NYSDEC with information concerning their trapping activities as requested.

(3) Fishing

Maximum fishing opportunity will be provided consistent with protecting critical spawning areas and pursuant to state regulations.

(4) Wildlife recreational use and activity

Factors determining the intensity of wildlife observation and study will be disturbance to threatened or endangered species, or disturbance to nesting and resting waterfowl. Other wildlife

activities and facilities on the area may include:

(a) Development of overlooks to provide waterfowl

observation areas and parking

(b) Bird watching

(c) Self-guided nature trails

(d) Wildlife photography

(e) Observation towers

(f) Guided nature tours for students and other groups

(g) Nature education center

3. Goals of the Town of Greece (Greece Master Plan)

The following goals and objectives have been identified in the Town of Greece Master Plan. Obviously, not all of the goals and objectives for the entire town of Greece are applicable to the Four Ponds region. The ones that have been listed relate either specifically or indirectly to natural resources or the Four Ponds area.

a. Environmental Resources Goal:

Preserve and maintain the quality of the town's environmental features, especially surface and groundwater resources, wetlands, the Lake Ontario shoreline, the New York State Erie Canal, Braddock Bay, the ponds, feeder streams, trees, and other vegetation.

Objectives:

- 1) Coordinate the Master Plan with the Local Waterfront Revitalization Plan for Greece.
- 2) Through zoning, the site plan review process and existing state and federal regulations, protect the Lake Ontario shoreline and the environmentally sensitive areas of Braddock Bay, the Erie Canal shoreline, the wetlands, and the wildlife management area.
- 3) By means of acquisition and increased land use controls, as appropriate, encourage the preservation of wetland and floodplain areas in order to provide open space, protect wildlife, and preclude unwanted intrusion.
- 4) Continue to utilize the procedures outlined in the New York State Environmental Quality Review Act (SEQR) in order to evaluate and address the impacts of activities on the environment.

- 5) Encourage and, where appropriate, require dedication of open space in new developments.
- 6) Limit development on properties with slopes in excess of 10 %.
- 7) Establish an Environmental Protection Overlay District to preserve woodlots with particularly valuable hardwoods.

b. Open Space and Recreational Goals:

Improve and expand recreational facilities in the town that are available to all residents. Preserve and enhance permanent open space that protects significant scenic and environmentally important areas.

Objectives:

- 1) Encourage the development of diverse recreational facilities, including parks, playing fields, playgrounds, fishing and water-related activities, community center, and other facilities that meet the recreational and educational needs of all members of the community.
- 2) Expand the trail system to provide opportunities for outdoor recreation and to link various parks, playing fields, and other recreational and community destinations. Utilize watershed and floodplain corridors and emphasize scenic vistas wherever possible.
- 3) Encourage the location of new recreational facilities/areas fronting on, or with view to, the major bodies of water and wetlands (Lake Ontario, Braddock Bay, and the ponds). Further encourage recreational facilities in areas where they will contribute to the preservation of open space, historic sites or unique natural resources.

c. Visual Resource Goal:

Enhance and maintain the visual resources of the Town of Greece, particularly Lake Ontario, the Braddock Bay Fish and Wildlife Management Area, and the Erie Canal.

Objective:

Develop a method to ensure the preservation of scenic views along

Lake Ontario, the wetlands adjacent to the Lake, the ponds, and the Erie Canal. Consider land or easement acquisition and other methods, as appropriate.

d. Land Use Goal

Promote the development of uses, patterns, densities, and activities which will reduce conflicts between various land uses and encourage positive investment in the form of new construction, restoration and improvement of existing structures, and the protection of important community land resources.

Objectives:

- 1) Promote uses of the Lake Ontario shoreline and wetland areas to protect important vistas, vegetation and wildlife habitats, while providing public access where possible.
- 2) Protect the sensitive major (state regulated) wetlands by decreasing the density and limiting development to single-family residential in close proximity to wetland boundaries.

B. Goals Proposed as part of this Findings Document

1. Goals Developed at Public Meetings

As stated at the beginning of this chapter, these goals were derived from input at public meetings and from comments received thereafter. Many of these goals will likely need to be discussed more by the community before they are considered for official adoption.

PROPOSED GOALS and OBJECTIVES:

GOAL #1 Shorelines and ponds are free from debris, trash, oil, and other visible pollutants.

GOAL #2 The water in the four ponds is of optimum quality (e.g., Long Pond should be mesotrophic, as opposed to the hypereutrophic state it is now in).

Objective: Reduction of phosphorus loadings into the ponds (from tributaries, Erie Canal, land use, discharges, etc.,...).

GOAL #3 Water and shore habitats along the four ponds support thriving and diverse fish and wildlife populations.

Objective: Control of exotic plant species (e.g., purple loosestrife) which encroach upon native species.

Objective: Habitat maintenance/enhancement for species that are threatened.

Objective: Human uses of the ponds are reasonably compatible with uses by fish and wildlife.

GOAL #4 Broad public awareness and public involvement in water quality/water resource improvement.

GOAL #5 Ponds and the surrounding watersheds are managed with careful consideration for future generations.

Objective: Limit future development in areas which are currently not developed.

GOAL #6 Water quality in ponds remains safe for swimming.

GOAL #7 Improved enforcement of existing water use rules and regulations.

GOAL #8 Improved communication between all parties involved in water quality management, e.g., neighborhood associations, Town of Greece, NYS Department of Environmental Conservation, Monroe County, Thruway Authority (which controls the Erie Canal), etc...

Objective: Collaboration on obtaining funds for water quality management projects.

2. Fisheries Goals

Many citizens also expressed the need to establish goals for fisheries management of the four ponds. An intern from the Monroe County Health Department worked with the New York State Department of Environmental Conservation to draft fishery goals (See Appendix C for specifics).

3. Water Quality Goals

Dr. Joseph Makarewicz, professor at SUNY Brockport, proposed some draft

figures for reasonable water quality goals for Long Pond considering its current state and physical characteristics (memo dated December 16, 1993). An attainable Chlorophyll a level in Long Pond would be approximately 50 micrograms per liter with a total phosphorus concentration of 106 micrograms per liter. This would still indicate a eutrophic pond but would be an improvement. These estimates were based on the assumption that several phosphorus sources (Spencerport Wastewater Treatment Plant, non-point sources, etc.) would decrease their loadings to the watershed.

VI. ACTIONS NEEDED TO ACHIEVE GOALS

This chapter explains both the actions that are proposed or currently underway, and the actions that were suggested at the public meetings or thereafter. Since January 1994, when the last draft of this document was distributed, some of the suggested actions and many new actions have been done. These are described throughout this chapter.

A. Current and Proposed Management Actions

1. Control of purple loosestrife

As mentioned in Chapter IV, the proliferation of purple loosestrife throughout the four ponds region continues to have a detrimental impact on wildlife habitat. Previous control methods have focused on flooding and herbicide spraying. Problems with these methods have led to the proposal of an alternative solution: biological control. The NYSDEC Bureau of Fish and Wildlife will utilize biological control of purple loosestrife by using insects to manage the invasive plant. One of the goals of the project is to eliminate 75-80% of the purple loosestrife in that area. The remaining 20% should not be a major detriment to the wetland area (Conversation with Sonny Knowlton).

Currently, there are three types of insects used for this type of control in the U.S. One, which looks like a potato bug, goes into the loosestrife root, lays eggs, and then eats the root. The second type attaches to the leaves of the plant. The third insect attacks the seeds. Over the past three to four years, testing has been conducted on every plant common to the area. The results have shown these insects are 95% specific to loosestrife. Testing is imperative to ensure that these insects will not cause problems to the rest of the vegetation in the area (Meeting Minutes, 1993).

Recently, insects have been released in the Braddock Bay Fish and Wildlife Management Area to test their capability to reduce the spread of purple loosestrife. Braddock Bay is one of three sites in New York State, (the others are in Niagara and Genesee Counties) that the U.S. Fish and Wildlife Service selected for this project. Thus far, the insects have survived the winter, but the success of the project may not be apparent for another five years or so (House, 1995).

2. Habitat restoration for black terns

As mentioned in Chapter IV, the destruction of black tern nesting sites is caused by high water levels, both from natural waves and boat-

induced wakes. It is practically impossible to control natural waves and difficult to control the ponds' water levels via control of Lake Ontario levels. Therefore, the best chance for improving habitat conditions for black terns is to place some restrictions on boat induced wakes. Some suggestions include limiting pond use, boat-free zones, and posting speed limits in designated areas.

3. Prohibited power boat launches by non-residents on Cranberry Pond

Currently, the launching of power boats from a parking area along Cranberry Pond is not available for use by non-residents. Property owners along Cranberry Pond can launch power boats via the boat launch twice a year. Once at the beginning of summer to put boats in and a second time at the end of the season to remove boats.

4. Switch grass planting

The planting of switchgrass is intended to provide long term nesting cover for ground nesting waterfowl species. Relatively recently, switch grass was planted at the Beatty Point wetlands near Buck Pond. In the early 1970's, this wetland area was destroyed because of an unsuccessful attempt to convert the area into a golf course. Although the golf course was never completed, several acres of wetland habitat were buried in the many tons of soil used to get this project underway. Additional switch grass planting will help to restore habitats for a variety of waterfowl species.

5. Nesting boxes

These boxes are being constructed by the NYS Department of Environmental Conservation in order to develop and maintain prime waterfowl habitat. A total of 25 nesting boxes for wood ducks are currently in use at Cranberry and Buck Ponds. Nesting boxes help the wood duck to endure high waters and are also equipped with predator-proofing devices.

6. The Nature Conservancy's survey

During May and June of 1993, the Nature Conservancy performed the first half of a two part study aimed at systematically identifying the most important tracts of woods and shrubbery for songbirds along Lake Ontario. Specifically, more than 150 randomly selected shrubbery or forest tracts were monitored twice a week by volunteers. The results will provide information needed to manage the shoreland to benefit songbirds (Lowe, 1993). There are approximately 5 or 6 test sites located in the Greece Four Ponds area. Since the Nature Conservancy does not have the budget that would enable them to buy up these tracts of woods and shrubbery, they are promoting educational efforts at

informing the public of the importance of Lake Ontario's coastal habitat to migrating songbirds. An educational pamphlet has recently been put together that addresses this issue. A copy can be obtained by contacting Diane Pence of the U.S. Fish and Wildlife Service by phone at (413) 253-8480 or by mail at 200 Westgate Drive, Hadley, MA, 01035.

7. Vehicle barriers and littering fines

To prevent dumping, vehicle barriers were put at the Long Pond Road entrance to Beatty Point's Hiking trails. In addition, littering fines starting at \$50 will be imposed by enforcement agencies. (Orr, 1993).

8. Inter-municipal Agreements

Since watersheds do not stop at town or county boundaries, it is important for municipalities to cooperate for water quality management. Currently, Monroe County has entered into inter-municipal agreements to manage stormwater and water quality with three towns: Greece, Pittsford, and Penfield. The Monroe County/Greece agreement was signed April of 1995 (See APPENDIX G for specific information). Such agreements between municipalities are an essential tool for watershed-based management and several more are underway.

9. Long Pond/Northrup Creek Watershed Plan

One section of the above-mentioned Inter-municipal Agreement between the county and the Town of Greece calls for the development of a Long Pond/Northrup Creek Management Plan. As of the summer of 1995, county discussions with representatives of the Towns of Ogden and Parma and the Village of Spencerport indicate an interest in participating in the development of this plan.

10. Watershed Road Signs

The purpose of these signs is to educate people as to what a watershed is and help them identify the impacts their actions have on a watershed. This has been done in other communities such as the Port Bay watershed in Wayne County and parts of the Buffalo River watershed. The first signs were installed in the county in May of 1995. Throughout the remainder of 1995, all signs will be installed, including 11 in the watersheds of the four Greece Ponds and 6 in the Braddock Bay watershed.

11. Monroe County/Spencerport Wastewater Treatment Plant Pilot Project

Monroe County and Village of Spencerport officials met several times over the last year and one half to discuss options to reduce phosphorus loads into Northrup Creek and agreed to conduct this pilot study. The

Village of Spencerport has agreed to voluntarily treat their wastewater to reduce the phosphorus loading to the Northrup Creek/Long Pond Watershed. The Village will work with the Monroe County Department of Environmental Services (DES) and the Department of Health to conduct stream sampling and to document the cost for this additional treatment. The phosphorus removal pilot study will be conducted for a one year time period beginning in August of 1995. Ferrous sulfate will be added to the plant influent or aeration tank effluent at a consistent dosage to allow for the removal of phosphorus. This treatment should result in an effluent total phosphorus concentration of less than 1.0 ppm based on a thirty day arithmetic mean. The influent and effluent will be monitored daily by the Spencerport Wastewater Treatment Plant, and bi-weekly by the Monroe County DES. Water samples taken from Northrup Creek upstream and downstream of the wastewater treatment plant will be tested bi-weekly by the Monroe County DES.

12. Storm Drain Stenciling

In May of 1995 the Grandview Heights and Grandview Beach Neighborhood Associations stenciled the pavement near storm drains with the message, "Don't Dump", to discourage people from dumping household wastes down the drains. Items such as used motor oil, paints, anti-freeze, and lawn clippings are known to be dumped down these drains which lead directly to streams or ponds in the watershed. The groups also distributed brochures to neighbors informing them where to recycle/dispose of household hazardous wastes.

13. Water Quality Monitoring by Citizens

Monroe County Health Department staff and some citizens of the Greece ponds neighborhoods met to discuss additional water quality monitoring on the four ponds to be done by citizen volunteers. A group of neighbors called Greece Citizens for a Clean Environment are monitoring the water quality of the ponds for fecal coliform, chlorophyll a, phosphorus, sediment, and various physical parameters (began in July 1995). This group is working with the Monroe County Environmental Health Laboratory to analyze the samples. For information on how to get involved, contact Greg Kesel at 225-6461 or Jack Hale at 723-4698.

14. Long Point Bird Observatory- The Marsh Monitoring Program

The Marsh Monitoring Program (MMP) was initiated to assess the health of marshes in the Great Lakes Basin by monitoring marsh birds and amphibians during the breeding season because they are good indicators of environmental quality. The MMP is a cooperative project

of the Long Point Bird Observatory (in Canada) and the Canadian Wildlife Service. Volunteers in the Rochester area are participating in this program and have monitored marshes along Lake Ontario. For more information contact the Long Point Bird Observatory at (519) 586-3531. (The Marsh Monitoring Program, Interim Report, 1995).

B. Proposed Actions

Most of the following proposed actions were proposed at the public meetings held in July 1993 and January 1994. Some others have also been added by the authors. There are some actions that were suggested at the public meetings but are not fully listed here. These can be found in Appendix D.

1. Actions for the General Area

a. Water Quality & Aesthetics Actions

- (1) Identify and Implement Alternative Methods of Road Deicing
New York State, the Monroe County Department of Transportation, and the Monroe County Environmental Management Council recognize that excess road salt can make its way to groundwater and affect the quality of groundwater used for drinking, it can damage plants along roadways, and in large quantities in a watershed, it can affect the seasonal mixing of waters in lakes. These three agencies are encouraging those government agencies responsible for maintenance of roadways to reduce salt usage. In order to protect the water resources, the New York State Department of Transportation, the Monroe County Department of Transportation, and the Departments of Public Works for the Towns and Villages in the Ponds' watersheds should identify opportunities to use winter road deicing methods that minimize the use of road salt.
- (2) Develop and enact a dock ordinance.
Tires are being used as bumpers along docks located in the ponds to prevent damage to boats that are tied up there. Some residents have identified a problem that storms cause tires to become unsecured and fall into the pond causing aesthetics problems. The Town of Greece should consider developing a dock ordinance to prevent this and other problems that may be related to dock placement and/or maintenance.

(3) Educate homeowners on methods to minimize use of lawn care chemicals

Fertilizers, pesticides, and herbicides, when applied improperly or too frequently, can leach out of lawns and into waterways eventually making their way to the ponds. The leaching of lawn and garden fertilizers into waterways contribute to excess algae in ponds. Neighborhood Associations could work with the Cornell Cooperative Extension to design and conduct lawn care clinics to educate residents on proper ways to conduct lawn care that protect water quality.

(4) Protect and promote existing and new wetlands to improve water quality

Wetland vegetation can provide biological treatment of phosphorus in stormwater. The biofilm attached to rooted aquatic plants in wetland areas assists in the adsorption of nutrients that cause excess algae growth in ponds. Existing wetlands should be preserved to protect water quality, and increased quantities of stormwater runoff from new urbanization should be mitigated by stormwater management plans that include the creation of small wetlands. The Towns and Villages in the watersheds should consider revising stormwater or drainage ordinances to encourage the construction of wetlands to mitigate the negative water quality impacts of new development. Town Conservation Boards should identify methods to protect the long term viability of small wetlands.

(5) Set water quality goals for each of the 4 ponds

Basically, an agreed upon goal for the "clean" level of water quality must be established in order to give direction to implementation actions. For example, Monroe County has established a water quality target for Irondequoit Bay's eutrophic state to be equivalent to that of Conesus Lake, Lake Ontario, and Hemlock Lake (as indicated by mean summer chlorophyll readings of 4 to 10 micrograms/L). In order to reach this goal, it has been calculated that a maximum loading of phosphorus from Irondequoit Creek to Irondequoit Bay should be no greater than 14 kilograms of phosphorus per day. The Monroe County Water Quality Coordinating Committee should, based upon data collected in 1993 and 1994, establish similar goals for the 4 ponds in Greece (See CHAPTER V, Section B, 3. for goals developed thus far).

(6) Survey areas without sewers to identify problems and solutions
Since several homes and businesses in the watersheds of the ponds are served by individual on-site septic systems, it is possible that some may not be working properly or that clusters of septic system failures may indicate the need for sanitary sewer extension. A review of septic system failure reports made to the County Health Department could be done to identify clusters of septic system failures to indicate the need for sewer extension. The County Health Department could also conduct site visits to areas served by septic systems to identify any obvious signs of septic system failures. The inter-municipal agreement between the Town of Greece and Monroe County (see section c, (9) of this chapter) states: "The County will provide the Town with annual reports pertaining to on-site sewage programs in Greece including septic system installations, repairs, and complaints."

