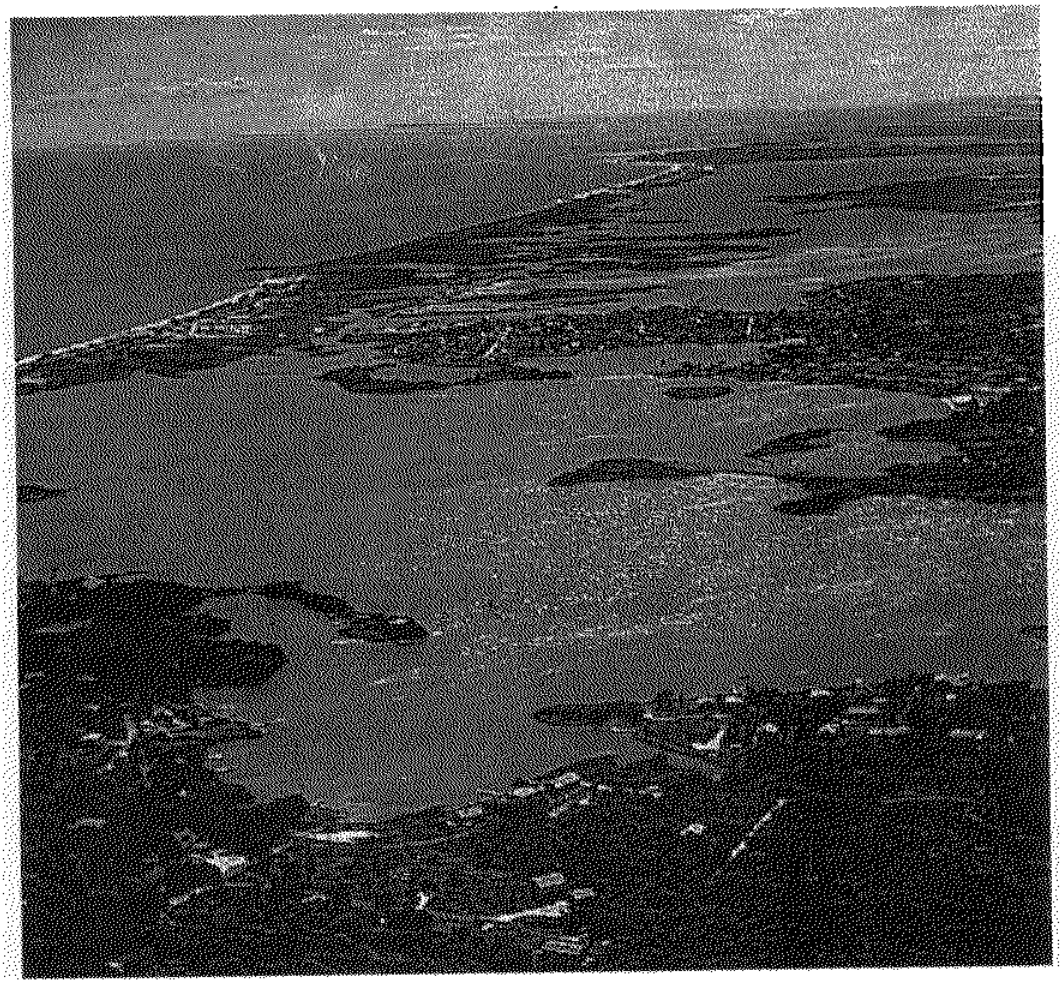
RHODE ISLAND SALT POND WATER QUALITY

Salt Pond Watchers Monitoring Data

1985-1994



Technical Report
October 1997

By:
Virginia Lee
Laura Ernst

COASTAL RESOURCES CENTER
University of Rhode Island
and
RHODE ISLAND SEA GRANT

RHODE ISLAND
SALT POND WATER QUALITY

Salt Pond Watchers Monitoring Data
1985-1994

Well and Stream Monitoring Data
1994

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October 1997

By:
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Laura Ernst
Jason Marino

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ACKNOWLEDGMENTS

All of us who enjoy the beauty and the bounty of the salt ponds owe a great debt of gratitude to the salt pond watchers. Their love of the salt ponds and willingness to take action to protect them for the future is inspirational. The dedication, patience and the carefulness of these volunteers has created a credible database for assessing water quality issues of the salt ponds and their watersheds which would not have been possible without them.

We are also grateful to the many University of Rhode Island graduate students who helped coordinate the sampling program, ran the laboratory analyses, checked the data entry, and assisted with the annual training events: Paula Kullberg, Paul Fofonoff, Anna Thompson, Bob Vaillancourt, Elena Martin, Dave Avery, Nicholas Wolff, James Fraher, Joe Topos, Nancy Craig, Julia McMahon, Margarita Castro, Ellen Gorman, Rick Hein, Bridget Holohan, Courtney Stirling, and Yaqin Li. The efforts of several URI Graduate School of Oceanography staff were also essential: Betty Buckley, Stephen Granger and Alan Desbonnet.

Funding for the salt pond watchers has been provided by Rhode Island Sea Grant, the Lindbergh Foundation, the IBM Corporation, the Kimball Foundation, the Rhode Island Foundation, the Shelter Harbor Conservation Association and the Washington Trust Company. The Rhode Island Department of Health and the Federal Food and Drug Administration also made in kind contributions of free lab analysis for bacteria samples.

We salute the energy and leadership of Suzanne Nardone, volunteer data manager and editor of the Salt Pond Newsletter as well as John Baer, founder of the Salt Pond Coalition and David Monk, present president.

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Metadata for Salt Pond Water Quality Data

Map Data

1. Maps were developed using data from the RI Geographic Information System. Location of sampling stations on the map are approximations of actual locations used in collection of water column samples.

Bacteria Data

Raw Data

1. This data file contains all raw data for the Salt Pond Watchers sampling period 1985-1994
2. Data columns in the spreadsheet are as follows:
   - •POND - Code for pond name (Point Judith, Potter, Cards, Trustom, Green Hill, Ninigret, Quonochontaug, Winnapaug, Maschaug).
   - •AREA - Area of the pond in which the sample was taken.
   - •OLDST - Station number used in past, but is not currently in use. Station number was changed at one point in time to better coordinate with the Rhode Island Dept. of Environmental Management station number for their water quality sampling stations. Old Station Numbers are not shown on maps of the lagoon.
   - • NEWST - Station Number in current use. Location of these sampling stations is provided on the map
   - • T/P - Designation for the sampling station located in a tributary stream (T) or in the actual lagoon (P)
   - • DATE - Date on which the sample was taken
   - • FECAL (MPN) - Concentration of fecal coliform bacteria measured in the sample taken on the given date. Data are given in Most Probable Number per 100 ml of sample (MPN/100ml). Analysis according to that provided in "Standard Methods For the Examination of Water and Wastewater, 8th Edition."
   - • TOTAL (MPN) - Concentration of total coliform bacteria measured in the sample taken on the given date. Data are given in Most Probable Number per 100 ml of sample (MPN/100ml). Analysis according to that provided in "Standard Methods For the Examination of Water and Wastewater, 8th Edition."
   - • WATERFOWL DISTANCE, FT. (NUMBER) - Number of waterfowl noted by the observer during the time of sample collection. Data are provided in approximated distance from the observer to the waterfowl - DISTANCE, FT. - and number of waterfowl observed at that approximate distance (NUMBER).

Water Quality Data

Raw Data

1. This data file contains all the raw data for the Salt Pond Watchers sampling period 1985 – 1994
2. Data columns in the spreadsheet are as follows:
   - •POND - Code for pond name (Point Judith, Potter, Cards, Trustom, Green Hill, Ninigret, Quonochontaug, Winnapaug, Maschaug).
   - SITE - Labeled as ON or OFF. ON refers to taking the sample from the designated station on the pond. OFF refers to taking the sample from shore or dock during times of ice cover or otherwise when the designated sampling station could not be sampled.
   - T/P - Designation for the sampling station being located in a tributary stream (T) or in the actual lagoon (P)
   - STATION - Station number identification. These station numbers correspond to those given on the map for Green Hill Pond
   - DATE - Date on which the sample was taken
   - TEMP (°C) - Temperature of the water at the surface in degrees Celsius
   - SDOX (mg/l) - Measure of dissolved oxygen concentration in surface waters (approximately 1 foot below the surface) and reported in milligrams oxygen per liter of water (mg/l = ppm). For method of sampling and analysis, see Protocols in Appendix A.
   - BDOX (mg/l) - Measure of dissolved oxygen concentration in bottom waters and reported in milligrams oxygen per liter of water (mg/l = ppm). For method of sampling and analysis, see Protocols in Appendix A
   - SALT (ppt) - Measure of the salinity of the surface waters of the pond and reported in parts per thousand (grams salt per liter of water).). For method of sampling and analysis, see Protocols in Appendix A.
   - N (µM/l) - Measure of nitrate in surface waters of the pond and reported in units of micro-moles per liter of water.). For method of sampling and analysis, see Protocols in Appendix A.
   - P (µM/l) - Measure of phosphate in surface waters of the pond and reported in micro-moles per liter of water.). For method of sampling and analysis, see Protocols in Appendix A.
   - CHLA (µg/l) - Measure of chlorophyll-a content in surface waters of the pond and reported in units of micro-grams per liter of water.). For method of sampling and analysis, see Protocols in Appendix A.
   - SECCHI (m) - Depth of water to which a standard sized secchi disc is visible by an onboard observer and reported in units of meters below the surface of the pond. For method of sampling and analysis, see Protocols in Appendix A.
   - DEPTH (m) - Depth of the pond at the location where the water quality samples were taken, and reported in meters below the surface of the pond. For method of sampling and analysis, see Protocols in Appendix A.

Rhode Island Salt Ponds
Water Quality Technical Report

INTRODUCTION

This technical report represents a summary of the data collected over a ten year period from 1985-1994 in the salt ponds of southern Rhode Island (Figure 1). It also incorporates data on well and stream monitoring conducted in 1980 by the University of Rhode Island (URI) Graduate School of Oceanography and in 1995 by Laura Ernst, as part of her Master's thesis in the URI Marine Affairs Department, rainfall data from the URI Plant Sciences Department, College of Resource Development, Kingston RI and groundwater data from the U.S. Geological Survey.

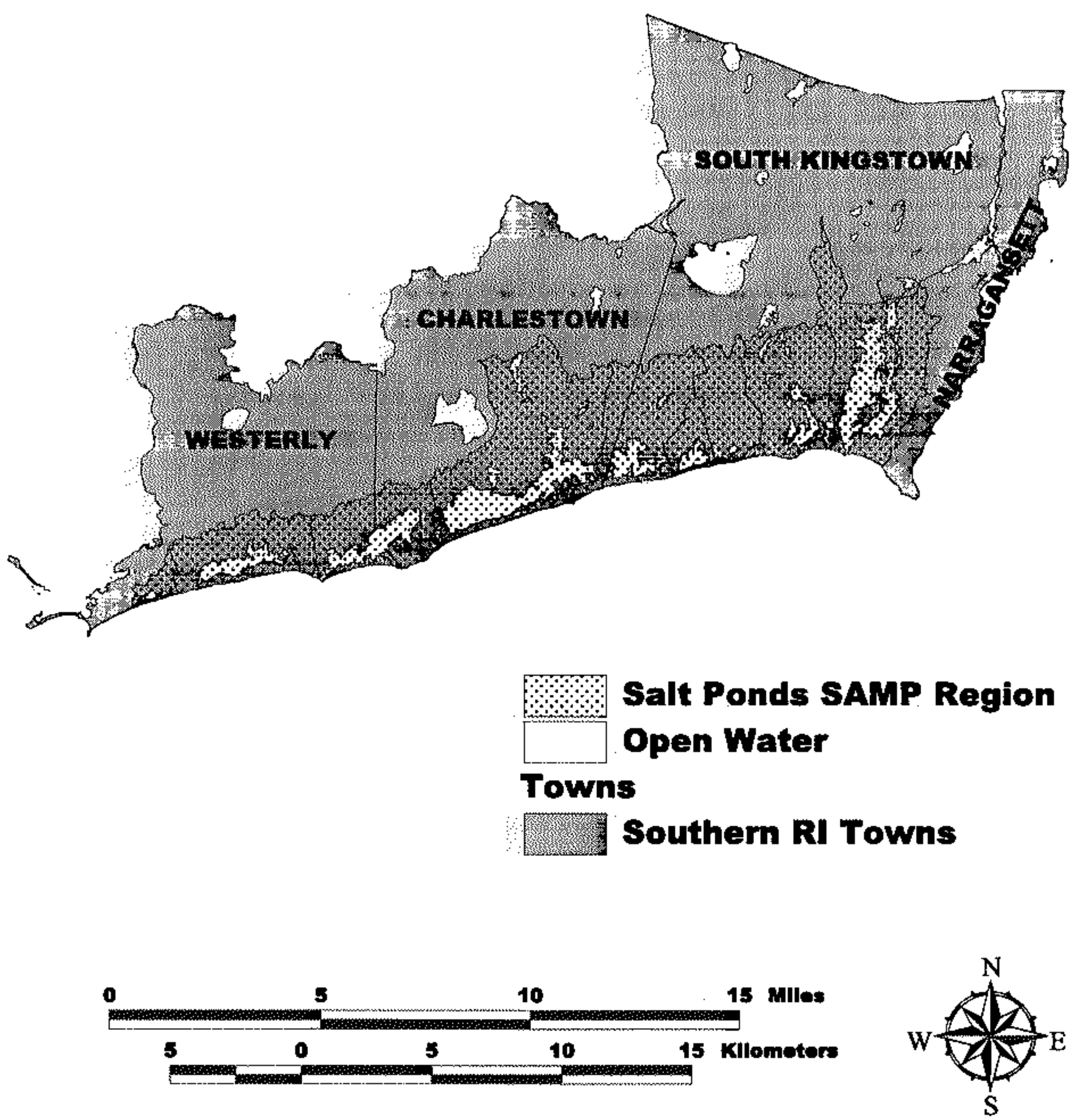
The coastal lagoons of southern Rhode Island locally known as salt ponds, vary in size from 40 acres to over 1700 acres (Table 1). Because the salt ponds are relatively shallow, sunlight reaches the bottom where seagrass beds, seaweeds, and microscopic aquatic plants can grow, creating highly productive estuarine systems. The salt ponds provide critical nursery areas for fin and shellfish, including nearshore flounder, and they provide important resting spots for migratory birds along the Atlantic flyway. They play an important role in the cycling of land based sources of nutrients and the movement of sediments along the barrier beach system. Some of the salt ponds are connected to Block Island Sound (Figure 1) through permanent breachways or inlets through the barriers, providing enhanced ocean access for recreational boating and fishing. Overall, the salt ponds are a significant scenic and aesthetic resource, vital to the region's tourism economy and essential for the quality of life of local residents.

Table 1. Physical Characteristics of the Salt Ponds.

	Point Judith	Potter	Cards	Trustom	Green Hill	Ninigret	Quonochontag	Winnapaug	Machaug
Area (acres)	1530	329	43	160	431	1711	732	446	49
Avg. Depth (ft)	6	2	1.5	1.5	2.5	4	6	5	7
Avg. Salinity	29	27	4	5	19	24	29	28	7
Watershed Area (acres)	3536	3311	1820	794	3039	6025	2307	2294	347
Groundwater Vol. (m^3/yr)	2.5×10^7	5.0×10^6	2.2×10^6	1.1×10^6	6.8×10^6	1.5×10^7	*	*	*

The increasing suburban sprawl that began shortly after the Second World War became a public issue by the 1970s when local residents expressed their concerns

Salt Pond Region



RIGIS 1997

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about uncontrolled development and deteriorating conditions in the salt ponds. In 1979 a major five year multi-disciplinary research effort was launched with funding from the Rhode Island Sea Grant Program, the National Oceanic and Atmospheric Administration Office of Coastal Zone Management, the Environmental Protection Agency, and the local towns. The salt pond project was designed to clarify many of the major issues and natural processes that are characteristic of the salt ponds, including impacts to the habitat and water quality from nitrogen and bacterial contamination. Volunteer pond watchers contributed to many aspects of the research project by keeping waterfowl counts and taking field measurements that helped define the nature of the water quality as well as the recreational fishery problems. A Special Area Management Plan (SAMP) for the Salt Pond Region was adopted in 1984, updated in 1997, and is being implemented by the Rhode Island Coastal Resources Management Council (CMRC). The SAMP is a watershed based management tool which among other things, depends on land use regulations, nitrogen removal technologies, vegetated buffer management and nonpoint source controls to maintain and restore water quality.

The Salt Pond Watchers

Volunteers, known as the "Salt Pond Watchers" began an annual monitoring program in 1985 with funding from the Rhode Island Sea Grant Program under the direction of Virginia Lee of the URI Coastal Resources Center. As stewards of the salt ponds, the Salt Pond Watchers are invaluable. Their long-term inventory is a basis for understanding the changes in the ecology and the cumulative impacts of development on the coastal ecosystem. The Salt Pond Watchers also help to gauge the success of the SAMP in managing water quality in the salt ponds.

The salt pond watchers (Table 2) are local community members, from all walks of life who are trained, field tested, and laboratory checked at the URI Graduate School of Oceanography. Twenty-three volunteers started out in 1985 monitoring 22 bacteria and water chemistry stations every other week, from May through October, in seven of the south shore salt ponds. By 1989 they had expanded to include the entire region, and a program was started in the Great Salt Pond on Block Island in 1990. By 1987 there were 33 Salt Pond Watchers monitoring 67 bacteria and 29 water chemistry stations. Today there are 14 volunteers and 37 bacteria stations. The Salt Pond Watchers made weather observations, measured depth, water temperature, rainfall, salinity, turbidity (secchi disk), dissolved oxygen, collected samples for analysis of coliform bacteria (total and fecal), nutrients (nitrates and phosphates), phytoplankton (chlorophyll a), and eelgrass wasting disease. The Salt Pond Watcher data has been incorporated into the Rhode Island State of the State's waters and biannual reports to the Environmental Protection Agency. It is also provides a basis for revising the state's construction standards for on-site sewage disposal systems. Today the towns are using the data to develop policies for wastewater management districts designed to decrease nonpoint source pollution loads.

Table 2. Salt Pond Watchers, 1985 - 1997.

Henry Van Ackerman
James Allen
Don Allyn
Craig Anthony
John Baer
Bob Ballou
Donn Barclay
George Biesel
Chris Blansfield
Zena Bliss
Ed Bliven
Ken Boll
Jack Bradley
John Brotherhood
Miriam Brennan
Gilbert Burdick
Philip Carpenter
Judy Chappell
V. Chappell
Kathleen Connelly
Christopher Damon
Steve DeMetrick
Tim Dillingham
Bea Doyle
Ray Dowd
Ruth Emers
Bill Eschenfelder
Lynn Faireweather
Brian Fortz
Roger Freeman
Ibby Freeman
Brian Fritz
Jeff Gardner
Marge Gaunt
Jeff Gledhil
George Griffin
Clem Griscom
John Haden
Al Hale
Dorothy Hausmann
Henry Hausmann
Steve Haydock
Lang Hemenway
Bill Henry
Ellie Heyder
Charles Hickox
Harry Holland
Galen Howard
Ed Hunter
Bart Hurley
Jay Kamm
Bill Kilcup
Barbara Kilcup
Anne Kimball
Ernie Kingman
J. Krukowski
Karl Kurth
Faith Labossier
John Lamb
Laura Lamb
John Lanik
Lars Larson
Virginia Larson
Roger Laughlan
S. Lea
Van Lee
Frank LeVasseur
Chris Littlefield
Bessie McGonagle
Dave Monk
Cy Morgan
William Morton
Sue Nardone
Joan Nelson
Bill Orme
Earle Perkins
Ray Phelan
Joe Picano
Merridith Platt
Robert Pratt
Margie Pratt
Anne Preuss
John Rahm
Fay Rand
Toni Salisbury
Vic Samoles
Pete Schipper
Eric Schoonover
Ben Spector
Everett St. George
Nick Starinovich
Elaine Stedman
Alan Stedman
C. Strickland
Alain Sweeney
Jack Tobin
Ross Toney
Ned Tuttle
Lou Valois
Mike VanVranken
Vincent Vigna
George Vinal
Walter Wall
Nancy Wetherell
Robert Wetherell
Mark Winslow
Dick Wood

MONITORING METHODS

The Salt Pond Watcher volunteers were required to attend training sessions as part of their introduction to water quality sampling. The Field Sampling Manual, Laboratory Protocol Manual and Data Management Protocol developed by URI for the salt pond volunteers are enclosed in Appendix A. A series of graduate students acted as coordinators, trainers and data analyzers for the volunteers.

As part of the monitoring program, chlorophyll measurements are made by filtrating water through a fine filter and then wrapping and freezing the filter until it is read; water clarity measurements are taken by secchi disk from a boat or off a dock; water temperature is read from a laboratory calibrated thermometer suspended 6 inches below the water surface for at least two minutes; nutrient samples are taken through tubing attached to a syringe from 10" below the water surface, and filtered into 50ml bottles, then frozen for analysis at the URI Graduate School of Oceanography; dissolved oxygen measurements are made using a Lamotte kit with which the volunteers perform their own titrations and report them on field sheets; eelgrass wasting disease is monitored using Dr. Fred Short's index: volunteers monitor eelgrass once each growing season by collecting 10 plants near an existing sample station and an eelgrass bed, the plants are then measured for length, width, age, and the percentage of disease covering each leaf; bacteria samples are taken using sterile sample bottles and delivered to the laboratory for analysis within six hours of sampling.

Laboratory Methods

Nutrients and salinity are analyzed by technicians at Dr. Scott Nixon's laboratory at the URI Graduate School of Oceanography. Chlorophyll was analyzed by graduate students in Dr. Ted Durbin's laboratory at the URI Graduate School of Oceanography. Fecal coliform bacteria were analyzed in laboratories at the Rhode Island Department of Health and the Federal Food and Drug Administration laboratory at Quonset Point. Since 1996, bacteria samples have been analyzed at the URI Microbiology Laboratory located on the Kingston Campus by graduate students from the department. Bacteria samples are collected every two weeks from May to October and kept cool until processing which occurs within six hours of collection to assure sample integrity. Medium is prepared before the samples are collected and placed into test tubes. Another, smaller glass tube is inverted into the medium filled test tube and used to trap the CO_2 emitted by the bacteria. Once filled the test tubes get capped and put into the air incubator at 35°C for 3 hours. Test tubes are placed in a water bath and when they are removed, the presence of gas bubble indicates a positive result. The most probable number of fecal bacteria are determined using a chart in the back of the laboratory protocol (Appendix A).

Sampling Schedules, Seasons and Locations

The Salt pond Watchers began monitoring water quality parameters in 1985 twice a month, from May through October. Since then the frequency of monitoring for most of the water quality parameters has remained constant, although the season has been extended during winter months for special projects such as constricted tidal circulation resulting from the 1987 bridge reconstruction over the inlet to Green Hill Pond. Sampling stations have also changed as data from initial samples indicated hot points for bacterial contamination and nutrients, particularly near the tributaries of the salt ponds, which had high concentrations of bacteria. As volunteers came and went, some stations went unsampled, and other stations were added or moved to accommodate requests from the Rhode Island Department of Environmental Management (DEM).

Some water quality monitoring stations and parameters have proven more reliable and consistent than others for a variety of reasons. The stations in the middle basins of the ponds have more constant readings of nitrogen, dissolved oxygen and water clarity because they are not as affected by the fluctuations in depth from tidal influence and runoff from storm events. Secchi disk measurements are not particularly useful to gauge water clarity in most areas of the ponds because they are so shallow (1-6 feet) and water clarity is good enough to see to the bottom. Bacteria measurements are taken in the tributaries flowing into the salt ponds, but nutrients have only been sampled by the URI as part of stream flux studies to determine total loadings to the salt ponds. Data on eelgrass loss and the presence of wasting disease was a special project for 1993.

SUMMARY

Salt Ponds

Bacteria

The streams and brooks measured by the Salt Pond Watchers indicate high levels of fecal bacteria flowing into several of the ponds: Green Hill Pond, northern Point Judith Pond, and the eastern basin of Ninigret Pond. Since waterfowl are a potential source of fecal bacteria, the Salt Pond Watchers record the presence of waterfowl at each sampling. During the summer season, when the bacteria concentrations are high, the numbers of waterfowl are low or they are not present. This information has been used by DEM to target individual sewage disposal systems as a source of pollution. Bacteria levels in the ponds spike after rainfall events. Fecal coliforms counts have been as high as 4600 MPNs in Green Hill Pond when daily rainfall measured .95 inches. Bacteria trends also indicate that some stations tend to have higher levels in the spring and summer, a special concern since that is when most of the recreational shellfishing effort occurs. Based on these data and their own surveys, DEM has closed upper Point Judith Pond, Green Hill Pond, and the eastern portions of Ninigret Pond to shellfishing.

Nitrogen
Nitrogen data from a winter survey in 1987 first indicated unusually high concentrations of nitrate and nitrite during the winter months as compared to other seasons. The data provided the first evidence of high nitrate loadings to one of the salt ponds resulting from nonpoint sources of pollution. Researchers had predicted the high winter concentrations in the initial multi-disciplinary study because tidal exchange restrictions cause Green Hill Pond to fill up with stream and groundwater flow and the high nutrient loadings they carry. In the spring and summer, nutrient levels are very low, even in ponds with high loadings, because aquatic plants, phytoplankton, algae and submerged grasses draw the available nutrients out of the water column into the plant tissue during their growing season.

Nitrate concentrations in the salt ponds increase corresponding to the number of houses per acre in the adjacent watershed (Figure 2). Because nitrogen is the nutrient most responsible for eutrophication of coastal waters, nitrogen concentrations were monitored by the Salt Pond Watchers.

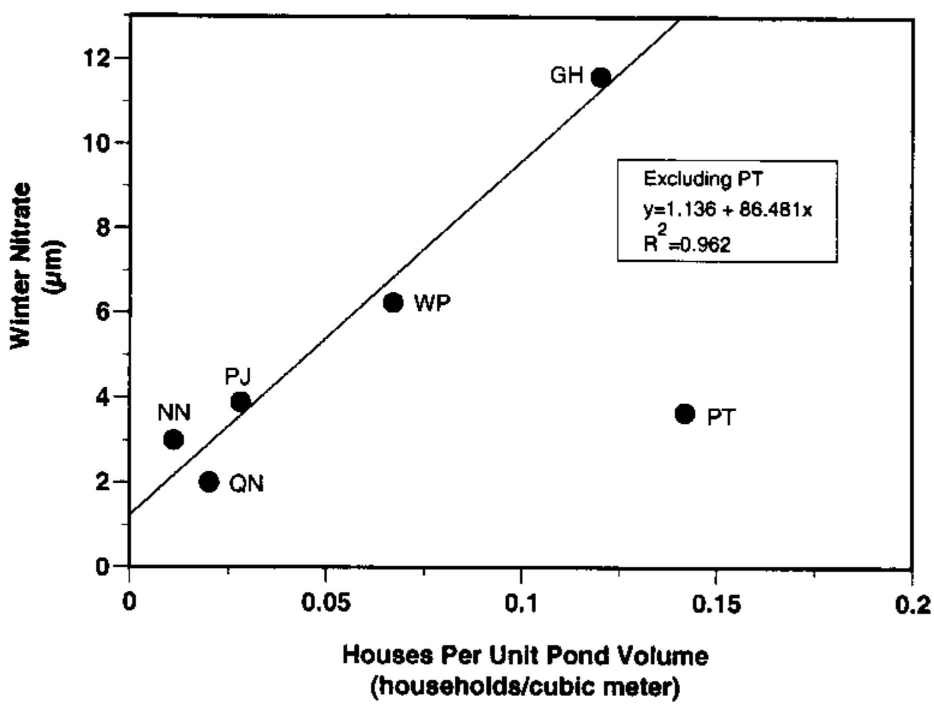
Eelgrass
Data for eelgrass loss is sporadic across the ponds. Other researchers have assessed the extent of eelgrass over the years (Thorne-Miller et al. 1983, Short et al. 1996) and in Ninigret Pond a 41% decline between 1960 and 1992 was correlated to housing density increases.

Well and Stream Data

Well and stream data were collected in 1981 by Scott Nixon's laboratory at the URI Graduate School of Oceanography as part of the first salt ponds project to understand the amount of nitrogen loading into the salt ponds from groundwater, stream flow, the atmosphere and offshore. Homeowners in the salt pond watersheds were asked to participate in a sampling project and wells were sampled for nitrogen concentrations. Stream sampling was conducted in the Saugatucket River for Point Judith Pond, Cross Mills Stream for Ninigret Pond, and Teal Pond and Factory Pond Streams in Green Hill Pond. In 1994, some of the same wells and additional wells were sampled as part of a study of the cumulative and secondary impacts of development, wells and streams were sampled for concentrations of nitrate, ammonia, phosphate, and organic nitrogen and phosphate (Appendix B and C). Both well and stream samples were analyzed again at Dr. Scott Nixon's laboratory at the URI Graduate School of Oceanography and the data were used in the revised Salt Pond Region SAMP and the Master's thesis of Laura Ernst, URI Marine Affairs Department.

United States Geological Survey well data is also provided in Appendix B to show the changes in groundwater levels in the salt pond watersheds. Groundwater is the

Figure 2. WInter Nitrate Concentrations and Housing Density

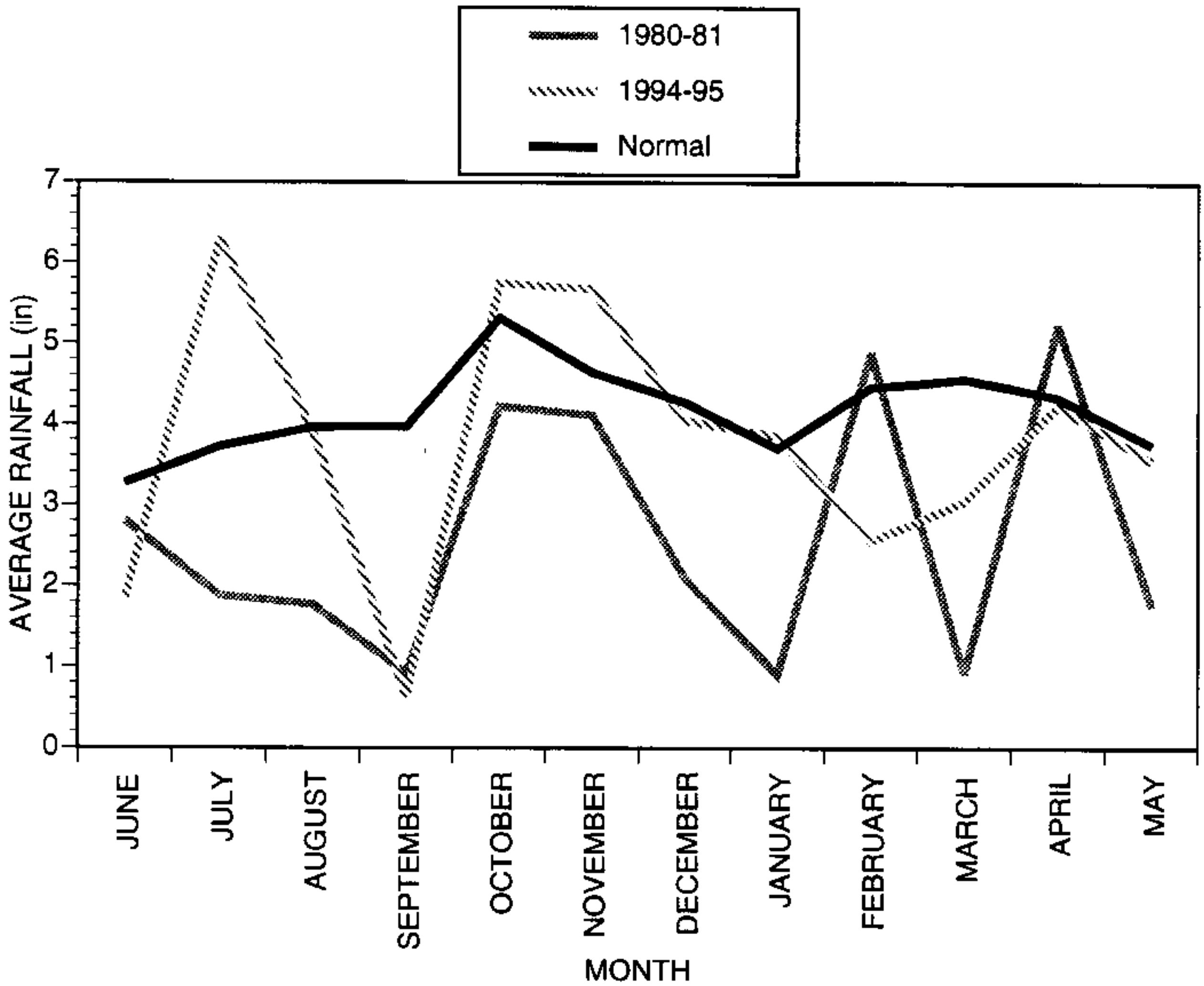


major source of freshwater to the salt ponds and variations in the amount of groundwater also impact the amount of nitrogen loading through groundwater to the salt ponds.

Rainfall

Rainfall data have also been used to estimate the amount of atmospheric deposition of nitrogen on the salt ponds and the amount of overland runoff to the salt ponds from impervious surfaces. Rainfall data are provided in Appendix D for 1985-1994 from the URI Plant Sciences Department at the College of Resource Development, Kingston, RI. Nitrogen concentrations in rainfall were measured by the URI Graduate School of Oceanography in 1981 (.49mg/l) (Nixon et al. 1982) and in 1990 (1.04mg/l) (Fraher 1991). The amount of rainfall to the salt ponds and their tributaries varies from year to year. Large variations in rainfall in the salt pond region as shown in Figure 3 for 1980-81, 1994-95 and the 30 year average rainfall (1961-1990) alters the nitrogen loading from the watershed to the salt ponds and their tributaries.

Figure 3. Rainfall data for 1980-81, 1994-95 and Normal (thirty year average for the period of 1961-1990), based on data from the URI Department of Plant Science, College of Resource Development.



The Salt Pond Watchers Coalition of Rhode Island has received much attention and undergone many changes since its inception in 1985. The volunteer water quality monitoring group has been written up in the Providence Journal, Yankee Magazine, numerous peered reviewed journals and periodicals. Because of the success of the Salt Pond Watchers, interest from the local, state, and federal level resulted in a national citizen monitoring symposium held at the University of Rhode Island in 1988. The Salt Pond Watchers were a model for beginning volunteer water quality monitoring groups all over the nation during the late 1980s. Today, the data they collect are used to make decisions about regulations and management measures which benefit the valuable resources of the salt ponds, and the local communities.

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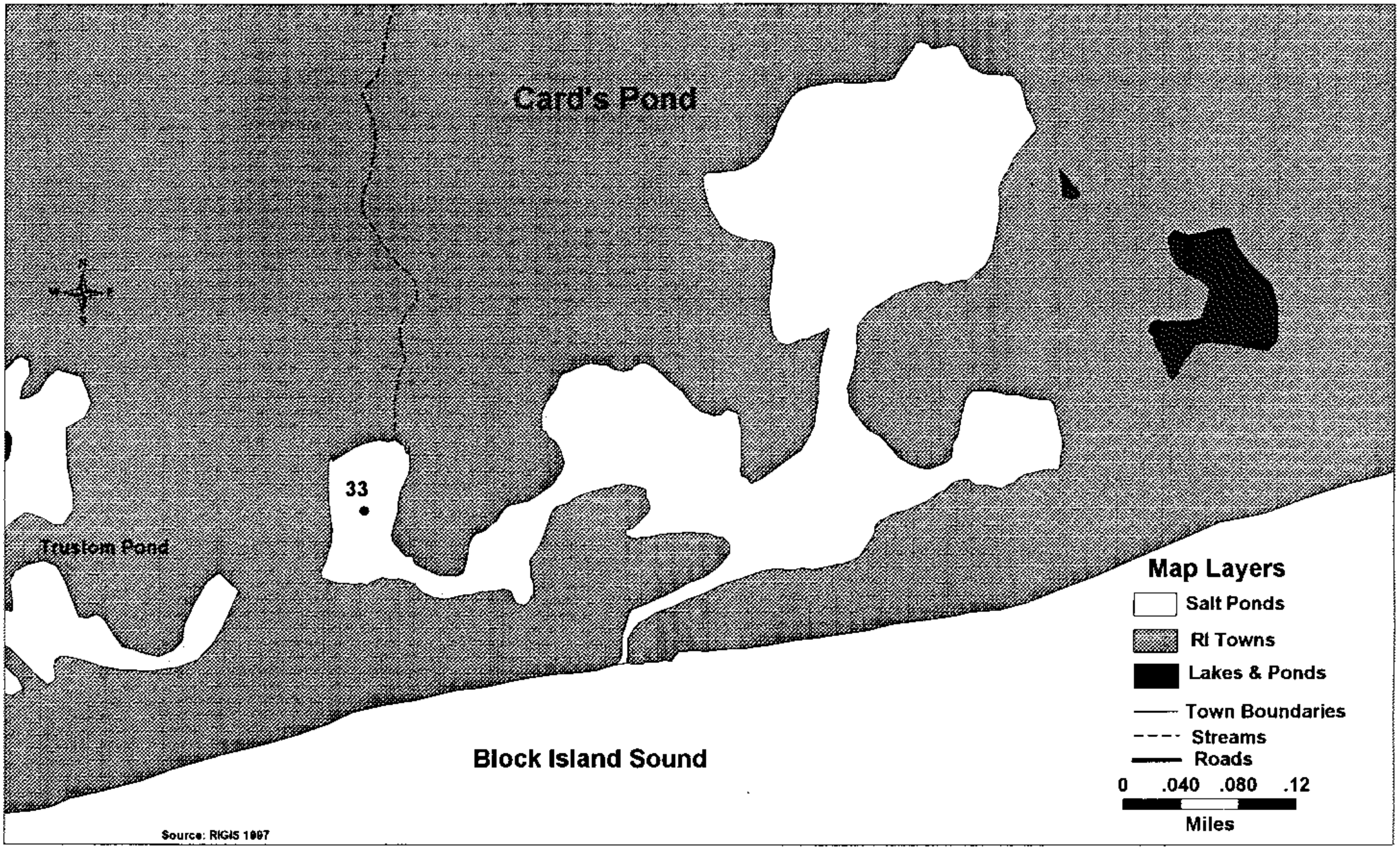
Cards Pond

Sections:

Pond Map
Bacteria
Water Quality

Cards Pond

Pond Map



Card's Pond
Trustom Pond
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Block Island Sound
Map Layers
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Streams
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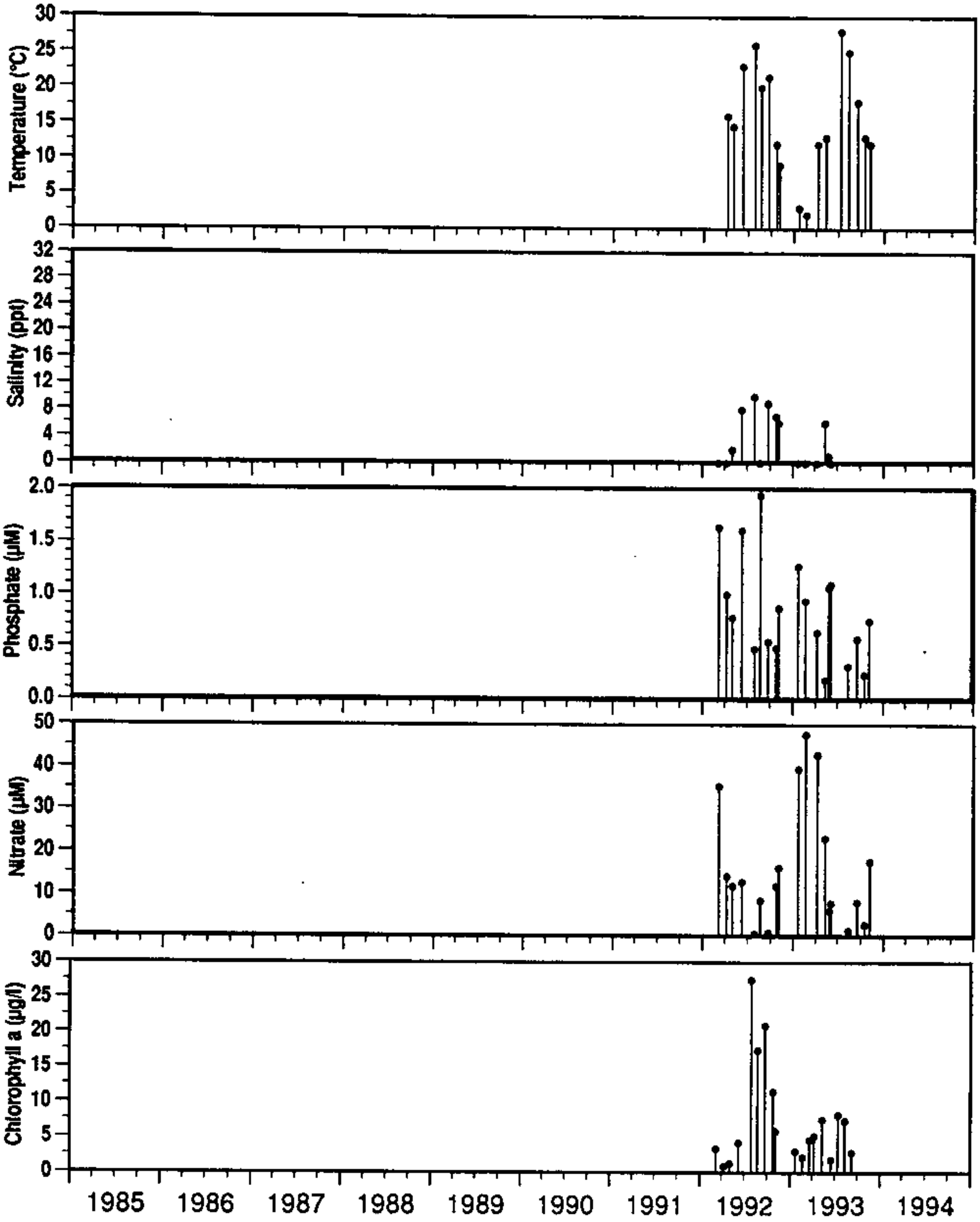
Source: RIGIS 1997

Cards Pond

Water Quality

Cards Pond

Station 33



CARDS POND WATER CHEMISTRY DATA 1992-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
OFF	33	7-Mar-92	.		.	0	35.32	1.64	3.31	.	0.5
ON	33	8-Apr-92	16		.	0	14.20	1.00	0.85	.	1.4
ON	33	1-May-92	14.5		.	2	11.91	0.78	1.22	1.1	1.1
ON	33	8-Jun-92	23		.	8	12.79	1.61	4.17	1.0	1.0
ON	33	29-Jul-92	26		.	10	0.55	0.48	27.48	0.8	0.8
ON	33	22-Aug-92	20		.	0	8.47	1.94	17.37	.	1.1
ON	33	22-Sep-92	21.5		.	9	0.78	0.55	20.92	.	.
ON	33	24-Oct-92	12		.	7	11.94	0.49	11.45	.	0.9
ON	33	4-Nov-92	9		.	6	16.10	0.87	5.81	.	1.4
ON	33	22-Jan-93	3	.	.	0	39.48	1.27	2.95		.
ON	33	21-Feb-93	2	.	.	0	47.72	0.94	2.12		.
ON	33	22-Mar-93							4.54		
ON	33	9-Apr-93	12	.	.	0	42.82	0.64	5.13		.
ON	33	11-May-93	13	.	.	6	23.02	0.19	7.47		.
ON	33	26-May-93		.	.	1	6.09	1.07			.
ON	33	2-Jun-93		.	.	0	7.75	1.10			
ON	33	16-Jun-93	.	.	.				1.8	.	
ON	33	9-Jul-93	28	.	.					.	
ON	33	14-Jul-93		.	.				8.11		
ON	33	11-Aug-93	25	.	.	0	1.29	0.32	7.32		
ON	33	8-Sep-93		.	.				2.8		
ON	33	17-Sep-93	18	.	.	2	8.11	0.58			
ON	33	16-Oct-93	13	.	.	1	2.72	0.24			
ON	33	6-Nov-93	12			9	17.49	0.75			

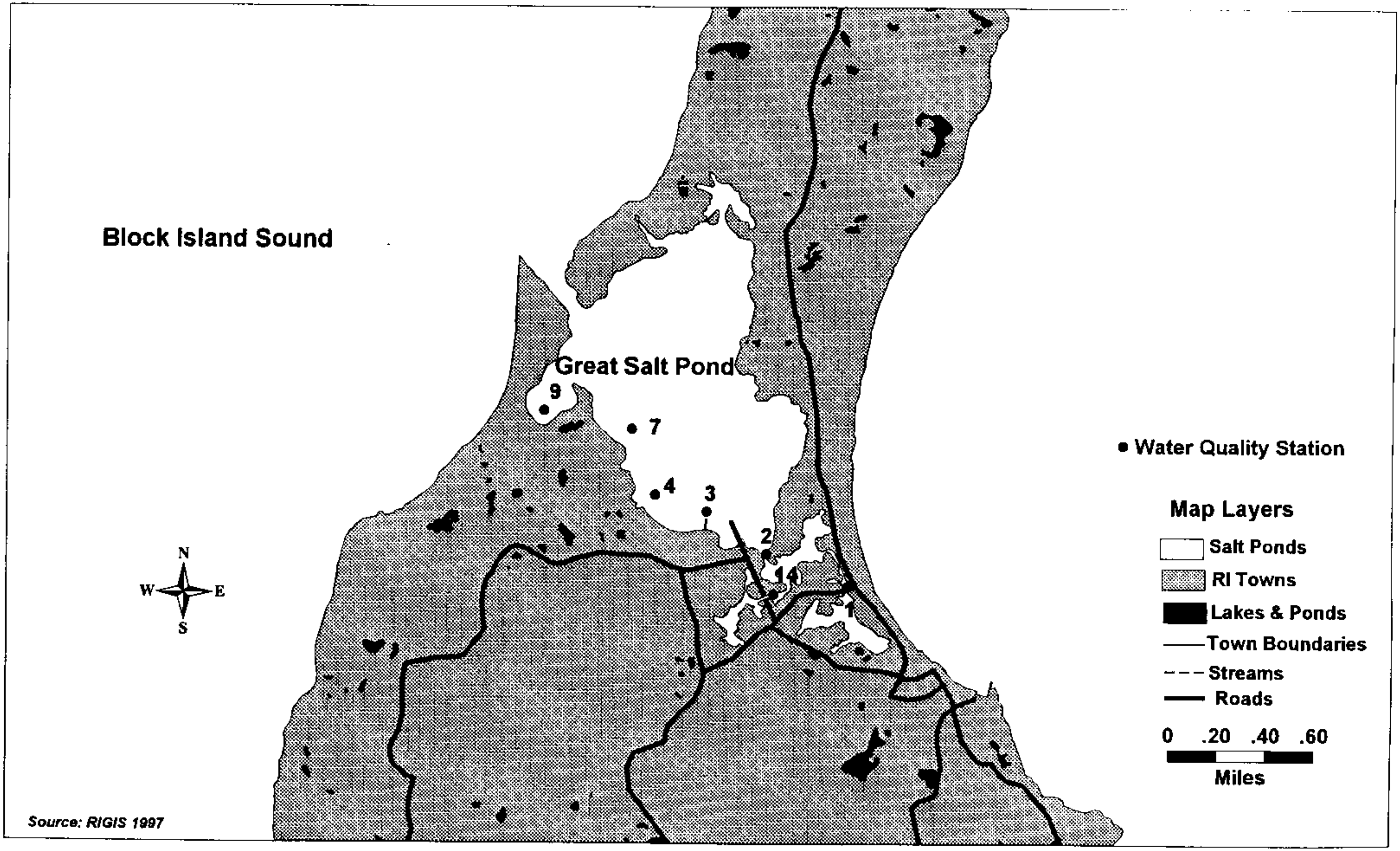
Great Salt Pond
Block Island

Sections:

Pond Map
Bacteria
Water Quality

Great Salt Pond

Pond Map


Block Island Sound
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Water Quality Station
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Streams
Roads
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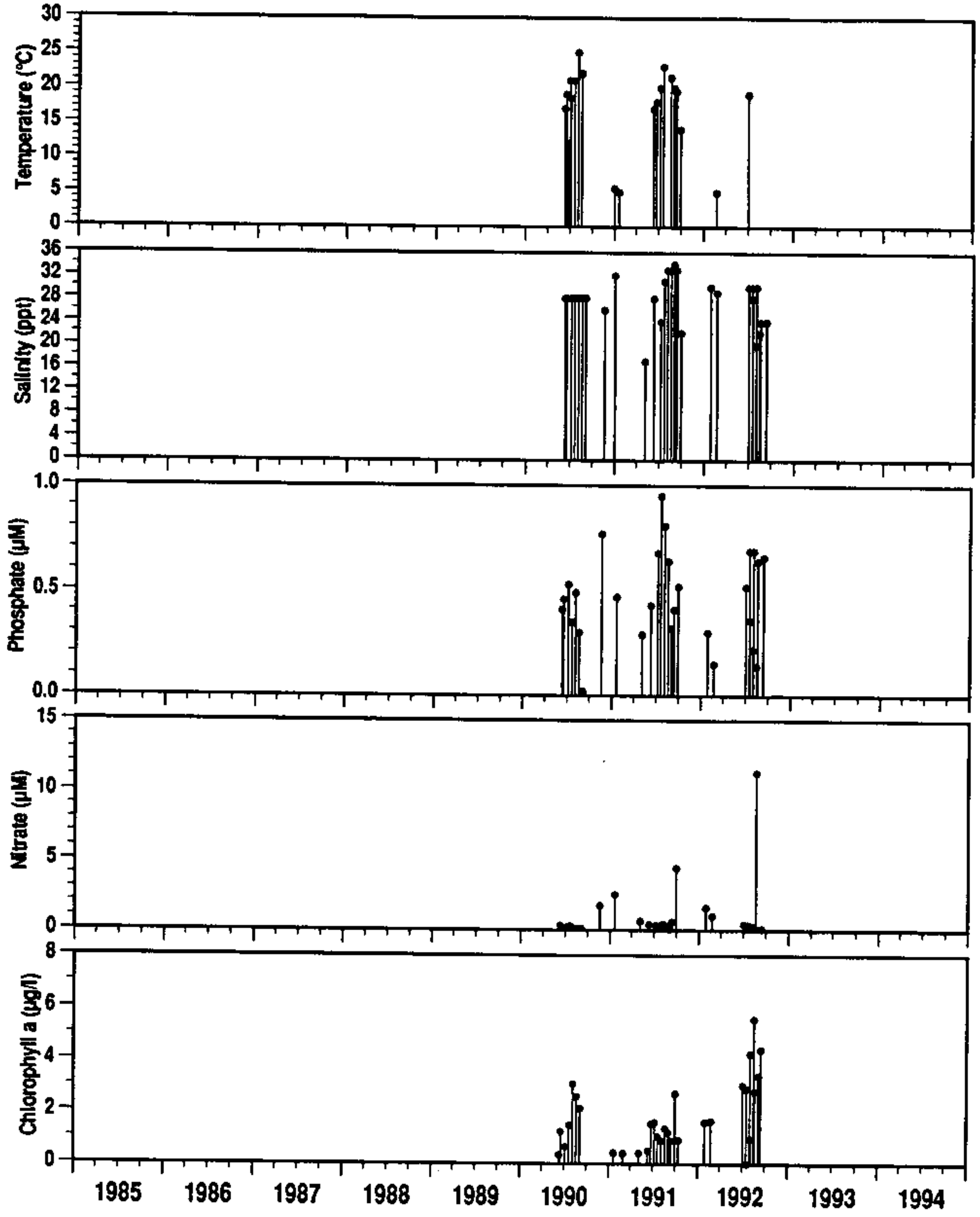
Source: RIGIS 1997

Great Salt Pond

Water Quality

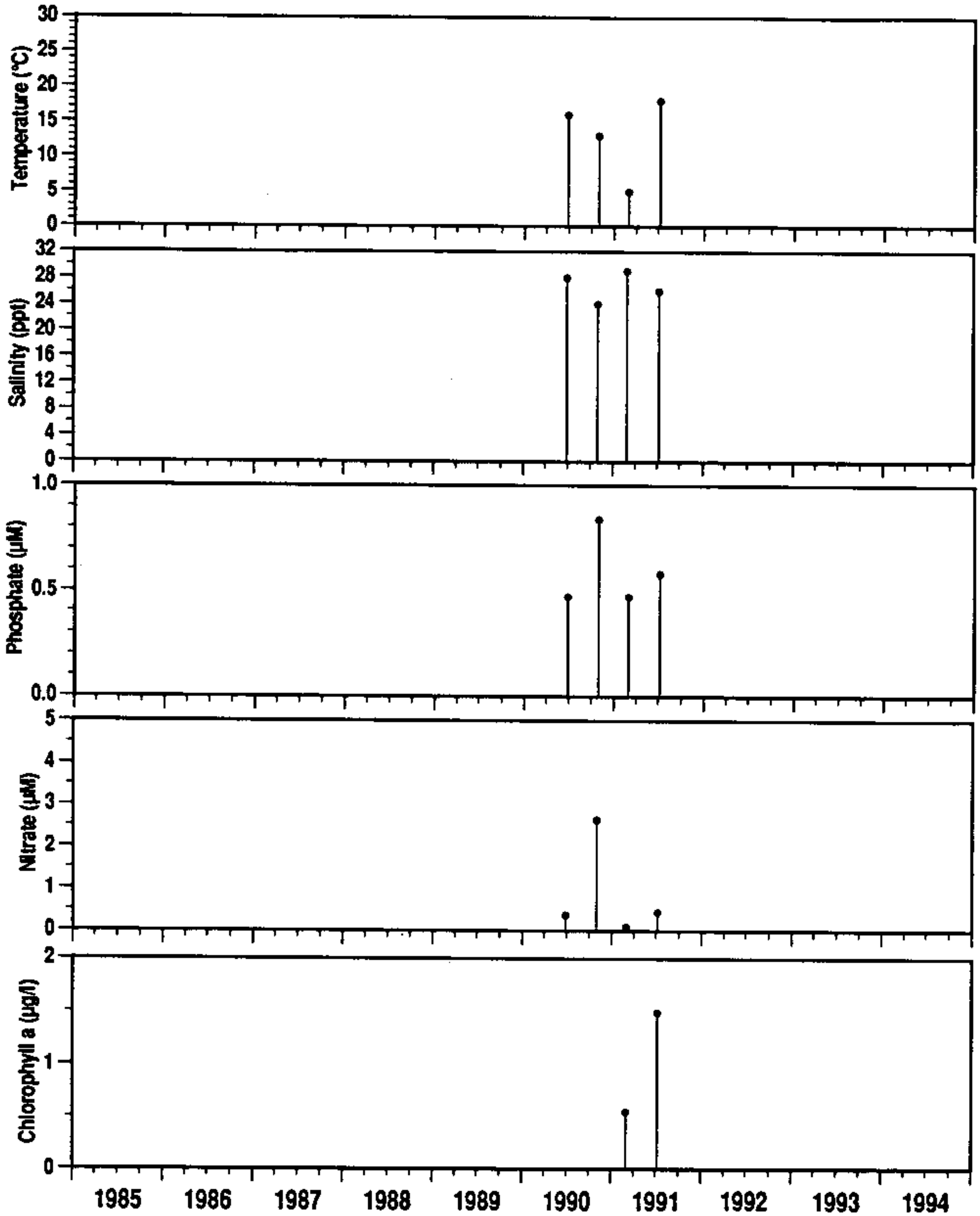
Great Salt Pond

Station 1



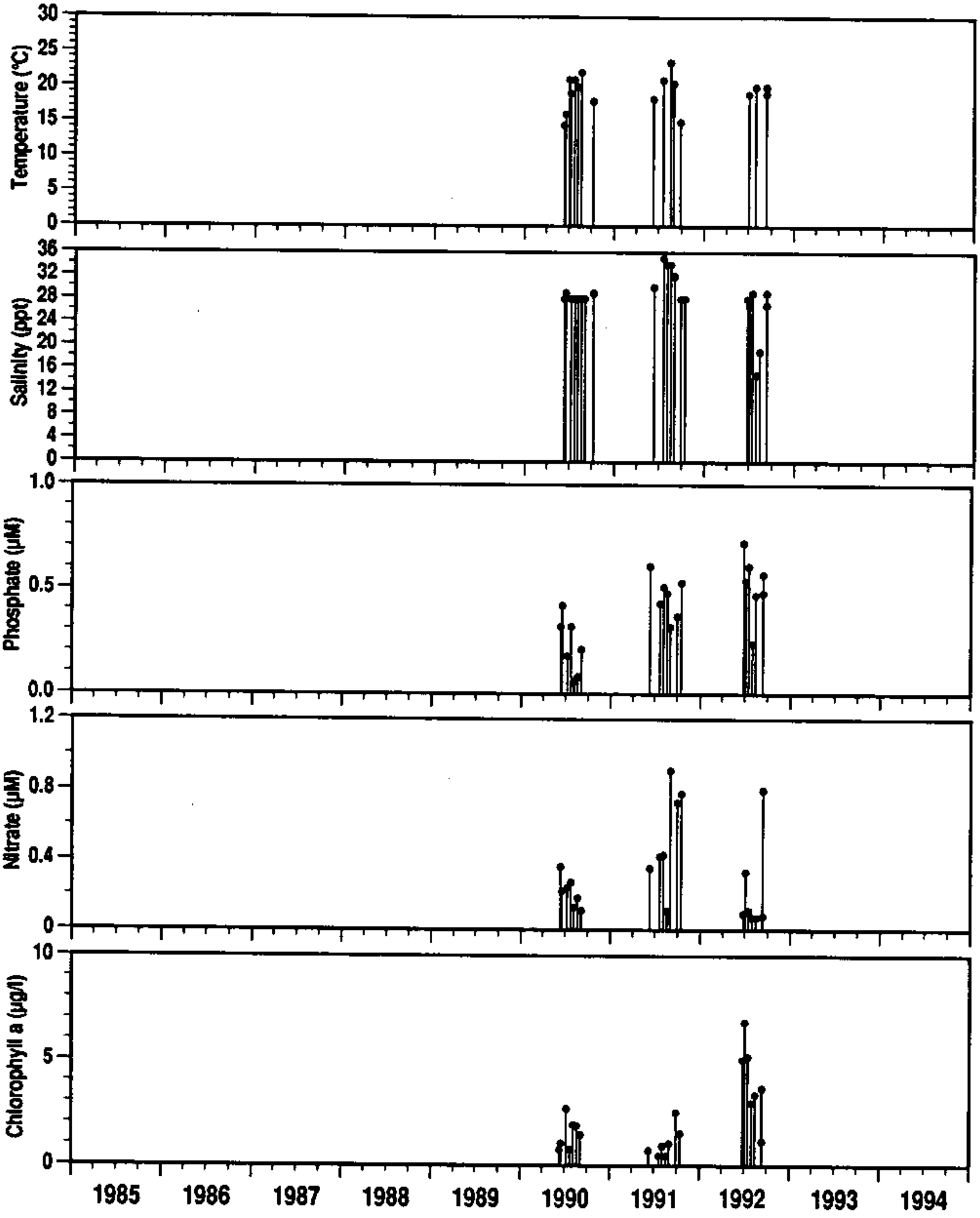
Great Salt Pond

Station 2



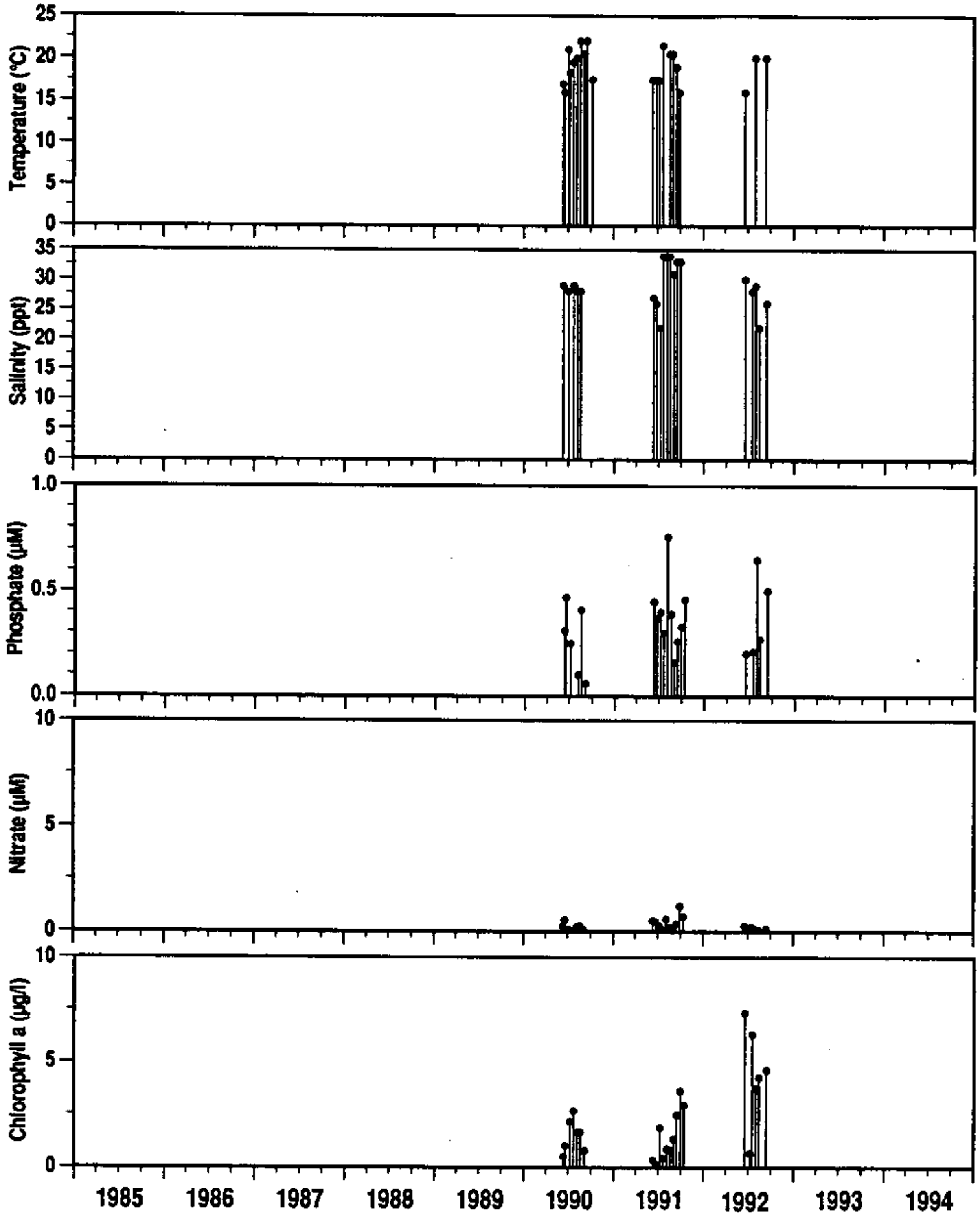
Great Salt Pond

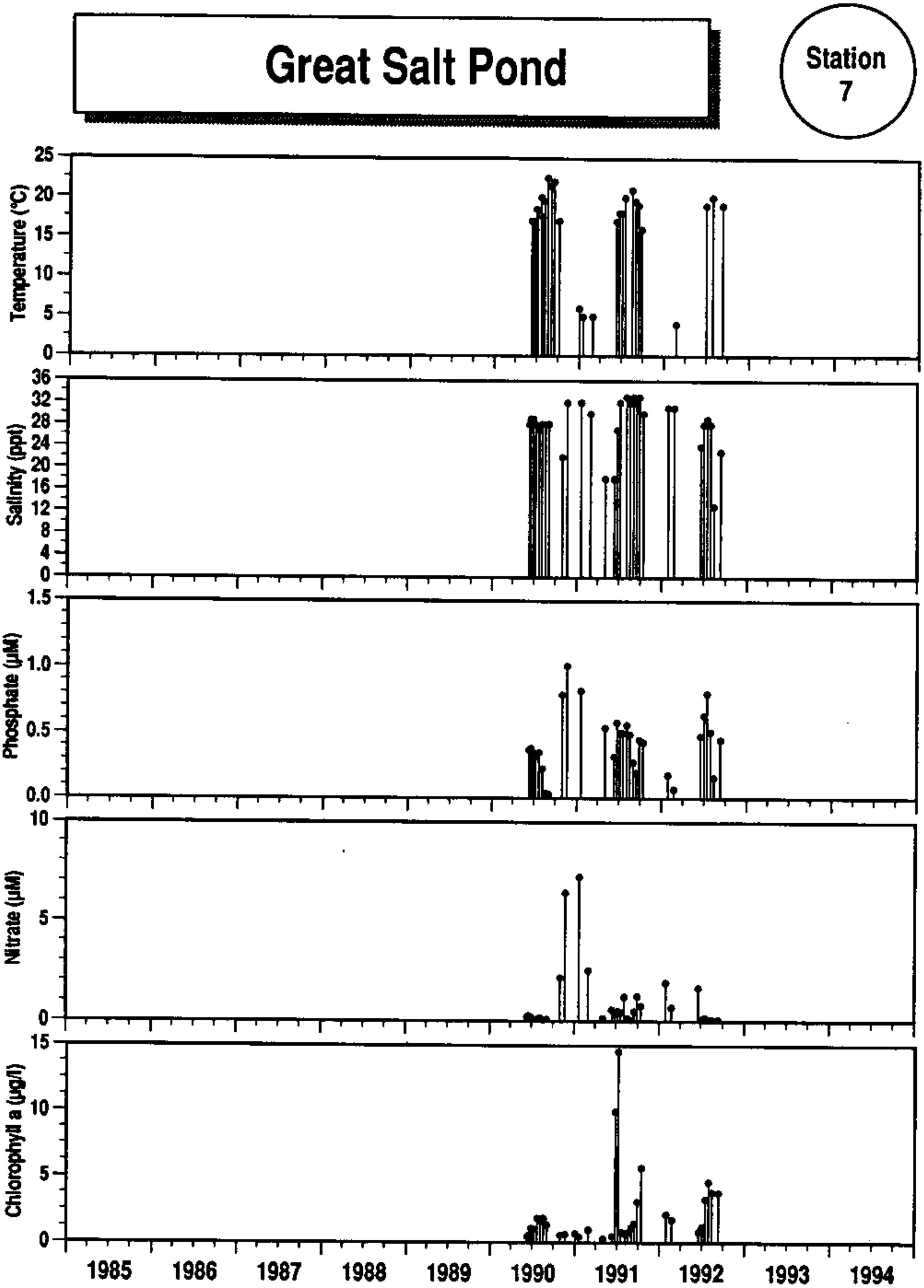
Station 3



Great Salt Pond

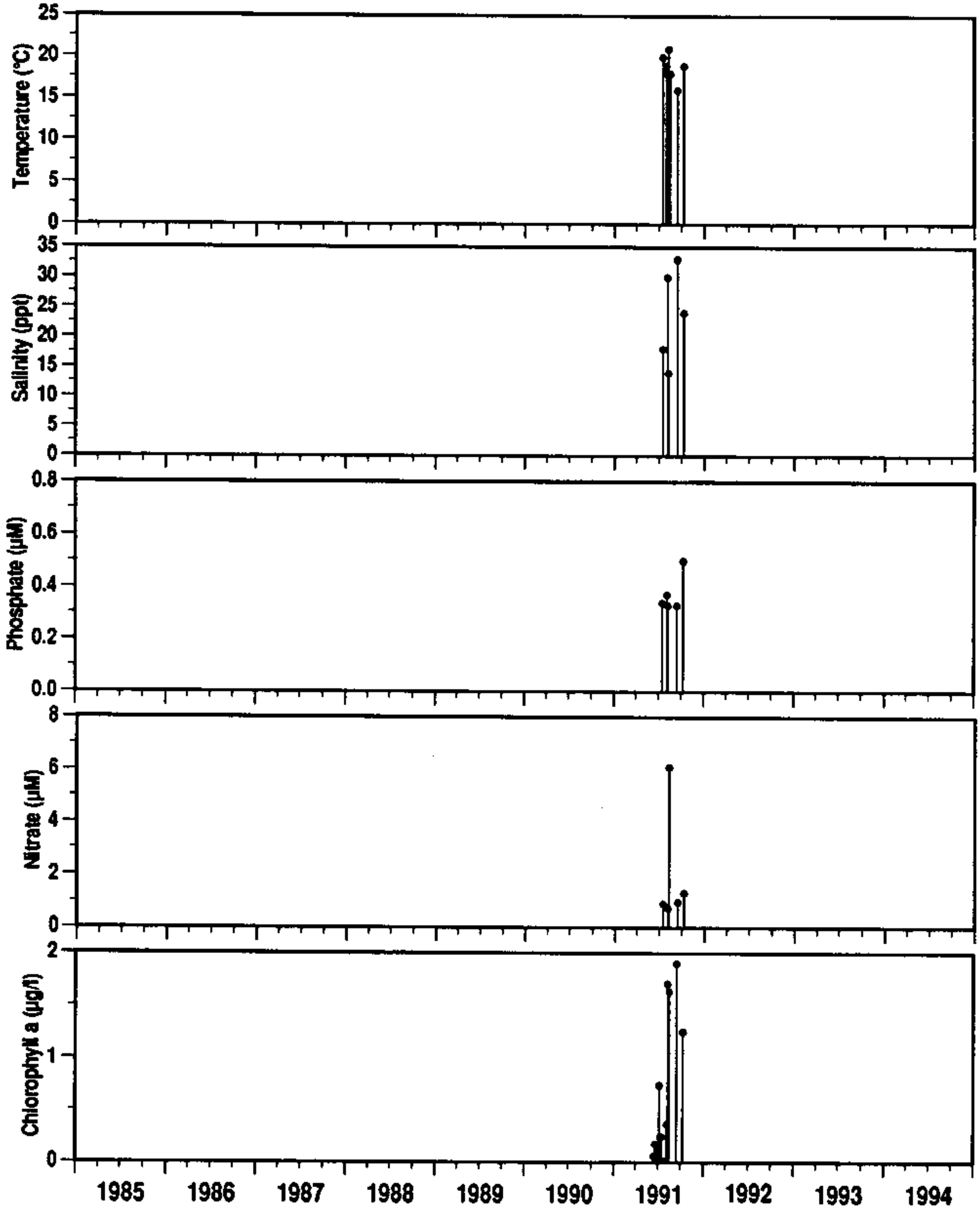
Station 4




Great Salt Pond
Station 7
Temperature (°C)
Salinity (ppt)
Phosphate (µM)
Nitrate (µM)
Chlorophyll a (µg/l)
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