(7) Ban or reduce usage of lead sinkers
Many sinkers used with fishing lines are made of the harmful heavy metal, lead. When ingested by waterfowl, lead can cause nervous disorders or death. Lead also has the potential to dissolve in the water. The New York State Department of Environmental Conservation has already banned the use of lead shot but has not yet banned the use of lead sinkers. In order to get the use of these sinkers banned, it would be important to document the impact of lead sinkers on waterfowl and provide that documentation to the New York State Department of Environmental Conservation for their consideration. This could be done by organizations dedicated to protecting wildlife. It may also be effective for interested parties to develop appropriate communication networks with active fisherpersons to educate them on the effects of the lead sinkers and offer information on appropriate substitutes.

(8) Reduce silt, phosphorus, and other pollutants entering tributaries from the Erie Canal
At least one neighbor along Northrup Creek believes excess silt and phosphorus enter the Creek at Canal discharge points during high flows. One possible action to remediate this problem would be to install and maintain a detention area or wetland to trap the pollutants before they flow to Northrup Creek. Cooperation between the Town of Greece and the New York State Thruway Authority (who operates the canal) will be needed. It is possible that an inter-governmental agreement or a memorandum of understanding between Monroe County and

the Thruway Authority could lead to a minimization of discharges of Canal water into Northrup Creek.

b. Recreation Actions

(1) Evaluate the feasibility of creating no-wake zones and/or speed limits in Ponds

No-wake zones could help reduce the harmful effects that boat-induced waves have on waterfowl habitat. Reduced boat speeds in certain areas may also have public safety benefits. The Town of Greece would have to obtain New York State authorization to establish such water surface regulations. Enforcement of such regulations may have fiscal and feasibility constraints.

(2) Reduce watercraft noise

New York State Navigation Law, section 44, as of February 10, 1994 does require that all vessels meet specific noise standards (decibels) based on the date of vessel manufacture. The New York State Office of Parks and Recreation will be providing law enforcers with noise meters and training to enforce this law for 1994. Personal watercrafts (such as Jet Skis) cannot legally operate at night because they do not have lights.

(3) Evaluate the Feasibility of Establishing boat-free zones during migration and breeding season

Boat-free zones would lessen the harmful impact that water recreation has on the area's unique waterfowl habitat. These zones would target areas that presented the greatest threat to certain habitat. The Braddock Bay Fish and Wildlife Review Committee should investigate the feasibility and/or methodology for creating such zones.

(4) Establish fishery goals and fishing limits for the 4 Ponds

The sustenance of a diverse fish population may be difficult at the present time due to high summer temperatures, low levels of dissolved oxygen, and silty bottom sediments. After water quality goals are established, compatible fishery goals must be established. It has also been suggested that in order to help reduce the amount of fish being taken out of the ponds, restrictions should be imposed on the number of fish that any one person can remove from the pond. There are some statewide limits that apply to these ponds. For example, the daily limit of largemouth and smallmouth bass that can be taken are 5, and the minimum length is 12 inches. If any individuals

think there are additional limits that should be put in place in any of the 4 ponds, that change should be recommended to the NYSDEC Regional Director in Avon (See APPENDIX C for proposed fishery goals).

- (5) Identify and Evaluate appropriate sailboard rig and launch areas
Sailboarders want a place where they would have enough space to assemble their equipment as well as a site that would promote easy entry into the ponds. A launch area would help to decrease problems with cars parking on the roadsides or too close to private property. Sailboarders should cooperate and coordinate with neighborhood associations and the Town of Greece to identify launch area needs and sites, and pursue appropriate means of access.
- (6) Mandatory boater safety courses
There are a number of concerns by residents regarding boat speed, and the proximity of boats to the shore, docks, and swimmers. Required safety courses for all ages may encourage more responsible boating. Presently, safety courses are required for boaters between ages 10 and 18. These courses are free and are conducted by the Power Squadron, the Coast Guard Auxiliary, and the New York State Office of Parks and Recreation. The courts also have the option to sentence convicted offenders of boating laws to attend safety courses. However, there is no broad requirement for safety course completion. That would have to be mandated by the New York State. Residents who feel strongly about the need for this should make that concern known to their State Assembly and Senate representatives.
- (7) Establish and enforce waterfront hunting restrictions
Safety is the overriding concern in this proposed action. Many residents feel that during hunting season personal safety is at risk when rowing on the ponds or strolling on one of the nature trails. For government owned property, those governments have the option of restricting waterfront hunting. It is illegal to discharge firearms within 500 feet of a dwelling or building without permission. However, when waterfowl hunting, if the hunter is shooting out over of water and has no obstructions for 500 feet of the line of fire, he can legally discharge the firearm.

c. Land Use and Development Actions

- (1) Evaluate the feasibility to add more dedicated parking areas
Additional parking areas would facilitate better access to the ponds in addition to reducing incidents of parking on sand or grass. Concerns with creating additional parking areas are increased impervious surface area leading to more stormwater runoff, encroachment upon sensitive areas or habitat, and aesthetics. Interested parties should agree upon specific areas where additional parking is needed and approach the Town of Greece.
- (2) Develop more scenic areas for the public
From the survey forms, the most requested additional facility that people wanted to see was the construction of scenic overviews (17 of 63 survey responses). The second and third most requested facilities were birdwatch platforms and restrooms. Groups of individuals or Homeowners Associations should contact the Town of Greece, the Braddock Bay Fish & Wildlife Review Committee, and the NYSDEC to see how this could be done.
- (3) Open small hotel/bed and breakfast to cater to bird watchers
This was suggested to provide comfortable accommodations to the hundreds of tourists that visit the area each year.
- (4) Add land to wildlife refuge
At the meeting it was suggested to acquire more land for the Braddock Bay Fish and Wildlife Management Area in order to further protect wildlife habitat. The Braddock Bay Fish & Wildlife Review Committee, the Town of Greece, and the NYSDEC might be some appropriate channels to work through to address this action.
- (5) Create nature trails
Many feel that more nature trails are needed in order to contribute to the scenic value of the park. That is, nature trails will provide easier access to the unique sights found within the area and could educate people about the value of their environment. In communities across the nation, this has often been accomplished with the help of Boy & Girl Scout Troops, Eagle Scouts, 4-H programs, Town Conservation Boards and other community groups. Permission is sought from the owners and leasers of the land, in this case, NYSDEC and Town

of Greece.

- (6) Public review and input on proposed development
Residents feel that proper notification should be given to residents about any proposed or planned development in the area. To avoid conflict, residents should have opportunities to voice their concerns over any development project. The State Environmental Quality Review Act (SEQRA) ensures that if there is any project or proposal that has the potential for significant environmental impact an Environmental Impact Statement (EIS) must be prepared. An EIS must be made public so that people have ample time to review and comment upon the project.
- (7) Limit development
Many feel that development in the area will negatively impact the surrounding wildlife area. For this reason, some have suggested that development be carefully planned and in some cases, restricted.
- (8) Form inter-municipal partnerships through formal agreements
An inter-municipal agreement between Monroe County and the Town of Greece to manage water quality was signed in April of 1995 (See Section A.8. of this chapter for details). Town Conservation or Environmental Boards could encourage such additional agreements in the watersheds of the four ponds.
- (9) Coordinate with the Town of Greece Local Waterfront Revitalization Plan (LWRP).
Information from this Findings Document should be incorporated into the LWRP. At this time the LWRP is in draft form and has not been finalized.

d. Citizen Involvement Activities

- (1) Community Clean-ups
Community clean up projects are an organized effort to promote a clean, healthy environment and maintain the ponds by going out into the area and picking up trash and various wastes that have not been properly disposed. These projects have been done in areas throughout the country by both young and adult volunteer groups.

- (2) Signs to indicate which watershed you are entering
Signs to help inform the public what watershed they are entering are being posted along roadsides in Monroe County throughout 1995 (See Section A, 10. of this chapter for details).
- (3) Increase public awareness.
In order for people to do their part in cleaning up their environment, they must understand what effects their every day activities have on water quality. Development of public awareness is a constant process and ideally leads to public involvement or action.
- (4) Use Neighborhood Associations to implement actions
The Neighborhood Associations in the area could play a large role in the implementation process of the proposed management actions. Neighborhood Associations could garner widespread support from the community to achieve management goals.
- (5) Investigate how to create wildlife habitat
There have already been some efforts to create wildlife habitat in the ponds area. The NYSDEC has created 25 wood duck nesting boxes to improve waterfowl habitat. In addition, they have planted switchgrass, in cooperation with the Town of Greece, to further facilitate waterfowl habitat. Interested groups or individuals could work with the NYSDEC or the Braddock Bay Raptor Research program, for example, to create more habitat.
- (6) Selected vegetation trimming in wetlands and along side ponds
The purpose of this measure would be to promote better access to the ponds. However, it is important that the vegetation is not cut too short because it acts as an important filter to contaminants that would otherwise pollute the ponds.

2. Actions for specific ponds

These are additional actions suggested at the two public meetings.

a. Long Pond

- (1) Limit boat use to seasonal basis
- (2) Set maximum boating capacity
- (3) Staff public access areas
- (4) Provide sailing and windsurfing lessons

- (5) Improve access at north and south ends
- (6) North shore needs parking meters
- (7) Construct restroom facilities at Channel Park
- (8) Provide canoe rentals

b. Cranberry Pond

- (1) Close boat launch to motorized boats on this pond
- (2) Set maximum boating capacity
- (3) More access to pond
- (4) Need better maintenance of parking area
- (5) Provide canoe rentals

c. Round Pond

- (1) Limit the number of boats on pond
- (2) Improve public access

d. Buck Pond

- (1) Improve access to pond
- (2) Make sure buffers are used with any new development

VII. FURTHER NEEDED INFORMATION

A. Water Quality Information

It is important to understand what pollutants are in the water so that attempts can be made to trace their sources and stop or reduce pollution. As stated in Chapter 2, the State University of New York at Brockport completed a year of basic water quality monitoring in Long, Cranberry, Round, and Buck Ponds in October 1994. Currently, more basic monitoring is being done by volunteers. It will be particularly important to note changes and trends in water quality over time.

More information is also needed to identify all the *sources* of pollutants and their relative contribution to the water quality problems experienced in the four ponds. In the fall of 1993, Monroe County applied for federal Clean Lakes funding (through the New York State Department of Environmental Conservation) to conduct a study which would evaluate Long Pond water quality problems, causes, and possible solutions. This funding program has since been abolished, but this type of project should be undertaken for all four of the ponds discussed in this findings document. Only then can we begin to foster a comprehensive water quality management plan for these four ponds.

B. Information on Impaired Uses, Goals, and Actions

This document acknowledges that the impaired uses, goals, and actions stated in this document will change over time as new situations arise and more information is obtained. It will be important for citizens to work closely with their elected officials to inform them of changes and prevent degradation of the four ponds area.

C. Citizen Action

As stated in the preface of this document, Appendix F lists resource persons and their area of interest or specialty. This list will be useful to continue the cooperation and momentum that has developed during the last few years by this planning process and by the involved neighborhood associations.

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APPENDIX A

Figure 4

WETLANDS

WATERSHED OF FOUR GREECE PONDS IN MONROE COUNTY NEW YORK

Legend

-  Wetlands / DEC 1976
-  Major Streams
-  Watershed Divides
-  Ponds

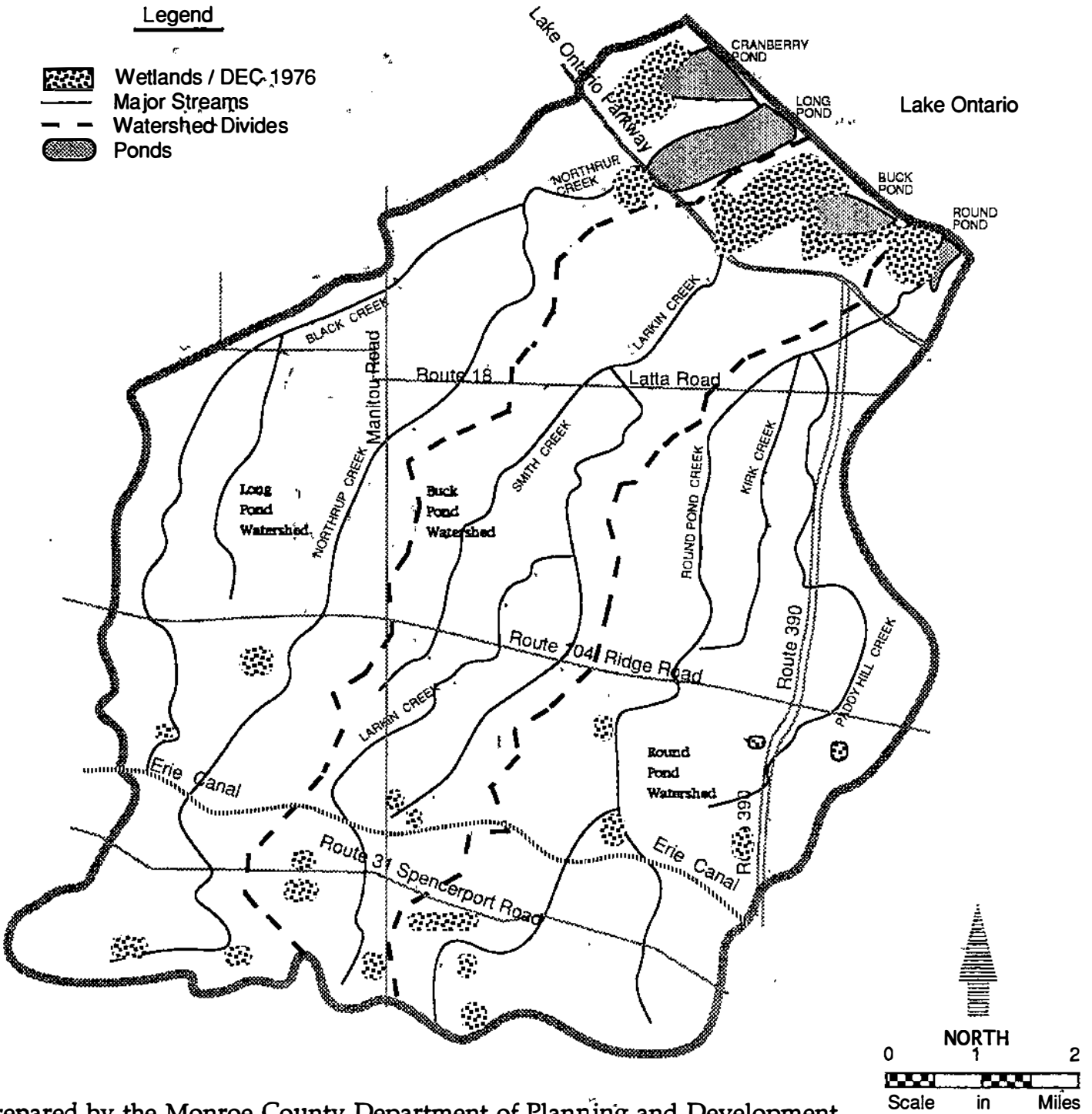


Figure 5

CRITICAL AREAS AND HABITAT

WATERSHED OF FOUR GREECE PONDS
IN MONROE COUNTY NEW YORK

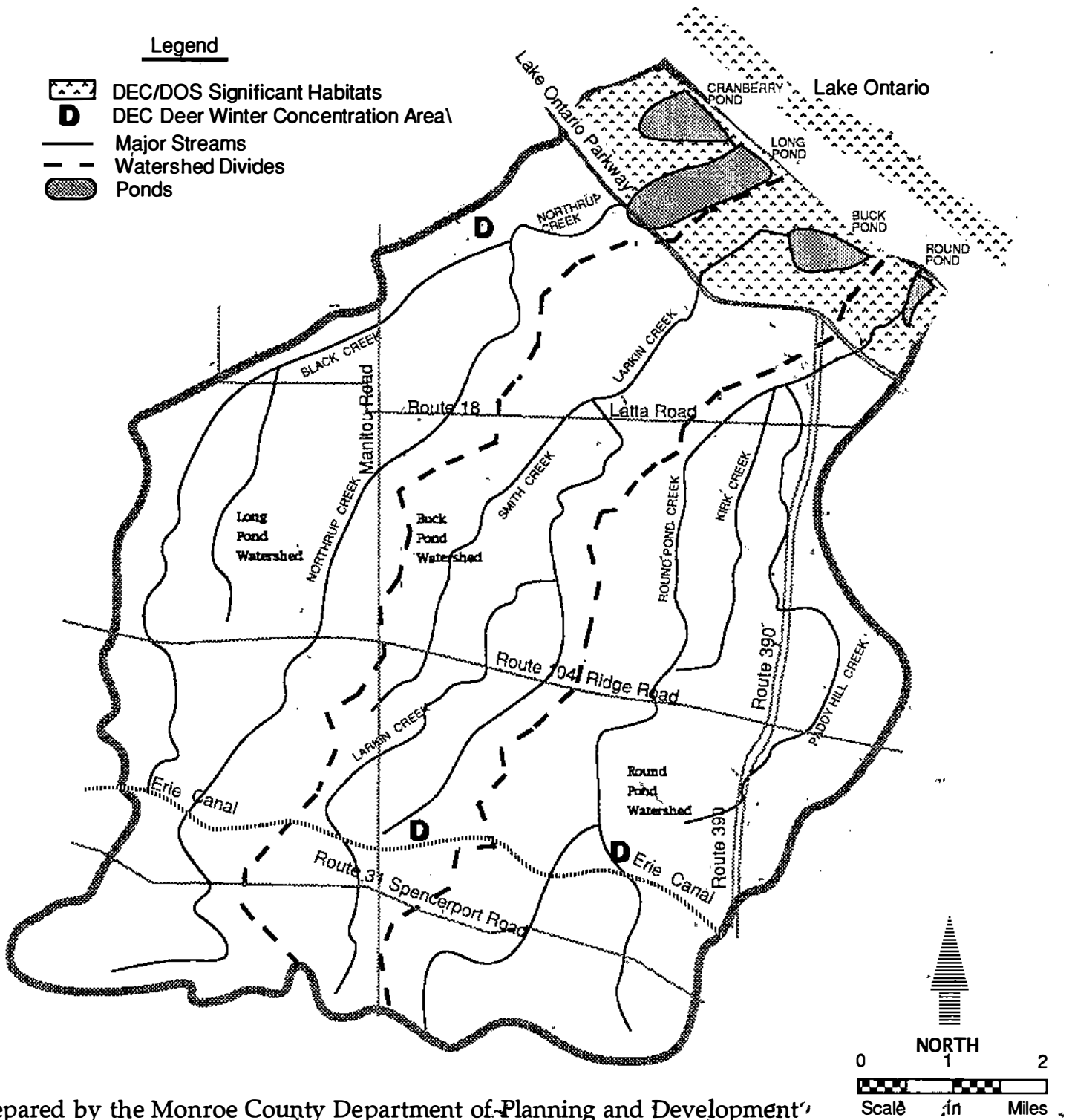






Figure 6

SEWERED AREAS

(as of 1990)