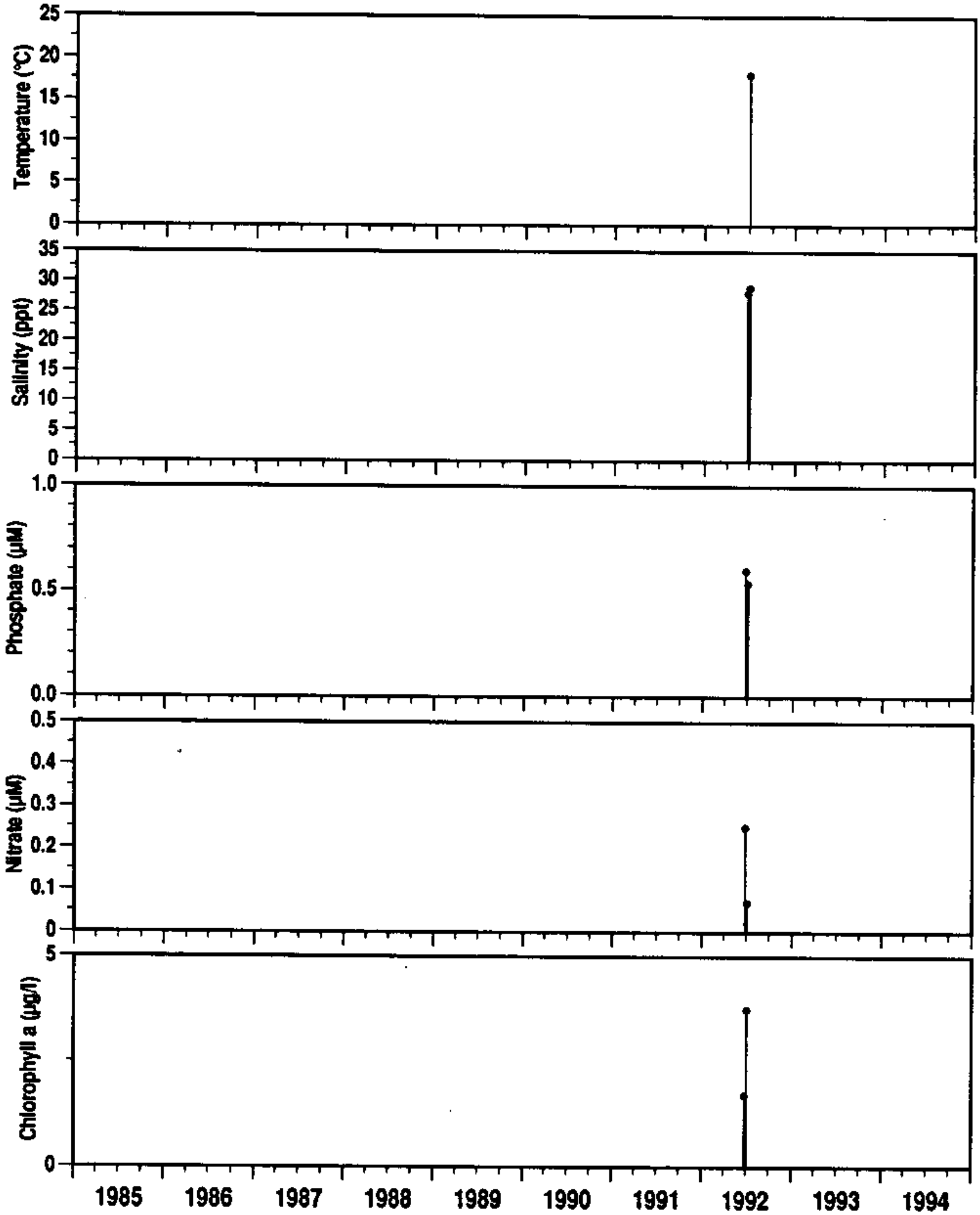
Great Salt Pond

Station 9



Great Salt Pond

Station 14



SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
.	1	10-Jun-90	17	7.05	.	28	0.32	0.41	0.34	1.5	1.5
.	1	17-Jun-90	19	7.85	.	28	0.19	0.46	1.23	1.5	1.5
.	1	24-Jun-90	12	6.25	.	.	.	.	.	1.9	1.9
.	1	1-Jul-90	21	6.9	.	.	.	.	.	1.5	1.5
.	1	7-Jul-90	18.5	6.4	.	28	0.20	0.53	0.66	1.3	1.3
.	1	22-Jul-90	21	6.35	.	28	0.30	0.35	1.47	1.6	1.6
.	1	5-Aug-90	25	6.2	.	28	0.14	0.49	3.05	3.0	3.0
.	1	19-Aug-90	22	6.3	.	28	0.11	0.30	2.56	1.0	1.0
.	1	3-Sep-90	.	.	.	28	0.09	0.02	2.10	.	.
.	1	20-Nov-90	.	.	.	26	1.75	0.77	.	.	.
.	1	1-Jan-91	5.5	11.25	.	32	.	.	.	.	1
.	1	20-Jan-91	5	9.6	.	.	2.51	0.47	0.42	.	1.2
.	1	28-Feb-91	.	.	.	.	.	.	0.39	.	.
.	1	4-May-91	.	.	.	17	0.63	0.29	0.42	.	.
.	1	10-Jun-91	17	10	.	28	0.40	0.43	0.49	.	.
.	1	23-Jun-91	18	8.3	.	.	.	.	1.52	.	.
.	1	7-Jul-91	20	5.9	.	24	0.35	0.68	1.58	.	1.2
.	1	21-Jul-91	23	4.9	.	31	0.24	0.95	1.05	.	2.5
.	1	4-Aug-91	.	.	.	33	0.43	0.81	0.89	.	.
.	1	18-Aug-91	21.5	6.7	.	33	0.34	0.64	1.34	.	1.2
.	1	1-Sep-91	20	6.7	.	34	0.07	0.32	1.21	.	1.5
.	1	11-Sep-91	19.5	8.5	.	33	0.60	0.41	0.90	.	1.2
.	1	28-Sep-91	14	7.5	.	22	4.43	0.52	2.69	.	1.2
.	1	14-Oct-91	.	.	.	.	.	.	0.91	.	.
OFF	1	28-Jan-92	.	.	.	30	1.61	0.30	1.59	.	.
OFF	1	22-Feb-92	5	.	.	29	0.99	0.15	1.62	.	.
ON	1	1-Jul-92	19	.	.	30	0.39	0.52	3.00	7.6	4.0
ON	1	15-Jul-92	.	.	.	30	0.32	0.69	2.87	.	.
ON	1	18-Jul-92	.	.	.	28	0.36	0.36	0.02	.	.
ON	1	30-Jul-92	.	.	.	20	0.09	0.22	4.21	1.8	1.8
ON	1	2-Aug-92	.	.	.	30	0.27	0.69	0.95	.	.
ON	1	15-Aug-92	.	.	.	22	0.14	0.14	5.56	.	.
ON	1	18-Aug-92	.	.	.	24	11.28	0.64	2.76	.	.
ON	1	2-Sep-92	.	.	.	.	.	.	3.37	.	.
ON	1	11-Sep-92	.	.	.	24	0.09	0.66	4.38	1.6	1.6
					.						
.	2	27-Jun-90	16	7.5	.	28	0.37	0.47	.	2.7	2.7
.	2	31-Oct-90	13	.	.	.	.	.	.	5.4	5.4
.	2	31-Oct-90	.	.	.	24	2.64	0.84	.	.	.
.	2	28-Feb-91	5	.	.	29	0.10	0.47	0.55	.	4
.	2	7-Jul-91	18	6.8	.	26	0.44	0.58	1.49	.	.
.											
.	3	10-Jun-90	14.5	8	.	28	0.36	0.32	0.73	2.5	2.5
.	3	17-Jun-90	16	7.3	.	29	0.22	0.42	1.05	3.2	3.2
.	3	1-Jul-90	21	6.65	.	.	.	.	.	4.0	4.0
.	3	8-Jul-90	19	6.8	.	28	0.24	0.18	2.71	5.4	3.7
.	3	22-Jul-90	21	6.9	.	28	0.27	0.32	0.75	3.0	3.0
.	3	5-Aug-90	20	7.45	.	28	0.13	0.06	1.93	6.5	3.3
.	3	19-Aug-90	22	6.5	.	28	0.18	0.08	1.89	4.0	4.0
.	3	3-Sep-90	.	.	.	28	0.11	0.21	1.46	.	.
.	3	7-Oct-90	17.9	6.7	.	29	.	.	.	4.7	4.7
.	3	10-Jun-91	18.3	7.9	.	30	0.35	0.61	0.71	.	10
.	3	19-Jul-91	21	7.8	.	35	0.42	0.43	0.46	.	3
.	3	4-Aug-91	.	.	.	34	0.43	0.51	0.93	.	.
.	3	18-Aug-91	23.5	6.9	.	34	0.11	0.48	0.47	.	7.5
.	3	1-Sep-91	20.5	7.1	.	32	0.91	0.32	1.07	.	.
.	3	11-Sep-92	19	7.4	.	29	0.80	0.57	1.17	.	8
.	3	28-Sep-91	15	7	.	28	0.73	0.37	2.54	.	9.5

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
.	3	14-Oct-91	.	.	.	28	0.78	0.53	1.54	.	.
ON	3	24-Jun-92	.	.	.	28	0.09	0.72	5.02	.	.
ON	3	2-Jul-92	19	.	.	27	0.33	0.54	6.83	8.3	4.0
ON	3	15-Jul-92	.	.	.	29	0.11	0.61	5.16	.	.
ON	3	30-Jul-92	20	.	.	15	0.07	0.24	2.98	8.6	3.8
ON	3	13-Aug-92	.	.	.	19	0.07	0.47	3.38	.	.
ON	3	11-Sep-92	20	.	.	27	0.08	0.48	3.67	7.9	5.3
.	4	10-Jun-90	17	6.6	.	29	0.24	0.31	0.52	7.5	3.6
.	4	17-Jun-90	16	7.7	.	.	0.53	0.47	1.01	6.5	6.2
.	4	1-Jul-90	21	7	.	28	.	.	.	7.9	3.9
.	4	7-Jul-90	18.3	7.5	.	.	0.10	0.25	2.17	7.5	3.9
.	4	22-Jul-90	19.5	7	.	29	.	.	2.68	6.1	5
.	4	5-Aug-90	20	.	.	28	0.22	0.10	1.67	8.3	4
.	4	19-Aug-90	22	7.3	.	28	0.26	0.41	1.67	6	4
.	4	3-Sep-90	20.5	7.4	.	.	0.08	0.06	0.79	8.5	5
.	4	15-Sep-90	22	7.2	.	.	.	.	.	8.3	5
.	4	7-Oct-90	17.5	6.2	.	.	.	.	.	8.7	6.2
.	4	10-Jun-91	17.5	9.3	.	27	0.51	0.45	0.33	.	5
.	4	23-Jun-91	17.5	9.9	.	26	0.47	0.37	0.13	.	5
.	4	7-Jul-91	17.5	6.9	.	22	0.29	0.40	1.88	.	8
.	4	21-Jul-91	21.5	7	.	34	0.10	0.30	0.43	.	9
.	4	4-Aug-91	.	.	.	34	0.59	0.76	0.88	.	.
.	4	18-Aug-91	20.5	7.1	.	34	0.22	0.39	0.82	.	6
.	4	1-Sep-91	20.5	7.1	.	31	0.07	0.16	1.34	.	.
.	4	14-Sep-91	19	7.4	.	33	0.36	0.26	2.49	.	6
.	4	28-Sep-91	16	7.6	.	33	1.20	0.33	3.62	.	6
.	4	14-Oct-91	.	.	.		0.70	0.46	2.96	.	.
ON	4	17-Jun-92	16	.	8.4	30	0.27	0.20	7.35	7.5	5.5
ON	4	7-Jul-92	.	.	.	.	.	.	0.66		
ON	4	15-Jul-92	.	.	.	28	0.21	0.21	6.33	.	.
ON	4	30-Jul-92	20	.	7.6	29	0.11	0.65	3.74	9.7	3.7
ON	4	13-Aug-92	.	.	.	22	0.07	0.27	4.28	.	.
ON	4	11-Sep-92	20	.	7	26	0.12	0.50	4.62	8.0	4.7
.	7	10-Jun-90	17	6.9	.	28	0.22	0.37	0.46	3.2	3.2
.	7	17-Jun-90	17	8.1	.	29	0.27	0.38	0.60	4	4
.	7	27-Jun-90	16	7.35	.	29	0.21	0.35	1.09	3.2	3.2
.	7	1-Jul-90	18.5	7.95	.	.	.	.	.	3.2	3.2
.	7	7-Jul-90	18.4	7.3	.	28	0.11	0.32	1.05	2.6	2.6
.	7	22-Jul-90	20	6.75	.	27	0.11	0.35	1.84	6.5	5.8
.	7	29-Jul-90	17.5	6.6	.	.	.		.	4.4	2.6
.	7	5-Aug-90	19.5	6.85	.	28	0.17	0.23	1.65	5	4.6
.	7	19-Aug-90	22.5	7.1	.	28	0.07	0.04	1.83	3.5	3.5
.	7	3-Sep-90	21.5	6.75	.	28	0.10	0.03	1.33	6	5.1
.	7	15-Sep-90	22	7	.	.	.	.	.	4.7	4
.	7	7-Oct-90	17	6.2	.	.	.	.	.	5.7	4.7
.	7	31-Oct-90	.	.	.	22	2.16	0.79	0.55	.	.
.	7	21-Nov-90	.	.	.	32	6.42	1.01	0.65	.	.
.	7	1-Jan-91	6	9.5	.	.	.	.	0.67	.	5
.	7	20-Jan-91	5	10	.	32	7.23	0.82	0.46	.	3.5
.	7	28-Feb-91	5	9.8	.	30	2.51	.	0.97	.	3.7
.	7	4-May-91	.	..	.	18	0.16	0.54	0.31	.	.
.	7	10-Jun-91	17	9.7	.	18	0.58	0.32	0.49	.	2.3
.	7	23-Jun-91	18	8.8	.	27	0.36	0.58	9.99	.	.
.	7	7-Jul-91	18	7.2	.	32	0.50	0.50	14.54	.	.
.	7	19-Jul-91	20	7.7	.		0.45	0.50	0.82	.	5
.	7	4-Aug-91	.	.	.	33	1.23	0.56	0.72	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
.	7	18-Aug-91	21	7.2	.	32	0.18	0.49	0.8	.	.
.	7	1-Sep-91	19.5	7.1	.	33	0.07	0.28	1.15	.	.
.	7	14-Sep-91	19	7.7	.	32	0.50	0.20	1.46	.	4.8
.	7	28-Sep-91	16	7.5	.	33	1.25	0.45	3.05	.	3.5
.	7	14-Oct-91	.	.	.	30	0.78	0.43	5.67	.	.
OFF	7	28-Jan-92	.	.	.	31	1.93	0.18	2.14	.	.
OFF	7	23-Feb-92	4	.	.	31	0.70	0.07	1.72	4.6	4.6
ON	7	17-Jun-92	.	.	.	24	1.66	0.48	0.82	.	.
ON	7	1-Jul-92	19	.	.	28	0.09	0.63	1.18	6.3	4.1
ON	7	15-Jul-92	.	.	.	29	0.17	0.80	3.29	.	.
ON	7	29-Jul-92	20	.	7.8	28	0.07	0.51	4.61	4.2	4.2
ON	7	13-Aug-92	.	.	.	13	0.07	0.16	3.82	.	.
ON	7	10-Sep-92	19	.	7.2	23	0.07	0.45	3.76	4.5	4.5
.	9	12-Jun-91	.	.	.	.	.	.	0.06	.	.
.	9	19-Jun-91	.	.	.	.	.	.	0.18	.	.
.	9	26-Jun-91	.	.	.	.	.	.	0.17	.	.
.	9	5-Jul-91	.	.	.	.	.	.	0.74	.	.
.	9	10-Jul-91	.	.	.	.	.	.	0.25	.	.
.	9	17-Jul-91	20	7.1	.	18	0.89	0.34	0.25	.	6
.	9	29-Jul-91	19	5.4	.	.	.	.	0.02	.	4.4
.	9	5-Aug-91	18	6.4	.	30	0.74	0.37	0.37	.	4.2
.	9	9-Aug-91	21	6.6	.	14	6.10	0.33	1.71	.	5.9
.	9	16-Aug-91	18	6.6	.	.	.	.	1.64	.	6.3
.	9	13-Sep-91	16	8.3	.	33	0.97	0.33	1.90	.	7.5
.	9	10-Oct-91	18.9	7.1	.	24	1.31	0.50	1.25	.	5.4
.											
.	13	13-Sep-91	19	7.3	.	.	.	.	.	.	6.4
ON	14	24-Jun-92	.	.	.	28	0.25	0.60	1.71	.	.
ON	14	2-Jul-92	18	.	7.4	29	0.07	0.54	3.74	3.0	3.0

Green Hill Pond

Sections:

Pond Map
Bacteria
Water Quality

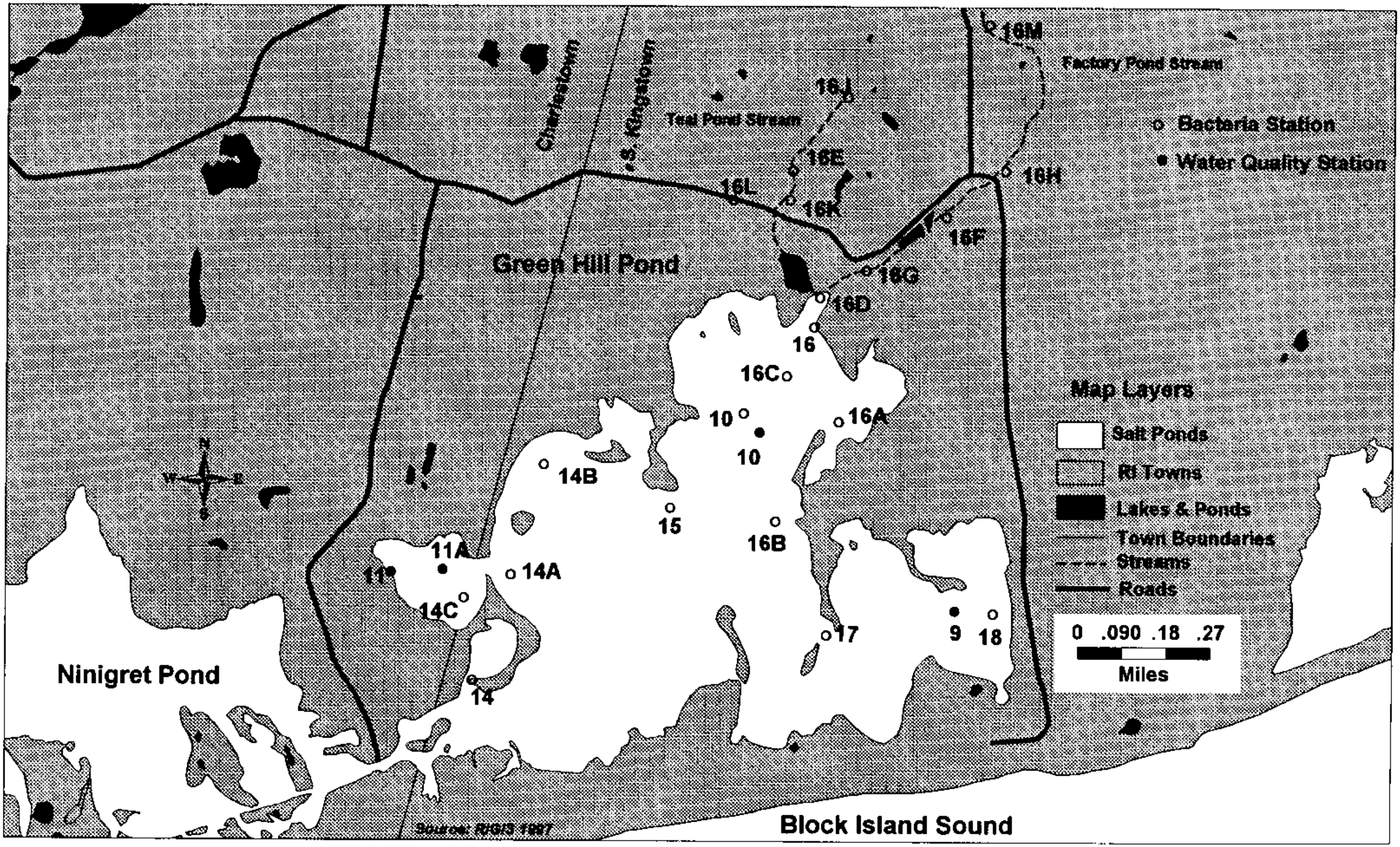
Green Hill Pond

Sections:

Pond Map
Bacteria
Water Quality

Green Hill Pond

Pond Map



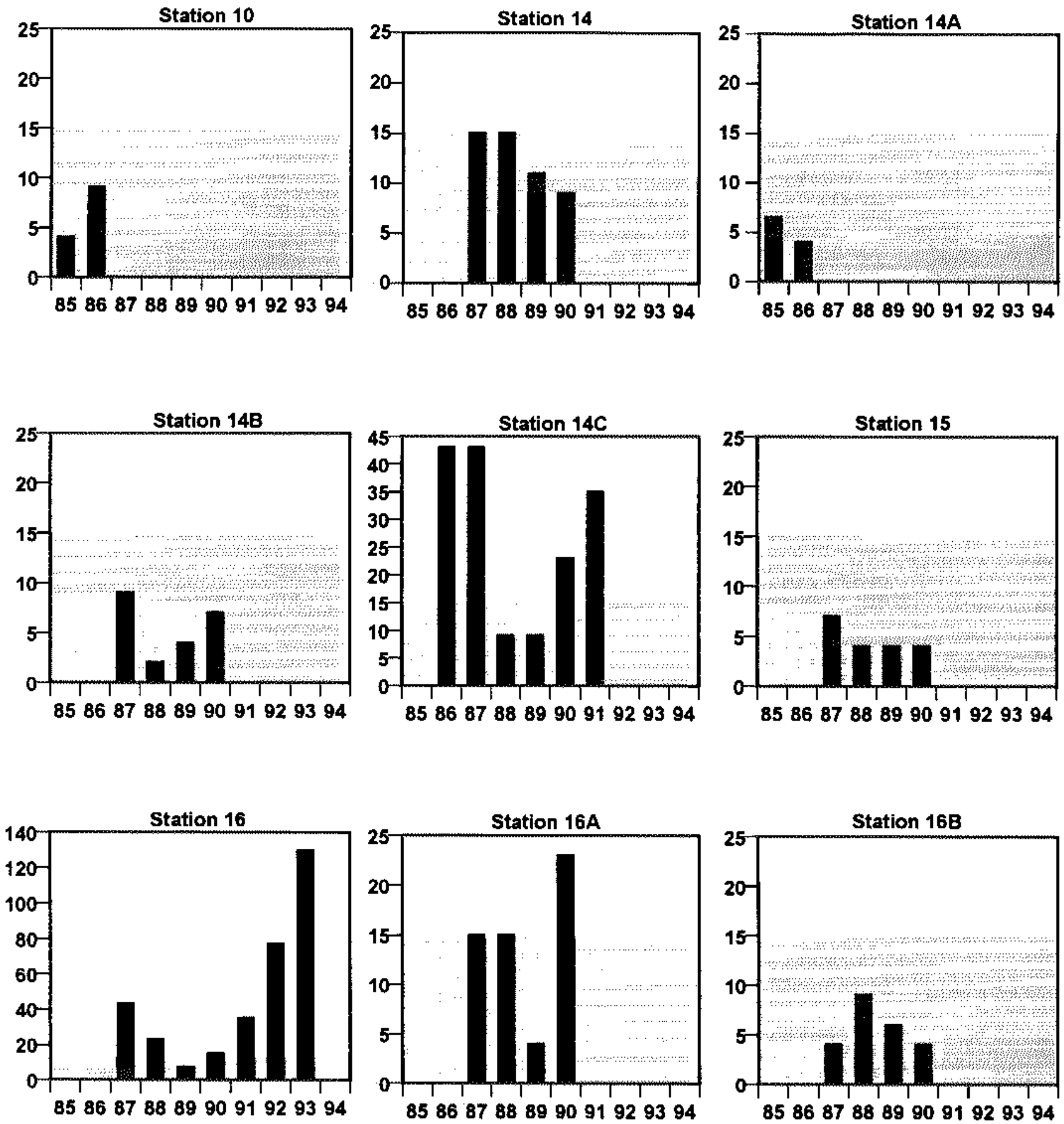
Charlestown
S. Kingstown
Teal Pond Stream
Factory Pond Stream
16M
16J
16E
16L
16K
16H
16F
16G
16D
16
16C
16A
10
10
14B
15
16B
11A
11
14A
14C
17
9
18
14
Green Hill Pond
Ninigret Pond
Block Island Sound
Bacteria Station
Water Quality Station
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .090 .18 .27
Miles
N
W
E
S
Source: RIGIS 1997

Green Hill Pond

Bacteria

Green Hill Pond

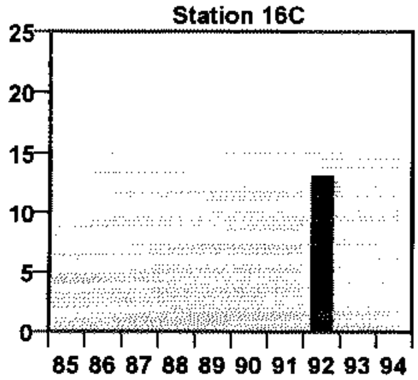
Median Fecal Coliform Bacteria (MPN/100ml)

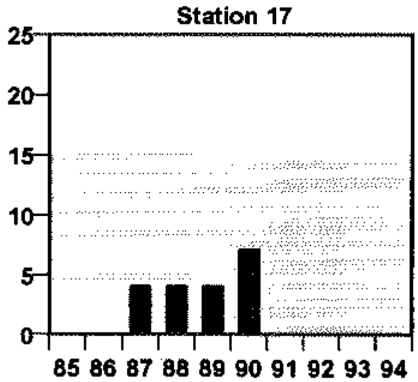


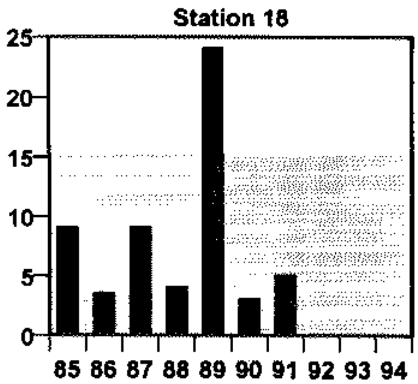
Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

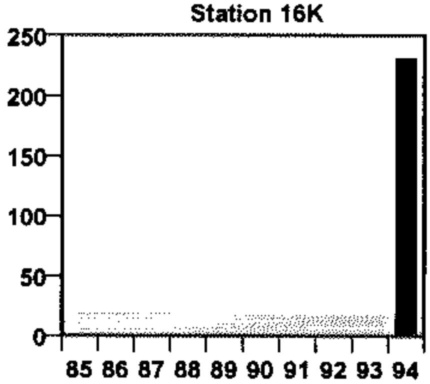
Green Hill Pond

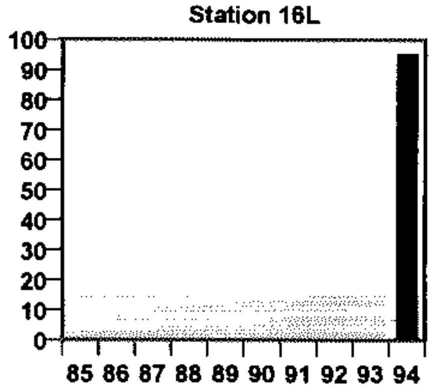
Median Fecal Coliform Bacteria (MPN/100ml)

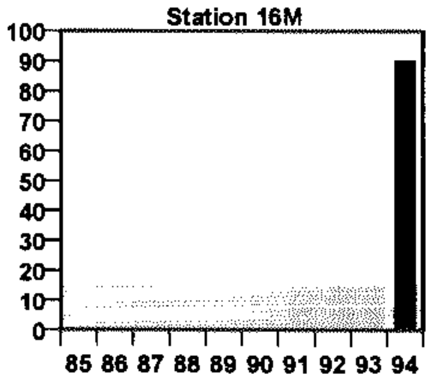












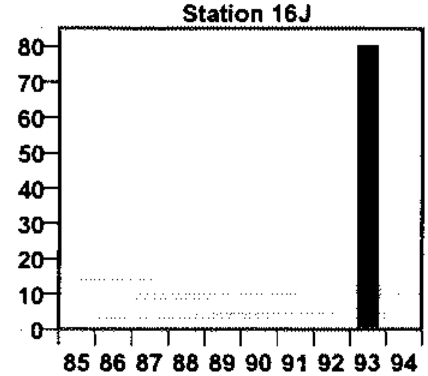
Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Green Hill Pond

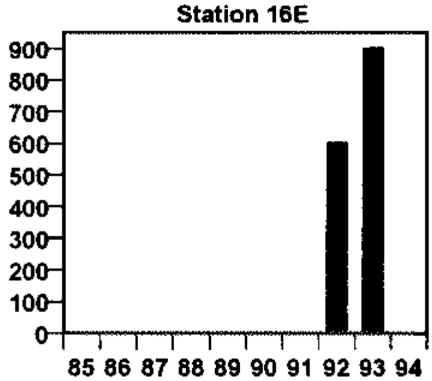
Median Fecal Coliform Bacteria (MPN/100ml)

Teal Brook

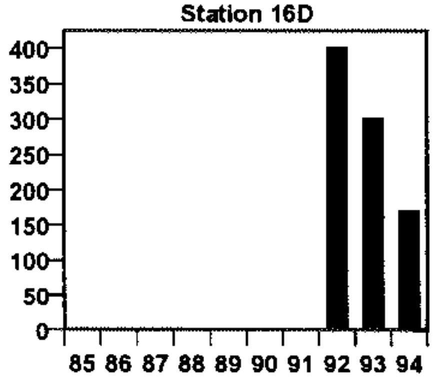
Station 16J



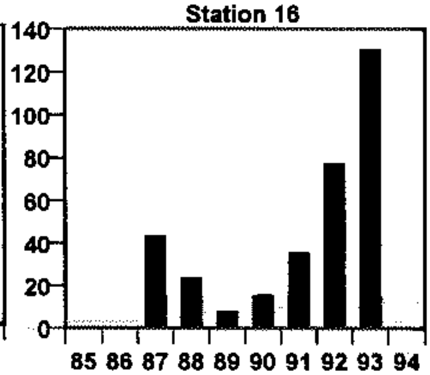
Station 16E



Station 16D

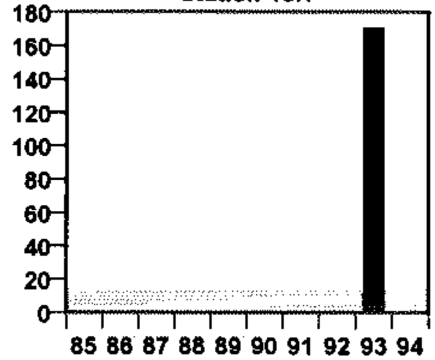


Station 16

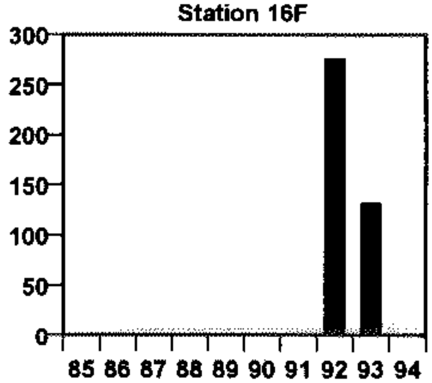


Factory Brook

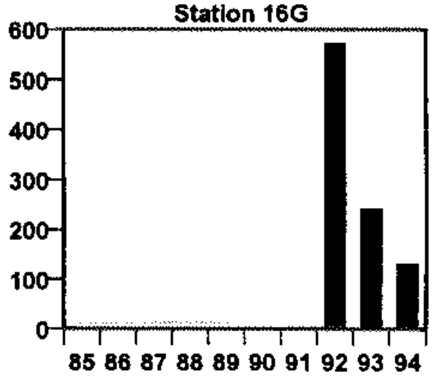
Station 16H



Station 16F



Station 16G



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
10	10	P	22-Jul-85	4	.	.
10	10	P	5-Aug-85	4	.	.
10	10	P	19-Aug-85	3	.	.
10	10	P	3-Sep-85	43	.	.
10	10	P	16-Sep-85	4	.	.
10	10	P	30-Sep-85	43	.	.
10	10	P	21-Oct-85	4	.	.
10	10	P	28-Oct-85	3	.	.
10	10	P	12-Mar-86	3	.	.
10	10	P	24-Mar-86	3	.	.
10	10	P	7-Apr-86	9	.	.
10	10	P	21-Apr-86	4	.	.
10	10	P	5-May-86	3	.	.
10	10	P	19-May-86	4	.	.
10	10	P	2-Jun-86	23	.	.
10	10	P	16-Jun-86	4	.	.
10	10	P	30-Jun-86	20	.	.
10	10	P	14-Jul-86	4600	.	.
10	10	P	28-Jul-86	4	.	.
10	10	P	12-Aug-86	23	.	.
10	10	P	25-Aug-86	43	.	.
10	10	P	8-Sep-86	23	.	.
10	10	P	22-Sep-86	9	.	.
10	10	P	6-Oct-86	4	.	.
10	10	P	20-Oct-86	9	.	.
14	14	P	11-May-87	15	.	.
14	14	P	8-Jun-87	4	.	.
14	14	P	30-Jun-87	9	.	.
14	14	P	14-Jul-87	43	.	.
14	14	P	28-Jul-87	43	.	.
14	14	P	11-Aug-87	23	.	.
14	14	P	25-Aug-87	3	.	.
14	14	P	8-Sep-87	93	.	.
14	14	P	22-Sep-87	23	.	.
14	14	P	6-Oct-87	7	.	.
14	14	P	19-Oct-87	9	.	.
14	14	P	17-May-88	23	23	.
14	14	P	14-Jun-88	<3	<3	.
14	14	P	28-Jun-88	23	75	.
14	14	P	26-Jul-88	15	43	.
14	14	P	9-Aug-88	9	9	.
14	14	P	23-Aug-88	<3	4	.
14	14	P	6-Sep-88	43	43	.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
14	14	P	20-Sep-88	43	43	.
14	14	P	4-Oct-88	43	93	.
14	14	P	18-Oct-88	<3	<3	.
14	14	P	1-Nov-88	<3	<3	.
14	14	P	23-May-89	9	43	(O)
14	14	P	6-Jun-89	43	70	(O)
14	14	P	20-Jun-89	7	15	(O)
14	14	P	18-Jul-89	1100	>2400	(O)
14	14	P	1-Aug-89	<3	21	(O)
14	14	P	8-Aug-89	240	240	(O)
14	14	P	29-Aug-89	4	23	(O)
14	14	P	12-Sep-89	93	240	(O)
14	14	P	26-Sep-89	43	1100	(O)
14	14	P	10-Oct-89	15	43	10(1)
14	14	P	24-Oct-89	4	20	(O)
14	14	P	7-Nov-89	<3	<3	(O)
14	14	P	21-May-90	4	43	(O)
14	14	P	4-Jun-90	9	43	(O)
14	14	P	18-Jun-90	23	93	(O)
14	14	P	2-Jul-90	43	43	(O)
14	14	P	16-Jul-90	15	150	(O)
14	14	P	30-Jul-90	9	75	(O)
14	14	P	13-Aug-90	23	93	(O)
14	14	P	27-Aug-90	<3	<3	(O)
14	14	P	10-Sep-90	<3	<3	50(1)
14	14	P	24-Sep-90	23	39	50(1)
14	14	P	22-Oct-90	9	23	(O)
11	14A	P	22-Jul-85	230	.	.
11	14A	P	5-Aug-85	3	.	.
11	14A	P	19-Aug-85	4	.	.
11	14A	P	3-Sep-85	43	.	.
11	14A	P	16-Sep-85	9	.	.
11	14A	P	30-Sep-85	43	.	.
11	14A	P	21-Oct-85	3	.	.
11	14A	P	28-Oct-85	3	.	.
11	14A	P	12-Mar-86	9	.	.
11	14A	P	24-Mar-86	3	.	.
11	14A	P	7-Apr-86	3	.	.
11	14A	P	21-Apr-86	3	.	.
11	14A	P	5-May-86	4	.	.
11	14A	P	19-May-86	3	.	.
11	14A	P	2-Jun-86	4	.	.
11	14A	P	16-Jun-86	3	.	.

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
11	14A	P	30-Jun-86	15	.	.
11	14A	P	14-Jul-86	230	.	.
11	14A	P	28-Jul-86	43	.	.
11	14A	P	12-Aug-86	4	.	.
11	14A	P	25-Aug-86	9	.	.
11	14A	P	8-Sep-86	4	.	.
11	14A	P	22-Sep-86	4	.	.
11	14A	P	6-Oct-86	240	.	.
11	14A	P	20-Oct-86	4	.	.
14B	14B	P	11-May-87	9	.	.
14B	14B	P	8-Jun-87	23	.	.
14B	14B	P	30-Jun-87	4	.	.
14B	14B	P	14-Jul-87	9	.	.
14B	14B	P	28-Jul-87	7	.	.
14B	14B	P	11-Aug-87	14	.	.
14B	14B	P	25-Aug-87	9	.	.
14B	14B	P	8-Sep-87	43	.	.
14B	14B	P	22-Sep-87	43	.	.
14B	14B	P	6-Oct-87	15	.	.
14B	14B	P	19-Oct-87	3	.	.
14B	14B	P	17-May-88	<3	9	.
14B	14B	P	14-Jun-88	<3	<3	.
14B	14B	P	28-Jun-88	<3	39	.
14B	14B	P	26-Jul-88	4	93	.
14B	14B	P	9-Aug-88	4	9	.
14B	14B	P	23-Aug-88	7	7	.
14B	14B	P	6-Sep-88	23	43	.
14B	14B	P	20-Sep-88	<3	<3	.
14B	14B	P	4-Oct-88	4	43	.
14B	14B	P	18-Oct-88	<3	4	.
14B	14B	P	1-Nov-88	<3	9	.
14B	14B	P	23-May-89	<3	<3	.
14B	14B	P	6-Jun-89	9	150	(O)
14B	14B	P	20-Jun-89	3	15	(O)
14B	14B	P	18-Jul-89	93	240	(O)
14B	14B	P	1-Aug-89	4	43	(O)
14B	14B	P	8-Aug-89	<3	93	(O)
14B	14B	P	29-Aug-89	43	93	(O)
14B	14B	P	12-Sep-89	15	43	(O)
14B	14B	P	26-Sep-89	<3	15	(O)
14B	14B	P	10-Oct-89	<3	9	(O)
14B	14B	P	24-Oct-89	23	43	(O)
14B	14B	P	7-Nov-89	4	9	(O)

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
14B	14B	P	21-May-90	9	43	(O)
14B	14B	P	4-Jun-90	<3	4	(O)
14B	14B	P	18-Jun-90	<3	23	(O)
14B	14B	P	16-Jul-90	7	>2400	(O)
14B	14B	P	30-Jul-90	43	93	(O)
14B	14B	P	13-Aug-90	<3	460	(O)
14B	14B	P	27-Aug-90	4	9	(O)
14B	14B	P	10-Sep-90	<3	4	(O)
14B	14B	P	24-Sep-90	43	43	(O)
14B	14B	P	22-Oct-90	9	15	(O)
11A	14C	P	28-Jul-86	43	.	.
11A	14C	P	12-Aug-86	43	.	.
11A	14C	P	25-Aug-86	93	.	.
11A	14C	P	8-Sep-86	43	.	.
11A	14C	P	22-Sep-86	43	.	.
11A	14C	P	6-Oct-86	43	.	.
11A	14C	P	20-Oct-86	7	.	.
11A	14C	P	11-May-87	43	.	.
11A	14C	P	8-Jun-87	75	.	.
11A	14C	P	30-Jun-87	23	.	.
11A	14C	P	14-Jul-87	93	.	.
11A	14C	P	28-Jul-87	93	.	.
11A	14C	P	11-Aug-87	4	.	.
11A	14C	P	25-Aug-87	7	.	.
11A	14C	P	8-Sep-87	43	.	.
11A	14C	P	22-Sep-87	240	.	.
11A	14C	P	6-Oct-87	43	.	.
11A	14C	P	19-Oct-87	43	.	.
11A	14C	P	17-May-88	23	23	.
11A	14C	P	14-Jun-88	9	23	.
11A	14C	P	28-Jun-88	1100	2400	.
11A	14C	P	12-Jul-88	23	23	.
11A	14C	P	26-Jul-88	9	93	.
11A	14C	P	9-Aug-88	93	240	.
11A	14C	P	23-Aug-88	4	23	.
11A	14C	P	6-Sep-88	43	240	.
11A	14C	P	20-Sep-88	<3	23	.
11A	14C	P	4-Oct-88	4	15	.
11A	14C	P	18-Oct-88	<3	<3	.
11A	14C	P	1-Nov-88	<3	4	.
11A	14C	P	23-May-89	23	43	(O)
11A	14C	P	6-Jun-89	43	43	(O)
11A	14C	P	20-Jun-89	43	43	(O)

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
11A	14C	P	18-Jul-89	>2400	>2400	(O)
11A	14C	P	1-Aug-89	<3	240	(O)
11A	14C	P	8-Aug-89	<3	93	(O)
11A	14C	P	29-Aug-89	9	23	(O)
11A	14C	P	12-Sep-89	9	23	(O)
11A	14C	P	26-Sep-89	93	460	(O)
11A	14C	P	10-Oct-89	4	9	(O)
11A	14C	P	24-Oct-89	4	9	(O)
11A	14C	P	7-Nov-89	7	43	(O)
11A	14C	P	21-May-90	39	150	(O)
11A	14C	P	4-Jun-90	23	43	(O)
11A	14C	P	18-Jun-90	23	4	(O)
11A	14C	P	2-Jul-90	460	460	(O)
11A	14C	P	16-Jul-90	43	240	(O)
11A	14C	P	30-Jul-90	43	460	(O)
11A	14C	P	13-Aug-90	23	23	(O)
11A	14C	P	27-Aug-90	23	43	(O)
11A	14C	P	10-Sep-90	<3	9	(O)
11A	14C	P	24-Sep-90	43	1100	(O)
11A	14C	P	22-Oct-90	23	93	(O)
11A	14C	P	13-Jun-91	54	.	(O)
11A	14C	P	27-Jun-91	29	.	(O)
11A	14C	P	11-Jul-91	41	.	(O)
11A	14C	P	25-Jul-91	54	.	(O)
11A	14C	P	8-Aug-91	<9	.	(O)
11A	14C	P	22-Aug-91	.	.	(O)
11A	14C	P	4-Sep-91	29	.	(O)
11A	14C	P	15-Sep-91	69	.	(O)
11A	14C	P	2-Oct-91	9	.	(O)
11A	14C	P	17-Oct-91	18	.	(O)
11A	14C	P	30-Oct-91	>248	.	(O)
15	15	P	11-May-87	3	.	.
15	15	P	8-Jun-87	43	.	.
15	15	P	30-Jun-87	3	.	.
15	15	P	14-Jul-87	15	.	.
15	15	P	28-Jul-87	3	.	.
15	15	P	11-Aug-87	43	.	.
15	15	P	25-Aug-87	3	.	.
15	15	P	8-Sep-87	93	.	.
15	15	P	22-Sep-87	7	.	.
15	15	P	6-Oct-87	7	.	.
15	15	P	19-Oct-87	3	.	.
15	15	P	17-May-88	43	43	.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
15	15	P	14-Jun-88	<3	<3	.
15	15	P	28-Jun-88	23	23	.
15	15	P	26-Jul-88	15	43	.
15	15	P	9-Aug-88	9	23	.
15	15	P	23-Aug-88	<3	<3	.
15	15	P	6-Sep-88	23	93	.
15	15	P	20-Sep-88	<3	9	.
15	15	P	4-Oct-88	<3	23	.
15	15	P	18-Oct-88	<3	<3	.
15	15	P	1-Nov-88	4	4	.
15	15	P	23-May-89	<3	<3	(O)
15	15	P	6-Jun-89	4	93	(O)
15	15	P	20-Jun-89	4	9	(O)
15	15	P	18-Jul-89	150	>2400	(O)
15	15	P	1-Aug-89	4	93	(O)
15	15	P	8-Aug-89	<3	93	(O)
15	15	P	29-Aug-89	<3	15	(O)
15	15	P	12-Sep-89	7	15	(O)
15	15	P	26-Sep-89	<3	<3	(O)
15	15	P	10-Oct-89	<3	4	(O)
15	15	P	24-Oct-89	43	75	(O)
15	15	P	7-Nov-89	4	23	(O)
15	15	P	21-May-90	9	23	(O)
15	15	P	4-Jun-90	<3	<3	(O)
15	15	P	2-Jul-90	43	150	(O)
15	15	P	16-Jul-90	<3	23	(O)
15	15	P	30-Jul-90	43	460	(O)
15	15	P	13-Aug-90	<3	23	(O)
15	15	P	27-Aug-90	4	4	(O)
15	15	P	10-Sep-90	<3	4	(O)
15	15	P	24-Sep-90	.	1100	(O)
15	15	P	22-Oct-90	<3	4	(O)
16	16	P	11-May-87	3	.	.
16	16	P	8-Jun-87	1100	.	.
16	16	P	30-Jun-87	460	.	.
16	16	P	14-Jul-87	93	.	.
16	16	P	28-Jul-87	23	.	.
16	16	P	11-Aug-87	240	.	.
16	16	P	25-Aug-87	4	.	.
16	16	P	8-Sep-87	43	.	.
16	16	P	22-Sep-87	43	.	.
16	16	P	6-Oct-87	9	.	.
16	16	P	19-Oct-87	9	.	.

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16	16	P	17-May-88	7	21	.
16	16	P	14-Jun-88	43	43	.
16	16	P	28-Jun-88	75	75	.
16	16	P	26-Jul-88	460	460	.
16	16	P	9-Aug-88	15	93	.
16	16	P	23-Aug-88	15	75	.
16	16	P	6-Sep-88	23	93	.
16	16	P	20-Sep-88	43	460	.
16	16	P	4-Oct-88	<3	23	.
16	16	P	18-Oct-88	23	43	.
16	16	P	1-Nov-88	3	21	.
16	16	P	6-Jun-89	20	28	(O)
16	16	P	20-Jun-89	4	23	(O)
16	16	P	18-Jul-89	460	1100	(O)
16	16	P	1-Aug-89	<3	<3	(O)
16	16	P	8-Aug-89	<3	43	(O)
16	16	P	29-Aug-89	7	7	(O)
16	16	P	12-Sep-89	4	23	50(1)
16	16	P	26-Sep-89	9	75	(O)
16	16	P	10-Oct-89	4	43	(O)
16	16	P	24-Oct-89	23	460	(O)
16	16	P	7-Nov-89	7	64	10(2)
16	16	P	21-May-90	15	43	(O)
16	16	P	4-Jun-90	1100	>2400	(O)
16	16	P	18-Jun-90	240	240	(O)
16	16	P	2-Jul-90	9	9	(O)
16	16	P	16-Jul-90	15	1100	(O)
16	16	P	30-Jul-90	<3	23	(O)
16	16	P	13-Aug-90	<3	15	(O)
16	16	P	27-Aug-90	4	43	(O)
16	16	P	10-Sep-90	43	240	(O)
16	16	P	24-Sep-90	23	23	(O)
16	16	P	1-Oct-90	7	15	(O)
16	16	P	22-Oct-90	460	460	(O)
16	16	P	13-Jun-91	41	.	(O)
16	16	P	27-Jun-91	29	.	(O)
16	16	P	11-Jul-91	9	.	(O)
16	16	P	25-Jul-91	41	.	(O)
16	16	P	8-Aug-91	9	.	(O)
16	16	P	4-Sep-91	41	.	(O)
16	16	P	15-Sep-91	18	.	(O)
16	16	P	2-Oct-91	9	.	(O)
16	16	P	17-Oct-91	139	.	(O)
16	16	P	30-Oct-91	110	.	(O)

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16	16	P	24-Jun-92	130	.	.
16	16	P	15-Jul-92	22	.	.
16	16	P	5-Aug-92	130	.	.
16	16	P	2-Sep-92	8	.	.
16	16	P	25-May-93	.		
16	16	P	4-Jun-93	23		
16	16	P	16-Jun-93	130		
16	16	P	7-Jul-93	170		
16	16	P	14-Jul-93	1		
16	16	P	28-Jul-93	130		
16	16	P	11-Aug-93	11		
16	16	P	25-Aug-93	80		
16	16	P	8-Sep-93	500		
16	16	P	22-Sep-93	130		
16A	16A	P	11-May-87	4	.	.
16A	16A	P	8-Jun-87	43	.	.
16A	16A	P	30-Jun-87	43	.	.
16A	16A	P	14-Jul-87	93	.	.
16A	16A	P	28-Jul-87	15	.	.
16A	16A	P	11-Aug-87	43	.	.
16A	16A	P	25-Aug-87	3	.	.
16A	16A	P	8-Sep-87	43	.	.
16A	16A	P	22-Sep-87	9	.	.
16A	16A	P	6-Oct-87	4	.	.
16A	16A	P	19-Oct-87	4	.	.
16A	16A	P	17-May-88	9	9	.
16A	16A	P	14-Jun-88	23	23	.
16A	16A	P	28-Jun-88	15	43	.
16A	16A	P	26-Jul-88	15	43	.
16A	16A	P	9-Aug-88	23	75	.
16A	16A	P	23-Aug-88	<3	14	.
16A	16A	P	6-Sep-88	15	21	.
16A	16A	P	20-Sep-88	9	43	.
16A	16A	P	4-Oct-88	<3	23	.
16A	16A	P	18-Oct-88	15	43	.
16A	16A	P	1-Nov-88	<3	<3	.
16A	16A	P	23-May-89	<3	7	(O)
16A	16A	P	6-Jun-89	15	93	(O)
16A	16A	P	20-Jun-89	9	15	(O)
16A	16A	P	18-Jul-89	460	>2400	(O)
16A	16A	P	1-Aug-89	<3	1100	(O)
16A	16A	P	8-Aug-89	<3	240	(O)
16A	16A	P	29-Aug-89	<3	23	(O)

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16A	16A	P	12-Sep-89	23	240	(O)
16A	16A	P	25-Sep-89	23	43	(O)
16A	16A	P	10-Oct-89	4	23	(O)
16A	16A	P	24-Oct-89	4	23	(O)
16A	16A	P	7-Nov-89	<3	23	(O)
16A	16A	P	21-May-90	23	23	(O)
16A	16A	P	4-Jun-90	23	23	(O)
16A	16A	P	18-Jun-90	15	15	(O)
16A	16A	P	2-Jul-90	23	240	(O)
16A	16A	P	16-Jul-90	9	460	(O)
16A	16A	P	30-Jul-90	4	240	(O)
16A	16A	P	13-Aug-90	<3	4	(O)
16A	16A	P	27-Aug-90	43	93	(O)
16A	16A	P	10-Sep-90	43	43	(O)
16A	16A	P	24-Sep-90	93	240	(O)
16A	16A	P	1-Oct-90	23	23	(O)
16A	16A	P	22-Oct-90	4	4	(O)
16B	16B	P	11-May-87	3	.	.
16B	16B	P	8-Jun-87	23	.	.
16B	16B	P	30-Jun-87	4	.	.
16B	16B	P	14-Jul-87	43	.	.
16B	16B	P	28-Jul-87	9	.	.
16B	16B	P	11-Aug-87	93	.	.
16B	16B	P	25-Aug-87	3	.	.
16B	16B	P	8-Sep-87	3	.	.
16B	16B	P	22-Sep-87	43	.	.
16B	16B	P	6-Oct-87	4	.	.
16B	16B	P	19-Oct-87	4	.	.
16B	16B	P	17-May-88	43	43	.
16B	16B	P	14-Jun-88	43	43	.
16B	16B	P	28-Jun-88	7	75	.
16B	16B	P	26-Jul-88	14	39	.
16B	16B	P	9-Aug-88	14	75	.
16B	16B	P	23-Aug-88	<3	4	.
16B	16B	P	6-Sep-88	240	1100	.
16B	16B	P	20-Sep-88	4	4	.
16B	16B	P	4-Oct-88	9	23	.
16B	16B	P	18-Oct-88	4	4	.
16B	16B	P	1-Nov-88	<3	9	.
16B	16B	P	23-May-89	43	240	50(9)
16B	16B	P	6-Jun-89	43	43	(O)
16B	16B	P	20-Jun-89	7	43	(O)
16B	16B	P	18-Jul-89	240	240	(O)

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16B	16B	P	1-Aug-89	<3	9	(O)
16B	16B	P	8-Aug-89	<3	43	(O)
16B	16B	P	29-Aug-89	<3	15	(O)
16B	16B	P	12-Sep-89	23	23	50(1)
16B	16B	P	26-Sep-89	<3	<3	(O)
16B	16B	P	10-Oct-89	<3	<3	(O)
16B	16B	P	24-Oct-89	7	93	(O)
16B	16B	P	7-Nov-89	4	15	(O)
16B	16B	P	21-May-90	9	15	(O)
16B	16B	P	4-Jun-90	<3	<3	(O)
16B	16B	P	18-Jun-90	<3	<3	(O)
16B	16B	P	2-Jul-90	4	9	(O)
16B	16B	P	16-Jul-90	3	20	(O)
16B	16B	P	30-Jul-90	<3	75	(O)
16B	16B	P	13-Aug-90	<3	4	(O)
16B	16B	P	27-Aug-90	4	4	(O)
16B	16B	P	10-Sep-90	4	15	(O)
16B	16B	P	24-Sep-90	93	460	(O)
16B	16B	P	1-Oct-90	39	39	(O)
16B	16B	P	22-Oct-90	15	15	(O)
16C	16C	P	24-Jun-92	13	.	.
16C	16C	P	15-Jul-92	2	.	.
16C	16C	P	5-Aug-92	240	.	.
16C	16C	P	2-Sep-92	13	.	.
16D	16D	T	24-Jun-92	110	.	.
16D	16D	T	15-Jul-92	500	.	.
16D	16D	T	5-Aug-92	500	.	.
16D	16D	T	2-Sep-92	300	.	.
16D	16D	T	25-May-93	.	.	.
16D	16D	T	4-Jun-93	23	.	.
16D	16D	T	16-Jun-93	300	.	.
16D	16D	T	7-Jul-93	300	.	.
16D	16D	T	14-Jul-93	80	.	.
16D	16D	T	28-Jul-93	300	.	.
16D	16D	T	11-Aug-93	130	.	.
16D	16D	T	25-Aug-93	130	.	.
16D	16D	T	8-Sep-93	1601	.	.
16D	16D	T	22-Sep-93	300	.	.
16D	16D	T	1-Jun-94	170	.	.
16D	16D	T	15-Jun-94	1601	.	.
16D	16D	T	29-Jun-94	.	.	.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16D	16D	T	13-Jul-94	170	.	.
16D	16D	T	27-Jul-94	1601	.	.
16D	16D	T	10-Aug-94	80	.	.
16D	16D	T	24-Aug-94	1600	.	.
16D	16D	T	21-Sep-94	50	.	.
16E	16E	T	24-Jun-92	300	.	.
16E	16E	T	15-Jul-92	1601	.	.
16E	16E	T	5-Aug-92	900	.	.
16E	16E	T	2-Sep-92	70	.	.
16E	16E	T	25-May-93	.	.	.
16E	16E	T	4-Jun-93	30	.	.
16E	16E	T	16-Jun-93	4	.	.
16E	16E	T	7-Jul-93	500	.	.
16E	16E	T	14-Jul-93	1600	.	.
16E	16E	T	28-Jul-93	900	.	.
16E	16E	T	11-Aug-93	240	.	.
16E	16E	T	25-Aug-93	1600	.	.
16E	16E	T	8-Sep-93	1601	.	.
16E	16E	T	22-Sep-93	1601	.	.
16F	16F	T	24-Jun-92	500	.	.
16F	16F	T	15-Jul-92	50	.	.
16F	16F	T	5-Aug-92	500	.	.
16F	16F	T	2-Sep-92	50	.	.
16F	16F	T	25-May-93	.	.	.
16F	16F	T	4-Jun-93	110	.	.
16F	16F	T	16-Jun-93	23	.	.
16F	16F	T	7-Jul-93	130	.	.
16F	16F	T	14-Jul-93	110	.	.
16F	16F	T	28-Jul-93	140	.	.
16F	16F	T	11-Aug-93	80	.	.
16F	16F	T	25-Aug-93	170	.	.
16F	16F	T	8-Sep-93	1601	.	.
16F	16F	T	22-Sep-93	1601	.	.
16G	16G	T	24-Jun-92	1601	.	.
16G	16G	T	15-Jul-92	240	.	.
16G	16G	T	5-Aug-92	900	.	.
16G	16G	T	2-Sep-92	170	.	.
16G	16G	T	25-May-93	.	.	.
16G	16G	T	4-Jun-93	220	.	.
16G	16G	T	16-Jun-93	300	.	.
16G	16G	T	7-Jul-93	300	.	.

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16G	16G	T	14-Jul-93	240	.	.
16G	16G	T	28-Jul-93	240	.	.
16G	16G	T	11-Aug-93	130	.	.
16G	16G	T	25-Aug-93	130	.	.
16G	16G	T	8-Sep-93	1601	.	.
16G	16G	T	22-Sep-93	1600	.	.
16G	16G	T	1-Jun-94	130	.	.
16G	16G	T	15-Jun-94	900	.	.
16G	16G	T	29-Jun-94	.	.	.
16G	16G	T	13-Jul-94	110	.	.
16G	16G	T	27-Jul-94	1601	.	.
16G	16G	T	10-Aug-94	27	.	.
16G	16G	T	24-Aug-94	80	.	.
16G	16G	T	21-Sep-94	140	.	.
16H	16H	T	25-May-93	.	.	.
16H	16H	T	4-Jun-93	130	.	.
16H	16H	T	16-Jun-93	80	.	.
16H	16H	T	7-Jul-93	170	.	.
16H	16H	T	14-Jul-93	170	.	.
16H	16H	T	28-Jul-93	50	.	.
16H	16H	T	11-Aug-93	130	.	.
16H	16H	T	25-Aug-93	900	.	.
16H	16H	T	8-Sep-93	1601	.	.
16H	16H	T	22-Sep-93	1600	.	.
16J	16J	T	25-May-93	.	.	.
16J	16J	T	4-Jun-93	17	.	.
16J	16J	T	16-Jun-93	17	.	.
16J	16J	T	7-Jul-93	80	.	.
16J	16J	T	14-Jul-93	130	.	.
16J	16J	T	28-Jul-93	130	.	.
16J	16J	T	11-Aug-93	80	.	.
16J	16J	T	25-Aug-93	80	.	.
16J	16J	T	8-Sep-93	1601	.	.
16J	16J	T	22-Sep-93	240	.	.
16K	16K	T	1-Jun-94	240	.	.
16K	16K	T	15-Jun-94	300	.	.
16K	16K	T	29-Jun-94	.	.	.
16K	16K	T	13-Jul-94	220	.	.
16K	16K	T	27-Jul-94	1601	.	.
16K	16K	T	10-Aug-94	220	.	.
16K	16K	T	24-Aug-94	.	.	.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
16K	16K	T	21-Sep-94	130	.	.
16L	16L	T	1-Jun-94	50	.	.
16L	16L	T	15-Jun-94	300	.	.
16L	16L	T	29-Jun-94	.	.	.
16L	16L	T	13-Jul-94	80	.	.
16L	16L	T	27-Jul-94	1600	.	.
16L	16L	T	10-Aug-94	110	.	.
16L	16L	T	24-Aug-94	.	.	.
16L	16L	T	21-Sep-94	80	.	.
16M	16M	T	1-Jun-94	90	.	.
16M	16M	T	15-Jun-94	220	.	.
16M	16M	T	29-Jun-94	.	.	.
16M	16M	T	13-Jul-94	90	.	.
16M	16M	T	27-Jul-94	300	.	.
16M	16M	T	10-Aug-94	.	.	.
16M	16M	T	24-Aug-94	.	.	.
16M	16M	T	21-Sep-94	50	.	.
17	17	P	11-May-87	4	.	.
17	17	P	8-Jun-87	3	.	.
17	17	P	30-Jun-87	4	.	.
17	17	P	28-Jul-87	9	.	.
17	17	P	11-Aug-87	93	.	.
17	17	P	25-Aug-87	3	.	.
17	17	P	8-Sep-87	23	.	.
17	17	P	22-Sep-87	23	.	.
17	17	P	6-Oct-87	3	.	.
17	17	P	19-Oct-87	4	.	.
17	17	P	17-May-88	43	43	.
17	17	P	14-Jun-88	4	4	.
17	17	P	28-Jun-88	9	43	.
17	17	P	26-Jul-88	9	23	.
17	17	P	9-Aug-88	4	15	.
17	17	P	23-Aug-88	4	4	.
17	17	P	6-Sep-88	240	1100	.
17	17	P	20-Sep-88	<3	<3	.
17	17	P	4-Oct-88	<3	<3	.
17	17	P	18-Oct-88	<3	<3	.
17	17	P	1-Nov-88	<3	<3	.
17	17	P	23-May-89	43	43	(O)
17	17	P	6-Jun-89	4	4	(O)
17	17	P	20-Jun-89	4	9	(O)

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
17	17	P	18-Jul-89	2100	>2400	(O)
17	17	P	1-Aug-89	<3	4	(O)
17	17	P	8-Aug-89	<3	9	(O)
17	17	P	29-Aug-89	<3	4	(O)
17	17	P	12-Sep-89	15	15	(O)
1.7	17	P	26-Sep-89	4	9	(O)
17	17	P	10-Oct-89	4	4	(O)
17	17	P	24-Oct-89	43	93	(O)
17	17	P	7-Nov-89	43	43	(O)
17	17	P	21-May-90	9	15	(O)
17	17	P	4-Jun-90	<3	<3	(O)
17	17	P	18-Jun-90	<3	<3	(O)
17	17	P	2-Jul-90	15	15	(O)
17	17	P	16-Jul-90	4	9	(O)
17	17	P	30-Jul-90	<3	23	(O)
17	17	P	13-Aug-90	<3	15	(O)
17	17	P	27-Aug-90	23	23	(O)
17	17	P	10-Sep-90	<3	4	(O)
17	17	P	24-Sep-90	43	240	(O)
17	17	P	1-Oct-90	43	43	(O)
17	17	P	22-Oct-90	43	43	(O)
9	18	P	8-Jul-85	43	.	.
9	18	P	22-Jul-85	23	.	.
9	18	P	5-Aug-85	3	.	.
9	18	P	19-Aug-85	3	.	.
9	18	P	3-Sep-85	4	.	.
9	18	P	16-Sep-85	4	.	.
9	18	P	30-Sep-85	230	.	.
9	18	P	21-Oct-85	9	.	.
9	18	P	28-Oct-85	23	.	.
9	18	P	12-Mar-86	3	.	.
9	18	P	24-Mar-86	3	.	.
9	18	P	7-Apr-86	3	.	.
9	18	P	21-Apr-86	3	.	.
9	18	P	5-May-86	3	.	.
9	18	P	19-May-86	3	.	.
9	18	P	2-Jun-86	3	.	.
9	18	P	16-Jun-86	9	.	.
9	18	P	30-Jun-86	3	.	.
9	18	P	14-Jul-86	93	.	.
9	18	P	28-Jul-86	9	.	.
9	18	P	12-Aug-86	4	.	.
9	18	P	25-Aug-86	240	.	.

GREEN HILL POND BACTERIA DATA 1985-1994

OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
9	18	P	8-Sep-86	9	.	.
9	18	P	22-Sep-86	3	.	.
9	18	P	6-Oct-86	93	.	.
9	18	P	20-Oct-86	3	.	.
18	18	P	11-May-87	3	.	.
18	18	P	8-Jun-87	3	.	.
18	18	P	30-Jun-87	15	.	.
18	18	P	14-Jul-87	9	.	.
18	18	P	28-Jul-87	4	.	.
18	18	P	11-Aug-87	43	.	.
18	18	P	25-Aug-87	3	.	.
18	18	P	8-Sep-87	9	.	.
18	18	P	22-Sep-87	3	.	.
18	18	P	6-Oct-87	9	.	.
18	18	P	19-Oct-87	15	.	.
18	18	P	17-May-88	15	15	.
18	18	P	14-Jun-88	4	9	.
18	18	P	28-Jun-88	4	4	.
18	18	P	26-Jul-88	4	4	.
18	18	P	9-Aug-88	9	43	.
18	18	P	23-Aug-88	<3	<3	.
18	18	P	6-Sep-88	23	23	.
18	18	P	20-Sep-88	<3	<3	.
18	18	P	4-Oct-88	<3	4	.
18	18	P	18-Oct-88	<3	<3	.
18	18	P	1-Nov-88	<3	<3	.
18	18	P	23-May-89	460	460	(O)
18	18	P	6-Jun-89	460	460	(O)
18	18	P	20-Jun-89	4	93	(O)
18	18	P	18-Jul-89	460	1100	(O)
18	18	P	1-Aug-89	<3	23	(O)
18	18	P	8-Aug-89	<3	4	(O)
18	18	P	29-Aug-89	4	23	(O)
18	18	P	12-Sep-89	43	43	(O)
18	18	P	26-Sep-89	4	4	(O)
18	18	P	10-Oct-89	<3	<3	(O)
18	18	P	24-Oct-89	93	93	(O)
18	18	P	7-Nov-89	43	93	(O)
18	18	P	21-May-90	4	9	(O)
18	18	P	4-Jun-90	<3	<3	(O)
18	18	P	18-Jun-90	<3	<3	(O)
18	18	P	2-Jul-90	93	93	(O)
18	18	P	16-Jul-90	<3	4	(O)
18	18	P	30-Jul-90	<3	43	1(50)

GREEN HILL POND BACTERIA DATA 1985-1994

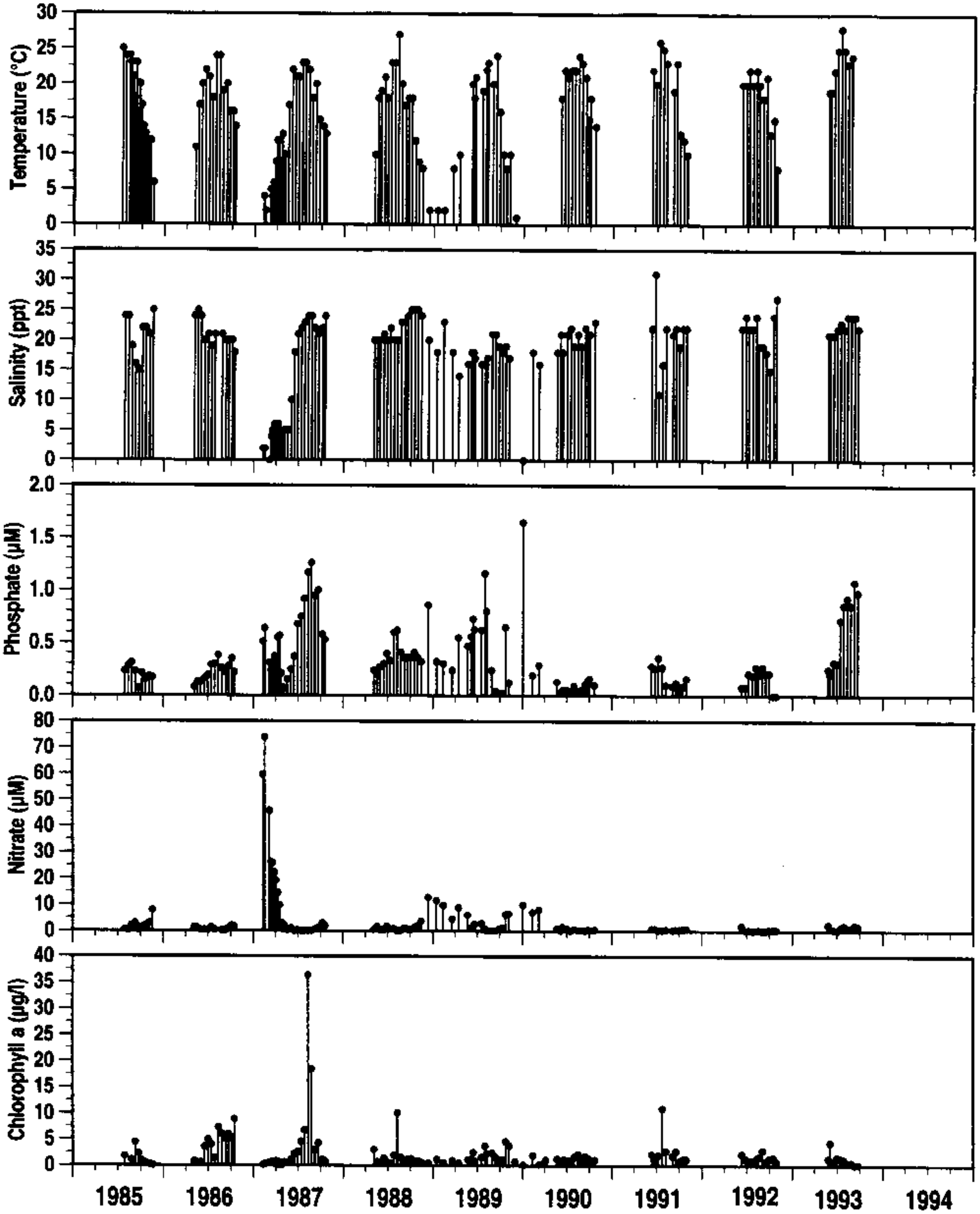
OLDST	NEWST	T/P	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT.(NUMBER)
18	18	P	13-Aug-90	<3	<3	(O)
18	18	P	27-Aug-90	<3	4	(O)
18	18	P	10-Sep-90	4	9	(O)
18	18	P	24-Sep-90	23	93	(O)
18	18	P	1-Oct-90	23	23	(O)
18	18	P	22-Oct-90	15	43	(O)
18	18	P	13-Jun-91	9	.	(O)
18	18	P	27-Jun-91	<9	.	(O)
18	18	P	11-Jul-91	<9	.	(O)
18	18	P	25-Jul-91	<9	.	(O)
18	18	P	8-Aug-91	<9	.	(O)
18	18	P	4-Sep-91	<9	.	(O)
18	18	P	15-Sep-91	<9	.	(O)
18	18	P	2-Oct-91	<9	.	(O)
18	18	P	17-Oct-91	18	.	(O)
18	18	P	30-Oct-91	>248	.	(O)