WATERSHED OF FOUR GREECE PONDS IN MONROE COUNTY NEW YORK

Legend

-  Spencerport District
-  Northwest District
-  Gates -chili- Ogden District
-  Areas Without Sewers

-  Major Streams
-  Watershed Divides
-  Ponds

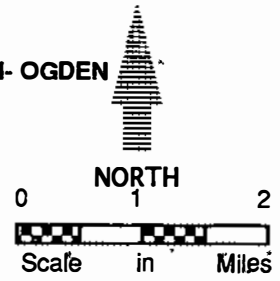
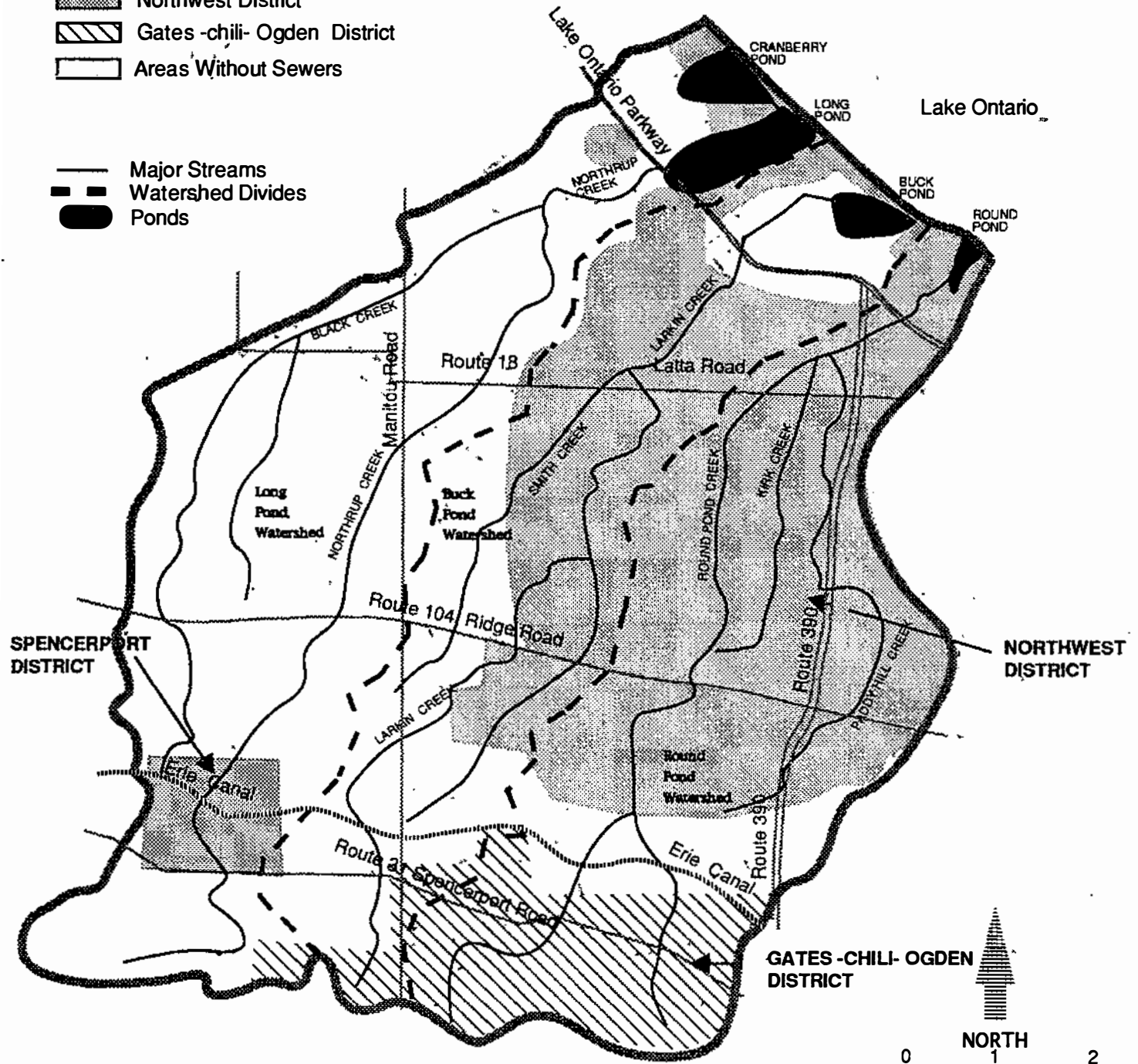


Figure 7

SPDES DISCHARGE LOCATIONS

WATERSHED OF FOUR GREECE PONDS IN MONROE COUNTY NEW YORK

Legend

- SPDES State Pollution Discharge Elimination System
- Institutional & Commercial Sources
- Industrial Sources
- M Municipal Wastewater Treatment Plants
- R Residential Wastewater Sources
- Major Streams
- - - Watershed Divides
- ▨ Ponds

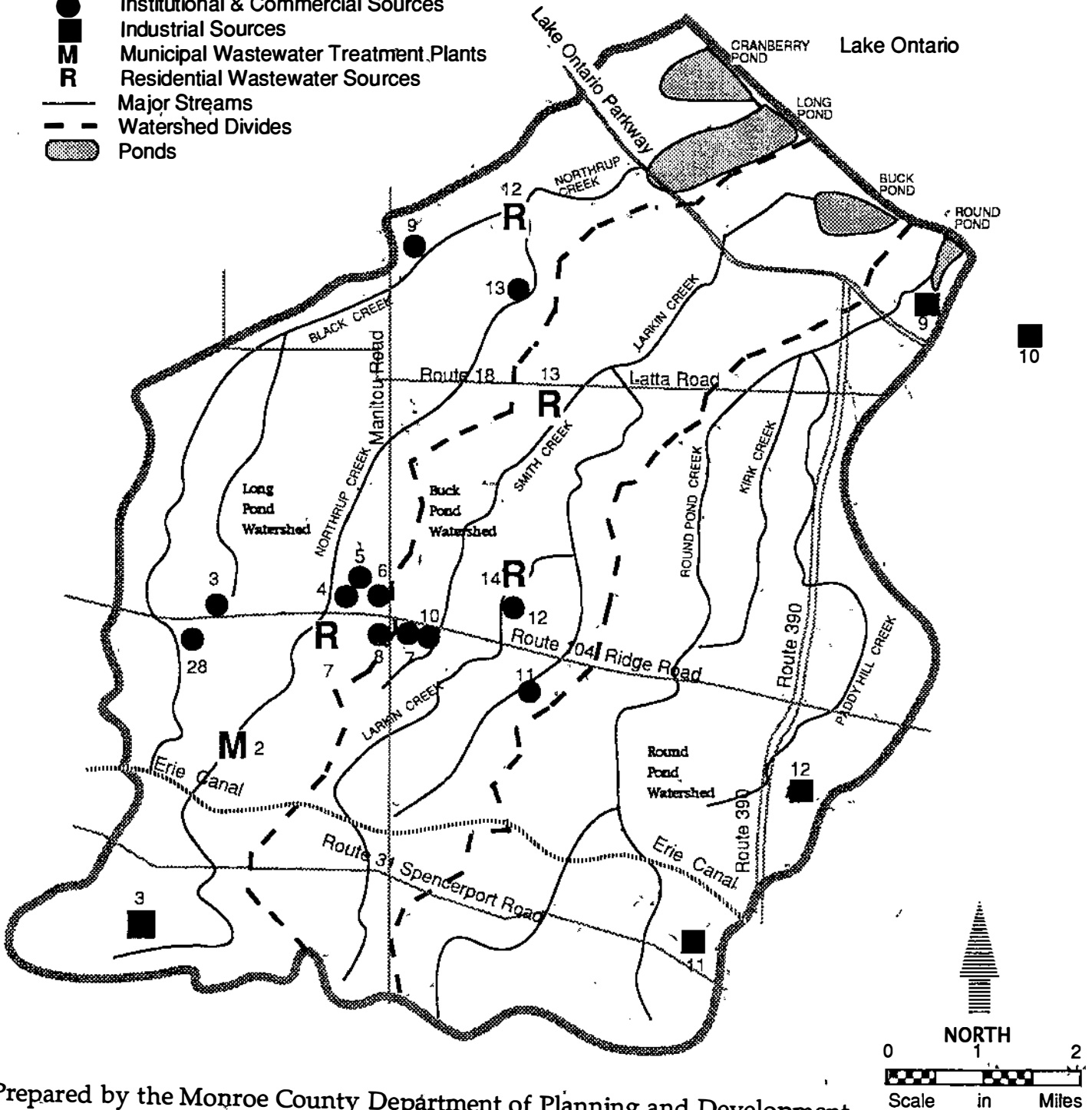
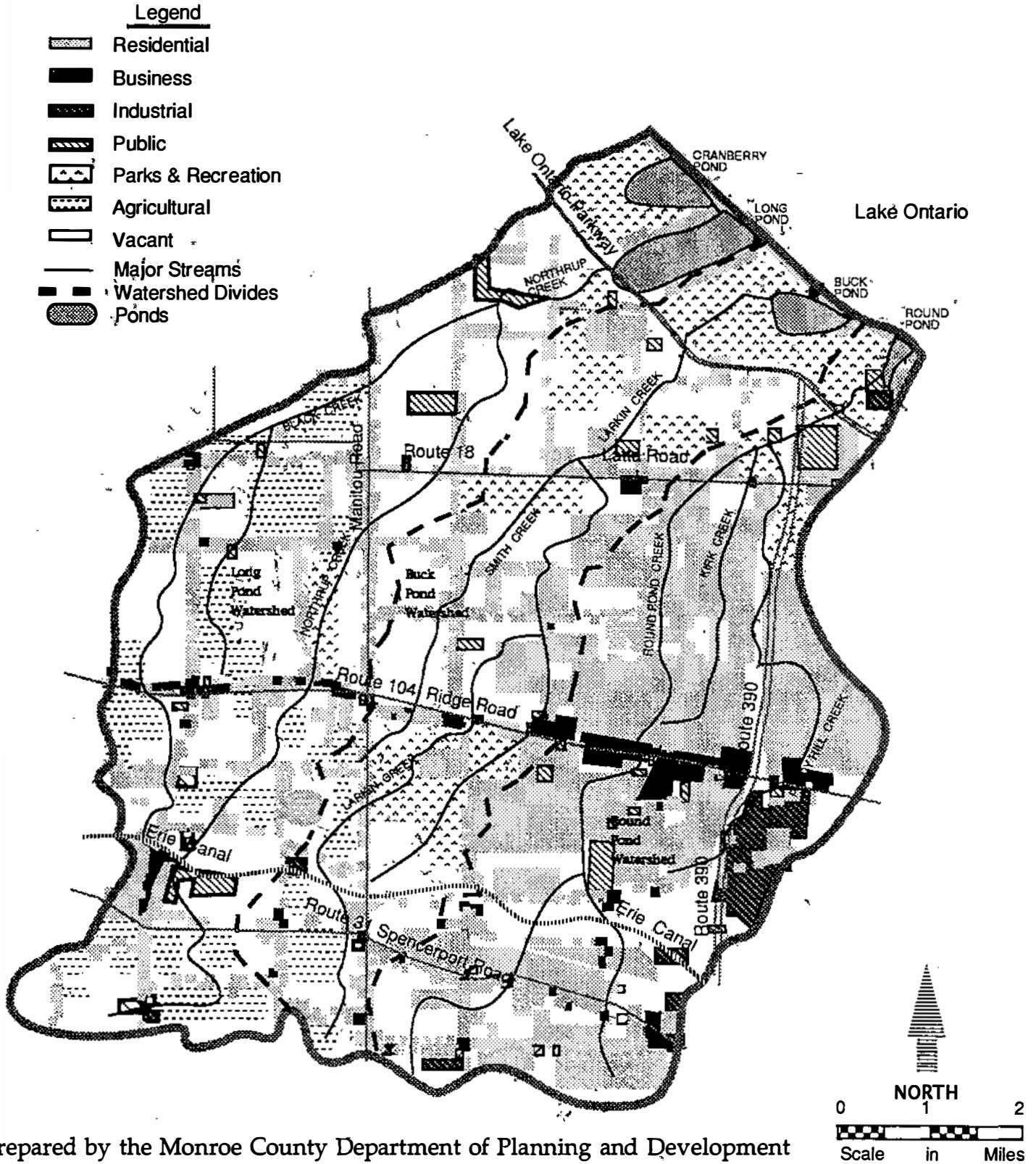