Green Hill Pond

Water Quality

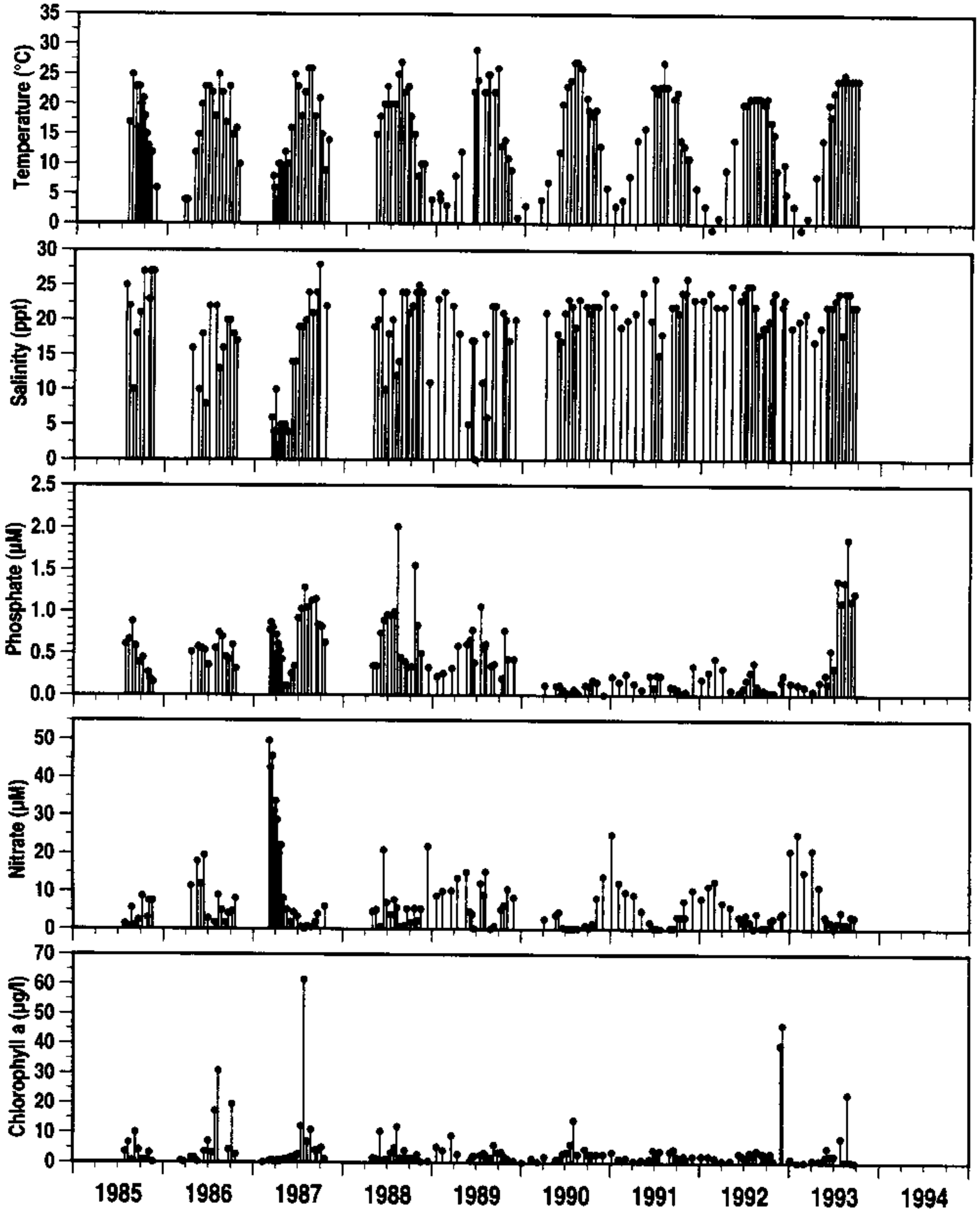
Green Hill Pond

Station 9



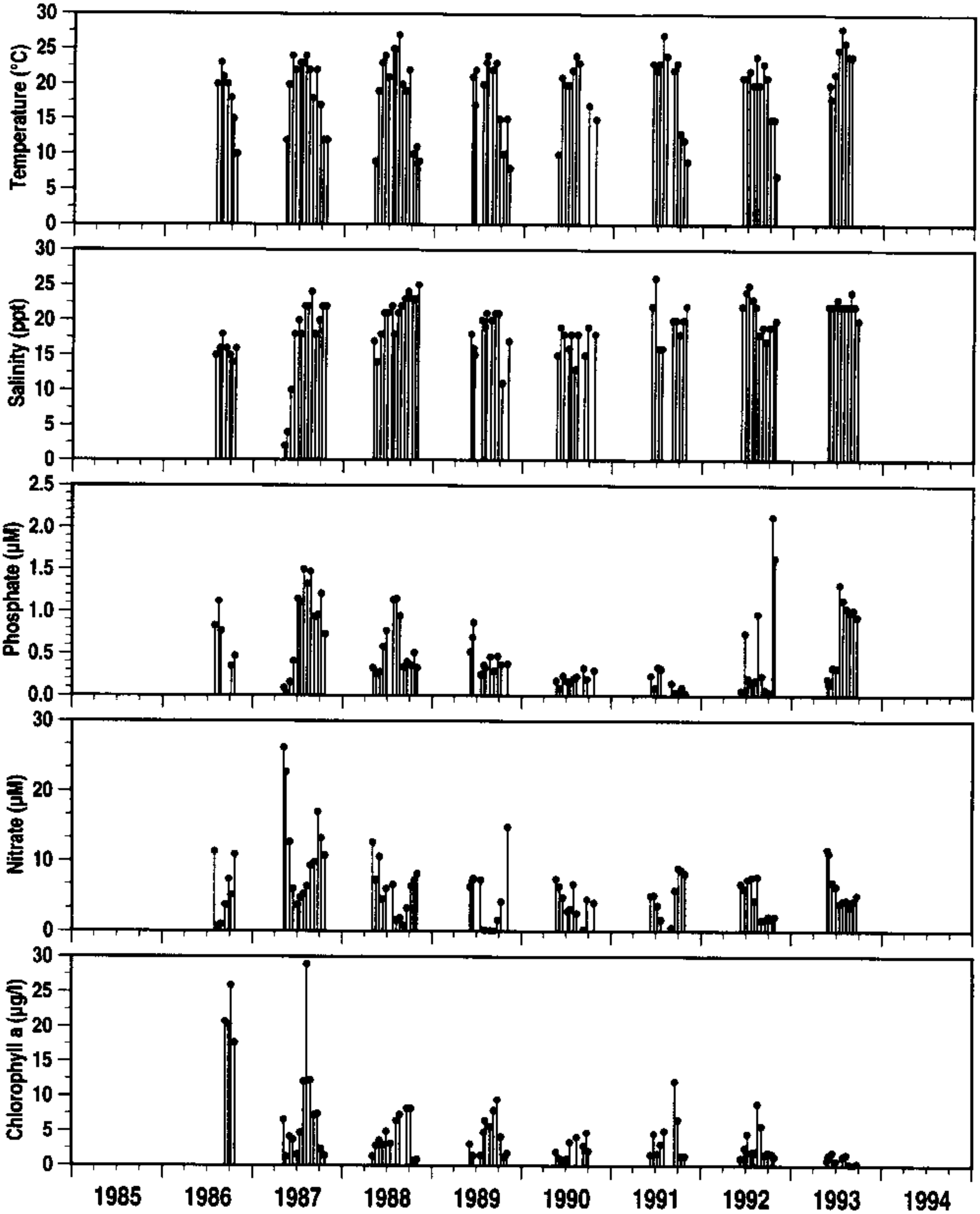
Green Hill Pond

Station 10



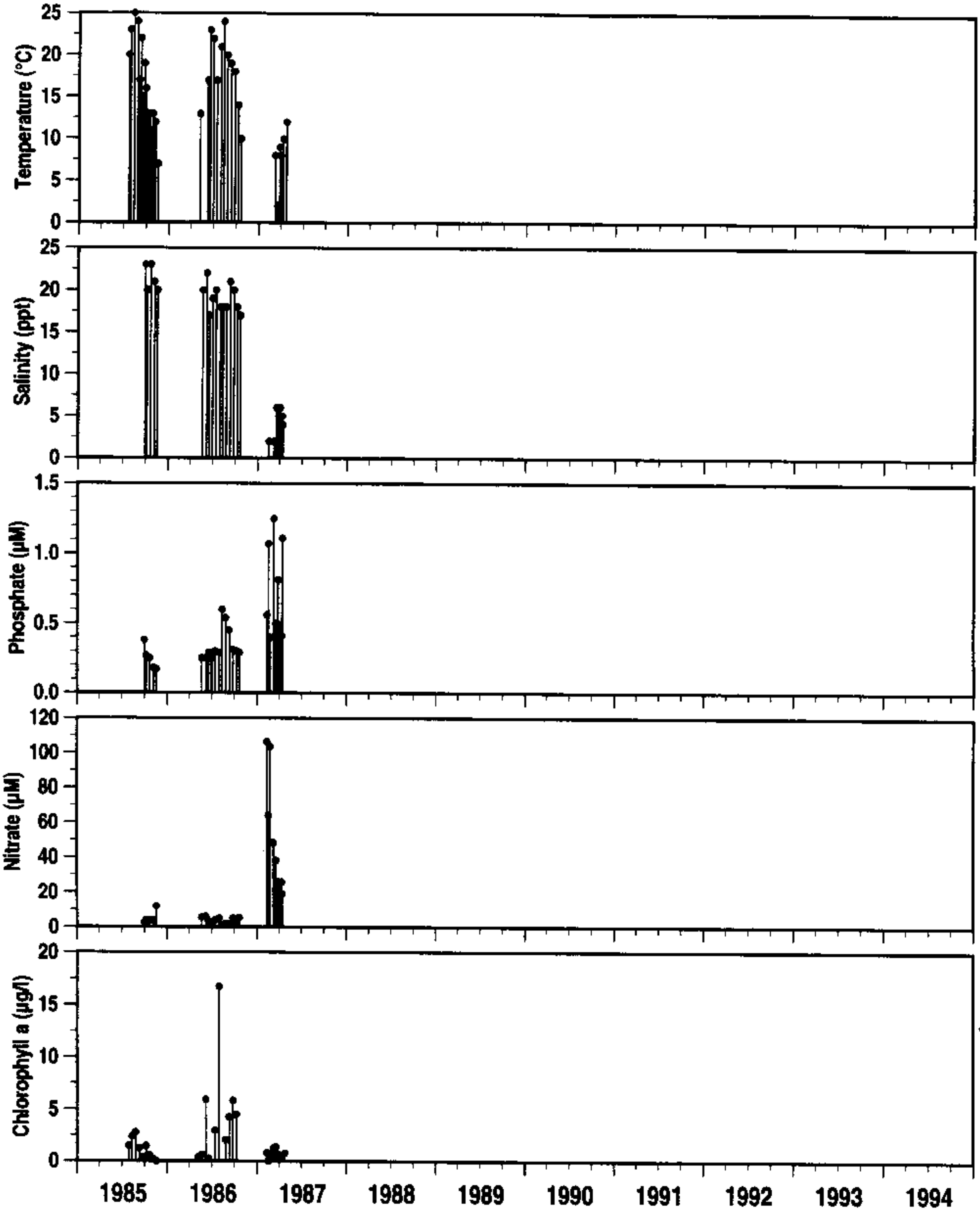
Green Hill Pond

Station 11



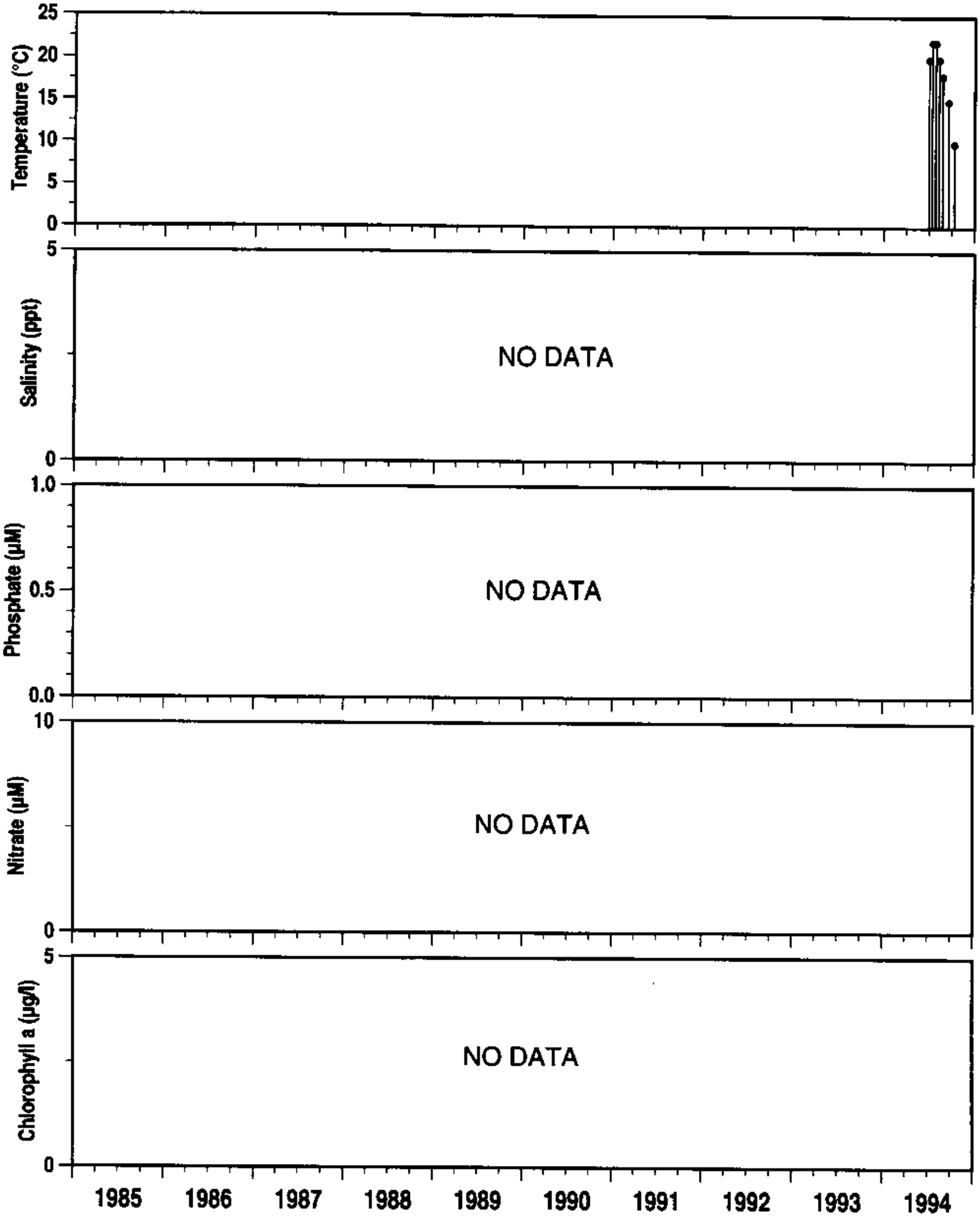
Green Hill Pond

Station 11A



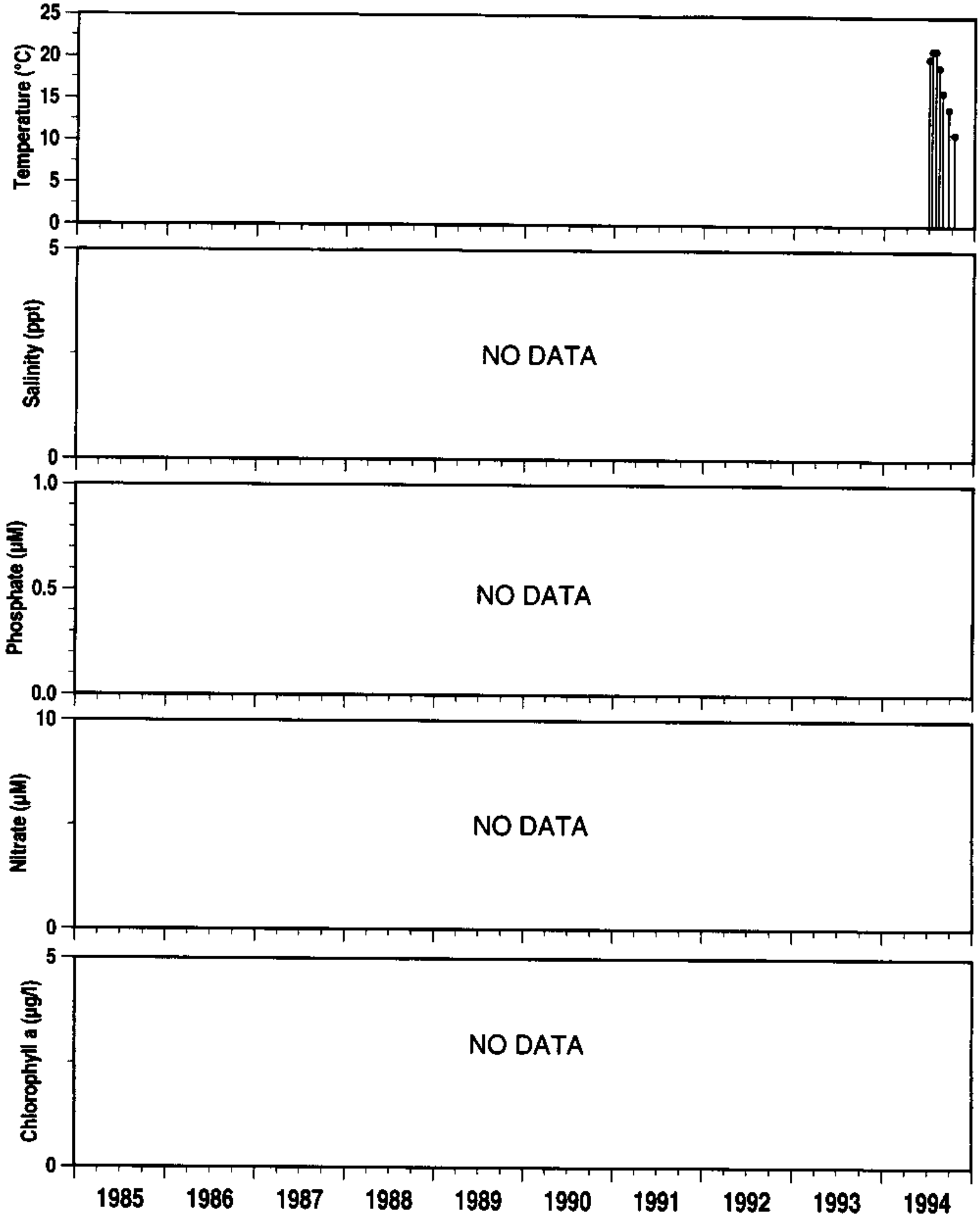
Green Hill Pond

Station 16D



Green Hill Pond

Station 16G



GREEN HILL POND WATER CHEMISTRY DATA 1985-1994

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	9	15-Jul-85	25	8.0	.	.	.	.	.	.	.
ON	P	9	29-Jul-85	24	10.0	.	24	0.45	0.23	1.75	.	.
ON	P	9	12-Aug-85	24	10.0	.	24	0.30	0.28	.	.	.
ON	P	9	19-Aug-85	23	9.0	.	.	.	.	.	.	.
ON	P	9	26-Aug-85	21	11.0	.	19	2.03	0.31	1.03	.	.
ON	P	9	2-Sep-85	18	10.0	.	.	.	.	.	.	.
ON	P	9	9-Sep-85	23	11.0	.	16	2.90	0.23	4.42	.	.
ON	P	9	16-Sep-85	16	12.0	.	.	.	.	.	.	.
ON	P	9	23-Sep-85	20	10.0	.	15	0.31	0.07	2.26	.	.
ON	P	9	30-Sep-85	17	12.0	.	.	.	.	.	.	.
ON	P	9	7-Oct-85	14	13.0	.	22	1.37	0.21	0.84	.	.
ON	P	9	14-Oct-85	13	13.0	.	.	.	.	.	.	.
ON	P	9	21-Oct-85	12	13.0	.	22	2.06	0.15	0.41	.	.
ON	P	9	27-Oct-85	12	13.0	.	.	.	.	.	.	.
ON	P	9	6-Nov-85	12	16.0	.	21	3.06	0.18	0.17	.	.
ON	P	9	18-Nov-85	6	17.0	.	25	7.89	0.17	0.02	.	.
ON	P	9	5-May-86	11	14.0	.	24	1.31	0.08	0.77	.	.
ON	P	9	19-May-86	17	14.0	.	25	1.01	0.13	0.48	.	.
ON	P	9	1-Jun-86	20	12.0	.	24	0.40	0.13	0.52	.	.
ON	P	9	16-Jun-86	22	10.0	.	20	0.37	0.16	3.58	.	.
ON	P	9	30-Jun-86	21	11.0	.	21	0.24	0.19	4.99	.	.
ON	P	9	14-Jul-86	18	10.0	.	19	1.26	0.29	3.99	.	.
ON	P	9	28-Jul-86	24	7.0	.	21	0.44	0.30	1.41	.	.
ON	P	9	11-Aug-86	24	10.0	.	.	.	0.38	7.28	.	.
ON	P	9	25-Aug-86	19	13.0	.	21	0.16	0.26	6.08	.	.
ON	P	9	10-Sep-86	20	12.0	.	20	0.20	0.22	5.10	.	.
ON	P	9	22-Sep-86	16	10.0	.	20	1.02	0.28	5.95	.	.
ON	P	9	6-Oct-86	16	11.0	.	20	1.90	0.35	5.10	.	.
ON	P	9	15-Oct-86	14	12.0	.	18	1.59	0.22	8.87	.	.
ON	P	9	8-Feb-87	4	.	.	2	59.64	0.51	0.13	.	.
ON	P	9	16-Feb-87	2	.	.	2	73.87	0.64	0.22	.	.
OFF	P	9	7-Mar-87	5	19.0	.	0	45.84	0.31	0.53	.	.
OFF	P	9	13-Mar-87	4	19.0	.	4	26.14	0.24	0.41	.	.
OFF	P	9	19-Mar-87	6	20.0	.	5	25.80	0.31	0.71	.	.
ON	P	9	27-Mar-87	9	18.0	.	6	22.26	0.37	0.27	.	.
OFF	P	9	3-Apr-87	12	20.0	.	6	19.19	0.36	0.78	.	.
OFF	P	9	10-Apr-87	12	17.0	.	6	14.48	0.55	0.02	.	.
ON	P	9	17-Apr-87	9	19.0	.	5	9.83	0.57	0.53	.	.
ON	P	9	24-Apr-87	13	15.0	.	4	3.03	0.21	0.02	.	.
ON	P	9	4-May-87	10	15.0	.	5	2.20	0.07	0.55	1.3	1.3
ON	P	9	18-May-87	17	.	.	5	0.31	0.15	0.46	1.3	1.3
ON	P	9	2-Jun-87	22	.	.	10	0.96	0.25	1.09	1.3	1.3
ON	P	9	15-Jun-87	21	.	.	18	0.00	0.37	2.22	1.3	1.3
ON	P	9	29-Jun-87	21	9.0	.	21	0.26	0.68	2.57	1.4	1.4
ON	P	9	14-Jul-87	23	10.0	.	22	0.07	0.75	4.56	1.4	1.4
ON	P	9	26-Jul-87	23	9.0	.	23	0.07	0.92	6.74	1.3	1.3
ON	P	9	10-Aug-87	22	8.0	.	24	0.10	1.17	36.36	1.4	1.4
ON	P	9	24-Aug-87	18	10.0	.	24	0.07	1.26	18.42	1.3	1.3
ON	P	9	7-Sep-87	20	9.0	.	22	0.53	0.95	2.90	1.3	1.3
ON	P	9	21-Sep-87	15	11.0	.	21	1.18	1.00	4.24	1.5	1.5
ON	P	9	8-Oct-87	14	12.0	.	22	2.90	0.58	1.09	1.4	1.4
ON	P	9	19-Oct-87	13	11.0	.	24	2.03	0.53	0.74	1.4	1.4
ON	P	9	4-May-88	10	12.0	.	20	0.54	0.24	3.00	1.4	1.4
ON	P	9	17-May-88	18	11.0	.	20	1.63	0.20	0.66	1.4	1.4
ON	P	9	29-May-88	19	11.0	.	20	0.41	0.27	0.59	1.2	1.2

GREEN HILL POND WATER CHEMISTRY DATA 1985-1994

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	9	14-Jun-88	21	11.0	.	21	0.35	0.30	1.42	1.3	1.3
ON	P	9	27-Jun-88	18	9.0	.	20	1.75	0.40	0.62	1.3	1.3
ON	P	9	11-Jul-88	23	11.0	.	22	0.70	0.33	0.44	1.3	1.3
ON	P	9	25-Jul-88	23	11.0	.	20	0.89	0.60	1.99	1.3	1.3
ON	P	9	8-Aug-88	27	8.0	.	20	0.07	0.62	10.06	1.3	1.3
ON	P	9	23-Aug-88	20	10.0	.	23	0.24	0.41	1.50	1.3	1.3
ON	P	9	7-Sep-88	17	9.0	.	23	1.05	0.36	0.84	1.3	1.3
ON	P	9	19-Sep-88	18	9.0	.	24	0.61	0.36	1.17	1.3	1.3
ON	P	9	3-Oct-88	18	9.0	.	25	0.53	0.36	1.26	1.1	1.1
ON	P	9	17-Oct-88	12	12.0	.	25	1.16	0.41	0.37	1.3	1.3
ON	P	9	30-Oct-88	9	12.0	.	25	1.99	0.36	0.85	1.2	1.2
ON	P	9	14-Nov-88	8	.	.	24	3.78	0.32	0.60	1.3	1.3
OFF	P	9	13-Dec-88	2	.	.	20	12.81	0.86	0.50	.	.
ON	P	9	16-Jan-89	2	.	.	18	11.57	0.32	1.17	.	.
OFF	P	9	13-Feb-89	2	.	.	23	9.84	0.30	0.47	.	.
ON	P	9	21-Mar-89	8	.	.	18	4.60	0.24	0.90	.	.
ON	P	9	15-Apr-89	10	.	.	14	8.94	0.55	0.42	.	.
ON	P	9	23-May-89		.	.	16	6.11	0.47	1.11	.	.
ON	P	9	5-Jun-89	20	.	.	18	1.22	0.56	1.23	1.4	1.4
ON	P	9	14-Jun-89	18	.	.	18	1.54	0.73	2.53	1.3	1.3
ON	P	9	19-Jun-89	21	.	.	17	2.69	0.63	0.86	1.4	1.4
ON	P	9	18-Jul-89	19	.	.	16	2.90	0.62	1.60	1.3	1.3
ON	P	9	1-Aug-89	22	.	.	16	0.82	1.16	3.75	1.1	1.3
ON	P	9	8-Aug-89	23	.	.	17	0.29	0.80	2.29	1.2	1.4
ON	P	9	29-Aug-89	20	.	.	21	0.14	0.24	2.40	1.3	1.3
ON	P	9	12-Sep-89	24	.	.	21	0.13	0.04	1.59	1.3	1.4
ON	P	9	26-Sep-89	16	.	.	19	0.77	0.02	1.12	1.3	1.3
ON	P	9	10-Oct-89	10	.	.	18	1.23	0.02	1.06	1.3	1.3
ON	P	9	24-Oct-89	8	.	.	19	6.36	0.65	4.60	1.3	1.3
ON	P	9	7-Nov-89	10	.	.	17	6.66	0.12	3.81	1.3	1.3
OFF	P	9	1-Dec-89	1	.	.	.	.	.	0.77	.	.
OFF	P	9	3-Jan-90	.	.	.	0	9.97	1.65	0.13	.	.
OFF	P	9	12-Feb-90	.	.	.	18	7.16	0.19	1.98	.	.
OFF	P	9	9-Mar-90	.	.	.	16	8.09	0.29	0.25	.	.
OFF	P	9	5-Apr-90	.	.	.				1.05	.	.
ON	P	9	22-May-90	.	.	.	18	0.84	0.13	1.29	1.3	1.3
ON	P	9	4-Jun-90	18	.	.	21	0.19	0.03	0.26	1.2	1.2
ON	P	9	14-Jun-90	.	.	.	18	1.54	0.05	.	1.2	.
ON	P	9	18-Jun-90	22	.	.	.	.	.	1.11	.	.
ON	P	9	2-Jul-90	21	.	.	21	0.76	0.05	0.90	1.4	1.4
ON	P	9	16-Jul-90	22	.	.	22	0.16	0.02	0.91	1.3	1.3
ON	P	9	30-Jul-90	22	.	.	19	0.62	0.09	1.65	1.3	1.3
ON	P	9	15-Aug-90	24	.	.	21	0.31	0.04	2.19	1.2	1.3
ON	P	9	27-Aug-90	23	.	.	19	0.22	0.05	1.06	1.3	1.3
ON	P	9	12-Sep-90	21	.	.	22	0.18	0.10	1.82	1.3	1.3
ON	P	9	24-Sep-90	15	.	.	21	0.56	0.14	1.37	1.3	1.3
ON	P	9	1-Oct-90	18	.	.	21	0.26	0.16	1.05	1.3	1.3
ON	P	9	22-Oct-90	14	.	.	23	0.60	0.10	1.09	1.2	1.2
ON	P	9	11-Jun-91	22	.	.	22	0.85	0.28	2.15	1.3	1.3
ON	P	9	25-Jun-91	20	.	.	31	0.85	0.26	1.01	1.3	1.3
ON	P	9	9-Jul-91	26	.	.	11	0.31	0.36	2.02	1.5	.
ON	P	9	24-Jul-91	25	.	.	16	0.38	0.27	10.92	1.4	.
ON	P	9	7-Aug-91	23	.	.	22	0.63	0.10	2.79	1.4	1.4
ON	P	9	4-Sep-91	19	.	.	21	0.40	0.09	1.87	.	.
ON	P	9	17-Sep-91	23	.	.	22	0.58	0.12	2.78	.	.

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	9	1-Oct-91	13	.	.	19	0.58	0.05	0.75	.	.
ON	P	9	15-Oct-91	12	.	.	22	0.70	0.09	1.17	.	.
ON	P	9	29-Oct-91	10	.	.	22	0.90	0.16	1.15	.	.
ON	P	9	10-Jun-92	20	.	.	22	1.83	0.08	2.23	1.3	1.3
ON	P	9	26-Jun-92	20	.	.	24	0.20	0.08	1.21	1.4	1.4
ON	P	9	8-Jul-92	22	.	.	22	0.36	0.21	0.85	1.3	1.3
ON	P	9	24-Jul-92	20	.	.	22	0.07	0.19	0.94	1.3	1.3
ON	P	9	6-Aug-92	22	.	.	24	0.15	0.27	1.16	.	1.3
ON	P	9	17-Aug-92	20	.	.	19	0.34	0.20	1.61	1.4	1.4
ON	P	9	2-Sep-92	18	.	.	19	0.07	0.27	2.90	1.3	1.3
ON	P	9	16-Sep-92	21	.	.	18	0.07	0.21	0.73	1.3	1.3
ON	P	9	30-Sep-92	13	.	.	15	0.43	0.21	1.33	1.2	1.2
ON	P	9	16-Oct-92	15	.	.	24	0.43	0.00	1.45	1.3	1.3
ON	P	9	27-Oct-92	8	.	.	27	0.43	0.00	0.68	1.3	1.3
ON	P	9	26-May-93	19	.	.	21	2.37	0.25	1.31	0.9	0.9
ON	P	9	2-Jun-93	19	.	.	21	1.05	0.20	4.4	1.4	1.4
ON	P	9	16-Jun-93	22	.	.	21	0.56	0.32	0.82	1.25	1.25
ON	P	9	30-Jun-93	25	.	.	22	0.28	0.31	1.57	1.35	1.35
ON	P	9	14-Jul-93	28	.	.	23	1.33	0.72	1.34	1.38	1.38
ON	P	9	28-Jul-93	25	.	.	22	1.9	0.86	1.09	1.2	1.2
ON	P	9	11-Aug-93	23	.	.	24	1.06	0.93	0.36	1.27	1.27
ON	P	9	25-Aug-93	24	.	.	24	1.07	0.86	0.53	1.2	1.2
ON	P	9	8-Sep-93	.	.	.	24	2.16	1.08	0.06	.	.
ON	P	9	22-Sep-93	.	.	.	22	1.67	0.98	0.13	.	.
ON	P	10	15-Jul-85	.	8.0	.	.	.	.	.	.	.
ON	P	10	29-Jul-85	17	9.0	.	25	1.39	0.61	3.70	.	.
ON	P	10	12-Aug-85	25	7.0	.	22	0.67	0.67	6.63	.	.
ON	P	10	26-Aug-85	23	11.0	.	10	5.59	0.88	0.61	.	.
ON	P	10	2-Sep-85	16	11.0	.	.	.	.	.	.	.
ON	P	10	9-Sep-85	23	9.0	.	18	0.96	0.59	10.04	.	.
ON	P	10	16-Sep-85	20	11.0	.	.	.	.	.	.	.
ON	P	10	23-Sep-85	21	8.0	.	21	2.49	0.39	4.17	.	.
ON	P	10	30-Sep-85	18	9.0	.	.	.	.	.	.	.
ON	P	10	7-Oct-85	15	12.0	.	27	8.73	0.45	0.76	.	.
ON	P	10	14-Oct-85	13	11.0	.	.	.	.	.	.	.
ON	P	10	21-Oct-85	12	10.0	.	.	.	.	0.88	.	.
ON	P	10	29-Oct-85	12	10.0	.	23	3.11	0.27	.	.	.
ON	P	10	4-Nov-85	.	.	.	27	7.44	0.20	3.29	.	.
ON	P	10	18-Nov-85	6	19.0	.	27	7.57	0.16	0.10	.	.
ON	P	10	12-Mar-86	4	15.0	.	.	.	.	0.58	.	.
ON	P	10	24-Mar-86	4	15.0	.	.	.	.	0.22	.	.
ON	P	10	22-Apr-86	12	18.0	.	16	11.43	0.52	1.56	.	.
ON	P	10	5-May-86	15	9.0	.	.	.	.	1.56	.	.
ON	P	10	19-May-86	20	12.0	.	10	17.86	0.58	0.35	.	.
ON	P	10	2-Jun-86	23	9.0	.	18	11.98	0.56	.	.	.
ON	P	10	16-Jun-86	23	12.0	.	8	19.45	0.54	3.64	.	.
ON	P	10	30-Jun-86	22	10.0	.	22	2.84	0.36	7.17	.	.
ON	P	10	14-Jul-86	18	10.0	.	.	.	.	3.29	.	.
ON	P	10	28-Jul-86	25	9.0	.	22	1.69	0.56	17.15	.	.
ON	P	10	11-Aug-86	22	10.0	.	13	9.01	0.75	30.78	.	.
ON	P	10	25-Aug-86	17	.	.	16	5.02	0.70	.	.	.
ON	P	10	10-Sep-86	23	.	.	20	1.69	0.46	.	.	.
ON	P	10	22-Sep-86	15	.	.	20	4.10	0.43	4.37	.	.
ON	P	10	6-Oct-86	16	.	.	18	4.71	0.60	19.56	.	.

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	10	20-Oct-86	10	.	.	17	8.13	0.32	2.79	.	.
ON	P	10	8-Feb-87	.	.	.	.	.	.	0.13	.	.
OFF	P	10	7-Mar-87	8	19.0	.	.	49.57	0.78	0.57	.	.
OFF	P	10	12-Mar-87	6	11.0	.	6	42.59	0.87	0.74	.	.
OFF	P	10	19-Mar-87	4	21.0	.	4	45.62	0.81	0.77	.	.
OFF	P	10	28-Mar-87	10	14.0	.	10	31.06	0.48	0.27	.	.
OFF	P	10	3-Apr-87	10	17.0	.	2	33.74	0.72	0.41	.	.
OFF	P	10	10-Apr-87	8	15.0	.	4	28.80	0.61	0.61	.	.
OFF	P	10	17-Apr-87	9	16.0	.	5	19.85	0.53	0.41	.	.
OFF	P	10	24-Apr-87	12	15.0	.	4	22.15	0.43	0.73	.	.
ON	P	10	4-May-87	10	13.0	.	5	8.15	0.11	0.95	0.6	0.6
ON	P	10	18-May-87	16	.	.	4	5.13	0.11	1.18	1.8	1.8
ON	P	10	2-Jun-87	25	.	.	14	1.87	0.26	1.78	1.1	1.7
ON	P	10	15-Jun-87	23	.	.	14	4.42	0.35	1.88	1.2	1.2
ON	P	10	29-Jun-87	18	10.0	.	19	3.30	0.92	2.73	1.2	1.5
ON	P	10	13-Jul-87	22	9.0	.	19	0.56	1.03	12.09	1.4	1.5
ON	P	10	27-Jul-87	26	8.0	.	20	0.10	1.29	61.47	1.1	1.4
ON	P	10	9-Aug-87	26	8.0	.	24	0.79	1.05	7.02	1.4	1.5
ON	P	10	24-Aug-87	18	9.0	.	21	0.51	1.13	10.90	1.1	1.4
ON	P	10	11-Sep-87	21	7.0	.	24	1.95	1.15	4.12	0.9	1.2
ON	P	10	21-Sep-87	15	9.0	.	28	4.02	0.84	4.12	0.9	0.9
ON	P	10	5-Oct-87	9	10.0	.	.	.	0.82	4.96	0.9	0.9
ON	P	10	19-Oct-87	14	10.0	.	22	6.06	0.63	1.21	0.9	0.9
ON	P	10	2-May-88	15	11.0	.	19	4.69	0.35	1.54	1.1	1.1
ON	P	10	17-May-88	18	11.0	.	20	5.12	0.35	1.22	1.8	1.8
ON	P	10	2-Jun-88	20	9.0	.	24	0.56	0.74	10.46	1.5	1.5
ON	P	10	16-Jun-88	23	11.0	.	10	20.81	0.89	0.85	1.5	1.5
ON	P	10	28-Jun-88	20	10.0	.	18	7.07	0.96	1.04	1.4	1.4
ON	P	10	16-Jul-88	20	9.0	.	20	3.86	0.95	3.27	1.5	1.5
ON	P	10	29-Jul-88	25	9.0	.	12	7.82	1.00	4.99	1.3	1.5
ON	P	10	10-Aug-88	27	9.0	.	14	5.66	2.01	12.00	0.9	1.5
ON	P	10	23-Aug-88	22	10.0	.	24	0.55	0.45	1.61	1.3	1.3
ON	P	10	9-Sep-88	23	8.0	.	24	0.94	0.40	4.02	1.3	1.3
ON	P	10	19-Sep-88	18	10.0	.	21	5.32	0.33	1.29	1.1	1.1
ON	P	10	5-Oct-88	15	11.0	.	22	1.81	0.34	1.52	1.3	1.3
ON	P	10	20-Oct-88	8	14.0	.	24	5.46	1.55	0.66	1.5	1.5
OFF	P	10	31-Oct-88	10	12.0	.	25	2.24	0.83	2.74	.	.
OFF	P	10	15-Nov-88	10	.	.	24	5.32	0.50	0.28	.	.
OFF	P	10	15-Dec-88	4	.	.	11	21.81	0.33	0.57	.	.
OFF	P	10	17-Jan-89	5	.	.	.	.	.	.	.	.
ON	P	10	19-Jan-89	4	.	.	23	8.74	0.22	5.27	.	.
OFF	P	10	13-Feb-89	3	.	.	24	10.09	0.26	3.99	.	.
ON	P	10	21-Mar-89	8	.	.	22	10.24	0.32	9.08	.	.
OFF	P	10	15-Apr-89	12	.	.	18	13.51	0.59	2.81	.	.
ON	P	10	21-May-89	.	.	.	5	15.10	0.61		.	.
ON	P	10	5-Jun-89	22	.	.	17	4.58	0.66	0.70	1.6	1.6
ON	P	10	14-Jun-89	29	.	.	17	3.95	0.78	1.85	1.6	1.6
ON	P	10	21-Jun-89	24	.	.	0	0.11	0.39	2.36	1.6	1.6
ON	P	10	18-Jul-89	22	.	.	11	12.14	1.06	2.62	0.9	0.9
ON	P	10	1-Aug-89	25	.	.	18	9.00	0.56	3.23	.	.
ON	P	10	7-Aug-89	25	.	.	6	15.20	0.61	2.72	0.8	
ON	P	10	28-Aug-89	22	.	.	22	0.09	0.35	1.53	0.9	1.3
ON	P	10	11-Sep-89	26	.	.	22	0.85	0.37	5.92	0.9	1.3
ON	P	10	27-Sep-89	13	.	.	.	.	.	3.45	1.2	1.2
ON	P	10	11-Oct-89	14	.	.	21	5.20	0.20	3.64	1.3	1.3