Figure 8

EXISTING LAND USE

WATERSHED OF FOUR GREECE PONDS IN MONROE COUNTY NEW YORK



GREECE PONDS LAND USE MAP

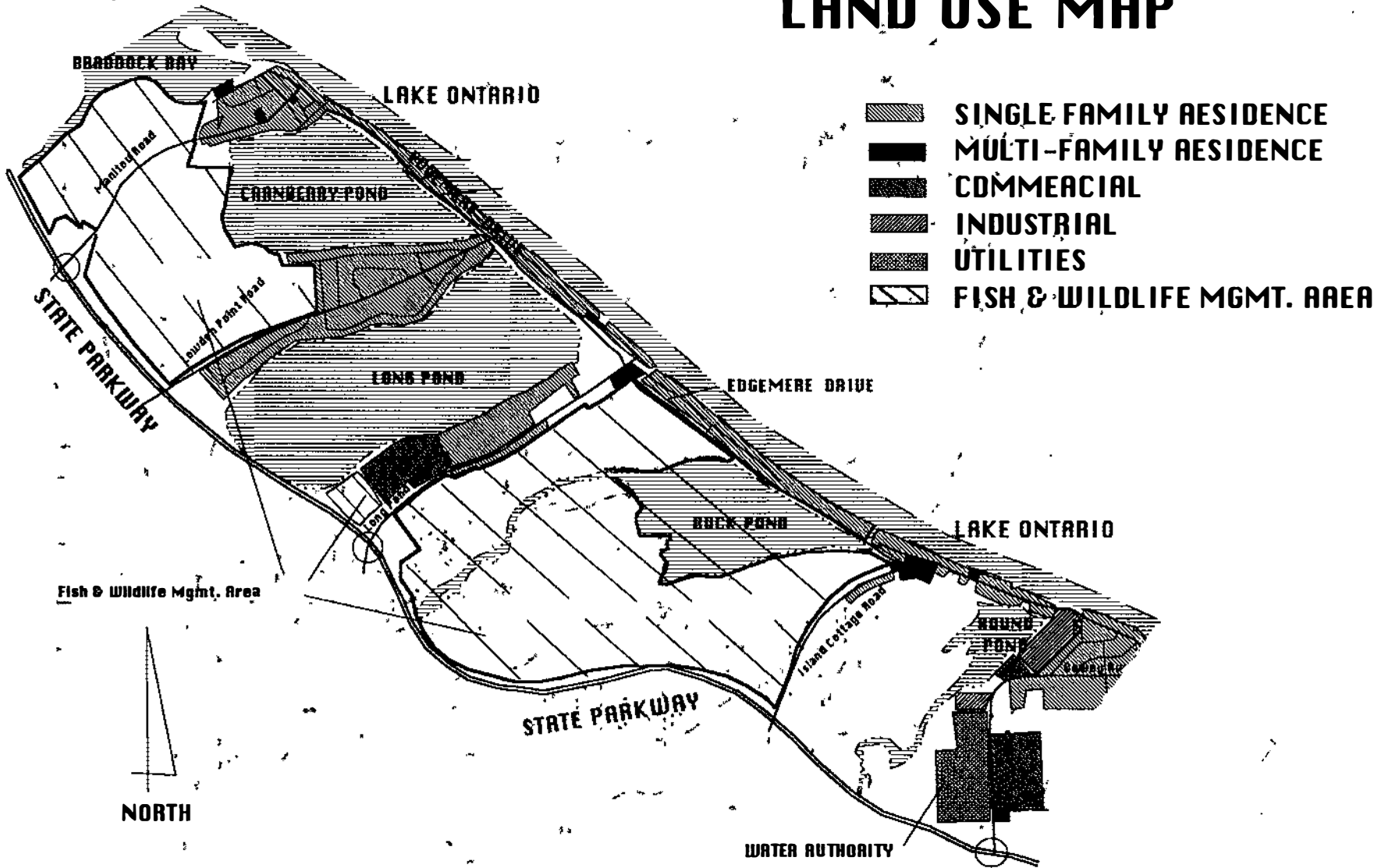


Figure 9

MAP OF FOUR PONDS IN GREECE

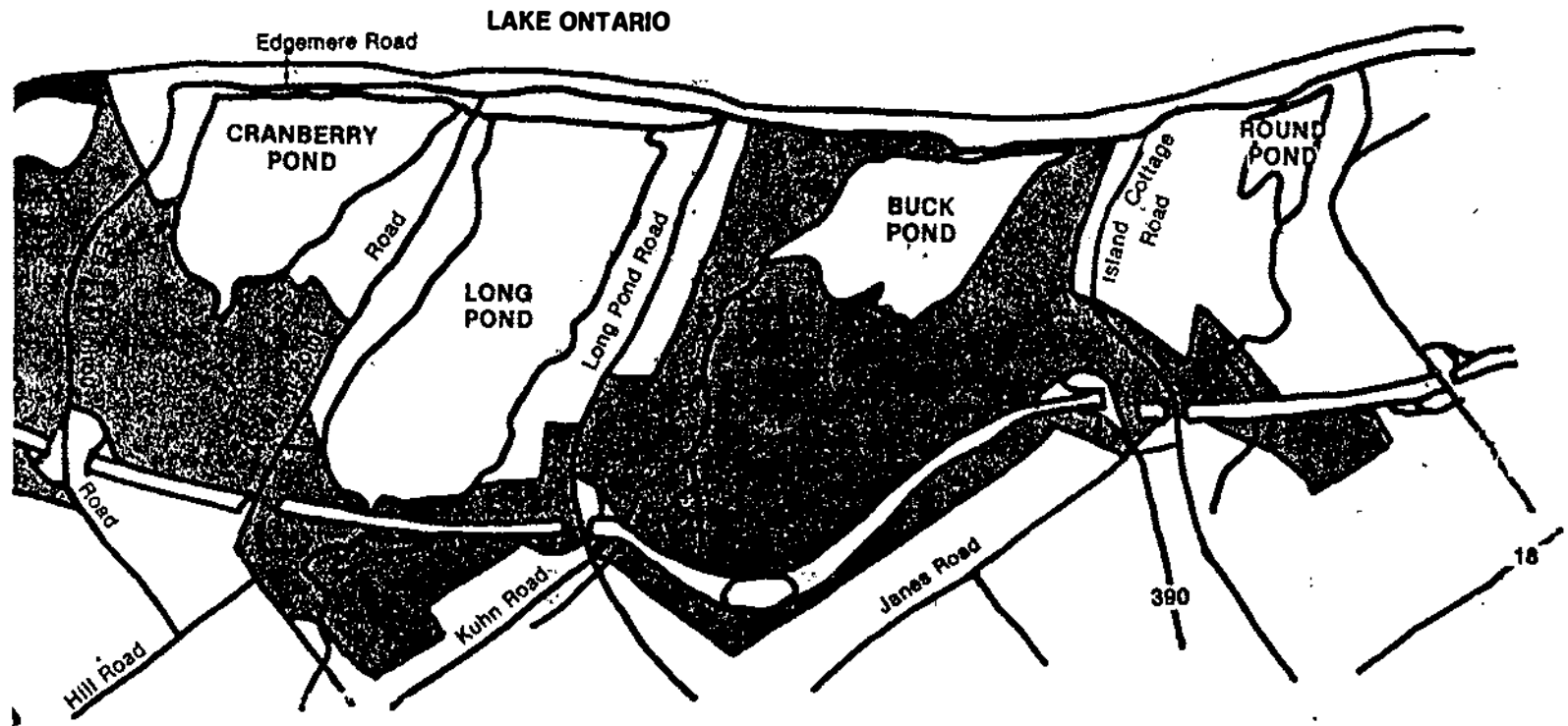


Figure 10

The shaded areas are part of the Braddock Bay Fish & Wildlife Management Area.

Table 1

**STATE POLLUTION DISCHARGE ELIMINATION SYSTEM (SPDES)
DISCHARGES IN THE WATERSHED OF THE FOUR GREECE PONDS
IN MONROE COUNTY
(corresponds with Figure 7)**

Municipal Wastewater Treatment Facilities:

<u>#</u>	<u>Facility Name</u>	<u>Max. Design Flow</u>	<u>Receiving Water</u>
2	Village of Spencerport Plant	1.0 mgd	Northrup Creek

Industrial Facilities:

<u>#</u>	<u>Facility Name</u>	<u>Type of Discharge & Max. Design Flow</u>	<u>Receiving Water</u>
3	Barclay & Fowler Oil Corp.	Stormwater, 600 gpd	Tributary of Moorman Creek
9	Monroe Co. Water Authority Shoremont and Eastman Kodak Co. Water Treatment Plants	Filter Backwash, Sludge Processing Liquid, Lagoon Overflow 2.0 mgd	Round Pond
11	C.J. Winter Machine Works, Inc.	Cooling Water (flow unavailable)	Tributary of Erie Canal
12	Eastman Kodak Co.	Stormwater, Cooling Water (non-contact) 1.2 mgd- <i>average</i> flow	Ditch to Paddy Hill Creek

Institutional and Commercial Sources:

<u>#</u>	<u>Facility Name</u>	<u>Address/Max. Design Flow</u>	<u>Receiving Water</u>
3	Hess Mobile Home Park	1742 Parma-Hilton Rd. 9,600 gpd	Tributary of Northrup Creek
4	September Place Mobile Home Park	4742 Ridge Road West 12,960 gpd	Trib. of Northrup Creek
5	Braemar Country Club	4704 Ridge Road West 4,850 gpd	Trib. of Northrup Creek

<u>#</u>	<u>Facility Name</u>	<u>Address/Max. Design Flow</u>	<u>Receiving Water</u>
6	Zamiara's Mobile Home Park	4728 West Ridge Road 2,900 gpd	Trib. of Northrup Creek
7	Kirby's Courtyard Inn Moretti's Restaurant	4671 Ridge Road West 10,750 gpd	Drainage ditch to trib. of Northrup Creek
8	Burke Crest Apt.	87 Pease Road 5,000 gpd	Trib. of Northrup Creek
9	Schmidt's Farm Market	845 Manitou Road 2,500 gpd	Trib. of Northrup Creek, Black Creek
10	Streb's Steak House Restaurant	4464 Ridge Road West 2,700 gpd	Trib. of Larkin Creek, Smith Creek
11	Ridgemont Country Club	3717 Ridge Road West 9,000 gpd	Larkin Creek
12	First Bible Baptist Church	1043 North Greece Road 5,000 gpd	Trib. of Larkin Creek
13	Hilton Central School Northwood Elem. Sch.	443 North Greece Road 24,000 gpd	Northrup Creek

Residential Sources:

There are five residential wastewater discharge sources in the four ponds watershed that have SPDES permits. Three are located in the Town of Greece and discharge to Northrup Creek and Larkin Creek. One is in Ogden and discharges into Larkin Creek. One is in Parma and discharges to Northrup Creek.

gpd = gallons per day

mgd = million gallons per day

Table 2

Waste Disposal Sites Within the Watershed of the Four Greece Ponds

<u>Type of Site</u>	<u>Location</u>	<u>Contents of Site</u>
<u>Town of Greece</u>	"	"
Confirmed Waste Disposal Site*	along east side of Long Pond Road, south of Ontario Parkway	tree/brush
Confirmed Waste Disposal Site*	along both sides of Ling Road, east of Kirkwood Road	ash
Suspected Fill Area*	along Ling Road, west of Kirkwood Road	unknown
Suspected Fill Area*	the corner of Edgemere Drive and Island Cottage Road	unknown
Confirmed Waste Disposal Site*	at the corner of Dewey Avenue and Beach Avenue	construction/demolition
Suspected Fill Area*	along Dewey Avenue within the Monroe County Water Authority Property	unknown
Confirmed Waste Disposal Site	corner of Long Pond Road and English Road	tree/brush, construction/demolition, agriculture/nursery
Suspected Fill Area	in between Old English Road and Sherrian Lane	unknown
Suspected Fill Area	near Fetzner Road, just south of English Road	unknown
Suspected Fill Area	area between Vintage Lane and Maiden Lane and between Woodstone Circle and Mascot Drive	unknown
Suspected Fill Area	southern end of Stone Path Lane	unknown
Suspected Fill Area	corner of Maiden Lane and the western side of Mount Read Boulevard	unknown
Confirmed Waste Disposal Site*	in between True Hickory Drive and corner of Mount Read Boulevard and Stone Road	construction/demolition
Confirmed Waste Disposal Site	north of Ridge Road in between Buckman Road and Route 390	agriculture/nursery

*Located in close proximity to the four ponds

Waste Disposal Sites Within the Watershed of the Four Greece Ponds

<u>Type of Site</u>	<u>Location</u>	<u>Contents of Site</u>
<u>Town of Greece (continued)</u>		
Confirmed Waste Disposal Site	corner of Ridge Road and Fetzner Road	municipal, construction/demolition
Confirmed Waste Disposal Site	north of Stone Fence Road, in between Wood Road and Fox Meadow Road	municipal, construction/demolition
Confirmed Waste Disposal Site	southern end of Eden Lane	construction/demolition
Suspected Fill Area	bordering north bank of Erie Canal approximately 500 feet south of Ridgeway Avenue and 2,000 feet west of Long Pond Road	unknown
Suspected Fill Area	approximately 1,000 feet north of Town Line Road and 1,500 feet west of Long Pond Road	unknown
Suspected Fill Area	bordering west side of Elmgrove Road approximately 900 feet south of Ridgeway Avenue	unknown
Confirmed Waste Disposal Site	just north of Deming Street where it intersects with Town Line Road	Industrial
Suspected Fill Area	eastern corner of North Greece Road, and Ridge Road	unknown
Confirmed Waste Disposal Site	just south of Ridge Road where it connects with North Greece Road	construction/demolition
Confirmed Waste Disposal Site	western corner of North Greece Road and Ridge Road	construction/demolition
Confirmed Waste Disposal Site	approximately 1,500 feet east of Smith Creek, just north of Ridge Road	tree/brush construction/demolition
Confirmed Waste Disposal Site	northeastern corner of the intersection of Manitou Road and Ridge Road	construction/demolition
Confirmed Waste Disposal Site	also in northeastern corner of the intersection of Manitou Road and Ridge Road	construction/demolition
Confirmed Waste Disposal Site	northeastern portion of Doewood Circle	municipal, construction/demolition

Waste Disposal Sites Within the Watershed of the Four Greece Ponds

<u>Type of Site</u>	<u>Location</u>	<u>Contents of Site</u>
<u>Town of Ogden</u>		
Confirmed Waste Disposal Site	borders southern bank of Erie Canal and approximately 800 feet east of North Union Street	municipal
Confirmed Waste Disposal Site	end of Turner Drive bordering southern part of Erie Canal	municipal, construction/demolition
Sanitary Fill Area	borders northwestern side of Valarie Drive	unknown
Sanitary Fill Area	approximately 700 feet east of Cottage Street, just south of Big Ridge Road	unknown
<u>Town of Parma</u>		
Confirmed Waste Disposal Site	northwestern corner of Ridge Road and the Greece-Parma Town Line	construction/demolition, ash (delisted 7/91)
Confirmed Waste Disposal Site	approximately 2,700 feet east of NYS 259 and 1,300 feet south of Peck Road	tree/brush
Confirmed Waste Disposal Site	approximately 2,500 feet east of NYS 259 and 300 feet north of Peck Road	municipal
Confirmed Waste Disposal Site	approximately 1,000 feet east of Pease Road and 2,500 feet north of Town Line Road	construction/demolition tree/brush, tires
Confirmed Waste Disposal Site	approximately 1,000 feet west of Pease Road and 500 feet north of Town Line Road	tree/brush agriculture/nursery
Confirmed Waste Disposal Site	approximately 400 feet south of Peck Road and 1,000 feet west of Dean Road	municipal, construction/demolition tree/brush
Suspected Fill Area	just west of NYS 259 and approximately 2,000 feet north of Town Line Road	unknown

The above information was provided by the Monroe County Environmental Management Council.

APPENDIX B

Greece Ponds Water Quality Monitoring Project
Draft Proposal, August 24, 1993

Purpose: Monroe County is conducting a study of four lakeshore ponds in the town of Greece. The ponds are Cranberry Pond, Long Pond, Buck Pond, and Round Pond. Currently, data on the trophic status of these ponds is not well understood. Sampling is proposed to give us a better understanding of the status of the ponds, and if feasible, to involve residents in the collection of information.

Proposed Sampling:

1. Chlorophyll a

A. Frequency

1. 2 samples per week August 30 through September 24
2. 1 sample per week September 27 through October 8
3. 1 sample per month November through May
4. 1 sample per week June 5 through July 30
5. 2 samples per week August 1 through 27

B. Total Number of Samples = 24 samples x 4 ponds = 96

C. Possible Substitute

1. Volatile suspended solids could be run to decrease the number of chlorophyll readings.

2. Total Phosphorus

A. Frequency

1. 1 sample per month August 30 through March 31
2. Every other week April 3 through June 30
3. 1 sample per month July 1 through August 27, 1994

B. Total Number of Samples = 17 samples x 4 ponds = 68

3. Secchi Disk & Temperature Reading

A. Frequency: Every time go out

Reporting:

1. At the completion of sampling, the delivered product should include data by pond, a narrative analysis of the data, and a statement of conclusions.
2. The final report will be peer reviewed.

Funding Issues:

1. \$1550 currently available to do this work.
2. \$1550 may not be adequate to conduct this work. Possible ways to accomplish the work include
 - A. Enlisting volunteers to help collect and/or analyze data.
 - B. Having County Staff conduct the analysis of data
 - C. Setting aside more of the funds for this data collection and using less for work being conducted by the Department of Planning

APPENDIX C

BRADDOCK BAY FISH AND WILDLIFE MANAGEMENT AREA

FISH LIST

Fish

1. Northern Pike	(<u>Esox Lucius</u>)
2. White sucker	(<u>Catostomas commersonia</u>)
3. White Perch	(<u>Roccus americanus</u>)
4. Yellow Bullhead	(<u>Ictalurus natalis</u>)
5. Brown Bullhead	(<u>Ictalurus nebulosus</u>)
6. Calico Bass	(<u>Pomoxis annularis</u>)
7. Largemouth Bass	(<u>Micropterus salmoides</u>)
8. Pumpkinseed Sunfish	(<u>Lepomis gibbosus</u>)
9. Bluegill Sunfish	(<u>Lepomis machrochirus</u>)
10. Rock Bass	(<u>Ambloplites rupestris</u>)
11. Yellow Perch	(<u>Perca flavescens</u>)
12. Carp	(<u>Cyprinus carpio</u>)
13. Coho Salmon	(<u>Onconhynchus kisutch</u>)
14. Rainbow Trout	(<u>Salmo gairdneri</u>)
15. Brown Trout	(<u>Salmo trutta</u>)
16. Lake Trout	(<u>Salvelinus namaycush</u>)
17. Chinook Salmon	(<u>Oncorhynchus tshawytscha</u>)
18. Fathead Minnow	(<u>Pimephales promelas</u>)
19. Black Crappie	(<u>Pomoxis nigromaculatus</u>)
20. Black Nose Dace	(<u>Rhinichthys atratulus</u>)
21. Creek Chub	(<u>Semotilus atromaculatus</u>)
22. Alewife	(<u>Alosa Pseudonarengus</u>)
23. Bowfin	(<u>Amia Clava</u>)
24. Smelt	(<u>Osmerus mordax</u>)

REPTILE AND AMPHIBIAN LIST

Reptiles

Class: Reptilia

Order: Chelonia

A. Turtles

- | | |
|--------------------|--------------------------------|
| 1. Snapping Turtle | (<u>Chelydra serpentina</u>) |
| 2. Painted Turtle | (<u>Chrysemys picta</u>) |

B. Snakes

- | | |
|---------------------------|---------------------------------|
| 1. Water Snake | (<u>Notrix sipedon</u>) |
| 2. Garter Snake | (<u>Thamnophis sirtalis</u>) |
| 3. Eastern Ringneck Snake | (<u>Diadophis punctatus</u>) |
| 4. Milk Snake | (<u>Lampropeltis doliata</u>) |

Order: Serpentes

Amphibians

Class: Amphibia

Order: Caudata

A. Salamander

- | | |
|--------------------------|-------------------------------------|
| 1. Jefferson Salamander | (<u>Ambystoma jeffersonianum</u>) |
| 2. Spotted Salamander | (<u>Ambystoma maculatum</u>) |
| 3. Spotted Newt | (<u>Diamistylus viridescens</u>) |
| 4. Red-backed Salamander | (<u>Plethodon cinereus</u>) |
| 5. Slimy Salamander | (<u>Plethodon glutinosus</u>) |

MAMMAL LIST

Marsupials

Order
Opossum

Marsupialis
(Didelphis marsupialis)

Moles and Shrews

Order
Star-nose Mole
Hairy-tail Mole
Masked Shrew
Short-tail Shrew

Insectivora
(Condyloura cristata)
(Parascalops breweri)
(Sorex cinereus)
(Blarina brevicauda)

Bats

Order
Little Brown Myotis
Big Brown Bat

Chiroptera
(Myotis lucifugus)
(Eptesicus fuscus)

Meat-Eaters

Order
Raccoon
Short-tail Weasel
Long-tail Weasel
Mink
Striped Skunk
Red Fox
Grey Fox

Carnivora
(Procyon lotor)
(Mustela erminea)
(Mustela frenata)
(Mustela vison)
(Mephitis mephitis)
(Vulpes fulva)
(Vrocyon cinereoargenteus)

Gnawing Mammals

Order
Woodchuck
Eastern Chipmunk
Red Squirrel
Eastern Grey Squirrel
Beaver
White-footed Mouse
Meadow Vole
Muskrat
Norway Rat
House Mouse
Meadow Jumping Mouse
Woodland Jumping Mouse

Rodentia
(Marmota monax)
(Tamias striatus)
(Tamiasciurus hudsonicus)
(Sciurus carolinensis)
(Castor canadensis)
(Peromyscus leucopus)
(Microtus pennsylvanicus)
(Ondatra zibethicus)
(Rattus norvegicus)
(Mus Musculus)
(Zapus hudsonius)
(Napaeozapus insignis)

Hares and Rabbits

Order
Eastern Cottontail

Lagomorpha
(Sylvilagus floridians)

Hoofed Mammals

Order
Whitetailed Deer

Artiodactyla
(Odocoileus virginianus)

FISH SURVEY of the GREECE PONDS

Urban Fisheries Program - June 1975

	Cranberry	Long	Buck	Round
Abundant	White perch	White perch	Alewife Brown bullhead	Brown bullhead White perch
Common	Black crappie Bowfin Common carp Gizzard shad Northern pike	Bowfin Common carp Gizzard shad	Bowfin Common carp Gizzard shad Golden shiner Goldfish Northern pike Pumpkinseed White perch	Goldfish
Rare	Alewife Brown bullhead Golden shiner Goldfish	Alewife Brown bullhead	Black crappie Largemouth bass	Common carp Gizzard shad Golden shiner Northern pike Pumpkinseed

Feasibility of Establishing Fishery Goals for the Greece Ponds:

Prepared by: Todd Stevenson, Monroe County Health Department

November, 1994.

Background:

When Long Pond was identified as hypereutrophic in the 1989 SUNY Brockport study, there was concern that fisheries in the ponds might also be impaired. Fish might have difficulty surviving because the breakdown of excessive plants and algae often results in oxygen depletion. Many fish require a rich supply of oxygen in the water in order to survive. Now, as the community considers establishing water quality goals for the ponds, associated fishery goals are also being examined. However, the lack of current, baseline fish data, as well as, the shortage of funds and personnel to conduct fish surveys, makes it impractical to establish *highly specific* goals. Nevertheless, *general* fishery goals may be set. In doing so, it is important to recognize and consider the type of fishery goal setting conducted by the New York State Department of Environmental Conservation (NYSDEC), the impact that any changes in the amount of nutrients and plant growth in the ponds may have on fisheries, and the historical fish data which is available.

Past Studies:

The NYSDEC develops strategic plans for many of the water bodies in the state. Typically, fishery goals are established as part of this effort. However, in recent years, due to a shortage of funds and staff, many of these plans have not been updated. In most cases, the fishery goals component of these plans are very general. Standard goals may include (1) improving access to fish resources, (2) protecting important fish habitat, (3) maintaining fishery productivity, and (4) increasing the abundance of a particular species. Generally, highly specific goals such as desired populations or distributions of various species are only established for very large or exceptional water bodies.

The existing and future water quality in the Greece Ponds, and its likely impact on fisheries, must also be considered in establishing goals. According to the year long water quality study completed by Dr. Makarewicz in August of 1994, the Greece Ponds are well oxygenated despite their hypereutrophic state. Oxygen levels are a critical factor affecting fish survival. The mean annual dissolved oxygen levels in the ponds ranged between 10.33 mg/L in Round Pond to 10.98 mg/L in Long Pond. Seasonal data also indicates that anoxic conditions (i.e., lack of oxygen) are not a problem in the ponds. Throughout the year, dissolved oxygen levels ranged between a low of 5 mg/L to a high of 16 mg/L.

Currently, a "moderately" eutrophic state is being considered as an appropriate water quality goal for the ponds. However, even such a dramatic improvement in the trophic status of the ponds may have little impact upon fisheries. This is the case because the ponds are already well oxygenated. If the ponds were suffering from anoxic conditions, a reduction in phosphorus loading might help to alleviate oxygen depletion. However, in the case of the ponds, the most important limiting factors, as far as fisheries are concerned, are depth, temperature, and silt. These limitations are not related to phosphorous loading. **Because the ponds are so shallow, and therefore relatively warm, they will never be suitable as permanent habitat for cold-water species such as salmon and trout. The warm-water species which are native to the ponds, are well adapted to shallow, warm, and eutrophic conditions.**

The most recent study of fish populations in the Greece Ponds was conducted by the NYSDEC in 1975 as part of the Urban Fisheries Program. This study involved the collection and identification of fish in the four ponds by means of electro-fishing and trap net. Typical warm-water species including White perch, Brown bullhead, Common carp, Northern pike, and Largemouth bass were identified. Notably absent were Smallmouth bass, a popular warm-water sport fish. The mucky floor of the ponds provide an unfavorable environment for Smallmouth bass which prefer a pebble bottom. It is possible that Smallmouth bass were never present in great

numbers in the Ponds.

Since the Urban Fisheries Program study was conducted, no other major fish surveys of the ponds have been performed. Because of their small size, the ponds are unlikely subjects for study by the NYSDEC or the various college biology departments in the area. Nevertheless, the general consensus seems to be, that fisheries in the ponds are relatively healthy. Although fish kills do occasionally take place in Round Pond during the winter, this is a natural occurrence because this particular pond is so shallow and thus freezes solid (Charlie Knauf, Monroe County Environmental Health Laboratory - personal communication 11-4-94).

Possible Goals:

In recognition of the limited resources available for conducting fish surveys, the establishment of very general goals appears to be the most practical approach. Appropriate goals might include protecting valuable fish habitats and maintaining fishery productivity. Specific actions which would be required to achieve these goals include protecting the wetlands which border the ponds and ensuring that dissolved oxygen levels do not deteriorate.

REFERENCES

Makarewicz, Joseph. (1994). Water Quality of Long, Cranberry, Black, and Round Ponds 1993-1994. SUNY Brockport, Department of Biological Sciences. October, 1994.

Makarewicz, Joseph. "Memorandum - Target Loads and Concentrations for Northrup Creek". December 16, 1993.

New York State Department of Environmental Conservation. A Strategic Fisheries Management Plan for Honeoye Lake. September, 1980.

New York State Department of Environmental Conservation. Urban Fisheries Program Fish Collection Data for Cranberry, Long, Buck, and Round Ponds. July, 1975.

PERSONAL COMMUNICATIONS

Jim Haynes, SUNY Brockport, 11/94

Charlie Knauf, Monroe County Environmental Health Laboratory, 11/4/94

Gene Lane, NYSDEC - Avon, 10/18/94

Paul Sawyko, RG&E, 11/94

APPENDIX D

GREECE PONDS MEETING MINUTES

DATE: July 21, 1993

LOCATION: Braddock Bay Lodge

REPORTED BY: Margaret Cleary, 428-5462

PRESENT: Arthur Daughton; Jack Hale; Greg Amos; Andrea Amos; Ted Munson; Josef Jongen; George Pettifer; Barbara Dennehy; C. Romer; Jim LeFay; Sherry Tolle; Kate Coyle; Cindy Hale; David Wahl; Kevin Zwiebel; Francis Wanjon; Audrey Montanus; Doug Dobson; Alan Metelsky; Frederick Messerschmitt; Jessie Messerschmitt; John E. Bickle; Al Miesch; Eleanor T. Miesch; Kaye and Jack Halter; Ray and Alice Janis; Joe Hulsmar; Dave and Louise Schuth; Paul Warner; Richard Daly; Jeffrey Kerr; Fred Hamaker; Mr. & Mrs Arie Redeker; Mark Phillips; Bill Robertson; David Hermans; James Pleau; Rex R. McHail; Tom Trost; Jim Cloonan; Carole Beal; A. J. Butcavage; Russ Reeves; Jeff Dodge; Lew Lemonge; Marilyn and George Schindler; Nick Sadowski; Frederick T. Hetzel; Beverly A. Hetzel; Bill Dodge; Bob Kaiser; Jack and Barb Franz; Gerry Snow; M. L. Schwalb; Mr. & Mrs. Walt Gurney; Carole Rose; Mr. & Mrs. Bart DiProspero; Bob and Bernadette Clemens; Mary Davey; Marilyn Budinski; K. Budinski; Greg Kesel; Bobbie C. Corzine; Ann Montesanto; Frank Montesanto; Timothy Danza; Shirley Munson; Pat Lowenguth; Lasal Banty; Joe Baker; Daniel Miller; Alyce Norder; Tim Dennehy; Greg Pinkney; Debbie Clarke; Bonnie Amerose; Carol Hinkelman; David Box; Deb Hartman; Bill O'Such; Kim Kavkeinen; Mike Mosehauer; V. Glenn McIninch; Sonny Knowlton; Arnold L. Stender; Joseph Stevens; Rose I. Mack; Cheryl Kesel; Linda Daly; Eleanor Milborrow; Bruce Milborrow; C. P. Maloney; Paul Sawyko; Ted Sawyko; Rick Giraulo; John and Gerry Ernst; H. Douglas Jones; Bonnie Linden; Tom Falls; Colleen LeFay; Don Amerose; Kurt Rossow.

1. INTRODUCTION AND WELCOME

Mr. Marty Minchella, Deputy Supervisor, Town of Greece, gave the welcoming remarks, and introduced the County Planning and Development Department staff members and the featured speakers. He also summarized the function of the Braddock Bay Fish and Wildlife Management Area.

For the past three years, Monroe County has been involved in looking at water quality issues in the community and in particular the Rochester Embayment of Lake Ontario. The Rochester Embayment has been identified

as an Area of Concern by the International Joint Commission. Monroe County has a contract with the New York State Department of Environmental Conservation (NYSDEC) to identify water quality problems in our Area of Concern and to come up with ways to solve some of the problems.

The purpose of today's meeting is to discuss the problems pertaining to Cranberry, Long, Buck and Round Ponds. This project (the Greece Pond Use Planning, Goals Setting Project) is the result of an Aid to Localities Grant from the State of New York.

The purpose of today's meeting is to discuss: (a) how the ponds are used; (b) how the community thinks they should be used; (c) the ways in which the use of the water is impaired due to its quality; (d) the goals for the use of the ponds; (e) the setting of guidelines for meeting the goals.

The Braddock Bay Fish and Wildlife Management Area, which includes portions of the geographic area near the ponds, was created on April 13, 1983, and encompasses over 2,700 acres of Greece, north of the Parkway. With Town of Greece assistance, the NYSDEC developed a management plan which guides the town and the NYSDEC in the joint management of the area. The wetland complex is probably one of the most important on the south shore of Lake Ontario due to its close proximity to an urban area. There are no other fish and wildlife management areas in New York State which are as close to an urban area as this particular one. Because of this, it is important to protect, enhance and preserve the area, and also encourage the residents to appreciate and become familiar with the area. There is a management review committee consisting of representatives of the town, NYSDEC, environmentalists, bird watchers, hunters, trappers, and residents who advise as to how this area can best be managed, and also fulfil the goals and objectives of the management plan.

One of the most important projects completed over the past few years is the restoration of Beatty Point, which is south of Buck Pond. The State of New York originally planned to develop this as an eighteen hole golf course. After spending half a million dollars, removing the top soil, and piling it up on the site, they discovered that they had run out of money and could not continue with the project. The town (which leases the land from the State for \$1) applied for State money, put the top soil back, and planted switchgrass, or nesting cover, for water-fowl. The hawk-watch platform was built and a photographic blind installed at the south end of Cranberry pond. The park and the marina were redeveloped and there are more projects planned for the future.

2. WATER QUALITY STATUS OF PONDS

Mr. Richard Burton of the Monroe County Environmental Health Laboratory conducted a slide presentation which summarized water quality issues and programs in Monroe County. One of the two major features in historical water quality interests in the county is Ontario Beach, and the other is Irondequoit Bay. By the mid 1950's and early 1960's the waters of the Embayment and Irondequoit Bay were very polluted. The Pure Waters regional sanitary sewer system was developed in the late 1960's and the North West Quadrant treatment plant was built. Eliminated were three treatment plants in Greece and several on the way to Brockport and Hamlin. As a result, streams in the northwest area were cleaned up considerably and the sewage problem was taken care of by the end of the 1970's.

While the sewer systems had an immediate positive impact on the streams, it was apparent that diverting human and industrial waste water out of the system was not going to be enough to clean up the ponds. The ponds have a tremendous growth of algae which, when it dies, uses up dissolved oxygen in the water that fish depend on. In the late 1970's and early 1980's a series of studies was conducted in the Irondequoit Bay watershed to help understand remaining Bay pollution better. Studies were done on the contribution of pollutants from agricultural and urban stormwater runoff and from in-Bay processes (the recycling of fertilizer inside the lake itself). Most of the current pollution occurs after storm events, which means that immediately after a storm, 90-95% of the pollution occurs in about 5-10% of the time. The urban runoff study demonstrated clearly that the problem was essentially the amount of impervious surfaces created by development that encourages pollutant washoff. Related is the fact that air pollution settles onto the land surfaces and is then picked up and is carried by the rain into streams, Bay and ponds. These are problems which clearly can not be controlled locally since much of the pollution comes from other regions.

It is important to keep the pollution from getting into bodies of water which need to be protected. In order to meet goals set for Irondequoit Bay, the stormwater pollutant load has to be cut substantially. One way to do this in Irondequoit Bay, and likely in Greece ponds is to use detention basins, which have been built into developments for nearly 30 years. In order for these ponds to be effective for water quality, the ponds need to be slightly redesigned. Wetland vegetation will grow in them and bacteria attached to the plants will make contact with the stormwater and remove the pollutants. There are cost sharing funds available for municipalities to make such modifications to the ponds. This program will begin this summer.

The Genesee River can cause Ontario Beach to be of a poor quality, but the

worst water quality problems at Ontario Beach came from Round Pond Creek after a storm in the mid 1970's. The cladophora algae on the shoreline is often the major reason for beach closings. This has all the characteristics of sewage, but it is just dead plant material.

Q. Is there any rule of thumb on the square feet of cattails on the amount of development vs. the amount of wetlands necessary to treat the stormwater coming from the impervious surfaces?

A. There are rules of thumb being developed. New York State has adopted the same rules of thumb as the State of Maryland. The idea is to get the flow of water to go through a few feet of cattails.

Dr. Joe Makarewicz, SUNY Brockport Biology Department introduced himself, and distributed several handouts which were identical to his overhead presentation. The Biology Department has been involved with Monroe County Health Department for several years looking at streams in the area west of Rochester, including Long Pond. One of the areas of concern is the nutrient phosphorus which is found in fertilizer. Phosphorus stimulates the growth of algae and other water plants. Over time, the mass of plant life in a pond or lake becomes so dense that the pond disappears. This process is known as eutrophication. Compared with the pristine conditions of other lake waters, Long Pond is anything but clear. Based on the amount of phosphorus and chlorophyll present in Long Pond, it is hypereutrophic, a situation due to the extremely high production of organic material.

Several approaches have been taken to deal with this situation. The source of water pollutants is not confined to the area immediately around the pond or lake (home septic systems) or over fertilization of lawns. The drainage area (watershed) for Long Pond extends to Route 31 in Spencerport. Anything that happens in Northrup Creek, Black Creek and all their small tributaries has the potential to affect Long Pond in terms of its production of algae. In 1988 a survey was conducted to look into point sources of pollution in the watershed. Several homes with drainage pipes were found, but the amount of pollution discharged from these pipes was very low. Agriculture was looked at in a preliminary way, i.e. runoff during rain storms but there was not a lot of discharge. This could also have been due to the fact that 1988 was a fairly dry summer. However, the Spencerport Sewage Treatment Plant still exists near Big Ridge Road. It was discovered that the phosphorus from this plant contributed significant amounts of phosphorus to Long Pond. These figures vary with the season, and the following percentages were found for that year: Spring - 40%; Summer - 100%; Fall - 54%; Winter - 48%. There is clearly room for remedial action and one of the actions would be to take the Treatment Plant off-line. Even then, there might not be a complete

improvement in Long Pond, and the reason is that the Pond is very shallow - three to four feet at most. This means that the wind stirs up the bottom of the Pond and redistributes the sediment putting fertilizer back into the water.

- Q. Is anyone monitoring the Greece Landfill which is now closed? Also, Mr. Burton's presentation identified efforts to test water quality at the Charlotte Beach - is this an ongoing effort in any of the Ponds?
- A. Monitoring of the outflow of water from the ponds is done after storms because that stormwater has a major impact on Ontario Beach. It is usually relatively clean between storms. Regarding the Greece Landfill, this is out of our project range now. We did look at this years ago and identified several problems. Some drainage was installed for a pistol range, and that effectively drained the leachate out into the creek, but there is not a routine program, and they deal with this on a complaint basis.
- Q. When the wind blows out of the south, Long Pond and Cranberry Pond foam; what is this?
- A. When plants die, they dissolve and this foams up like soap, so it is probably just natural foaming of dying organic material. There is some foaming upstream throughout the sewage treatment plant which could be surfactants used in the plant, but I am not positive. All I can say is that I can trace some foaming that far back.

A question was raised about possible runoff from the leaf composting operations at North Greece Road. Currently the runoff is collected on site. Mr. Marty Minchella offered to talk to the person further at his office.

3. TRENDS IN RAPTOR MIGRATION/EFFECTS OF HUMAN ACTIVITY ON RAPTOR AND OWL HABITAT

Mr. Jeff Dodge, of the Braddock Bay Raptor Research Project, spoke about the impact of habitat changes along the Ponds on birds of prey. The birds are caught and banded for the U.S. Fish and Wildlife Service and are identified as they migrate over Braddock Bay. The biggest concentration of migrating birds of prey in North America, north of Texas, occurs in this area. In a single day, the area has seen over 40,000 hawks, 250,000 Canada geese, 20,000 crows, 10,000 common flickers or woodpeckers, 750,000 American robins. Raptors are at the top of the food chain and anything which goes wrong in the environment will show up in these creatures. In time what might affect birds could also affect human beings. With the introduction of DDT in the environment in 1950 the population of the bald eagle, osprey and falcon diminished considerably and they almost became extinct. The process to halt this was

very costly. Huge numbers of migrating birds use this area to feed before they go to their breeding grounds. Listed below are three ways to see what effect the environmental changes have on the birds:

1. the recreational use of this area;
2. the habitat and what has happened to it; and
3. contamination.

The NYSDEC will not allow osprey to be brought into this area to nest because the food supply is too contaminated. In other areas of the Great Lakes which show the same level of contamination as Lake Ontario, bald eagles, which successfully breed in areas such as Montezuma, are failing to breed after 5 years. Their food supply, which is mainly fish, has such high levels of chemicals that it thins the egg shells after 5 years and they can no longer breed. In this area in 1949 there were 125 bald eagles. In 1950 (the first year of DDT use) there were 60. In 1978 there were only 12. In 1993 for the first time since 1949, there were over 100, but even though numbers have increased, the level of contamination in the food supply is extremely high.