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	10	23-Oct-89	11	.	.	20	6.40	0.77	2.04	1.3	1.3
ON	P	10	5-Nov-89	9	.	.	17	10.60	0.43	1.41	1.7	1.7
OFF	P	10	1-Dec-89	1	.	.	20	8.36	0.43	0.61	.	.
OFF	P	10	3-Jan-90	3	3.2	.		.	.	0.13	.	.
OFF	P	10	12-Feb-90	.	2.7	.		.	.	1.39	.	.
OFF	P	10	9-Mar-90	4	10.3	.		.	.	0.25	.	.
OFF	P	10	5-Apr-90	7	9.5	.	21	2.69	0.12	1.99	.	.
ON	P	10	22-May-90	12	.	.	18	3.80	0.11	1.06	1.8	1.8
ON	P	10	4-Jun-90	20	.	.	17	4.55	0.12	1.19	1.6	1.6
ON	P	10	21-Jun-90	23	.	.	21	0.42	0.06	3.12	1.4	1.8
ON	P	10	7-Jul-90	24	.	.	23	0.12	0.02	3.62	1.4	1.6
ON	P	10	22-Jul-90	27	.	.	22	0.11	0.02	6.20	1.4	1.8
ON	P	10	4-Aug-90	27	.	.	19	0.21	0.07	14.29	0.9	1.5
ON	P	10	21-Aug-90	26	.	.	23	0.24	0.02	2.85	1.5	1.8
ON	P	10	12-Sep-90	21	.	.	.	.	.	.	.	.
ON	P	10	18-Sep-90	19	.	.	22	0.94	0.12	4.61	1.3	1.7
ON	P	10	5-Oct-90	18	.	.	21	0.33	0.11	2.71	1.5	1.5
ON	P	10	18-Oct-90	19	.	.	22	1.43	0.18	2.71	1.7	1.7
OFF	P	10	5-Nov-90	13	.	.	22	8.31	0.16	2.87	.	.
OFF	P	10	3-Dec-90	6	.	.	24	13.90	0.00	2.87	.	1.1
OFF	P	10	7-Jan-91	3	.	.	22	24.94	0.22	3.64	.	1.1
OFF	P	10	5-Feb-91	4	.	.	19	12.26	0.16	1.39	.	0.9
OFF	P	10	5-Mar-91	8	.	.	20	9.82	0.25	1.68	.	0.9
OFF	P	10	7-Apr-91	14	.	.	21	9.04	0.14	0.69	.	1.2
ON	P	10	8-May-91	16	.	.	24	4.79	0.07	1.04	.	0.9
ON	P	10	11-Jun-91	23	.	.	20	1.87	0.23	1.28	.	1.7
ON	P	10	25-Jun-91	22	.	.	26	0.26	0.09	4.24	.	1.6
ON	P	10	9-Jul-91	23	.	.	15	0.26	0.24	2.12	.	1.8
ON	P	10	23-Jul-91	27	.	.	18	0.14	0.23	4.05	.	2.0
ON	P	10	7-Aug-91	23	.	.	.	.	.	.	.	1.9
ON	P	10	3-Sep-91	21	.	.	22	0.31	0.10	3.72	.	.
ON	P	10	17-Sep-91	22	.	.	22	0.32	0.09	4.52	.	.
ON	P	10	1-Oct-91	14	.	.	21	3.32	0.07	1.96	.	.
ON	P	10	15-Oct-91	13	.	.	24	3.24	0.02	1.36	.	.
ON	P	10	29-Oct-91	11	.	.	24	7.46	0.02	2.31	.	.
OFF	P	10	3-Nov-91	11	.	.	26	3.13	0.04	1.29	.	.
OFF	P	10	4-Dec-91	6	.	.	23	10.38	0.35	2.2	.	1.40
OFF	P	10	8-Jan-92	3	.	.	23	8.16	0.19	2.26	.	1.1
OFF	P	10	6-Feb-92	-1	.	.	24	11.36	0.27	2.23	.	1.2
OFF	P	10	3-Mar-92	1	.	.	22	12.58	0.44	1.53	.	1.1
OFF	P	10	2-Apr-92	9	.	.	22	6.96	0.32	0.72	1.6	1.6
ON	P	10	5-May-92	14	.	.	25	5.80	0.06	0.82	1.9	.
ON	P	10	10-Jun-92	20	.	.	23	3.25	0.03	3.03	1.7	1.9
ON	P	10	26-Jun-92	20	.	.	24	1.91	0.08	2.31	.	1.7
ON	P	10	8-Jul-92	21	.	.	25	3.79	0.18	1.56	1.7	1.7
ON	P	10	24-Jul-92	21	.	.	25	1.93	0.27	3.48	1.7	1.7
ON	P	10	7-Aug-92	21	.	.	22	0.14	0.39	2.61	1.5	1.5
ON	P	10	20-Aug-92	21	.	.	18	4.21	0.11	4.16	2.0	2.0
ON	P	10	9-Sep-92	20	.	.	19	0.42	0.05	3.22	2.0	2.0
ON	P	10	17-Sep-92	21	.	.	19	0.50	0.06	3.04	1.8	1.8
ON	P	10	4-Oct-92	17	.	.	20	0.41	0.03	1.90	1.3	1.3
ON	P	10	16-Oct-92	15	.	.	23	2.41	0.03	3.16	1.6	1.6
ON	P	10	27-Oct-92	9	.	.	24	2.80	0.03	0.82	1.7	1.7
OFF	P	10	27-Nov-92	10	.	.	22	3.71	0.16	39.50	1.3	1.3
OFF	P	10	4-Dec-92	5	.	.	23	4.23	0.24	46.25	1.2	1.2

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	10	4-Jan-93	3	.	.	19	20.7	0.15	1.34	1.03	1.03
ON	P	10	3-Feb-93	-1	.	.	20	25.1	0.13	0.13	1.45	1.45
ON	P	10	1-Mar-93	1	.	.	21	15.15	0.1	0.23	1.15	1.15
ON	P	10	5-Apr-93	8	.	.	17	20.8	0.05	1.03	0.9	0.9
ON	P	10	1-May-93	14	.	.	19	11.25	0.16	0.82	1.8	1.8
ON	P	10	26-May-93	20	.	.	22	3.34	0.24	1.91	.	1.9
ON	P	10	2-Jun-93	18	.	.	22	2.41	0.14	4.95	1.7	1.8
ON	P	10	16-Jun-93	22	.	.	22	1.86	0.54	2.32	1.18	1.8
ON	P	10	30-Jun-93	24	.	.	23	0.26	0.33	2.42	1.7	1.7
ON	P	10	14-Jul-93	24	.	.	24	1.69	1.37	?	1.8	1.8
ON	P	10	28-Jul-93	25	.	.	18	4.66	1.11	8.29	1.6	1.6
ON	P	10	11-Aug-93	24	.	.	24	1.37	1.35	0.43	1.4	1.4
ON	P	10	25-Aug-93	24	.	.	24	1.22	1.86	23.01	1.25	1.7
ON	P	10	8-Sep-93	24	.	.	22	3.46	1.13	0.35	1.4	1.4
ON	P	10	22-Sep-93	24	.	.	22	3.24	1.22	0.13	1.25	1.7
ON	P	11	31-Jul-86	20	13.0	.	15	11.34	0.83	.	.	.
ON	P	11	16-Aug-86	23	12.0	.	16	0.74	1.12	.	.	.
ON	P	11	26-Aug-86	21	12.0	.	18	0.97	0.77	20.78	.	.
ON	P	11	12-Sep-86	20	11.0	.	16	3.77	.	20.29	.	.
ON	P	11	26-Sep-86	18	11.0	.	15	7.38	.	25.91	.	.
ON	P	11	6-Oct-86	15	14.0	.	14	5.16	0.35	17.71	.	.
ON	P	11	21-Oct-86	10	15.0	.	16	10.90	0.47	6.65	.	.
ON	P	11	8-May-87	12	16.0	.	2	26.17	0.09	1.28	0.9	0.9
ON	P	11	18-May-87	20	.	.	4	22.72	0.03	4.16	0.8	0.8
ON	P	11	1-Jun-87	24	.	.	10	12.68	0.16	3.76	0.9	0.9
ON	P	11	15-Jun-87	22	.	.	18	6.05	0.41	1.58	0.9	0.9
ON	P	11	2-Jul-87	23	7.0	.	20	3.71	1.15	4.75	0.8	0.8
ON	P	11	13-Jul-87	23	7.0	.	18	4.80	1.11	12.09	0.9	0.9
ON	P	11	27-Jul-87	24	6.0	.	22	5.34	1.50	28.95	0.9	0.9
ON	P	11	10-Aug-87	22	7.0	.	22	6.42	1.33	12.24	0.9	1.0
ON	P	11	24-Aug-87	18	7.0	.	24	9.28	1.47	7.27	0.8	0.8
ON	P	11	8-Sep-87	22	9.0	.	18	9.81	0.94	7.51	0.9	0.9
ON	P	11	23-Sep-87	17	10.0	.	20	16.99	0.96	2.42	1.0	1.0
ON	P	11	6-Oct-87	12	10.0	.	22	13.26	1.21	1.45	0.9	0.9
ON	P	11	22-Oct-87	12	10.0	.	22	10.76	0.73	1.33	0.9	0.9
ON	P	11	4-May-88	9	11.0	.	17	12.63	0.33	2.87	0.9	0.9
ON	P	11	17-May-88	19	10.0	.	14	7.33	0.26	3.60	0.9	0.9
ON	P	11	1-Jun-88	23	10.0	.	18	10.62	0.28	2.95	0.9	0.9
ON	P	11	14-Jun-88	24	9.0	.	21	4.60	0.58	4.92	0.9	0.9
ON	P	11	28-Jun-88	21	10.0	.	21	6.03	0.77	3.12	0.9	0.9
ON	P	11	16-Jul-88	25	7.0	.	22	.	.	.	0.9	0.9
ON	P	11	26-Jul-88	25	9.0	.	18	6.62	1.14	6.49	0.9	0.9
ON	P	11	9-Aug-88	27	8.0	.	21	1.58	1.15	7.39	0.9	0.9
ON	P	11	23-Aug-88	20	8.0	.	22	1.91	0.95	.	0.9	0.9
ON	P	11	6-Sep-88	19	8.0	.	23	0.80	0.34	8.30	0.7	1.0
ON	P	11	20-Sep-88	22	9.0	.	24	3.28	0.40	8.21	0.8	0.9
ON	P	11	7-Oct-88	10	16.0	.	23	6.38	0.36	0.61	0.9	0.9
ON	P	11	20-Oct-88	11	15.0	.	23	7.25	0.51	0.90	0.9	0.9
ON	P	11	1-Nov-88	9	14.0	.	25	8.19	0.33	3.08	0.8	0.8
ON	P	11	5-Jun-89	21	.	.	18	6.38	0.52	1.31	1.0	1.0
ON	P	11	14-Jun-89	17	.	.	16	7.15	0.69	1.45	0.9	0.9
ON	P	11	19-Jun-89	22	.	.	15	7.56	0.87	1.47	0.8	0.8
ON	P	11	18-Jul-89	20	.	.	20	7.32	0.25	4.81	0.9	0.9
ON	P	11	31-Jul-89	23	.	.	19	0.19	0.36	6.49	0.5	0.9

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	P	11	6-Aug-89	24	.	.	21	0.14	0.33	5.62	0.7	0.9
ON	P	11	26-Aug-89	22	.	.	20	0.10	0.46	7.98	0.4	0.9
ON	P	11	10-Sep-89	23	.	.	21	0.07	0.29	9.51	0.9	0.9
ON	P	11	25-Sep-89	15	.	.	21	1.60	0.47	4.16	0.7	0.8
ON	P	11	9-Oct-89	10	.	.	11	4.23	0.37	1.22	0.7	0.8
ON	P	11	23-Oct-89	15	.	.				1.78	0.8	0.8
ON	P	11	5-Nov-89	8	.	.	17	14.82	0.38	2.01	0.7	0.7
ON	P	11	22-May-90	10	9.0	.	15	7.41	0.18	1.02	1.0	1.0
ON	P	11	5-Jun-90	21	7.2	.	19	6.38	0.09	0.84	0.6	0.6
ON	P	11	19-Jun-90	20	7.4	.	18	4.85	0.24	0.42	0.9	0.9
ON	P	11	3-Jul-90	20	7.4	.	.	.	.	0.98	0.9	0.9
ON	P	11	8-Jul-90	.	.	.	16	2.87	0.17	3.35	0.8	0.8
ON	P	11	17-Jul-90	22	7.8	.	18	3.11	0.16	.	.	.
ON	P	11	31-Jul-90	24	.	.	13	6.70	0.20	4.12	0.5	0.8
ON	P	11	14-Aug-90	23	8.0	.	18	2.57	0.23	2.85	0.5	0.8
ON	P	11	11-Sep-90	.	6.4	.	15	0.28	0.33	4.78	0.7	0.2
ON	P	11	25-Sep-90	17	6.0	.	19	4.54	0.20	2.12	0.8	0.8
ON	P	11	1-Oct-90	.	.	.	.	.	.	.	0.8	0.8
ON	P	11	23-Oct-90	15	6.5	.	18	4.05	0.30	1.55	0.8	0.8
ON	P	11	11-Jun-91	23	.	.	22	5.11	0.24	4.59	0.9	.
ON	P	11	25-Jun-91	22	.	.	26	5.13	0.09	1.71	0.9	.
ON	P	11	9-Jul-91	23	.	.	16	3.64	0.34	3.05	1.0	.
ON	P	11	23-Jul-91	27	.	.	16	1.63	0.32	4.98	1.0	.
ON	P	11	7-Aug-91	24	.	.	.	.	.	.	.	.
ON	P	11	3-Sep-91	22	.	.	20	0.51	0.15	12.11	.	.
ON	P	11	17-Sep-91	23	.	.	20	5.82	0.04	6.64	.	.
ON	P	11	1-Oct-91	13	.	.	18	9.01	0.04	1.28	.	.
ON	P	11	15-Oct-91	12	.	.	20	8.64	0.10	1.37	.	.
ON	P	11	29-Oct-91	9	.	.	22	8.19	0.03	1.05	.	.
ON	P	11	10-Jun-92	21		.	22	6.75	0.06	2.52	.	0.9
ON	P	11	26-Jun-92	21		.	24	6.00	0.74	4.58	.	0.9
ON	P	11	8-Jul-92	22	6	.	25	7.37	0.21	1.91	0.8	0.8
ON	P	11	24-Jul-92	20	6.1	.	23	7.65	0.15	2.04	0.8	0.8
ON	P	11	5-Aug-92	24	.	.	22	4.41	0.18	8.91	0.9	0.9
ON	P	11	17-Aug-92	20	.	.	18	7.76	0.97	5.69	0.9	0.9
ON	P	11	2-Sep-92	23	7.4	.	19	1.55	0.24	1.59	0.8	0.8
ON	P	11	16-Sep-92	21	7.2	.	17	1.64	0.07	1.84	0.9	0.9
ON	P	11	30-Sep-92	15	7.4	.	19	2.09	0.04	1.66	0.8	0.8
ON	P	11	16-Oct-92	15	8.1	.	19	1.73	2.13	1.26	0.8	0.8
ON	P	11	26-Oct-92	7	9.5	.	20	2.08	1.63	0.81	1.0	1.0
ON	P	11	26-May-93	20	.	.	22	11.64	0.20	1.48	0.95	0.95
ON	P	11	2-Jun-93	18	.	.	22	11.09	0.14	1.91	0.8	0.8
ON	P	11	16-Jun-93	21.5	.	.	22	6.98	0.34	0.7	0.8	0.8
ON	P	11	30-Jun-93	25	.	.	23	6.38	0.33		0.9	0.9
ON	P	11	14-Jul-93	28	.	.	22	3.94	1.32	1.31	0.85	0.85
ON	P	11	28-Jul-93	26	.	.	22	4.32	1.14	1.56	0.95	0.95
ON	P	11	11-Aug-93	24	.	.	22	4.45	1.04	0.2	0.87	0.87
ON	P	11	25-Aug-93	24	.	.	24	3.44	1	0.15	0.9	0.9
ON	P	11	8-Sep-93		.	.	22	4.27	1.02	0.32		
ON	P	11	22-Sep-93		.	.	20	5.15	0.94	0.1		
ON	P	11A	22-Jul-85	20	3.0	.	.	.	.	.	.	.
ON	P	11A	29-Jul-85	23	9.0	.	.	.	.	1.50	.	.
ON	P	11A	12-Aug-85	25	11.0	.	.	.	.	2.38	.	.
ON	P	11A	26-Aug-85	24	17.0	.	.	.	.	2.77	.	.

SITE	T/P	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	P	11A	2-Sep-85	17	14.0	.	.	.	.	.	.	.
ON	P	11A	9-Sep-85	22	13.0	.	.	.	.	1.23	.	.
ON	P	11A	16-Sep-85	15	15.0	.	.	.	.	.	.	.
ON	P	11A	23-Sep-85	19	16.0	.	.	.	.	0.40	.	.
ON	P	11A	30-Sep-85	16	15.0	.	23	2.52	0.38	.	.	.
ON	P	11A	7-Oct-85	13	11.0	.	20	4.05	0.27	1.44	.	.
ON	P	11A	14-Oct-85	13	18.0	.	.	.	.	.	.	.
ON	P	11A	21-Oct-85	11	16.0	.	23	3.80	0.25	0.58	.	.
ON	P	11A	27-Oct-85	13	14.0	.	.	.	.	.	.	.
ON	P	11A	6-Nov-85	12	15.0	.	21	3.94	0.18	0.21	.	.
ON	P	11A	18-Nov-85	7	18.0	.	20	12.02	0.17	0.01	.	.
ON	P	11A	7-May-86	13	12.0	.	.	.	.	0.41	.	.
ON	P	11A	21-May-86	.	14.0	.	20	5.60	0.25	0.63	.	.
ON	P	11A	7-Jun-86	17	12.0	.	22	6.06	0.25	5.93	.	.
ON	P	11A	17-Jun-86	23	15.0	.	17	3.20	0.29	0.24	.	.
ON	P	11A	30-Jun-86	22	10.0	.	19	2.57	0.25	.	.	.
ON	P	11A	14-Jul-86	17	12.0	.	20	3.87	0.30	2.97	.	.
ON	P	11A	31-Jul-86	21	16.0	.	18	4.92	0.29	16.73	.	.
ON	P	11A	12-Aug-86	24	9.0	.	18	0.93	0.60	.	.	.
ON	P	11A	26-Aug-86	20	11.0	.	18	1.82	0.54	2.07	.	.
ON	P	11A	10-Sep-86	19	11.0	.	21	1.50	0.45	4.25	.	.
ON	P	11A	25-Sep-86	18	10.0	.	20	5.03	0.31	5.83	.	.
ON	P	11A	9-Oct-86	14	13.0	.	18	2.89	0.30	4.50	.	.
ON	P	11A	21-Oct-86	10	6.0	.	17	5.19	0.29	.	.	.
ON	P	11A	10-Feb-87	.	.	.	.	106.62	0.56	0.83	.	.
ON	P	11A	16-Feb-87	.	.	.	2	64.11	1.07	0.02	.	.
ON	P	11A	24-Feb-87	.	.	.	.	103.70	0.40	0.69	.	.
OFF	P	11A	9-Mar-87	8	21.0	.	2	48.23	1.25	1.28	.	.
OFF	P	11A	19-Mar-87	2	19.0	.	6	38.18	0.50	1.38	.	.
ON	P	11A	27-Mar-87	9	17.0	.	5	25.92	0.81	0.67	.	.
ON	P	11A	2-Apr-87	8	14.0	.	6	22.24	0.49	0.31	.	.
ON	P	11A	11-Apr-87	10	19.0	.	5	25.67	0.41	0.43	.	.
ON	P	11A	14-Apr-87	.	.	.	4	19.05	1.11	.	.	.
ON	P	11A	24-Apr-87	12	13.0	.	.	.	.	0.78	.	.
.	T	16D	30-Jun-94	20	.	.	.	.	.	.	.	.
.	T	16D	13-Jul-94	22	.	.	.	.	.	.	.	.
.	T	16D	27-Jul-94	22	.	.	.	.	.	.	.	.
.	T	16D	10-Aug-94	20	.	.	.	.	.	.	.	.
.	T	16D	24-Aug-94	18	.	.	.	.	.	.	.	.
.	T	16D	18-Sep-94	15	.	.	.	.	.	.	.	.
.	T	16D	11-Oct-94	10	.	.	.	.	.	.	.	.
.	T	16G	16-Jun-94	.	.	.	.	.	.	.	.	.
.	T	16G	30-Jun-94	20	.	.	.	.	.	.	.	.
.	T	16G	13-Jul-94	21	.	.	.	.	.	.	.	.
.	T	16G	27-Jul-94	21	.	.	.	.	.	.	.	.
.	T	16G	10-Aug-94	19	.	.	.	.	.	.	.	.
.	T	16G	24-Aug-94	16	.	.	.	.	.	.	.	.
.	T	16G	18-Sep-94	14	.	.	.	.	.	.	.	.
.	T	16G	11-Oct-94	11	.	.	.	.	.	.	.	.

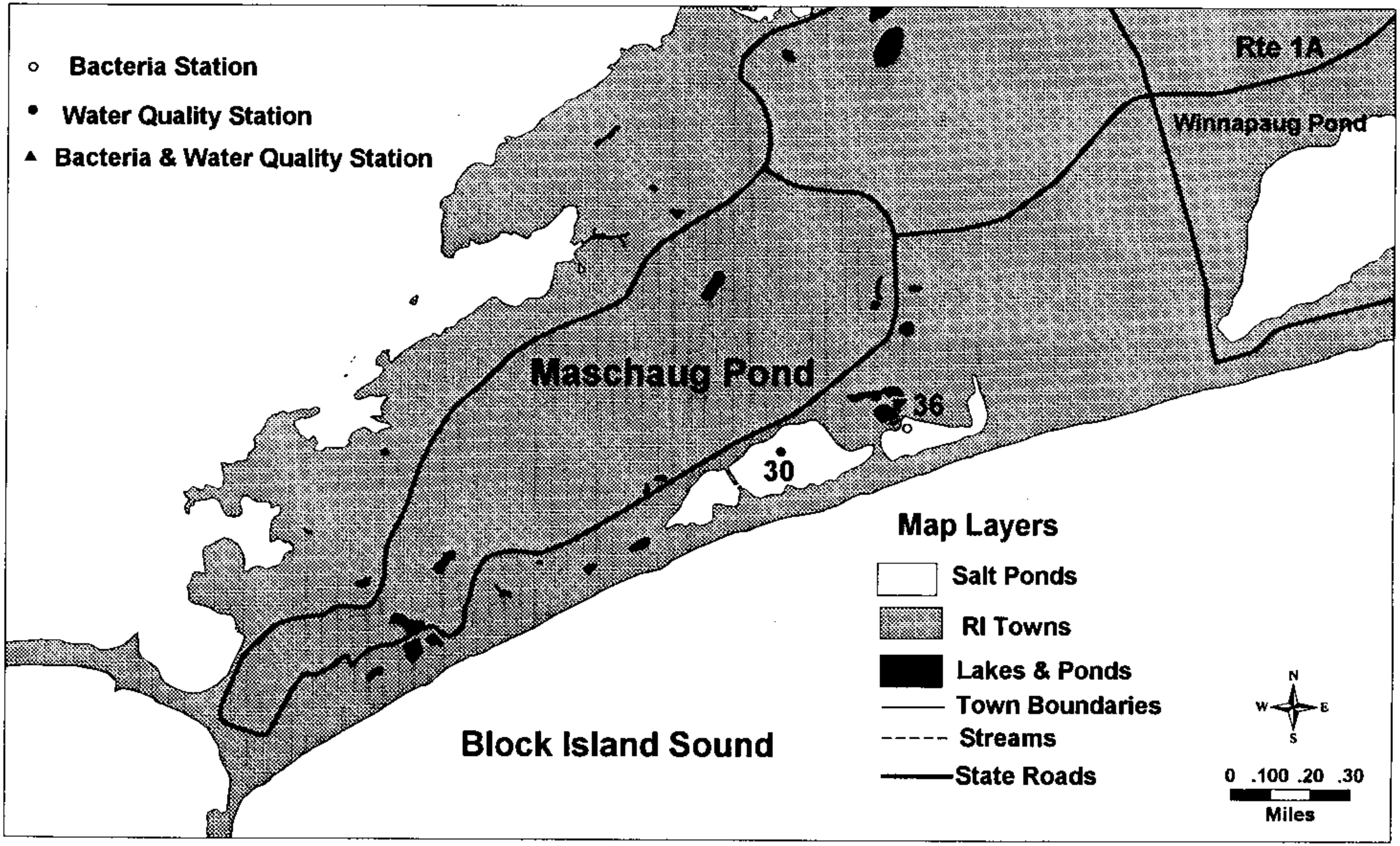
Maschaug Pond

Sections:

Pond Map
Bacteria
Water Quality

Maschaug Pond

Pond Map



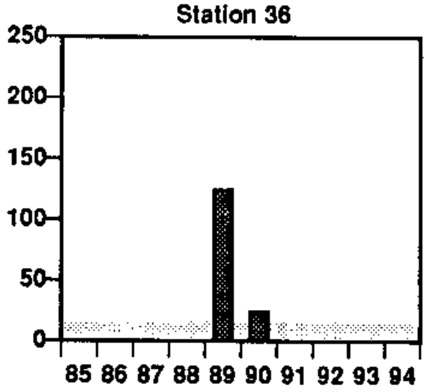
Bacteria Station
Water Quality Station
Bacteria & Water Quality Station
Rte 1A
Winnapaug Pond
Maschaug Pond
36
30
Block Island Sound
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
State Roads
N
W
E
S
0 .100 .20 .30
Miles

Maschaug Pond

Bacteria

Maschaug Pond

Median Fecal Coliform Bacteria (MPN/100ml)



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

MASCHAUG POND BACTERIA DATA 1985-1994

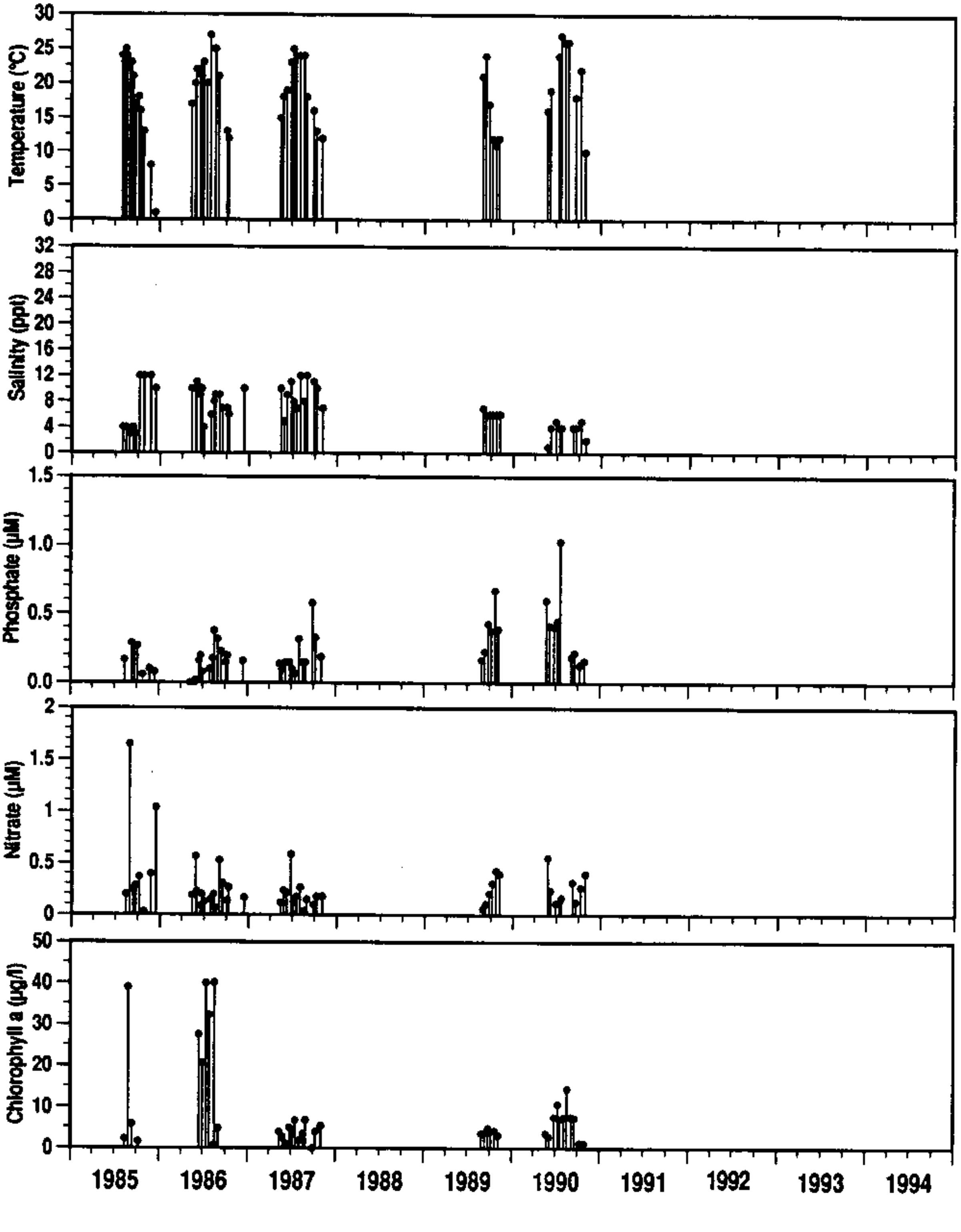
OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
36	36	31-Aug-89	179	.	(0)
36	36	27-Sep-89	69	.	(0)
36	36	23-May-90	9	.	(0)
36	36	6-Jun-90	29	.	(0)
36	36	20-Jun-90	<9	.	(0)
36	36	11-Jul-90	<9	.	(0)
36	36	18-Jul-90	29	.	50(17)
36	36	1-Aug-90	29	.	(0)
36	36	15-Aug-90	<9	.	50(2)
36	36	29-Aug-90	<9	.	50(2)
36	36	12-Sep-90	9	.	(0)
36	36	24-Oct-90	18	.	(0)

Maschaug Pond

Water Quality

Maschaug Pond

Station 30



MASCHAUG POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	30	30-Jul-85	24	.	9	4	.	.	.	.	.
ON	30	6-Aug-85	23	.	13	.	.	.	.	.	.
ON	30	12-Aug-85	25	.	12	4	0.20	0.17	2.26	.	.
ON	30	18-Aug-85	24	.	8	.	.	.	.	.	.
ON	30	28-Aug-85	23	.	11	3	1.65	.	39.02	.	.
ON	30	5-Sep-85	23	.	11	.	.	.	.	.	.
ON	30	11-Sep-85	21	.	9	4	0.25	0.29	5.92	.	.
ON	30	16-Sep-85	17	.	10	.	.	.	.	.	.
ON	30	23-Sep-85	17	.	10	3	0.29	0.27	.	.	.
ON	30	6-Oct-85	18	.	8	12	0.37	0.27	1.62	.	.
ON	30	11-Oct-85	16	.	9	.	.	.	.	.	.
ON	30	21-Oct-85	13	.	10	.	.	.	.	.	.
ON	30	27-Oct-85	13	.	10	12	0.03	0.06	.	.	.
ON	30	23-Nov-85	8	.	10	12	0.40	0.10	.	.	.
ON	30	15-Dec-85	1	.	14	10	1.04	0.08	.	.	.
ON	30	11-May-86	17	.	12	10	0.19	0.00	.	.	.
ON	30	26-May-86	20	.	11	10	0.57	0.00	.	.	.
ON	30	1-Jun-86	22	.	10	11	0.23	0.02	.	.	.
ON	30	15-Jun-86	22	.	12	9	0.09	0.16	27.53	.	.
ON	30	22-Jun-86	21	.	10	10	0.20	0.20	.	.	.
ON	30	1-Jul-86	23	.	10	4	0.13	0.08	20.68	.	.
ON	30	14-Jul-86	20	.	6	.	.	.	40.05	.	.
ON	30	28-Jul-86	27	.	8	6	0.15	0.10	32.37	.	.
ON	30	10-Aug-86	.	.	.	8	0.20	0.18	.	.	.
ON	30	15-Aug-86	25	.	.	9	0.07	0.38	0.83	.	.
ON	30	18-Aug-86	25	.	.	.	.	.	40.17	.	.
ON	30	1-Sep-86	21	.	12	9	0.53	0.32	4.73	.	.
ON	30	14-Sep-86	.	.	.	7	0.31	0.23	.	.	.
ON	30	4-Oct-86	13	.	11	7	0.14	0.15	.	.	.
ON	30	11-Oct-86	12	.	11	6	0.27	0.20	.	.	.
ON	30	13-Dec-86	.	.	.	10	0.17	0.16	.	.	.
ON	30	13-May-87	15	.	14	10	0.12	0.14	4.08	0.93	0.93
ON	30	25-May-87	18	.	.	5	0.24	0.10	2.88	0.86-	0.86
ON	30	7-Jun-87	19	.	.	9	0.22	0.15	1.20	0.69	0.69
ON	30	25-Jun-87	23	.	.	11	0.59	0.15	5.04	0.97	0.97
ON	30	5-Jul-87	25	.	10	8	0.13	0.10	3.56	0.97	0.97
ON	30	7-Jul-87	23	.	.	.	.	.	.	.	.
ON	30	19-Jul-87	24	.	10	7	0.18	0.07	6.74	.	.
ON	30	2-Aug-87	24	.	9	12	0.27	0.32	1.94	0.79	0.79
ON	30	19-Aug-87	24	.	8	8	0.04	0.15	3.48	1.4	1.4
ON	30	30-Aug-87	18	.	8	12	0.15	0.15	6.96	1.42	1.42
ON	30	27-Sep-87	16	.	9	11	0.10	0.58	0.06	1.09	1.09
ON	30	10-Oct-87	13	.	10	10	0.18	0.33	4.00	0.46	0.46
ON	30	1-Nov-87	12	.	11	7	0.18	0.19	5.40	0.62	0.62
ON	30	28-Aug-89	21	.	.	7	0.06	0.17	3.63	2.5	2.5
ON	30	11-Sep-89	24	.	.	6	0.11	0.23	3.75	2.7	2.7
ON	30	25-Sep-89	17	.	.	6	0.21	0.43	4.89	2.4	2.4
ON	30	9-Oct-89	12	.	.	6	0.31	0.38	4.11	2.5	2.5
ON	30	23-Oct-89	11	.	.	6	0.43	0.67	4.31	2.5	2.5
ON	30	6-Nov-89	12	.	.	6	0.4	0.39	3.2	2.5	2.5
ON	30	25-May-90	16	.	.	1	0.56	0.60	3.66	.	.
ON	30	6-Jun-90	19	.	.	4	0.24	0.42	2.9	2.4	2.4
ON	30	26-Jun-90	.	.	.	5	0.12	0.41	7.63	2.3	2.3
ON	30	11-Jul-90	24	.	.	4	0.13	0.45	10.74	2.2	2.2
ON	30	20-Jul-90	27	.	.	4	0.17	1.03	7.17	2.2	2.2
ON	30	6-Aug-90	26	.	.	.	.	.	7.64	2.1	2.1

MASCHAUG POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
CN	30	20-Aug-90	26	.	.	.	.	.	14.5	2.1	2.1
CN	30	5-Sep-90	.	.	.	4	0.32	0.19	7.59	2.2	2.2
CN	30	18-Sep-90	18	.	.	4	0.13	0.22	7.35	2.2	2.2
CN	30	10-Oct-90	22	.	.	5	0.27	0.13	1.35	.	.
CN	30	29-Oct-90	10	.	.	2	0.4	0.16	1.23	.	.