The recreational use of the four Ponds and Braddock Bay has a negative impact on the birds using the area. This varies with water fowl and some of the passerine species depending on their use of the habitat. Black terns, which are a threatened species in New York State, bald eagles, osprey and a great number of water fowl, are negatively impacted by recreational boating and the lack of any kind of controls. Water fowl use the bay as a feeding area before they continue on their journey, and unlike Canada Geese, or diving birds, are unable to secure food in a corn field. As soon as the first boats appear, the birds are gone. Studies done in New Jersey and in this area show that even a minimal use by humans of some of these areas has a negative effect on birds of prey.

The area around here is particularly sensitive not because of the nesting species or because of the birds which winter here, but because of the large number of birds which pass through. What happens here does not only affect what happens in back yards; it has a major impact on the bird population throughout North America, and that is why this area is so important.

- Q. Regarding the minimum size of habitat, how close are we getting to this?
- A. There has not been a lot of research done on migration use of habitat. This area is one of the two locations where any kind of research has been done on migratory use of habitat for birds of prey.
- Q. Regarding recreational boating and the negative impact on raptors, can you

give an example of this?

A. These birds are directly influenced by their being next to each other. Perhaps it would help if there were some boat free zones in effect for a short period of time during the Spring while the birds are using it for migration.

Q. Do you feel that boating scares the raptors away?

A. We have noticed an impact with the high water levels and when there has been a delay in boating.

4. WATERFOWL USE AND HABITAT/CONTROL OF PURPLE LOOSESTRIFE PLANT

Mr. Sonny Knowlton of the NYSDEC Bureau of Wildlife spoke in place of Dan Carroll. He complimented the community on the large turnout for this meeting. Waterfowl species have two critical uses for this area: a) migration; and b) nesting. The planting of switchgrass has been very successful in the reproduction habits of these species. There has been 25/30% nest success in switchgrass fields, compared to less than 1% in flooded timber, 5% on dike rights-of-ways, and 10-12% in natural fields of grass. Biologists agree that 15% of the nests need to survive in order to maintain the water fowl population which already exists. The wood duck population in the Braddock Bay area has increased. Mr. Knowlton maintains seventeen wood duck boxes in Cranberry Pond and has observed an increase from one box used in 1983 to seventeen boxes used in 1992, and all but one had successful hatches.

Unfortunately, the birds are now beginning to lose this not only because of development in the area, but also because of the growth of purple loosestrife, which is an invasive plant. Loosestrife comes from Europe but there are no insects or animals in this country to keep the plant under control. Loosestrife can spread at the rate of 1200% per year. One large clump of loosestrife can produce up to three million seeds. The plant grows from both seeds and tubers which run underneath the ground. It is very hardy and can grow in up to 12 inches of water. It loves moist soil, is very hardy, and homeowners should be aware of this fact when clearing property in front of homes on the shore. It is a transition plant, i.e. one which is capable of changing the habitat from one state to another. Tonawanda Creek contains a lot of loosestrife seed and the State has tried many ways to get rid of it. Flooding helped but they were unable to reach every area. Herbicide spraying was an unpopular method, and even though it worked there were areas which could not be reached, plus it had to be done every year which was expensive. What seems to work well is a form of biological control and contacts have been made with the Germans in order to get some of these insects brought over here. Loosestrife is not a problem in Europe because it is held in check by those

insects. At the moment, there are three types of these insects in the United States. For the past three or four years in Virginia they have conducted tests on every kind of plant common to the area, and the insects have been found to be 95% specific to loosestrife. Some German studies show that as loosestrife increases the insect population also increases. We must be absolutely sure that the insects are not going to complicate matters the way the European starling and the house sparrow did. Right now the Iroquois Wild Life Management Area is in the process of studying the biological aspects of the loosestrife plant. There are three types of insect in captivity and two have been released. One, which looks like a potato bug, goes into the root system, lays eggs which eat the roots. The other attaches to the leaves of the plant. The third type attacks the seeds. People shudder when they hear the use of biological control but it seems to be the answer to this particular problem. More information on this should be available in the media soon.

With regard to public use of the ponds, a problem exists with those birds such as black terns which build their nests on the water, or on a stump, where a wave could wash the nest out. Because of this, the black tern is of special concern, and if there is no improvement, the species may have to be upgraded to "threatened" or even "endangered". The problem with the black tern is their nesting habits. They build their nests on floating masses of vegetation, and even walking past them wearing waders poses the danger of washing out their nests. They lay two to four eggs, and one of the reasons for the "No Wake" zone is to protect this species. Not too long ago there were up to 40 pairs of black terns nesting in the Braddock Bay area between Buttonwood and Sandy Creek. Now its hard to find three to four. Some of this has to do with purple loosestrife, or encroachment by civilization, and some is due to wakes. The black tern have given up on one area because of boat wakes continually washing the eggs off the nest. It is important for us to become educated and aware of what is going on and how what we do affects the wildlife species.

- Q. There used to be more ducks and geese on the Pond. Is the decline due to boats?
- A. Overall the waterfowl population all across the United States is down, and the main reason for this is habitat loss. This is not only being experienced in the ponds, but is also a nation-wide problem. With regard to hunting regulations, there is a lower bag limit and the season has been restricted.
- Q. How much habitat is lost to agriculture and draining of wetlands?
- A. There is some. Under wetland regulations, farmers can get away with a lot more than developers can as far as encroaching on wetlands. Apart from

that, farmers do provide some benefits to wildlife. For instance, cornfields benefit geese and dabbling ducks. Many times farmers let fields go fallow for a year or two and this is valuable to wildlife. Farmers do sometimes drain wetlands and creeks, or take out a hedgerow here and there which disrupts wildlife, but they also absorb a lot of wildlife damage to their crops and there is no recompense for that from the State or from the Federal Government.

Q. Can the insects which are being introduced to solve our purple loosestrife problem cause damage to crops?

A. These insects were isolated in Virginia for three or four years. They were exposed to every crop type which is used in this area, and they would not touch them. The only other plant which they will touch, and only on an infrequent basis, is a plant called "swamp" or "false loosestrife" which grows in a wetland situation just as a purple loosestrife does, and we don't think that this will be enough to really impact the plant. We want to make sure that the bugs we bring over here are going to be safe and specific to loosestrife.

Q. How long will these insect studies be conducted before the insects will be introduced? What if they adapt and start attacking other plants?

A. They are being introduced right now. The evidence shows, from extensive testing in Europe and four to five years of testing in Virginia, that as the loosestrife dies off so do the insects. We do try to do these tests under controlled situations for as long as we can, and then we have to go out into the world and try them out there.

Q. Because some plants have a biennial cycle, is three to four years really adequate to test?

A. All we know is that at the rate which purple loosestrife is spreading, there won't be any need to hold wetland talks in this area in about another 10 years.

Q. What purple loosestrife control techniques were used recently by the managers of the Montezuma wetland?

A. Montezuma held all their spring water. This flooded 50% of the loosestrife but it also flooded out 90% of their aquatic habitat. Now they have a deep pool with no vegetation and all around the rim is a 50 yard crop of purple loosestrife. Montezuma's water fowl, and water fowl-use records show that muskrat population is down. Loosestrife is not conducive to waterfowl or to fur bearers or any kind of game and non-game species.

Q. How is the beaver population in the area?

- A. Right now it is small with a good chance that it will increase. In 1995 the European community will institute its ban on any furs from countries which use the leg-hole trap. Europe is our biggest buyer of beaver, but once they institute this policy they will not accept any fur from the United States because we still use the leg hole trap for surface species. This will take the bottom out of the beaver market, and beaver will be classified with woodchucks, and if a hunter can't find anything to shoot they will go out and shoot beaver! Beaver can be a friend as far as the wetlands are concerned, but a foe to landowners with apple trees etc.

Margy Peet thanked all of the speakers, and invited the audience to ask questions at the end of the meeting.

5. DISCUSSION/BRAINSTORMING SESSION

The next part of the meeting was a brainstorming session in order to get information from the audience on the four ponds, i.e. the current uses and possible actions to make things better. These ideas were needed so that they could be included in the plan. The kinds of things looked for are listed below.

- A. Current Uses
- B. Impaired Uses
- C. Goals
- D. Possible needed actions to achieve goals.
- E. Possible causes of Impaired Uses
- Q. Questions that need to be researched.

Any issues or concerns which refer to Braddock Bay can be put on the "parking lot". A survey form was also distributed and people were invited to mail these in to Margit Brazda, Monroe County Department of Planning and Development, 47 South Fitzhugh Street, Rochester, NY 14614. The deadline for this survey is August 31, 1993.

There were four different pads for each of the Ponds, and the following represents all of the ideas which were discussed.

LONG POND:

A. Current Uses

Windsailing/surfers - access needed on north and south ends.

B. Impaired Uses

Trash and fires

Habitat destruction in Northrup Creek

C. Goals

Nature trails

Windsailing/surfers - access needed on north and south ends

More areas should be swimmable

Management of channel between Long Pond and Cranberry Pond

Use without abuse

Enforcement: - authority
 - manpower
 - \$. (increased taxes!)

North Shore maintenance (shoreline rocks - r.o.w.)

Don't attract any people here

D. Possible needed actions to achieve Goals

Ban hunting

Use sand, not salt, for roads in winter

Limit boat use to seasonal basis

Ban use of tires for dockage

Time limit on jet skis

Put limits on fishing

Weed trimming in wetlands and ponds

Role of volunteers should be considered

Maintain channel - Long Pond to Lake

Stock mufflers on watercraft are needed

Increase public awareness

Spring clean-up

Calculate maximum boating capacity

Staff public access areas

Use Neighborhood Associations to implement actions

North shore: trimming of r.o.w. - trees and brush

Survey of where there are no sewers
Use existing local waterfront revitalization plans
Sailing and windsurfing lessons etc.,
Clean-up water (itchy)
Use wetlands to improve water quality
Improve access
North shore needs parking meters
Restroom facilities at Channel Park (\$)
Where are users from who want more access? (Find out)

E. Possible Causes of Impaired Uses

Leaching from Flynn Road landfill
Illegal disposal of tires
Issue: zebra mussels
Weeds on bottom of ponds
Junk etc., in ponds
Issues: boat wakes vs. wind driven waves - find out which cause more damage?

Q. Questions that need to be researched

Find out status of Sewage Treatment Plant at Spencerport
Calculate maximum boating capacity
Where are users from who want more access? (Find out)

ROUND POND

A. Current uses

State trooper target range/Greece police
Communications tower
Edgewater property/eight residences proposed
Trash/fires

B. Impaired Uses

Zero uses

C. Goals

Precedent of more development: limit
Seasonal boat use only

- Storm drainage needs to be adequate
 - Enforcement of rules
 - Public awareness of unique habitat
 - Network of neighborhood associations
 - Better access
 - Don't attract too many people
- D. Possible needed actions to achieve goals.**
- Ban hunting
 - Add land to wildlife refuge
 - Create nature trails
 - Sand instead of salt on highways
 - Ban tires as bumpers on docks; illegal disposal a problem
 - Community clean-up
 - What is "clean" - set a standard
 - Mufflers on watercraft
 - Communicate on proposed development
 - Spring cleanups
 - Information on habitat for individuals needed
 - Limit the number of boats on ponds
 - Staff public access areas
 - Study on boat-wake vs. wind wake
 - Survey areas with no sewers
 - Coordinate with LWRP
 - Cleanup water - what is the quality?
 - Use wetlands to improve water quality

E. Possible causes of Impaired Uses.

- Trash fires
- Zebra mussels

Q. Questions that need to be researched

- What can volunteers do?
- Study on boat-wake vs. wind wake
- Cleanup water - what is the quality?
- Where are users from (who want more access)?

CRANBERRY POND

A. Current Uses

Interest in windsurfing/interested in minimizing effects to fish and wildlife/would like more access
Trash fires

B. Impaired Uses

Shoreline (north) needs maintenance

C. Goals

Limited development
Management of channel between Long and Cranberry
Limits on fishing
Use without abuse
Limit of how close boats come to shore/marsh broken loose
Need better enforcement
Better communication between towns and owners re: land use
Staffed public access or none
Restrooms in Channel Park
Environmental education center Channel Park
Don't want to attract lots of people here because it's too precious

D. Possible needed actions to achieve goals

Ban hunting/safety concerns
Add nature trails (one exists now)
Use sand instead of salt
Limit boat use on a seasonal basis
Interest in windsurfing/interested in minimizing effects to fish and wildlife/would like more access
Ban use of auto tires for docks/found floating in ponds/difficult to dispose of
Trim weeds along ponds
Community clean up effort
Set a benchmark of what is clean
Ban of lead sinkers
Stock mufflers on waterstock
Close boat launch on this pond
Increase public awareness of area
Spring clean-ups
Use boat launch for non-motorized craft
Inform people on how to create wildlife habitat
Set maximum boating capacity
Use neighborhood association to implement

Find study comparing boat waves vs. natural
Identify ponds without sewers/coordinate with LWRP
Cleaner water/need more information
Use wetlands to improve water quality
Improve access
Have town use fliers to publicize environmental issues
Tree cutters need to be more selective

E. Possible causes of Impaired Uses

Illegal disposal of tires
Zebra mussels
Storm sewers drain into pond
Willow trees were cut down on north shore

Q. Questions that need to be researched

How safe is water for body contact?
What is depth of ponds?
How can volunteers help? Sailboarders are interested
Study should be done on where users are from who want access

BUCK POND

A. Current uses

Zero uses

B. Impaired Uses

Trash (Edgemere)
Swimming risk

C. Goals

No road salt
Fishing controls
Use without abuse
Plant management
Water ski zones - surface use - zoning
Enforcement of rules
More education/signage

D. Possible needed actions to achieve goals

Ban hunting
Nature trail
Limit development
Consider volunteer possibilities (habitat aids)
Natural processes need to be considered
Network neighborhood Associations to perpetuate this process
Review status of sewers
Clean up water
Need water quality information
Use wetlands to clean water
Improve access (for whom)

E. Possible causes of Impaired Uses

Zero causes

Q. Questions that need to be researched

Zero questions

The next step will be to take all of the information gathered, try to answer some of the questions, and put it all together in a draft report. All of those present will receive a draft summary, and if anyone needs further information, the Planning and Development staff will get back to them. There will be another meeting in the Fall after this draft is completed in order to get the reactions to the draft report. Ms. Peet thanked everyone for attending and gave special thanks to those people from the various neighborhood associations who helped to distribute flyers advertising this meeting.

The meeting closed at 9:10 p.m.

GREECE PONDS MEETING
MONDAY, JANUARY 31, 1994 - 7:00 p.m.
HELD AT GREECE ATHENA HIGH SCHOOL

PRESENT: Martin Minchella; Greg Kessel; Tim Smith; Gina Williams; Patrick Williams; Arthur Daughton; Dennis Mahon; Ray Nelson; Ken Budinski; Daniel B. Neyland; Robert L. Clemens; Bernadette Clemens; Sean McNamara; Robert Maher; Pat Maher; Alice Janis; K. Kroening; John Ernst; Gerry Ernst; Gary Schmitt; Eve Schulz; Jeff Schulz; Paul Sawyko; Rose Mack; Joseph Stevens; Jeff Keit; Mike Fisher; Gerry Snow; Chris Klasner; Irene Landry; Jim Doyle; B. Clingan; Richard Wright; P & R. LoBrutto; Mark Schmitt; George Schindler; Gregory Lampman; Derek Mahon; Greg Zaffran; Stu Carter; V. E. McIninch; Nancy Cohen; Steve Pellman; L. Zuris; J. Maynard; P. Smith; Dave Mahon; Lewis Rhinewald; Deb Hartman; Colleen LeFay; Don Amerose; Shawn Trost; David Wahl; William G. Rand; Gregory A. Amos; Laureen Oliver; Al Butcavage; Bill Dodge; Victor Dulnik; D. Kaspersin; Nick Benvenuto; Tom Trost; Doug Dobson; Jim Cumming; Ray S. Janis; Jeff Dodge; Brett M. Ewald; Joseph Albert; Donald R. Barry; George Pettifer; Mike Schifano; W. L. Foster; Raymond Janis; Chris Rau; Sal Cardella; Allan Amering; Ed Knapp; Pat Lowenguth; Jo Jongen; Jim Cloonan; Kimberly Kaukeinen; Betsy and Mike Mosehauer; Carole Beal; Jack Hale; Chris Wallace; Ken Mahon; Ron Schrader; Pat Tompkins; John C. Pyles; D. DiProspero.

STAFF PRESENT: Margy Peet, Margit Brazda, Margaret Cleary, Ben Stefano (Intern); Marie Lewis (Intern), Monroe County Health Department.

1. WELCOME AND INTRODUCTION

Mr. William Foster, Deputy County Executive, opened the meeting at 7:00 p.m., welcomed all who were there, and also introduced the Health Department staff members. *{Note: "Q" and "C" implies questions and comments from the audience; "A" refers to answers from the speakers.}*

2. OVERVIEW OF THE GREECE PONDS' PLANNING PROJECT.

Margit Brazda gave a brief overview of the Planning Project of the four Ponds. All the data has been incorporated into the Draft Findings Document. The present document is incomplete because of limited information. The final document will contain one year of water quality monitoring data and additional issues brought up tonight.