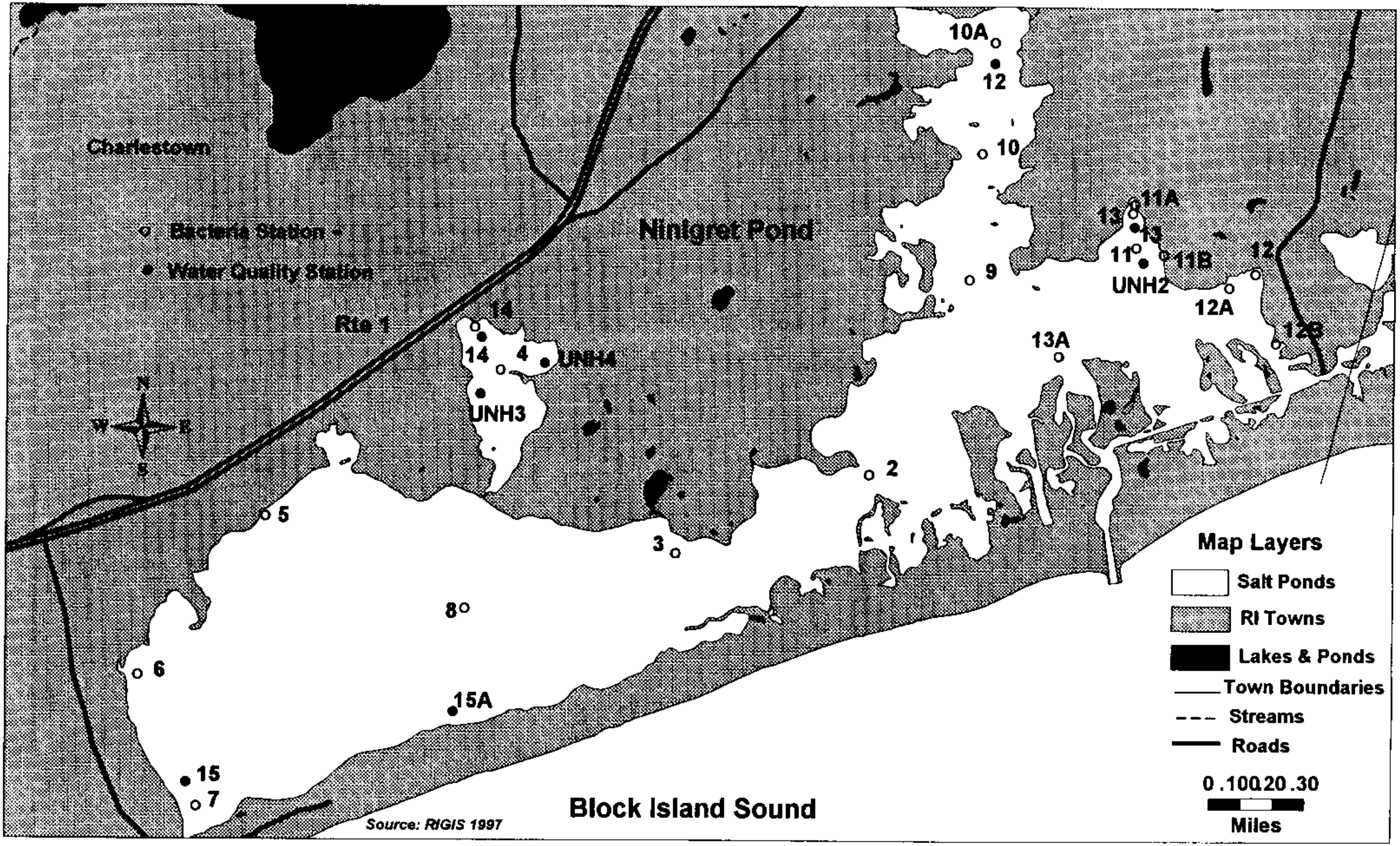
Ninigret Pond

Sections:

Pond Map
Bacteria
Water Quality

Ninigret Pond

Pond Map

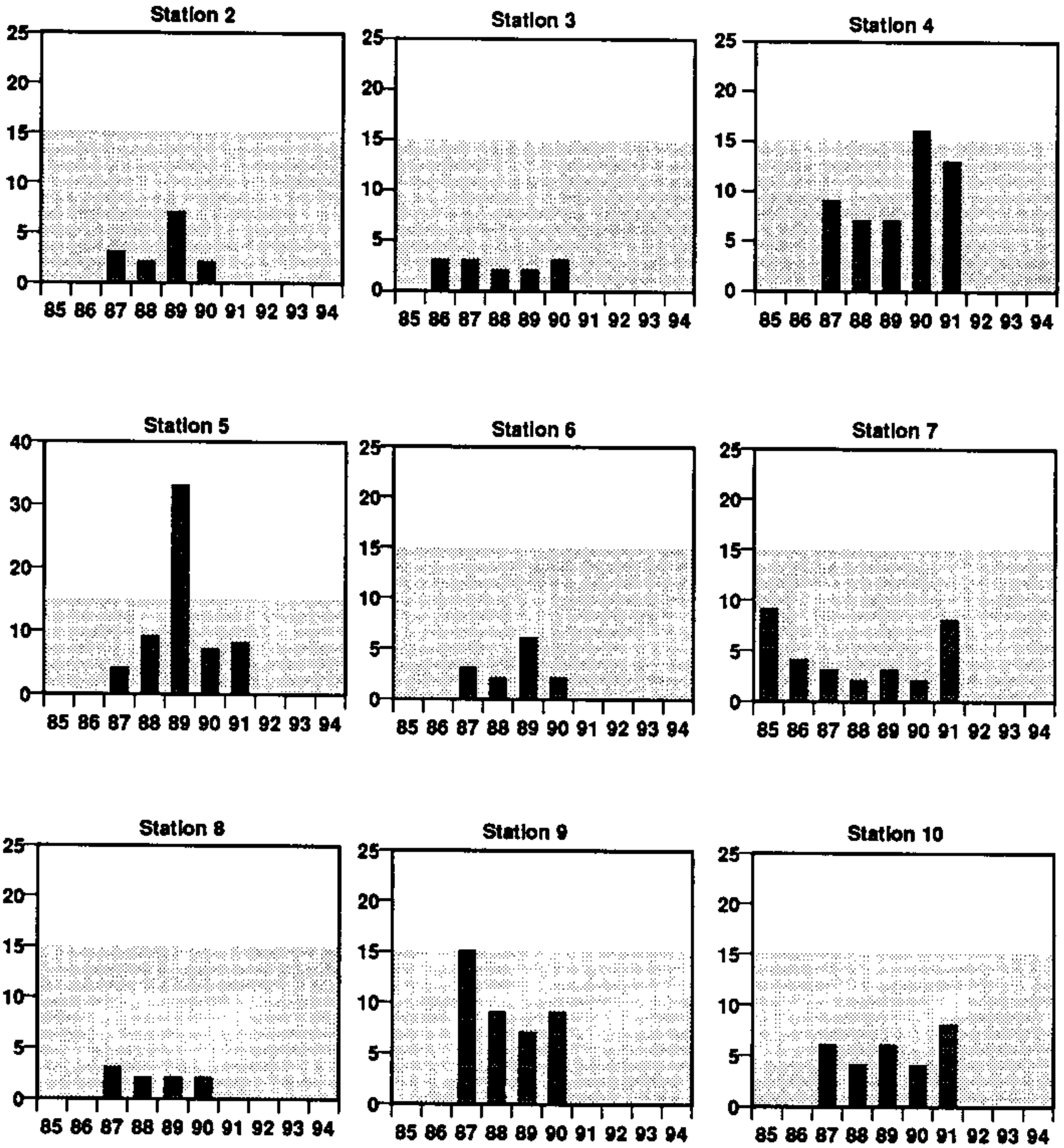

Charlestown
Bacteria Station
Water Quality Station
Rte 1
Ninigret Pond
N
W
E
S
10A
12
10
9
13
11A
13
11
11B
UNH2
12
12A
12B
13A
14
14
4
UNH4
UNH3
2
3
5
8
6
15A
15
7
Block Island Sound
Source: RIGIS 1997
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .10 0.20 .30
Miles

Ninigret Pond

Bacteria

Ninigret Pond

Median Fecal Coliform Bacteria (MPN/100ml)

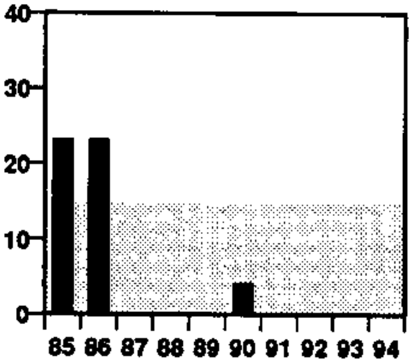


Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

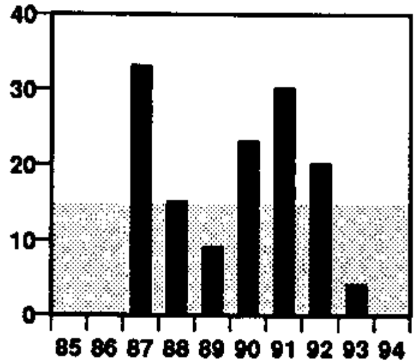
Ninigret Pond

Median Fecal Coliform Bacteria (MPN/100ml)

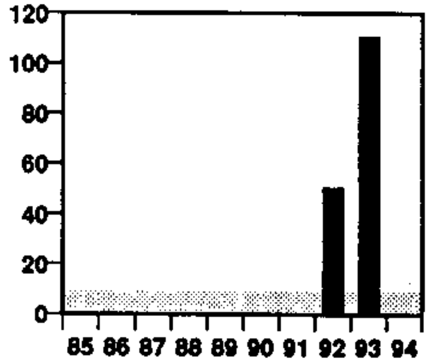
Station 10A



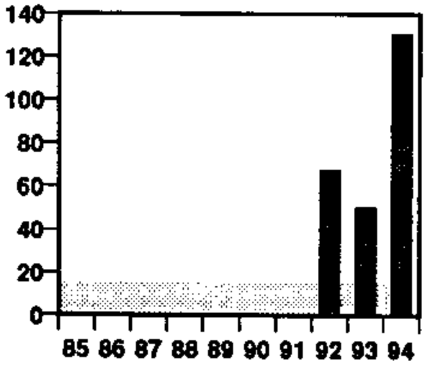
Station 11



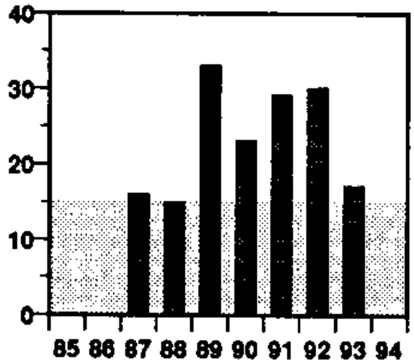
Station 11A



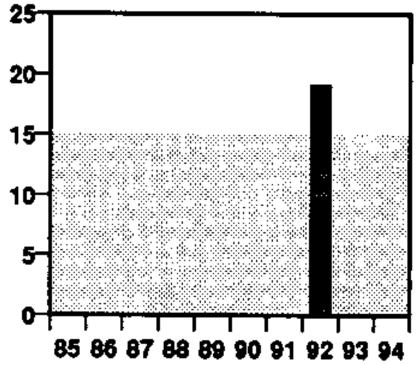
Station 11B



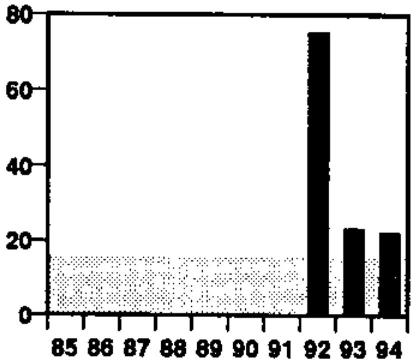
Station12



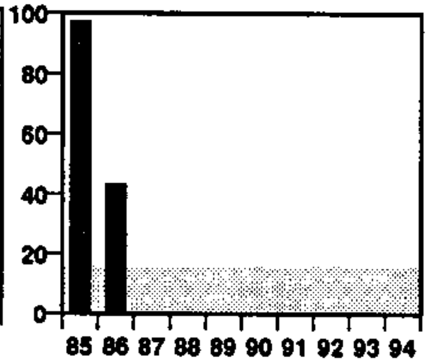
Station 12A



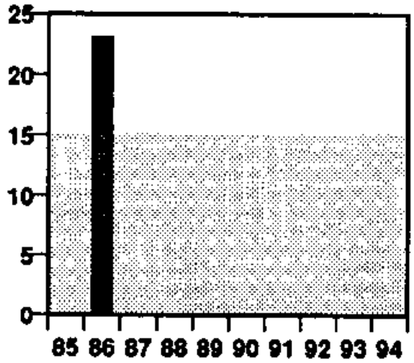
Station 12B



Station 13



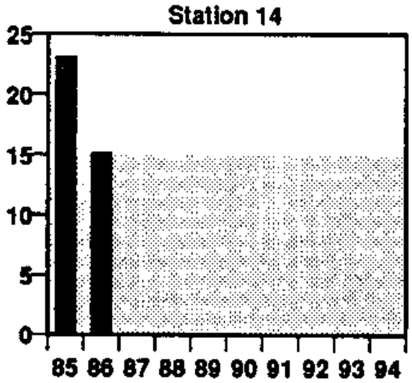
Station 13A



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Ninigret Pond

Median Fecal Coliform Bacteria (MPN/100ml)



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
2	2	11-May-87	3	.	.
2	2	8-Jun-87	3	.	.
2	2	30-Jun-87	4	.	.
2	2	14-Jul-87	3	.	.
2	2	28-Jul-87	3	.	.
2	2	11-Aug-87	4	.	.
2	2	25-Aug-87	3	.	.
2	2	8-Sep-87	9	.	.
2	2	22-Sep-87	9	.	.
2	2	6-Oct-87	3	.	.
2	2	19-Oct-87	9	.	.
2	2	17-May-88	<3	<3	.
2	2	14-Jun-88	3	4	.
2	2	28-Jun-88	4	7	.
2	2	12-Jul-88	<3	<3	.
2	2	26-Jul-88	<3	4	.
2	2	9-Aug-88	<3	4	.
2	2	23-Aug-88	3	3	.
2	2	6-Sep-88	43	43	.
2	2	4-Oct-88	9	9	.
2	2	18-Oct-88	<3	<3	.
2	2	1-Nov-88	<3	<3	.
2	2	15-Nov-88	<3	4	.
2	2	23-May-89	<3	<3	50(4)
2	2	6-Jun-89	<3	<3	10,25(1,2)
2	2	20-Jun-89	4	4	(O)
2	2	18-Jul-89	23	23	(O)
2	2	1-Aug-89	<3	4	(O)
2	2	8-Aug-89	4	7	(O)
2	2	29-Aug-89	240	240	(O)
2	2	18-Sep-89	43	93	(O)
2	2	26-Sep-89	4	4	50(2)
2	2	10-Oct-89	9	9	(O)
2	2	24-Oct-89	9	23	50(2)
2	2	7-Nov-89	9	9	(O)
2	2	21-May-90	4	4	(O)
2	2	4-Jun-90	9	9	(O)
2	2	2-Jul-90	23	23	(O)
2	2	16-Jul-90	<3	4	(O)
2	2	30-Jul-90	<3	23	(O)
2	2	13-Aug-90	<3	4	(O)
2	2	27-Aug-90	4	4	(O)
2	2	10-Sep-90	<3	<3	(O)
2	2	24-Sep-90	<3	7	(O)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
2	2	22-Oct-90	<3	4	(O)
14A	3	5-May-86	3	.	.
14A	3	19-May-86	3	.	.
14A	3	2-Jun-86	4	.	.
14A	3	16-Jun-86	3	.	.
14A	3	30-Jun-86	3	.	.
14A	3	14-Jul-86	9	.	.
14A	3	28-Jul-86	1100	.	.
14A	3	12-Aug-86	3	.	.
14A	3	25-Aug-86	4	.	.
14A	3	8-Sep-86	4	.	.
14A	3	22-Sep-86	3	.	.
3	3	11-May-87	3	.	.
3	3	8-Jun-87	3	.	.
3	3	30-Jun-87	3	.	.
3	3	28-Jul-87	3	.	.
3	3	11-Aug-87	4	.	.
3	3	25-Aug-87	3	.	.
3	3	8-Sep-87	15	.	.
3	3	22-Sep-87	3	.	.
3	3	6-Oct-87	3	.	.
3	3	19-Oct-87	3	.	.
3	3	17-May-88	<3	<3	.
3	3	14-Jun-88	<3	<3	.
3	3	28-Jun-88	4	4	.
3	3	12-Jul-88	<3	3	.
3	3	26-Jul-88	<3	<3	.
3	3	9-Aug-88	<3	<3	.
3	3	23-Aug-88	<3	<3	.
3	3	6-Sep-88	<3	4	.
3	3	4-Oct-88	<3	<3	.
3	3	18-Oct-88	4	4	.
3	3	1-Nov-88	<3	<3	.
3	3	15-Nov-88	4	7	.
3	3	23-May-89	<3	<3	50(4)
3	3	6-Jun-89	<3	4	25(14)
3	3	20-Jun-89	<3	<3	(O)
3	3	18-Jul-89	93	93	(O)
3	3	1-Aug-89	<3	<3	(O)
3	3	8-Aug-89	<3	<3	(O)
3	3	29-Aug-89	4	9	(O)
3	3	18-Sep-89	<3	<3	(O)
3	3	26-Sep-89	15	43	50(4)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
3	3	10-Oct-89	<3	<3	(O)
3	3	24-Oct-89	9	23	(O)
3	3	7-Nov-89	<3	<3	(O)
3	3	21-May-90	43	43	(O)
3	3	4-Jun-90	4	9	(O)
3	3	2-Jul-90	4	4	(O)
3	3	16-Jul-90	4	4	(O)
3	3	30-Jul-90	<3	<3	(O)
3	3	13-Aug-90	<3	<3	(O)
3	3	27-Aug-90	<3	<3	(O)
3	3	10-Sep-90	<3	<3	50(3)
3	3	24-Sep-90	4	9	(O)
3	3	22-Oct-90	<3	<3	(O)
4	4	11-May-87	4	.	.
4	4	8-Jun-87	9	.	.
4	4	30-Jun-87	43	.	.
4	4	14-Jul-87	93	.	.
4	4	28-Jul-87	4	.	.
4	4	11-Aug-87	15	.	.
4	4	25-Aug-87	21	.	.
4	4	8-Sep-87	240	.	.
4	4	22-Sep-87	4	.	.
4	4	6-Oct-87	3	.	.
4	4	19-Oct-87	3	.	.
4	4	14-Jun-88	240	240	.
4	4	28-Jun-88	9	93	.
4	4	12-Jul-88	11	21	.
4	4	26-Jul-88	4	23	.
4	4	9-Aug-88	15	93	.
4	4	23-Aug-88	<3	9	.
4	4	6-Sep-88	93	240	.
4	4	20-Sep-88	4	15	.
4	4	4-Oct-88	43	1100	.
4	4	18-Oct-88	4	4	.
4	4	1-Nov-88	4	4	.
4	4	15-Nov-88	4	23	.
4	4	23-May-89	4	4	(O)
4	4	6-Jun-89	7	21	(O)
4	4	20-Jun-89	<3	<3	(O)
4	4	18-Jul-89	43	150	(O)
4	4	1-Aug-89	<3	240	(O)
4	4	8-Aug-89	23	460	(O)
4	4	29-Aug-89	<3	4	(O)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
4	4	18-Sep-89	43	43	(O)
4	4	25-Sep-89	>2400	>2400	(O)
4	4	24-Oct-89	15	93	(O)
4	4	7-Nov-89	<3	43	(O)
4	4	21-May-90	240	240	(O)
4	4	4-Jun-90	9	23	(O)
4	4	18-Jun-90	4	4	(O)
4	4	2-Jul-90	23	43	(O)
4	4	16-Jul-90	23	43	(O)
4	4	30-Jul-90	<3	93	(O)
4	4	13-Aug-90	<3	15	(O)
4	4	27-Aug-90	4	23	(O)
4	4	10-Sep-90	460	460	(O)
4	4	24-Sep-90	43	43	(O)
4	4	1-Oct-90	4	23	(O)
4	4	22-Oct-90	23	23	(O)
4	4	13-Jun-91	18	.	(O)
4	4	11-Jul-91	<9	.	(O)
4	4	25-Jul-91	18	.	(O)
4	4	8-Aug-91	<9	.	(O)
4	4	4-Sep-91	<9	.	(O)
4	4	15-Sep-91	18	.	(O)
4	4	2-Oct-91	<9	.	(O)
4	4	30-Oct-91	110	.	(O)
5	5	11-May-87	4	.	.
5	5	8-Jun-87	450	.	.
5	5	30-Jun-87	3	.	.
5	5	28-Jul-87	3	.	.
5	5	11-Aug-87	9	.	.
5	5	25-Aug-87	15	.	.
5	5	8-Sep-87	4	.	.
5	5	22-Sep-87	3	.	.
5	5	6-Oct-87	3	.	.
5	5	19-Oct-87	4	.	.
5	5	17-May-88	<3	<3	.
5	5	14-Jun-88	9	9	.
5	5	28-Jun-88	7	15	.
5	5	12-Jul-88	9	9	.
5	5	26-Jul-88	43	93	.
5	5	9-Aug-88	<3	4	.
5	5	23-Aug-88	43	43	.
5	5	6-Sep-88	9	43	.
5	5	4-Oct-88	43	43	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
5	5	18-Oct-88	<3	<3	.
5	5	1-Nov-88	4	9	.
5	5	15-Nov-88	23	43	.
5	5	23-May-89	150	150	50(2)
5	5	6-Jun-89	460	460	10(1)
5	5	20-Jun-89	43	43	(O)
5	5	18-Jul-89	93	150	(O)
5	5	1-Aug-89	<3	23	25,50(1,1)
5	5	8-Aug-89	93	460	(O)
5	5	29-Aug-89	23	23	(O)
5	5	18-Sep-89	23	23	(O)
5	5	26-Sep-89	240	240	10,25,50(1,2,2)
5	5	10-Oct-89	9	9	(O)
5	5	24-Oct-89	<3	4	50(2)
5	5	7-Nov-89	<3	9	(O)
5	5	21-May-90	4	15	(O)
5	5	4-Jun-90	<3	4	(O)
5	5	2-Jul-90	150	1100	(O)
5	5	16-Jul-90	43	240	(O)
5	5	30-Jul-90	4	15	(O)
5	5	13-Aug-90	<3	4	(O)
5	5	27-Aug-90	<3	4	(O)
5	5	10-Sep-90	9	23	(O)
5	5	24-Sep-90	43	43	(O)
5	5	22-Oct-90	15	460	50(3)
5	5	27-Jun-91	<9	.	(O)
5	5	25-Jul-91	18	.	(O)
5	5	8-Aug-91	<9	.	(O)
5	5	4-Sep-91	<9	.	(O)
5	5	2-Oct-91	<9	.	(O)
5	5	17-Nov-91	69	.	(O)
5	5	30-Oct-91	41	.	(O)
6	6	8-Jun-87	3	.	.
6	6	14-Jul-87	3	.	.
6	6	28-Jul-87	3	.	.
6	6	11-Aug-87	15	.	.
6	6	25-Aug-87	3	.	.
6	6	8-Sep-87	9	.	.
6	6	22-Sep-87	23	.	.
6	6	6-Oct-87	3	.	.
6	6	19-Oct-87	3	.	.
6	6	14-Jun-88	<3	<3	.
6	6	12-Jul-88	<3	4	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
6	6	26-Jul-88	4	4	.
6	6	9-Aug-88	23	23	.
6	6	23-Aug-88	<3	9	.
6	6	6-Sep-88	23	43	.
6	6	20-Sep-88	<3	<3	.
6	6	4-Oct-88	<3	4	.
6	6	18-Oct-88	23	43	.
6	6	1-Nov-88	<3	<3	.
6	6	15-Nov-88	<3	<3	.
6	6	23-May-89	<3	9	(O)
6	6	6-Jun-89	<3	4	(O)
6	6	20-Jun-89	<3	9	(O)
6	6	18-Jul-89	93	460	(O)
6	6	1-Aug-89	<3	4	(O)
6	6	8-Aug-89	240	460	(O)
6	6	29-Aug-89	4	4	(O)
6	6	18-Sep-89	3	7	(O)
6	6	26-Sep-89	23	460	(O)
6	6	10-Oct-89	7	15	(O)
6	6	24-Oct-89	43	460	50(2)
6	6	7-Nov-89	7	15	(O)
6	6	21-May-90	<3	<3	(O)
6	6	4-Jun-90	<3	23	(O)
6	6	18-Jun-90	<3	<3	(O)
6	6	2-Jul-90	9	14	(O)
6	6	16-Jul-90	<3	<3	(O)
6	6	30-Jul-90	4	43	(O)
6	6	13-Aug-90	<3	<3	(O)
6	6	27-Aug-90	<3	4	(O)
6	6	10-Sep-90	9	9	(O)
6	6	24-Sep-90	9	23	(O)
6	6	1-Oct-90	<3	<3	(O)
6	6	22-Oct-90	7	43	(O)
15	7	22-Jul-85	3	.	.
15	7	5-Aug-85	3	.	.
15	7	3-Sep-85	9	.	.
15	7	30-Sep-85	15	.	.
15	7	21-Oct-85	93	.	.
15	7	5-May-86	43	.	.
15	7	19-May-86	3	.	.
15	7	2-Jun-86	3	.	.
15	7	16-Jun-86	3	.	.
15	7	30-Jun-86	4	.	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
15	7	14-Jul-86	43	.	.
15	7	28-Jul-86	240	.	.
15	7	12-Aug-86	4	.	.
15	7	25-Aug-86	3	.	.
15	7	8-Sep-86	3	.	.
15	7	22-Sep-86	9	.	.
7	7	8-Jun-87	3	.	.
7	7	14-Jul-87	3	.	.
7	7	28-Jul-87	3	.	.
7	7	11-Aug-87	9	.	.
7	7	25-Aug-87	3	.	.
7	7	8-Sep-87	4	.	.
7	7	22-Sep-87	15	.	.
7	7	6-Oct-87	7	.	.
7	7	19-Oct-87	3	.	.
7	7	14-Jun-88	<3	<3	.
7	7	12-Jul-88	<3	4	.
7	7	26-Jul-88	4	4	.
7	7	9-Aug-88	<3	4	.
7	7	23-Aug-88	<3	<3	.
7	7	6-Sep-88	23	240	.
7	7	20-Sep-88	<3	4	.
7	7	4-Oct-88	<3	<3	.
7	7	18-Oct-88	4	4	.
7	7	1-Nov-88	4	4	.
7	7	15-Nov-88	4	4	.
7	7	23-May-89	<3	<3	(O)
7	7	6-Jun-89	4	4	(O)
7	7	20-Jun-89	4	4	(O)
7	7	18-Jul-89	750	390	(O)
7	7	1-Aug-89	<3	<3	(O)
7	7	8-Aug-89	<3	<3	(O)
7	7	29-Aug-89	<3	<3	(O)
7	7	18-Sep-89	23	4	(O)
7	7	26-Sep-89	<3	<3	(O)
7	7	10-Oct-89	<3	<3	(O)
7	7	24-Oct-89	9	23	(O)
7	7	7-Nov-89	4	9	(O)
7	7	21-May-90	<3	<3	(O)
7	7	4-Jun-90	<3	<3	(O)
7	7	18-Jun-90	<3	<3	(O)
7	7	2-Jul-90	<3	<3	(O)
7	7	16-Jul-90	<3	4	(O)
7	7	30-Jul-90	4	7	(O)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
7	7	13-Aug-90	<3	23	(O)
7	7	27-Aug-90	9	9	(O)
7	7	10-Sep-90	<3	<3	(O)
7	7	24-Sep-90	3	9	(O)
7	7	1-Oct-90	<3	4	(O)
7	7	22-Oct-90	<3	4	(O)
7	7	25-Jul-91	<9	.	(O)
7	7	7-Aug-91	<9	.	(O)
7	7	4-Sep-91	<9	.	(O)
7	7	15-Sep-91	<9	.	(O)
7	7	2-Oct-91	<9	.	(O)
7	7	17-Oct-91	<9	.	(O)
8	8	11-May-87	3	.	.
8	8	8-Jun-87	3	.	.
8	8	30-Jun-87	3	.	.
8	8	28-Jul-87	3	.	.
8	8	11-Aug-87	3	.	.
8	8	25-Aug-87	3	.	.
8	8	8-Sep-87	3	.	.
8	8	22-Sep-87	9	.	.
8	8	6-Oct-87	3	.	.
8	8	19-Oct-87	3	.	.
8	8	17-May-88	<3	<3	.
8	8	14-Jun-88	<3	<3	.
8	8	28-Jun-88	9	23	.
8	8	12-Jul-88	<3	<3	.
8	8	26-Jul-88	4	4	.
8	8	9-Aug-88	<3	<3	.
8	8	23-Aug-88	<3	<3	.
8	8	6-Sep-88	43	93	.
8	8	4-Oct-88	<3	<3	.
8	8	18-Oct-88	<3	<3	.
8	8	1-Nov-88	4	4	.
8	8	15-Nov-88	<3	9	.
8	8	23-May-89	<3	<3	(O)
8	8	5-Jun-89	<3	4	(O)
8	8	20-Jun-89	<3	<3	(O)
8	8	18-Jul-89	460	460	(O)
8	8	1-Aug-89	<3	4	(O)
8	8	8-Aug-89	<3	4	(O)
8	8	29-Aug-89	4	4	(O)
8	8	18-Sep-89	7	7	(O)
8	8	26-Sep-89	<3	4	50(2)

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
8	8	10-Oct-89	<3	<3	(O)
8	8	24-Oct-89	<3	<3	(O)
8	8	7-Nov-89	15	43	(O)
8	8	21-May-90	<3	<3	(O)
8	8	4-Jun-90	<3	<3	(O)
8	8	2-Jul-90	<3	4	(O)
8	8	16-Jul-90	<3	<3	(O)
8	8	30-Jul-90	<3	<3	(O)
8	8	13-Aug-90	4	23	(O)
8	8	27-Aug-90	<3	4	(O)
8	8	10-Sep-90	<3	<3	50(4)
8	8	24-Sep-90	<3	<3	(O)
8	8	22-Oct-90	39	39	(O)
9	9	11-May-87	4	.	.
9	9	8-Jun-87	9	.	.
9	9	30-Jun-87	4	.	.
9	9	14-Jul-87	75	.	.
9	9	28-Jul-87	9	.	.
9	9	11-Aug-87	23	.	.
9	9	8-Sep-87	43	.	.
9	9	22-Sep-87	3	.	.
9	9	6-Oct-87	21	.	.
9	9	19-Oct-87	75	.	.
9	9	17-May-88	93	93	.
9	9	14-Jun-88	23	43	.
9	9	28-Jun-88	9	23	.
9	9	12-Jul-88	9	23	.
9	9	26-Jul-88	93	240	.
9	9	9-Aug-88	43	240	.
9	9	23-Aug-88	9	9	.
9	9	6-Sep-88	28	1100	.
9	9	20-Sep-88	<3	<3	.
9	9	4-Oct-88	4	43	.
9	9	18-Oct-88	43	43	.
9	9	1-Nov-88	9	9	.
9	9	15-Nov-88	<3	9	.
9	9	23-May-89	4	4	(O)
9	9	5-Jun-89	9	9	0(?)
9	9	20-Jun-89	<3	<3	50(?)
9	9	18-Jul-89	460	460	50(2)
9	9	1-Aug-89	<3	39	(O)
9	9	8-Aug-89	39	150	(O)
9	9	29-Aug-89	23	240	(O)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
9	9	18-Sep-89	4	43	(O)
9	9	26-Sep-89	43	43	(O)
9	9	10-Oct-89	<3	20	(O)
9	9	24-Oct-89	9	9	50(5)
9	9	7-Nov-89	<3	<3	(O)
9	9	21-May-90	4	9	(O)
9	9	4-Jun-90	<3	4	(O)
9	9	2-Jul-90	15	43	(O)
9	9	16-Jul-90	9	43	(O)
9	9	30-Jul-90	43	150	(O)
9	9	13-Aug-90	43	43	(O)
9	9	27-Aug-90	9	93	(O)
9	9	10-Sep-90	<3	7	(O)
9	9	24-Sep-90	15	240	(O)
9	9	22-Oct-90	<3	15	50(3)
10	10	11-May-87	3	.	.
10	10	8-Jun-87	15	.	.
10	10	30-Jun-87	3	.	.
10	10	14-Jul-87	43	.	.
10	10	28-Jul-87	9	.	.
10	10	11-Aug-87	7	.	.
10	10	8-Sep-87	23	.	.
10	10	22-Sep-87	4	.	.
10	10	6-Oct-87	4	.	.
10	10	19-Oct-87	3	.	.
10	10	17-May-88	4	4	.
10	10	14-Jun-88	4	43	.
10	10	28-Jun-88	4	240	.
10	10	12-Jul-88	23	240	.
10	10	26-Jul-88	4	9	.
10	10	9-Aug-88	23	2400	.
10	10	23-Aug-88	<3	43	.
10	10	6-Sep-88	7	93	.
10	10	20-Sep-88	7	15	.
10	10	4-Oct-88	9	23	.
10	10	18-Oct-88	9	23	.
10	10	1-Nov-88	<3	<3	.
10	10	15-Nov-88	3	7	.
10	10	23-May-89	4	4	(O)
10	10	5-Jun-89	23	23	50(6)
10	10	20-Jun-89	4	23	50(?)
10	10	18-Jul-89	93	390	50(5)
10	10	1-Aug-89	4	75	(O)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
10	10	8-Aug-89	7	93	(O)
10	10	29-Aug-89	<3	23	(O)
10	10	18-Sep-89	9	240	(O)
10	10	26-Sep-89	4	43	(O)
10	10	10-Oct-89	<3	43	(O)
10	10	24-Oct-89	43	4	(O)
10	10	7-Nov-89	14	20	(O)
10	10*	21-May-90	<3	<3	25(?)
10	10	4-Jun-90	<3	9	(O)
10	10	2-Jul-90	43	460	(O)
10	10	16-Jul-90	20	>2400	(O)
10	10	30-Jul-90	4	23	(O)
10	10	13-Aug-90	4	23	(O)
10	10	27-Aug-90	9	23	(O)
10	10	10-Sep-90	<3	9	(O)
10	10	24-Sep-90	7	43	(O)
10	10	22-Oct-90	<3	4	(O)
10	10	13-Jun-91	<9	.	(O)
10	10	27-Jun-91	<9	.	(O)
10	10	11-Jul-91	18	.	(O)
10	10	25-Jul-91	110	.	(O)
10	10	8-Aug-91	<9	.	(O)
10	10	4-Sep-91	<9	.	(O)
10	10	15-Sep-91	<9	.	(O)
10	10	2-Oct-91	<9	.	(O)
10	10	17-Oct-91	29	.	(O)
10	10	30-Oct-91	88	.	(O)
12	10A	22-Jul-85	2400	.	.
12	10A	5-Aug-85	43	.	.
12	10A	19-Aug-85	23	.	.
12	10A	3-Sep-85	43	.	.
12	10A	30-Sep-85	430	.	.
12	10A	21-Oct-85	9	.	.
12	10A	5-May-86	120	.	.
12	10A	19-May-86	230	.	.
12	10A	2-Jun-86	930	.	.
12	10A	16-Jun-86	430	.	.
12	10A	30-Jun-86	43	.	.
12	10A	14-Jul-86	430	.	.
12	10A	28-Jul-86	1100	.	.
12	10A	12-Aug-86	240	.	.
12	10A	25-Aug-86	43	.	.
12	10A	8-Sep-86	150	.	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
12	10A	22-Sep-86	150	.	.
12	10A	4-Jun-90	93	460	(O)
12	10A	2-Jul-90	93	460	(O)
12	10A	16-Jul-90	4	240	(O)
12	10A	30-Jul-90	43	460	(O)
12	10A	13-Aug-90	4	43	(O)
12	10A	27-Aug-90	4	43	(O)
12	10A	10-Sep-90	4	43	(O)
12	10A	24-Sep-90	4	43	(O)
12	10A	22-Oct-90	15	43	(O)
11	11	11-May-87	9	.	.
11	11	8-Jun-87	23	.	.
11	11	30-Jun-87	3	.	.
11	11	14-Jul-87	93	.	.
11	11	28-Jul-87	3	.	.
11	11	11-Aug-87	9	.	.
11	11	8-Sep-87	93	.	.
11	11	22-Sep-87	43	.	.
11	11	6-Oct-87	460	.	.
11	11	19-Oct-87	93	.	.
11	11	17-May-88	4	23	.
11	11	14-Jun-88	<3	<3	.
11	11	28-Jun-88	240	460	.
11	11	12-Jul-88	15	93	.
11	11	26-Jul-88	93	93	.
11	11	9-Aug-88	240	460	.
11	11	23-Aug-88	7	7	.
11	11	6-Sep-88	9	93	.
11	11	20-Sep-88	4	9	.
11	11	4-Oct-88	15	43	.
11	11	18-Oct-88	93	150	.
11	11	1-Nov-88	43	43	.
11	11	15-Nov-88	4	9	.
11	11	23-May-89	4	9	(O)
11	11	5-Jun-89	7	7	50(12)
11	11	20-Jun-89	93	93	50(?)
11	11	1-Aug-89	<3	240	50(20)
11	11	8-Aug-89	23	43	(O)
11	11	29-Aug-89	23	93	(O)
11	11	18-Sep-89	240	240	(O)
11	11	26-Sep-89	9	23	(O)
11	11	10-Oct-89	240	240	(O)
11	11	24-Oct-89	<3	<3	50(25)

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
11	11	7-Nov-89	9	23	(O)
11	11	21-May-90	4	4	(O)
11	11	4-Jun-90	7	93	(O)
11	11	2-Jul-90	460	460	50(14)
11	11	16-Jul-90	23	240	(O)
11	11	30-Jul-90	93	240	(O)
11	11	13-Aug-90	9	43	50(9)
11	11	27-Aug-90	43	93	(O)
11	11	10-Sep-90	4	7	(O)
11	11	24-Sep-90	240	240	(O)
11	11	13-Jun-91	9	.	(O)
11	11	27-Jun-91	54	.	(O)
11	11	11-Jul-91	18	.	(O)
11	11	25-Jul-91	41	.	(O)
11	11	8-Aug-91	<9	.	(O)
11	11	4-Sep-91	9	.	(O)
11	11	15-Sep-91	54	.	(O)
11	11	2-Oct-91	110	.	(O)
11	11	17-Oct-91	9	.	(O)
11	11	30-Oct-91	248	.	(O)
11	11	10-Jun-92	17	.	.
11	11	8-Jul-92	22	.	.
11	11	15-Jul-92	50	.	.
11	11	19-Aug-92	8	.	.
11	11	25-May-93	23	.	.
11	11	4-Jun-93	.	.	.
11	11	16-Jun-93	130	.	.
11	11	7-Jul-93	13	.	.
11	11	14-Jul-93	7	.	.
11	11	28-Jul-93	130	.	.
11	11	11-Aug-93	50	.	.
11	11	25-Aug-93	4	.	.
11	11	8-Sep-93	170	.	.
11	11	22-Sep-93	240	.	.
11A	11A	10-Jun-92	50	.	.
11A	11A	8-Jul-92	23	.	.
11A	11A	15-Jul-92	130	.	.
11A	11A	19-Aug-92	50	.	.
11A	11A	1-Jun-94	30	.	.
11A	11A	15-Jun-94	110	.	50(1)
11A	11A	29-Jun-94	110	.	.
11A	11A	13-Jul-94	900	.	.
11A	11A	27-Jul-94	900	.	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
11A	11A	10-Aug-94	50	.	.
11A	11A	24-Aug-94	110	.	.
11A	11A	21-Sep-94	22	.	.
11B	11B	10-Jun-92	17	.	.
11B	11B	8-Jul-92	23	.	.
11B	11B	15-Jul-92	1601	.	.
11B	11B	19-Aug-92	110	.	.
11B	11B	25-May-93	13	.	.
11B	11B	4-Jun-93	.	.	.
11B	11B	16-Jun-93	50	.	.
11B	11B	7-Jul-93	50	.	.
11B	11B	14-Jul-93	4	.	.
11B	11B	28-Jul-93	300	.	.
11B	11B	11-Aug-93	50	.	.
11B	11B	25-Aug-93	30	.	.
11B	11B	8-Sep-93	130	.	.
11B	11B	22-Sep-93	80	.	.
11B	11B	1-Jun-94	2	.	.
11B	11B	15-Jun-94	300	.	.
11B	11B	29-Jun-94	17	.	.
11B	11B	13-Jul-94	240	.	.
11B	11B	27-Jul-94	170	.	.
11B	11B	10-Aug-94	130	.	.
11B	11B	24-Aug-94	130	.	.
11B	11B	21-Sep-94	50	.	.
12	12	11-May-87	9	.	.
12	12	8-Jun-87	93	.	.
12	12	30-Jun-87	4	.	.
12	12	14-Jul-87	4	.	.
12	12	28-Jul-87	9	.	.
12	12	11-Aug-87	93	.	.
12	12	8-Sep-87	43	.	.
12	12	22-Sep-87	23	.	.
12	12	6-Oct-87	4	.	.
12	12	19-Oct-87	23	.	.
12	12	17-May-88	9	9	.
12	12	14-Jun-88	<3	4	.
12	12	28-Jun-88	7	11	.
12	12	12-Jul-88	15	93	.
12	12	26-Jul-88	15	240	.
12	12	9-Aug-88	23	39	.
12	12	23-Aug-88	4	9	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
12	12	6-Sep-88	93	93	.
12	12	20-Sep-88	240	240	.
12	12	4-Oct-88	43	93	.
12	12	18-Oct-88	<3	4	.
12	12	1-Nov-88	9	9	.
12	12	15-Nov-88	23	23	.
12	12	23-May-89	9	9	(O)
12	12	5-Jun-89	4	9	50(2)
12	12	20-Jun-89	43	43	50(?)
12	12	18-Jul-89	240	1100	50(2)
12	12	1-Aug-89	<3	460	50(50+)
12	12	8-Aug-89	43	43	(O)
12	12	29-Aug-89	23	23	(O)
12	12	18-Sep-89	93	93	(O)
12	12	26-Sep-89	43	43	(O)
12	12	10-Oct-89	23	23	50(2)
12	12	24-Oct-89	43	93	50(15+)
12	12	7-Nov-89	9	23	(O)
12	12	21-May-90	<3	4	(O)
12	12	4-Jun-90	23	43	(O)
12	12	2-Jul-90	23	39	(O)
12	12	16-Jul-90	15	150	(O)
12	12	13-Aug-90	43	43	50(4)
12	12	27-Aug-90	9	9	(O)
12	12	10-Sep-90	43	43	(O)
12	12	24-Sep-90	93	93	(O)
12	12	22-Oct-90	9	9	50(10)
12	12	13-Jun-91	9	.	(O)
12	12	27-Jun-91	<9	.	(O)
12	12	11-Jul-91	18	.	(O)
12	12	25-Jul-91	41	.	(O)
12	12	8-Aug-91	<9	.	(O)
12	12	4-Sep-91	29	.	(O)
12	12	15-Sep-91	139	.	(O)
12	12	2-Oct-91	>248	.	(O)
12	12	17-Oct-91	54	.	(O)
12	12	30-Oct-91	110	.	(O)
12	12	10-Jun-92	4	.	.
12	12	8-Jul-92	30	.	.
12	12	15-Jul-92	130	.	.
12	12	19-Aug-92	30	.	.
12	12	25-May-93	2	.	.
12	12	4-Jun-93	.	.	.
12	12	16-Jun-93	11	.	.