3. CURRENT WATER QUALITY INFORMATION/WATER QUALITY GOALS FOR THE FOUR PONDS.

For the benefit of those people who were not at the first meeting held in July 1993, Dr. Joe Makarewicz gave some brief background information. He referred to overheads of the Great Lakes and Finger Lakes, and made some comparisons regarding the condition of some of these bodies of water. He mentioned particularly the eutrophic condition of Long Pond. It was also noted that in the past, Monroe County had great success with the various remediation and phosphorus abatement programs on Irondequoit Bay since 1971. Dr. Makarewicz drew attention to a graph which showed the concentration of phosphorus and indicated that Long Pond had the highest phosphorus levels of all the four Ponds. The source of most of this seemed to be the Sewage Treatment Plant at Spencerport. An

interesting observation, and one which will be investigated further, was that Round Pond, which is very shallow, has low phosphorus levels. One reason for this could be that the wetlands which surround Round Pond help to cleanse the water. Long Pond has the highest levels of chlorophyll, but Buck and Cranberry Pond have high levels also. Knowing what the phosphorus loadings are into Northrup Creek (and from Black Creek, which also goes into Long Pond), Monroe County is trying to identify goals in order to compare Long Pond with other water bodies in the area. One of the circumstances which is true of the ponds, and in particular Long Pond, is that they have filled in quite a bit. The Ponds are very much at the mercy of the winds and that means that during the summer the sediment is stirred up and the phosphorus is recycled back into the water which stimulates the plant growth.

Q. How many readings are taken?

A. More than one where possible, but not over a wide area.

Q. Are there other elements that we should be looking for that affect aquatic plant growth?

A. We are looking at nitrates and temperatures, but not significant amounts because there is very little farm land (which is where nitrates would come from). We are also monitoring sodium from deicing salt. Some years ago there was some concern about Irondequoit Bay actually having a salt layer on the bottom and the graph shows September vs. December, and the higher bar graph, the more deicing sodium in the water. Particularly with Round Pond, the levels of sodium have increased dramatically.

Q. Is sodium dangerous to the environment and aquatic life?

A. It creates a change in types of organisms that can exist and survive in the environment. Current levels would be too high for drinking water, but are not a threat to, and don't inhibit, the native aquatic life of the four Ponds at this point.

Q. Is there a direct relationship between pond usage and concentrations of phosphorous found in the ponds?

A. In shallow lakes, motorboats may stir up sediment and raise phosphorous levels - but it is minimal. More comes from watersheds and point sources. Round Pond has very low levels in comparison to the other three.

4. OVERVIEW OF THE DRAFT FINDINGS DOCUMENT AND FEEDBACK

Ms. Brazda referred to the draft Findings document and invited comments from the audience.

A. Comments on Chapter 3: Current Uses of the Four Ponds

Q. Will you find out to what degree and quantity each of the uses come into play?

A. This information has been incorporated into the document based on the user survey forms we received during and after the public meeting in July 1993.

Comments

- You have listed windsurfing as a limited use, but they are there all the time on **Long Pond**. It is heavily used for windsurfing and training which is not reflected in the document. **Cranberry** is used less for windsurfing.
- We have read that people come from all over to use the resources. We should use a

- more comprehensive method to discover actual uses.
- **Long Pond and Cranberry Pond** are used by the Fire Department for water out-take and intake and for drills on water safety. Hunting also on **Cranberry and Long Pond**.
- **Buck Pond and Round Pond** are used for trapping.
- The Water Authority discharges into **Round Pond**.
- Canoeing is done on **Round Pond and Buck Pond**.
- Snowmobiling on **Round Pond and Buck Pond**.
- Fishing and ice fishing on **all four ponds**.
- Sea plane landing on **Long Pond** infrequently.
- Water safety drills (rescues) by Fire Department on **Long Pond**.

B. Comments on Chapter 4: Impaired Uses & Possible Causes

Margy Peet gave an overhead presentation on Impaired Uses on all of the Ponds.

(A) Impaired Uses and Causes in the General Area

(1) Impairment to fish and wildlife.

(a) Loss of waterfowl habitat

Factors include:

- development encroaching on the habitat
- the spread of purple loosestrife plant
- artificial wave generation caused by recreational boating
- seasonal fluctuation of lake levels

(b) Perception of a decrease in fish, turtles, and muskrats - there is no data to report, but at some time it may make good sense for someone to do a study on this.

Q. Would it be possible to use DEC trapping permits to get this information?

A. This is a good idea and we will make a note of it.

C. It would also be good to have DEC do a study on what the cormorants are eating.

C. Do a study on flow between Long and Cranberry to see if discharge from Long affects Cranberry and to what degree. (Suggestion by Mr. Mahon *Ms. Peet to call him on this.)

(2) Impairments/Problems for human uses.

(a) Eutrophication (acceleration of the amount of nutrients that results in increased production of algae) impairs swimming and boating.

Factors:

- Too much phosphorus from:
- decomposition of leaves and plants
- treated wastewater
- stormwater runoff

- air deposition
- fertilizers

(b) Degradation of aesthetics.

Evidence of this seen in:

- littering
- residue from bonfires
- excessive algae
- excessive sediment
- noise from gunshots, jet skis, and motor boats.

(c) Personal and public safety concerns.

Factors:

- hunting
- trespassing
- boats too close to docks and swimmers
- high volume of boats at times

(d) Lack of Public Access Factors:

- Limited parking areas and public boat launches

(e) Restrictions on fish and wildlife consumption

(B) Impaired Uses and Causes in the Specific Ponds

(1) Cranberry Pond

- (a) Deterioration of the northern shoreline (possibly due to the cutting of willow trees near the shoreline).
- (b) Aesthetic problems due to tires breaking loose from docks.

(2) Long Pond

- (a) Skin irritation from body contact with water.
- (b) Odor problems from decomposing algae.
- (c) High levels of phosphorus in Northrup Creek
- Treated wastewater from Spencerport Wastewater Plant
 - Effluent from sand filters
 - Stormwater Runoff
- (d) Destruction of habitat in Northrup Creek

Q. How large an influence does the Spencerport Sewage Treatment Plant have on phosphorous levels?

A. About half of the phosphorous in Long Pond comes from Spencerport treatment plant, whereas the other 50% comes from stormwater runoff and other discharges from sand filter systems. (J. Makarewicz)

- Q. Regarding skin irritation - where does this come from? Is it from chemicals in the water?
- A. There is no scientific information at the moment, and so we do not know where it is from.
- C. If you don't shower thoroughly after direct contact with water, you may experience rash/skin irritation.
- C. A lot of windsurfers wear protective gear, and if kept on for any length of time the irritation may come from wearing a wetsuit too long.

- (3) Buck Pond
 • Excessive trash along Edgemere Drive
- (4) Round Pond
 • Very limited access to the pond

Other Impairments:

- C. I canoe in one of the tributaries which runs next to a dump, and the water is less than a foot deep. Last summer I specifically observed some contaminants leaching out of the Flynn Road landfill and into the tributary in a number of spots.
- A. There will be some periodic leaching. The Monroe County Health Department does visual monitoring, and about one month ago we walked this and did see one minor area. There is no record of documented industry hauling/dumping hazardous wastes into the area. This is why it has been taken off the registry. (R. Elliott)
- C. There is a lot of monitoring which we would love to do; in fact it is a major need, but we do not have the money to do this and one of the actions which needs to be done is to pursue monitoring. Right now we are doing the monitoring which we can afford to do with regard to the Ponds. As far as PCB's are concerned, we know what the levels are in Lake Ontario. Monitoring is done by the Federal Government every now and then, but this is very expensive testing. (M. Peet)
- Q. How much does water sampling cost?
- A. It costs \$1-\$2,000 for full spectrum water sampling. Monitoring is a major need and we need to talk about opportunities for trying to find funding and public support for this.
- Q. Would it be appropriate to add as an Impairment the potential health concern?
- C. We had the concern about skin irritations but we do not know the cause of this.
- C. There are odors at a pumping station by Long Pond Road and Flynn Road particularly in the summer.
- A. This is caused by breakdown of organic wastes. This can be chemically treated and if there is a serious problem, the chemical needs to be increased. North west quadrant will monitor odors in the summer. (Mr. Foster asked Mike Schifano to check this out over the summer.)

(C) Pond Use Conflicts

1. Fish and wildlife habitat protection vs. water recreation.
2. Fish and wildlife habitat protection vs. development.
3. Hunting vs. concern for personal safety.
4. Local residential use of Ponds vs. general public use of Ponds.

C. Goals for the Four Ponds

Ms. Brazda asked those at the meeting if there were any other Goals which they could add to those in the document (developed as a result of the July 1993 meeting).

- C. Reduce phosphorous loading in ponds as an Objective under Goal #2.
- C. There is no Goal highlighting public safety and which specifically states the removal of firearms.
 - A. This could possibly come under Goal #8: (Improved enforcement of existing water use rules and regulations).
- C. No-one should be allowed to control the use of the ponds. There should be a shared use through a community approach.
- C. There should be no hunting in residential areas.
 - A. A Goal of Public Safety seems to be agreed upon, but the Objectives vary. Whether or not hunting should be banned or restricted are concerns which should be presented at the next Town meeting.
- C. I am suggesting a Goal making sure that at the time of development, environmental considerations must be a major component.
 - A. One of the items which people could support is the building of retention ponds which will keep some of the storm water in the Ponds rather than have it go into the creek. Erosion control is also very important. Goal #6 deals with this and the Objective under this goal is to limit future development in areas which are currently not developed.
- C. We need improved federal funding for water quality monitoring.
 - A. Public pressure can help to get grant funding. Our organization applies every year for grants under the Clean Water Act. The grant is for extensive water quality monitoring on Long Pond and the reason we have not received this is because there are a lot of other lakes in demand also. There is no doubt that public pressure plays an important role.
- C. Concern about possibility of houses not hooked up to sewer system.
 - A. Figure 6 in the document shows the sewer areas - the Goal would be to prevent any kind of pollution coming from private septic systems into the Ponds.
- C. What about the possibility of providing public access and parking at the southern end of Long Pond?
- Q. Is there any mandate for the Town of Greece to evaluate the impact on the Ponds of water quality/recreational use on Ponds before approving new development?
 - A. For certain projects draft environmental impact statements are required. For larger projects, there are mitigating measures which the town must take in order to approve those. There is a town environmental board which looks into this - E.I.S. is necessary for some development. The Goal should be that with any new development, environmental criteria should be taken into account.

D. Actions Needed to Achieve Goals

- A. Current and Proposed Management Actions
 - 1. Control of purple loosestrife.

2. Concern about habitat restoration for black terns. (State DEC are looking for ways to do this).
3. Limited power boat access to Cranberry Pond (limited to residents).
4. Switch grass planting for ground nesting waterfowl.
5. Construction of nesting boxes.
6. The Nature Conservancy's survey to identify songbird habitat along Lake Ontario.
7. Vehicle barriers and littering fines to prevent dumping.

The following ACTIONS were suggested by citizens at the July 1993 and January 1994 public meetings and via survey forms:

Proposed Actions where New York State could take the lead:

- Establish fishery goals and fishing limits for the four ponds.

Proposed Actions where the County could take the lead:

- Set water quality goals for each of the four ponds.
- Survey areas without sewers to identify problems and solutions (Health Dept.).
- Facilitate intermunicipal agreements to improve water quality.

Proposed Actions where town government could take the lead:

- Develop and enact a dock ordinance.
- Protect existing wetlands and promote new wetlands to improve water quality.
- Evaluate the feasibility of creating no-wake zones and/or speed limits in Ponds.
- Evaluate the feasibility of establishing boat-free zones during migration and breeding season.
- Identify and evaluate appropriate sailboard rig and launch areas.
- Evaluate the feasibility to add more dedicated parking areas.
- Coordinate with Town of Greece Lakefront Water Revitalization Plan
- Limit development.

Proposed Actions where Government partnerships could take the lead (i.e. Towns and County):

- Reduce watercraft noise.
- Identify and implement alternative methods of road deicing.
- Establish and enforce waterfront hunting restrictions.
- Develop more scenic areas for the public.
- Add land to wildlife refuge.
- Evaluate methods to reduce phosphorus loadings from treated wastewater.
- Signs to indicate which pond's watershed you are entering.

Proposed actions where Citizens could take the lead:

- Educate homeowners on methods to minimize use of lawn care chemicals (i.e. fertilize less frequently).
- Mandatory boater safety courses.
- Open small hotel/bed and breakfast facilities to cater to birdwatchers.

- Create nature trails.
- Public review and input on proposed development.
- Community clean-ups.
- Citizen water quality monitoring.
- Increase public awareness.
- Investigate how to create wildlife habitat.
- Selected vegetation trimming in wetlands and along side ponds.
- The Plan also identifies some actions for specific Ponds. Implementation of many of these will depend on existing staff time, more money to do research studies, or the possibility of hiring staff on a part time basis. More volunteer resources are also needed. County staff could be available as a resource to help groups of volunteers.
- Implementation of many of the actions is dependent on funding and/or staff time available.

Citizens should:

1. Get comments on the draft findings report to the Monroe County Department of Health by March 15, 1994.
2. Use the draft report as a guide to pursuing actions beginning now.
3. Tell your elected representatives what you want.

Town and Village Governments should:

1. Consider what you can do to implement water quality actions listed in this document.

Questions and Comments:

- C. It is important to identify any pollutants and sources. There is a need to monitor leachate coming from landfills.
- Q. Is the Spencerport Treatment Plant problem going to be addressed here? Northrup Creek receives phosphorus and then it goes to Long Pond.
- A. Spencerport has a permit from the NYSDEC for discharge into Northrup Creek. The Permit establishes monitoring requirements and the limits they are required to meet. There are no current limits on total phosphorous in the permit. The most recent inspection report by the NYSDEC indicated that the Plant was well operated and maintained. If this study determines that reductions in phosphorous is critical for maintenance of water quality in Northrup Creek and Long Pond, then the next step is to get the NYSDEC to recognize that phosphorous levels need to be regulated in a permit. Spencerport's permit is up for renewal in 1996 at which time public input is sought.
- Q. Would a "B" classification of Northrup Creek help get stricter NYSDEC limits?
- A. A "C" classification matches the actual uses at the uppermost areas of the stream, and Class "B" further down stream.
- C. It may be appropriate to present this data to DEC.
- C. The question of an advocacy group - the group who live on Long Pond are getting angry about this and are ready to push. There is an urgent need to get started on this.
- C. A petition is being circulated in support of closing the Spencerport Sewage Treatment Plant and hooking up with the County Pure Waters System.
- C. With citizens group initiative pushing and supporting the findings document, it will get read

much quicker by people with the power to do something about it. If you add your own cover letter and signatures, this will strengthen the weight of the action tremendously. Do not get embroiled in bureaucracy. As I said during the introduction, we must work collaboratively and as a team, and there are certain things which we can do as government, and there are certain things which you can do as citizens, and Region 8 will listen to you more sympathetically than they listen to us. It would be appreciated if you would send us a copy of your cover letter so that we are kept updated. (W. Foster)

- C. I would strongly recommend that everyone who attended both of these meetings should have their names entered in the final document.
- A. This can be done.
- Q. Is it possible to have someone from DEC come and talk about their management plan for the area?
- A. At the July meeting we did have someone from the DEC who talked about the fish and wildlife management area. They are more than willing to come and talk to any group about these kinds of things, so groups of concerned citizens should feel free to give them a call. At this time we do not plan to have any more public meetings on this issue because we are out of funding.
- C. A Braddock Bay wildlife management representative is present at the meeting and is making a note of these comments.
- C. Another point for the final document would be to have an appendix with the phone numbers for the various organizations involved in the management of this area for people who are interested.
- C. We should maximize the use of existing wetlands to treat storm water.
- C. On Cranberry Pond, people dump their leaves in the channel, creating stagnation. We need to educate people to refrain from putting their leaves in there and to help clean up the channel.
- Q. Noise pollution on Cranberry Pond from boats during the hunting season is high. How is this regulated as far as quantity of wildlife which is taken out of the area?
- A. There are daily limits which DEC imposes - there is no real enforcement. Most of this is done by spot checking.

5. NEXT STEPS/HOW PLAN WILL BE USED

Margy Peet encouraged everyone to mail their ideas for further action to us. Comments will be taken up until March 15, 1994.

Mark Ballerstein summarized some of the actions and next steps which Monroe County is planning. The water quality of the Ponds will be tested during 1994 with the monitoring being completed by September. The Findings Document will also be completed and a report on the results should be ready by December of 1994. This report will be distributed to all interested parties who attended both of the Ponds meetings, as well as the Government Agencies involved in the watershed area. Monroe County will also pursue Intergovernmental Agreements where possible, as well as preparing water quality goals for the Ponds based on the work done by Dr. Makarewicz and the Lake Ontario West Basin Subcommittee. This is a citizens committee which meets to discuss the water quality issues

on this side of the County, and anyone who is interested in being a member should contact Margy Peet or Margit Brazda. Monroe County will also be endeavoring to identify other grant funds which might be available to support this effort. As mentioned before, the more publicity this receives from citizens who are concerned with the water quality of the Ponds, the better are the chances of obtaining the grant money needed to do the improvements discussed at this meeting.

We are looking for further input on this report. Several of the actions listed in the report are able to be done by citizens groups right now. Lastly, local elected representatives and NYSDEC officials should be informed of the expectations you have for the Ponds. Town and Village governments could also consider what items identified in the report could be accomplished within their limited budgets to improve the water quality. This report was designed to be a tool to determine what the needs are, and to stimulate community discussion, but the effort must continue.

- Q. It sounds like you had funding, and now are out of it, so the Health Department is passing it into citizens hands. Are there any plans for involvement in the future?
- A. The Water Quality Coordinating Committee is made up of volunteers and County and Town employees. The money we get to do projects like this comes primarily from federal and state grants. This has to be applied for annually. The Water Quality Management Agency and Coordinating Committee have developed a five year work plan which has identified goals and action items, and the Greece Ponds are a component of this.
- Q. It sounds as though it is up to the people in this room to push for action and to do it?
- A. Yes - it is very important that public concern and viewpoint be heard in order that the money be set for this purpose. Two weeks prior to this meeting there was a meeting with elected officials who have constituents in the watershed, along with the Town Supervisors, and there was positive feed back of people wanting to work together at a watershed level to do inter-municipal agreements. This means that two towns, or the town and the county can work together on storm water management.
- Q. Why was the northwest quadrant connection never done?
- A. The primary reason is because there was not enough population to generate the funding of the sewer.

The meeting ended at 9:45 p.m.

INFORMATION ON CHARTS

(These were the notes taken on citizen feedback at the meeting)

EXISTING USES

(Long Pond) More windsurfing than indicated - attempt to make data more objective.

(Long Pond and Cranberry Pond) Add hunting.

(Round Pond) Discharge site for Monroe County Water Authority.

(Round Pond, Buck Pond) Snowmobiling.

(All 4 Ponds) Ice fishing.

(Long Pond) Fire Department drills.

IMPAIRED USES

Use DEC records (trapping permits).

Use cormorant data.

Eutrophication alters habitat.

How many hunting accidents? (Shooting year round.)

(Long Pond) Windsurfers report skin irritation (due to wet suits?)

Visible pollution in tributary near Greece landfill - monitor leachate.

Not monitoring toxic pollutants.

Health concern (water contact)?

GOALS

#2 Add "reduce phosphorus".

Consider impacts of development on ponds (#4) (#6).

Public awareness - public pressure for funding.

Organize citizen groups.

ACTIONS

Connect Spencerport Treatment Plant to County system.

Need stricter phosphorus limits in DEC permit. Submit data on Ponds to DEC - neighborhood group.

Add names from meeting to final report.

Appendix - Include names and phone number of various associations.

Cranberry - clean out channel exit in fall and educate about dumping leaves.

ADDITIONAL USES

- Cranberry, Long Pond; Fire Department practice time
- Round Pond; Trapping, Canoe
- Long Pond; Seaplane

ADDITIONAL IMPAIRED USES

- Formation of "Sample Pond" study

- without inputs.(Mahon)
- Odors at Lowden Point Road Pump Station.

ADDITIONAL GOALS

- Increase public safety
- Reduce firearm use
- Federal aid (improved funding) for water quality monitoring
- Prevent Pond Pollution via septic fields
- Increase public access (south end Long Pond)
- Environmental criteria be assessed for new development in Town.

ACTIONS NEEDED TO ACHIEVE GOALS

- Identify existing sources of pollution
- monitoring of Flynn Road L/F Leachate
- STP Status update
- present data to DEC
- Invite DEC to discuss future management plans
- Use existing wetlands to improve water quality of tributaries/ponds
- Noise control - hunting

APPENDIX E

**ATTENDEES AT JULY 1993 AND
JANUARY 1994 PUBLIC FORUMS**

CITIZENS

Joseph Albert
Allan Amering
Bonnie Amerose
Don Amerose
Andrea Amos
Greg Amos
Joe Baker
Lasal Banty
Donald R. Barry
Carole Beal
Nick Benvenuto
John E. Bickle
David Box
Ken Budinski
Marilyn Budinski
A. J. Butcavage
Sal Cardella
Debbie Clarke
Stu Carter
Bob and Bernadette Clemens
B. Clingan
Jim Clonagan
Nancy Cohen
Bobbie C. Corzine
Kate Coyle
Jim Cumming
Linda Daly
Richard Daly
Timothy Danza
Art Daughton
Mary Davey
Barbara Dennehy
Tim Dennehy
Mr. & Mrs. Bart DiProspero
D. DiProspero
Doug Dobson
Bill Dodge
Jim Doyle
Victor Dulnik
John & Gerry Ernst
Brett M. Ewald

Tom Falls
Mike Fisher
Jack and Barb Franz
Rick Giraulo
Mr. & Mrs. Walt Gurney
Cindy Hale
Jack Hale
Fred Hamaker
Kay and Jack Halter
Deb Hartman
David Hermans
Beverly Hetzel
Frederick Hetzel
Carole Hinkelman
Joe Hulsmer
Ray and Alice Janis
H. Douglas Jones
Josef Jongen
Bob Kaiser
D. Kaspersin
Kim Kaukeinan
Jeffrey Kerr
Cheryl Kessel
Greg Kessel
Chris Klasner
Ed Knapp
K. Kroening
Gregory Lampman
Irene Landry
Colleen LeFay
Jim LeFay
Lew Lemonge
Bonnie Linden
P. and R. LoBrutto
Pat Lowenguth
Rose I. Mack
Pat Maher
Robert Maher
Dave Mahon
Dennis Mahon
Derek Mahon

Ken Mahon
C. P. Malony
J. Maynard
Rex McHale
V. Glen McIninch
Sean McNamara
Frederick Messerschmitt
Jesse Messerschmitt
Alan Metelskey
Al Miesch
Eleanor T. Miesch
Bruce Milborrow
Eleanor Milborrow
Daniel Miller
Audrey Montanus
Ann Montesano
Frank Montesano
Betsy Mosehauer
Mike Mosehauer
Shirley Munson
Ted Munson
Ray Nelson
Daniel B. Neyland
Alice Norder
Laureen Oliver
Bill O'Such
Steve Pellman
George Pettifer
Mark Phillips
Greg Pinkney
James Pleau
John C. Pyles
William G. Rand
Chris Rau
Mr. & Mrs. Arie Redeker
Russ Reeves
Lewis Rhinewald
Bill Robertson
C. Romer
Carole Rose
Kurt Rossow
Nick Sadowski
Paul Sawyko
Ted Sawyko
Marilyn and George Schindler
Garry Schmitt

Mark Schmitt
Ron Schroder
Eve Schulz
Jeff Schulz
Dave and Louise Schuth
M. L. Schwalb
P. Smith
Tim Smith
Gerry Snow
Arnold L. Stender
Joseph Stevens
Sherry Tolle
Pat Tompkins
Shawn Trost
Tom Trost
David Wahl
Chris Wallace
Francis Wanjon
Paul Warner
Gina Williams
Patrick Williams
Richard Wright
Greg Zaffrann
L. Zuris
Kevin Zwiebel

**OFFICE OF THE COUNTY EXECUTIVE,
MONROE COUNTY**

William L. Foster, Jr. (January 1992 -
March, 1995)

**MONROE COUNTY DEPARTMENT OF
HEALTH**

Richard Elliott
Margy Peet
Margit Brazda
Margaret Cleary
Ben Stefano, Intern
Marie Lewis, Intern

**MONROE COUNTY
ENVIRONMENTAL SERVICES**

Michael Schifano

**MONROE COUNTY ENGINEERING
DEPARTMENT**

Mark Ballerstein

PRESENTERS

Martin Minchella, Deputy Supervisor,
Town of Greece (September, 1989
- July, 1995)

Richard Burton, Environmental Health
Laboratory

Dr. Joseph Makarewicz, SUNY
Brockport Biology Department

Jeff Dodge, Braddock Bay Raptor
Research Project

Sonny Knowlton, NYSDEC Bureau of
Wildlife, Region 8

APPENDIX F

Resource Persons/Agencies and Groups involved in Four Ponds Planning

Biology Department at S.U.N.Y. Brockport

Contact: Dr. Joe Makarewicz, Professor
(716)395-5747
Address: S.U.N.Y. Brockport Biology Department
Brockport, NY 14420
Purpose: Technical water quality information and testing of Long,
Cranberry, Round, and Buck Ponds

Braddock Bay Fish and Wildlife Management Area Review Committee

Contact: Jeff Dodge, Chairman, (716) 392-5685
Address: 432 Manitou Beach Rd.
Hilton, NY 14468
Purpose: Advise and assist in management, development, and
maintenance of Braddock Bay Fish and Wildlife Management
area.

Braddock Bay Raptor Research Project

Contact: Jeff Dodge
Address: 432 Manitou Beach Rd.
Hilton, NY 14468
Purpose: Conducting research on migrating raptors (birds of
prey)

Cornell Cooperative Extension

Contact: Karen Klingenberger, (716) 461-1000
Address: 249 Highland Avenue
Rochester, NY 14620
Purpose: Provide information on environmentally sound lawn care
practices and soil testing services

Long Point Bird Observatory

Contact: Amy Chabot, (519) 586-3531
Address: P.O. Box 160
Port Rowan, Ontario
Canada NOE 1MO
Purpose: Implement and summarize the results of the Great Lakes Basin
Marsh Monitoring Program.

Monroe County Department of Environmental Services

Contact: Mike Schifano
Address: Iola Bldg. #5
350 East Henrietta Road
Rochester NY 14620
Purpose: Conducting pilot project with Village of Spencerport to reduce

274-7726
cut

phosphorus loadings from their Wastewater Treatment Plant

Monroe County Environmental Health Laboratory

Contact: Richard Burton (716)274-6820

Address: 740 East Henrietta Rd.
Rochester, NY 14620

Purpose: Contracting with S.U.N.Y. Brockport for water quality monitoring and analysis in the Four Ponds area. Staff are also working with volunteers to conduct monitoring of the ponds.

Monroe County Environmental Management Council

Contact: Louise Hartshorn (716)274-8338

Address: 350 East Henrietta Rd., Building 5
Rochester, NY 14620

Purpose: Information on all waste disposal sites in the area

Monroe County Water Quality Planning Bureau (of the Environmental Health Division of the Monroe County Department of Health)

Contacts: Margit Brazda (716)274-8440 and Margy Peet (716)274-8442

Address: 350 East Henrietta Rd., Building 5
Rochester, NY 14620

Purpose: Planning and coordination of Greece Ponds project

Monroe County Water Quality Coordinating Committee

Contact: Tom Goodwin, 1995 Chairman (716)428-5418

Address: Monroe County Department of Planning and Development
2 State Street, Suite 500
Rochester, NY 14614

Contact: Richard Burton, 1996 Chairman (716)274-6820
Monroe County Environmental Health Laboratory
740 East Henrietta Road
Rochester, NY 14620

Purpose: Technical group consisting of several environmental professionals that serves as the key decision maker on water resource projects in Monroe County

The Nature Conservancy

Contact: Kris Agard (716)546-8030

Address: 315 Alexander St.
Rochester, NY 14604

Purpose: Coordination of the migrating songbird study along Lake Ontario coastline area

Neighborhood Associations (Local)

Purpose: Citizen forums used to address local residential issues

-Greece Neighborhood Association

Contact: Jack Rittler, President (716) 225-5721

Address: 853 North Greece Road
Rochester, NY 14626

-Marland Shores Neighborhood Association

Contact: Mike Mosehauer (716) 392-3961

Address: 81 Shoreway Dr.
Rochester, NY 14612

-Braddock Heights Neighborhood Association

Contact: Bonnie Linden, President (716) 723-8776

40 Third Avenue
Rochester, NY 14612

-Grandview Heights Neighborhood Association

Contact: Jim Maynard, President (716) 227-5503

Address: 421 South Drive
Rochester, NY 14612

-Grandview Beach Neighborhood Association

Contact: Ed Knapp (716) 227-6962

Address: 2416 Edgemere Drive
Rochester, NY 14612

OR

Contact: Ted Munson (716) 723-8194

2200 Old Edgemere Drive
Rochester, NY 14612

New York State Department of Environmental Conservation (NYSDEC)

Contact: General (716) 226-2466

Address: 6274 East Avon-Lima Rd.
Avon, NY 14414

Purpose: Responsible for issuing State Pollution Discharge Elimination System (SPDES) permits; issuance of fishing and hunting permits; regulatory and enforcement duties.

New York State Department of Environmental Conservation

Contact: Sonny Knowlton (716) 948-5182

Address: Bureau of Wildlife
P.O. Box 422
Alabama, NY 14003

Purpose: Information concerning Purple Loosestrife in the ponds

Town of Greece

Contact: Hon. Roger Boily, Supervisor (716)723-2361
Address: Town of Greece
2505 West Ridge Rd.
Rochester, NY 14626
Purpose: Information pertaining to the Town of Greece

Town of Greece Environmental Board

Contact: Gary Schmitt, Chairman or Paul Sawyko, (716) 723-2367
Address: Town of Greece
2505 West Ridge Rd.
Rochester, NY 14626
Purpose: Conduct various environmental inventories (eg. Purple Loosestrife) and development proposals to determine environmental effects associated with development

U.S. Fish and Wildlife Services

Contact: Diane Pence (413)253-8480
Address: 200 Westgate Dr.
Hadley, MA 01035
Purpose: Promoting importance of Lake Ontario coastal habitat to migrating songbirds

Water Quality Management Advisory Committee

Contact: Margit Brazda, Public Participation Coordinator (716)274-8440
Address: 350 East Henrietta Rd., Building 5
Rochester, NY 14620
Purpose: Citizen group that advises Monroe County on water quality issues and is developing area-wide watershed management plans

APPENDIX G

**INTERGOVERNMENTAL AGREEMENT
REGARDING WATER QUALITY MANAGEMENT IN GREECE
January 18, 1995**

An INTERGOVERNMENTAL AGREEMENT between the TOWN OF GREECE, a municipal corporation with offices at 2505 West Ridge Road, Rochester, New York 14626, hereinafter referred to as "Town", and MONROE COUNTY, a municipal corporation with offices at 39 West Main Street, Rochester, New York 14614, hereinafter referred to as "County" as authorized by Article 5-G of the General Municipal Law.

WHEREAS, the County and the Town are desirous of working together to improve water quality;

WHEREAS, Monroe County is responsible for coordination of water quality management activities in the County through the Monroe County Water Quality Management Agency, the Monroe County Water Quality Coordinating Committee, the Government Policy Group, and the Water Quality Management Advisory Committee and;

WHEREAS, Monroe County is responsible for preparing a Remedial Action Plan for the Rochester Embayment of Lake Ontario and three basin plans for each of the three basins that flow to the Rochester Embayment and;

WHEREAS, Monroe County has prepared the Draft Findings Document for Cranberry Pond, Long Pond, Round Pond, and Buck Pond that identifies water quality issues in that area of the Town of Greece and;

WHEREAS, the Town of Greece has an interest in protecting water quality as indicated by membership and active participation on the County Water Quality Management Agency, the County Water Quality Coordinating Committee, the Government Policy Group and the Water Quality Management Advisory Committee and;

WHEREAS, the Town of Greece and the County of Monroe recognize the benefits of cooperating to achieve improved water quality;

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, the parties hereto mutually agree as follows:

1. The term of this agreement shall be from January 1, 1995 through December 31, 1999. At such time, this agreement may be renewed, amended, or terminated. Either party may terminate this agreement upon 60 days

written notice to the other party.

2. The goals to be accomplished pursuant to this agreement are as follows:

- a. Initiate cooperative efforts to design stormwater management systems that protect water quality.
- b. Initiate efforts to educate the public regarding the benefits of created wetlands and all other water quality management principles and programs.
- c. Continue the development of watershed plans, which address water quality, for each of the watersheds in the Town. Ensure that existing watershed plans contain a water quality component.
- d. Identify, enhance, and/or create town ordinances which protect water quality.

3. The working relationship between the participating agencies is to be based on the following principles:

- a. For the purposes of this agreement; the relationship between the Town and the County is cooperative and advisory.
- b. The County and the Town recognize the benefits of sharing information about activities that affect water quality.

4. Upon request by the Town, the County will review proposals for stormwater ponds or wetlands construction. The Town and the County will collaborate to track SPDES stormwater management plan compliance.

5. The Town and the County will work to educate the public regarding the benefits of created wetlands and other water quality management principles and programs by means of articles in existing newspapers, other written communications, or at public meetings as appropriate.

6. The Town will investigate the feasibility of converting existing dry basin stormwater ponds to wetlands.

7. The Town will explore the need to amend its existing stormwater ordinance to include water quality management principles.

8. The Town will continue enforcing its development regulations for erosion control and stormwater management. Town staff will work with the County

to identify opportunities to amend its regulations to benefit water quality.

9. The Town and the County will work together to initiate the development of a Long Pond Watershed Plan. The County will initiate discussions with the towns of Ogden and Parma and the village of Spencerport regarding the need to develop and use a Long Pond Watershed Plan. The Town and the County will contribute staff time for discussions with other towns regarding the development of the Watershed Plan.

10. The Town will continue to implement and update its Sanitary Sewer Master Plan with special attention focused upon Canal Park issues.

11. The County will provide the Town with annual reports pertaining to on-site sewage programs in Greece including septic system installations, repairs, and complaints.

12. In regards to water quality complaints, the Town and the County will seek to exchange information and coordinate their efforts. Such complaints may involve failing septic systems, reports of pollutants in streams/ponds, or illegal sewage discharges. If the Town receives water quality complaints, or identifies any such problems, they will notify the County Department of Health at 274-6052 for stream pollution complaints, and at 274-6055 for septic system problems. During non-business hours, the Department of Health can be contacted through the Monroe Community Hospital switchboard at 274-7100. If the County receives any such complaints for waters in the Town, they will contact the Deputy Supervisor at 723-2361.

13. The Town will continue to participate in the County's Sensible Salting Program. The Town and the County support the concept of sensible salting and will continue to work together to minimize the amount of salt applied to roads.

14. The Town and the County will work together to implement the recommendations contained in the Findings Document for Cranberry Pond, Long Pond, Round Pond, and Buck Pond.

15. The Town will continue its policy, where feasible, to obtain land for drainage and water quality purposes through acquisition of land or easements (e.g. stream corridor easements and floodplain easements).

16. The Town and the County will continue to cooperate with Eastman Kodak and the New York State Department of Environmental Conservation on issues related to environmental improvements at Kodak Park.

17. The Town and the County will continue to work together to address the problem of infiltration and inflow (I/I within their inter-connected sewage systems.

18. The Town and the County will use technical assistance available through the Monroe County Soil and Water conservation District to help achieve water quality improvements.

19. Bi-Annual meetings among Town and County staff will be held on the third Tuesday in April and October to coordinate implementation activities, development review, and policy analysis. Town staff will be responsible for providing information from the meeting to the Town Board.

20. This Agreement may be modified or amended only in writing duly executed by all parties which shall be attached to and become a part of this Agreement.

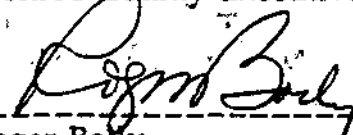
21. This Agreement constitutes the entire agreement between the County and the Town and supersedes any and all prior agreements between the parties hereto for the responsibilities herein to be provided. The Agreement shall be governed by and construed in accordance with the laws of New York State without regard or reference to its conflict of laws and principles.

Date 4/25/95
Rochester, New York


John D. Doyle
Monroe County Executive



Date 4/12/95
Rochester, New York


Roger Bolly
Supervisor