NINIGRET POND BACTERIA DATA 1985-1994

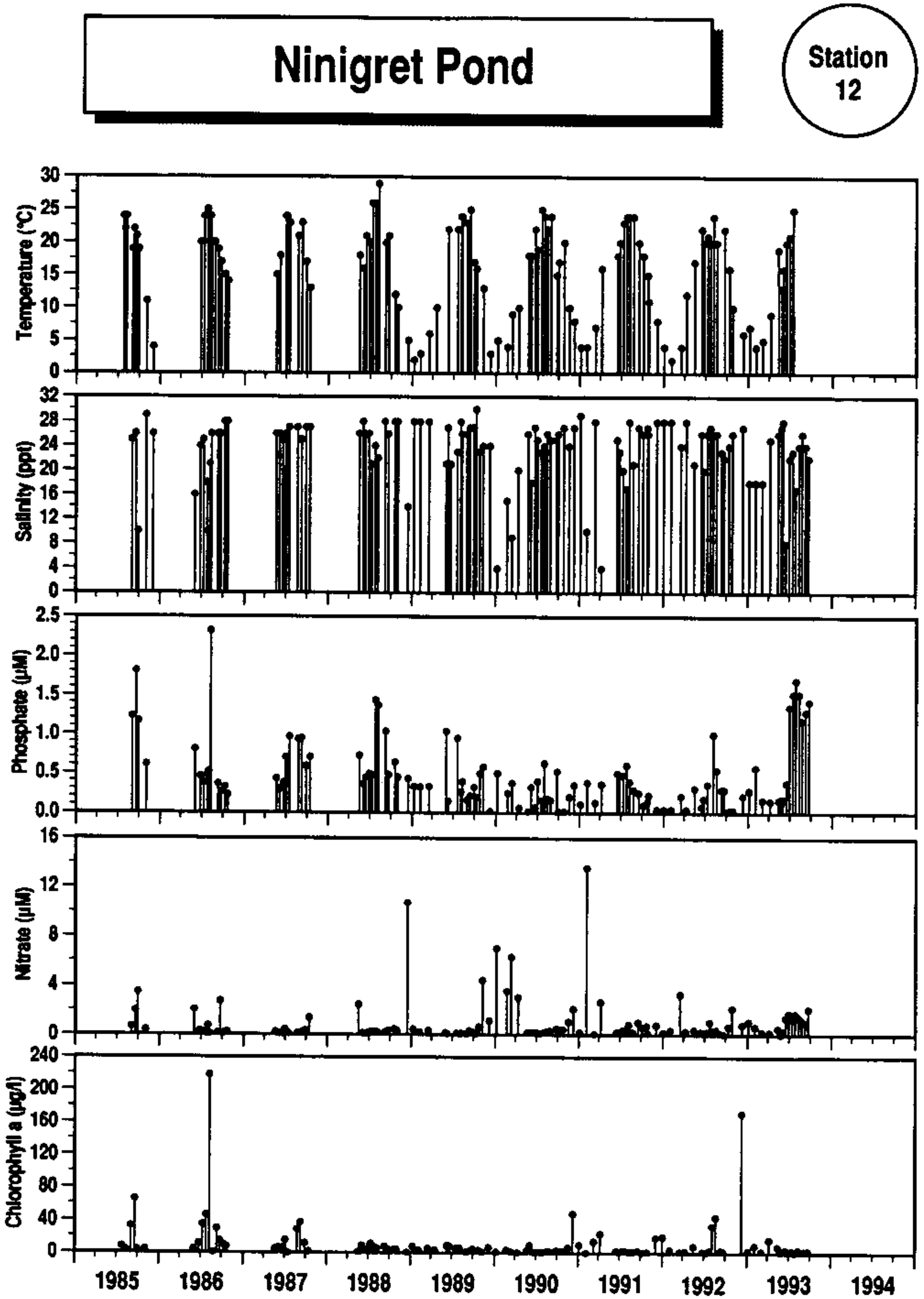
OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
12	12	7-Jul-93	1	.	.
12	12	14-Jul-93	17	.	.
12	12	28-Jul-93	130	.	.
12	12	11-Aug-93	23	.	.
12	12	25-Aug-93	14	.	.
12	12	8-Sep-93	17	.	.
12	12	22-Sep-93	300	.	.
12A	12A	10-Jun-92	4	.	.
12A	12A	8-Jul-92	7	.	.
12A	12A	15-Jul-92	50	.	.
12A	12A	19-Aug-92	30	.	.
12B	12B	10-Jun-92	8	.	.
12B	12B	8-Jul-92	8	.	.
12B	12B	15-Jul-92	220	.	.
12B	12B	19-Aug-92	142	.	.
12B	12B	25-May-93	7	.	.
12B	12B	4-Jun-93	.	.	.
12B	12B	16-Jun-93	4	.	.
12B	12B	7-Jul-93	13	.	.
12B	12B	14-Jul-93	11	.	.
12B	12B	28-Jul-93	80	.	.
12B	12B	11-Aug-93	30	.	.
12B	12B	25-Aug-93	23	.	.
12B	12B	8-Sep-93	170	.	.
12B	12B	22-Sep-93	300	.	.
12B	12B	1-Jun-94	2	.	.
12B	12B	15-Jun-94	130	.	.
12B	12B	29-Jun-94	22	.	.
12B	12B	13-Jul-94	50	.	.
12B	12B	27-Jul-94	110	.	.
12B	12B	10-Aug-94	.	.	.
12B	12B	24-Aug-94	9	.	.
12B	12B	21-Sep-94	17	.	.
13	13	22-Jul-85	430	.	.
13	13	5-Aug-85	23	.	.
13	13	19-Aug-85	150	.	.
13	13	23-Sep-85	15	.	.
13	13	30-Sep-85	230	.	.
13	13	21-Oct-85	43	.	.
13	13	5-May-86	4	.	.
13	13	19-May-86	93	.	.

NINIGRET POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
13	13	2-Jun-86	43	.	.
13	13	16-Jun-86	93	.	.
13	13	30-Jun-86	9	.	.
13	13	14-Jul-86	230	.	.
13	13	28-Jul-86	2400	.	.
13	13	12-Aug-86	43	.	.
13	13	25-Aug-86	9	.	.
13	13	8-Sep-86	9	.	.
13	13	22-Sep-86	93	.	.
13A	13A	5-May-86	3	.	.
13A	13A	19-May-86	9	.	.
13A	13A	16-Jun-86	43	.	.
13A	13A	30-Jun-86	23	.	.
13A	13A	14-Jul-86	23	.	.
13A	13A	28-Jul-86	1500	.	.
13A	13A	12-Aug-86	3	.	.
13A	13A	25-Aug-86	3	.	.
13A	13A	8-Sep-86	43	.	.
13A	13A	22-Sep-86	23	.	.
14	14	22-Jul-85	430	.	.
14	14	5-Aug-85	20	.	.
14	14	19-Aug-85	430	.	.
14	14	3-Sep-85	4	.	.
14	14	21-Oct-85	23	.	.
14	14	5-May-86	15	.	.
14	14	19-May-86	9	.	.
14	14	2-Jun-86	14	.	.
14	14	16-Jun-86	93	.	.
14	14	30-Jun-86	4	.	.
14	14	14-Jul-86	39	.	.
14	14	28-Jul-86	4600	.	.
14	14	12-Aug-86	150	.	.
14	14	25-Aug-86	9	.	.
14	14	8-Sep-86	150	.	.
14	14	22-Sep-86	4	.	.

Ninigret Pond

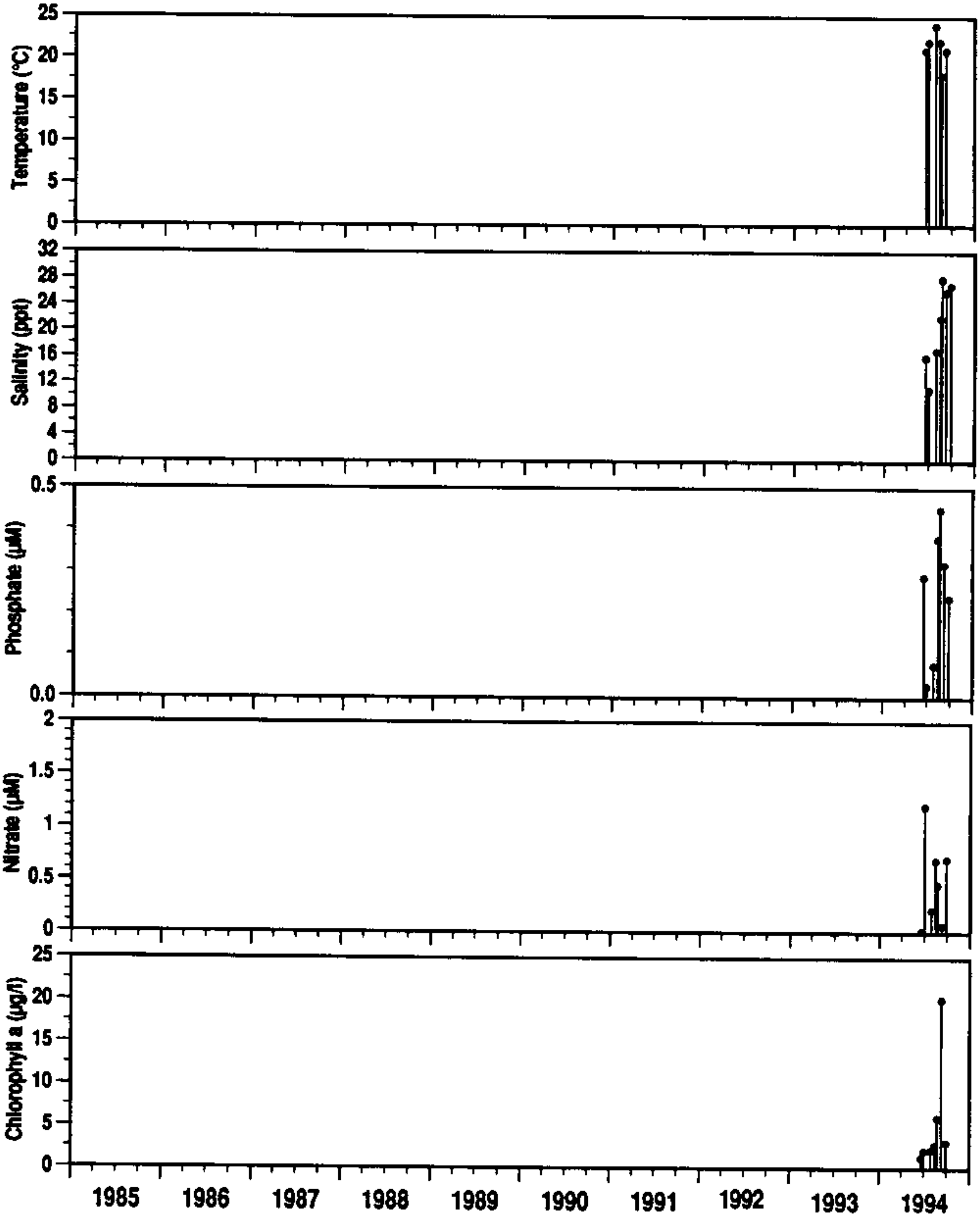
Water Quality



Ninigret Pond
Station 12
Temperature (°C)
Salinity (ppt)
Phosphate (µM)
Nitrate (µM)
Chlorophyll a (µg/l)
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

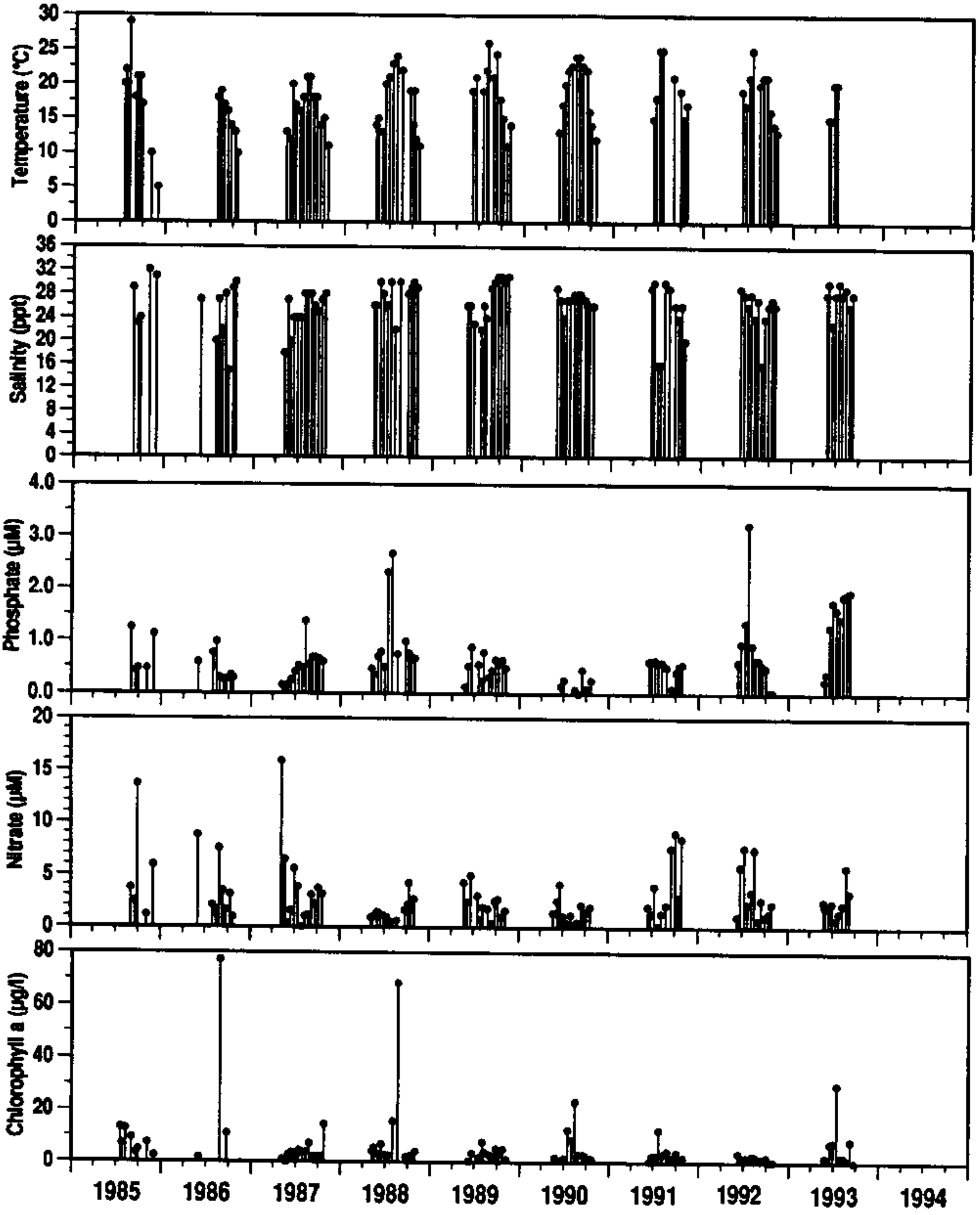
Ninigret Pond

Station 12 A



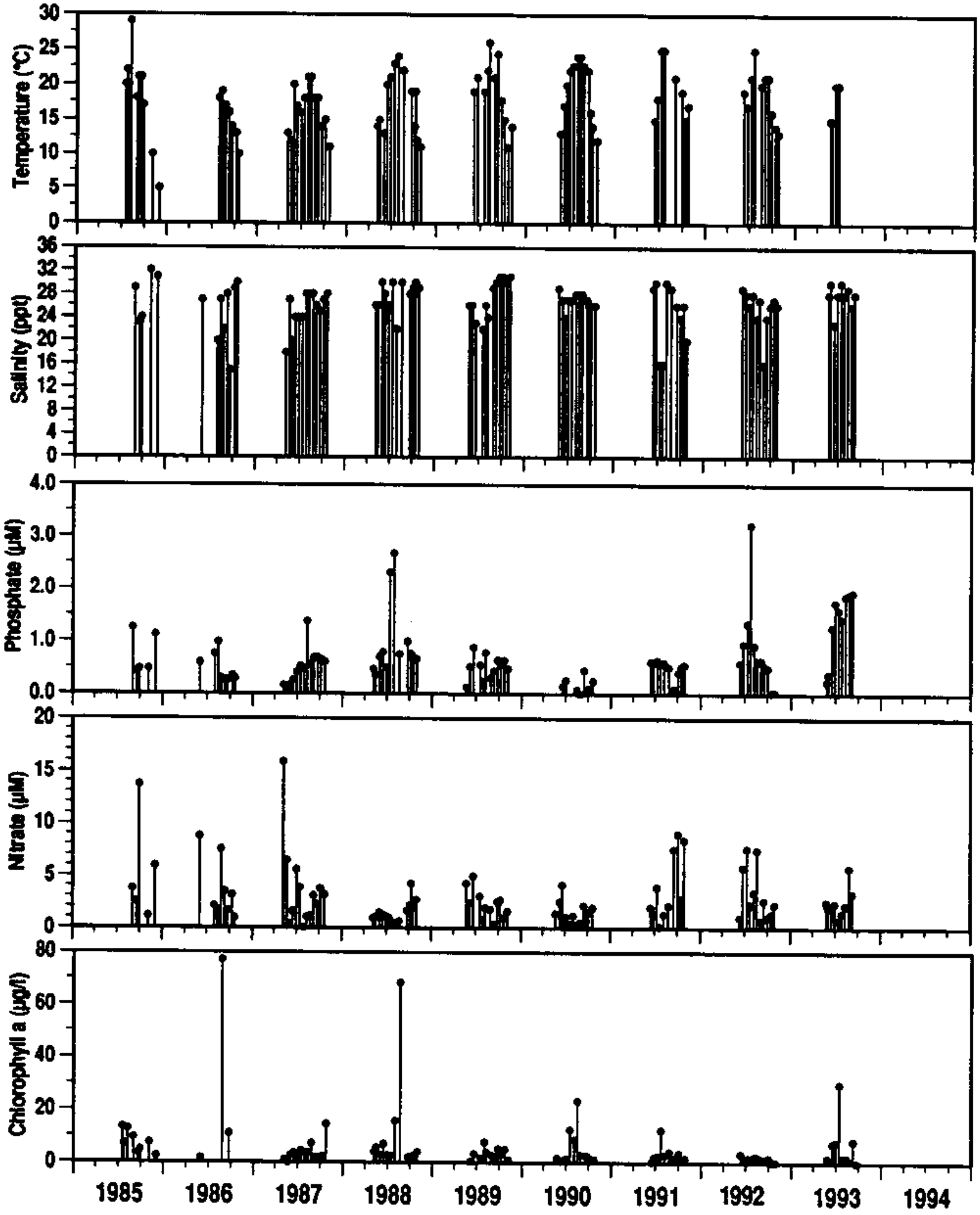
Ninigret Pond

Station 13



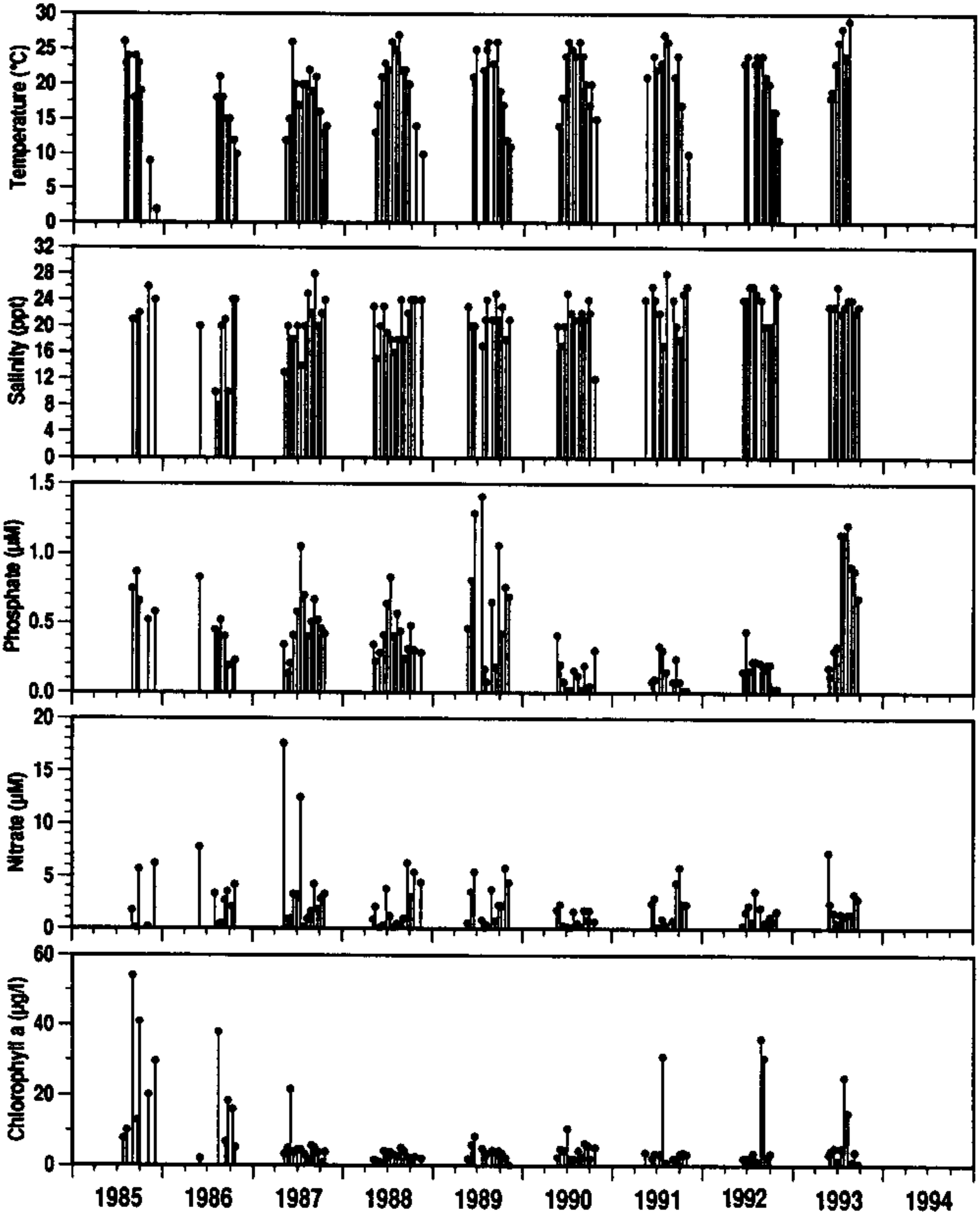
Ninigret Pond

Station 13



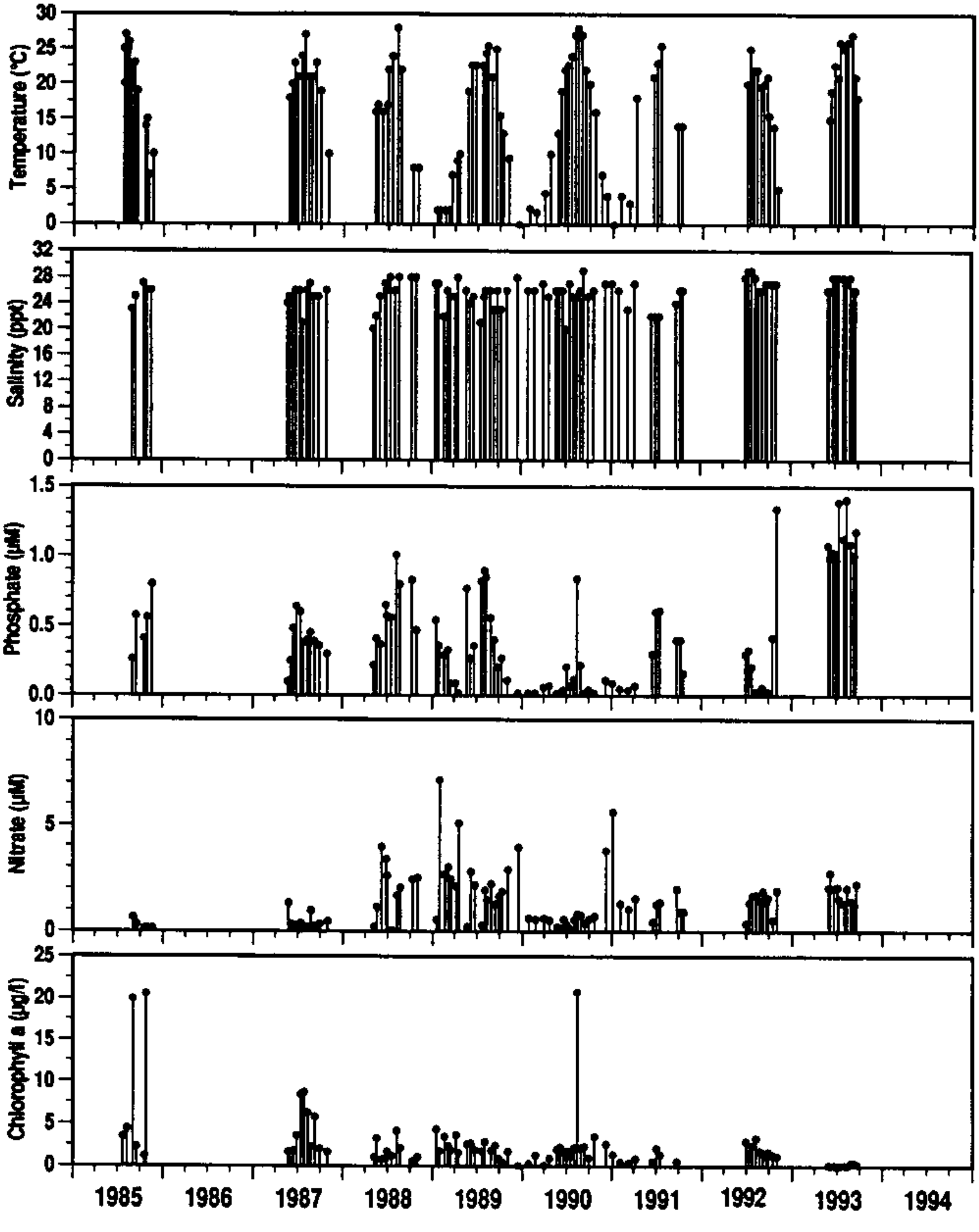
Ninigret Pond

Station 14



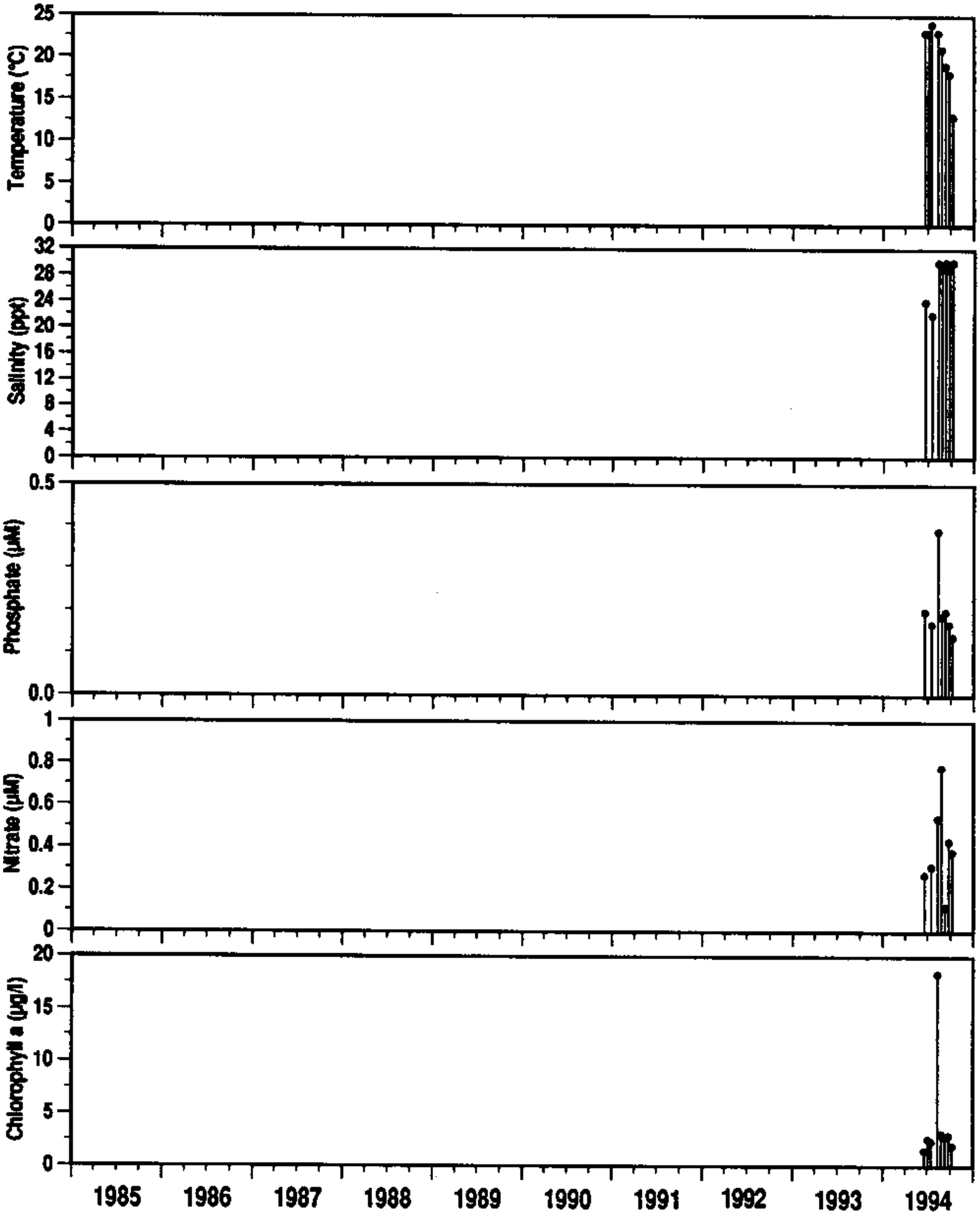
Ninigret Pond

Station 15



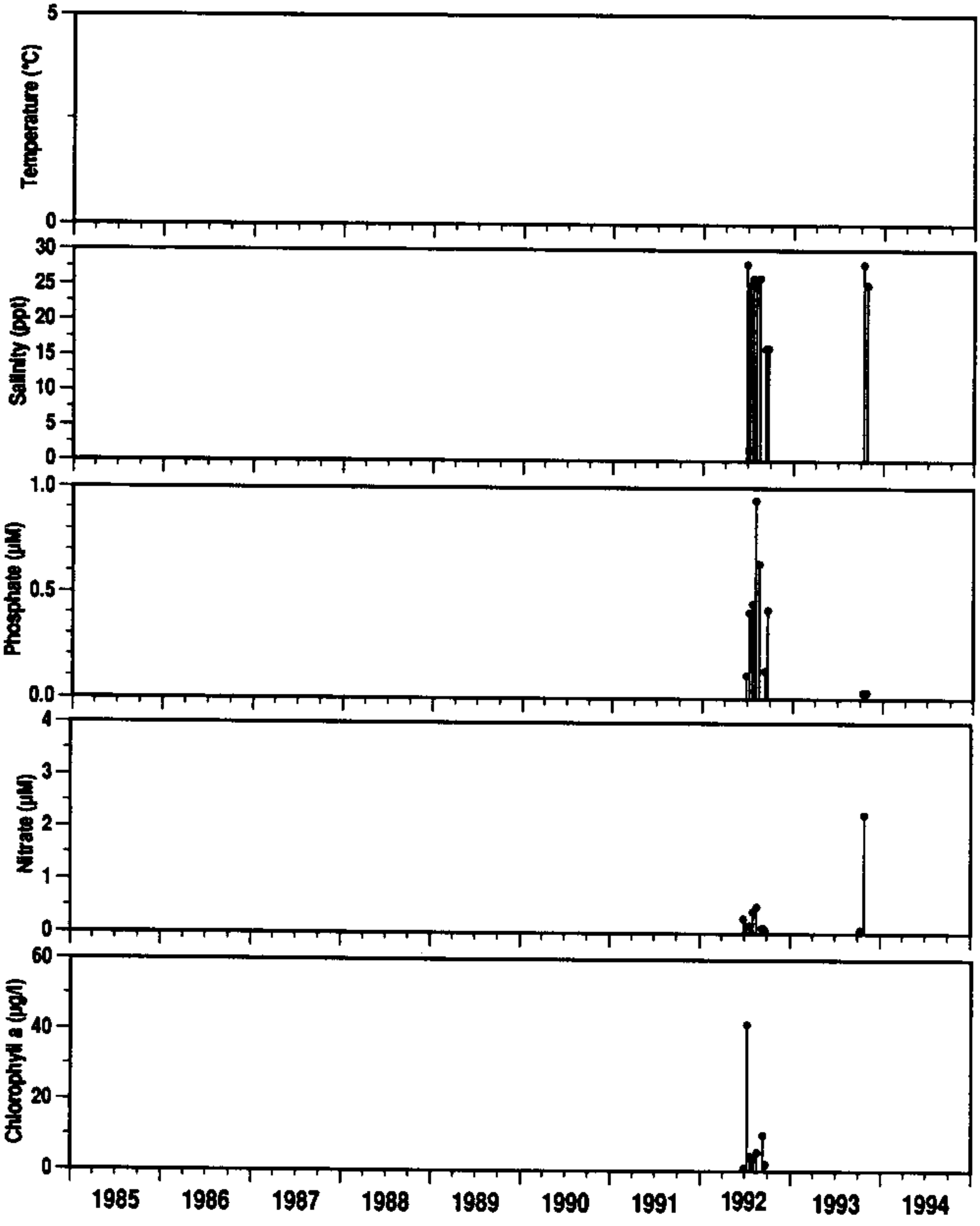
Ninigret Pond

Station 15A



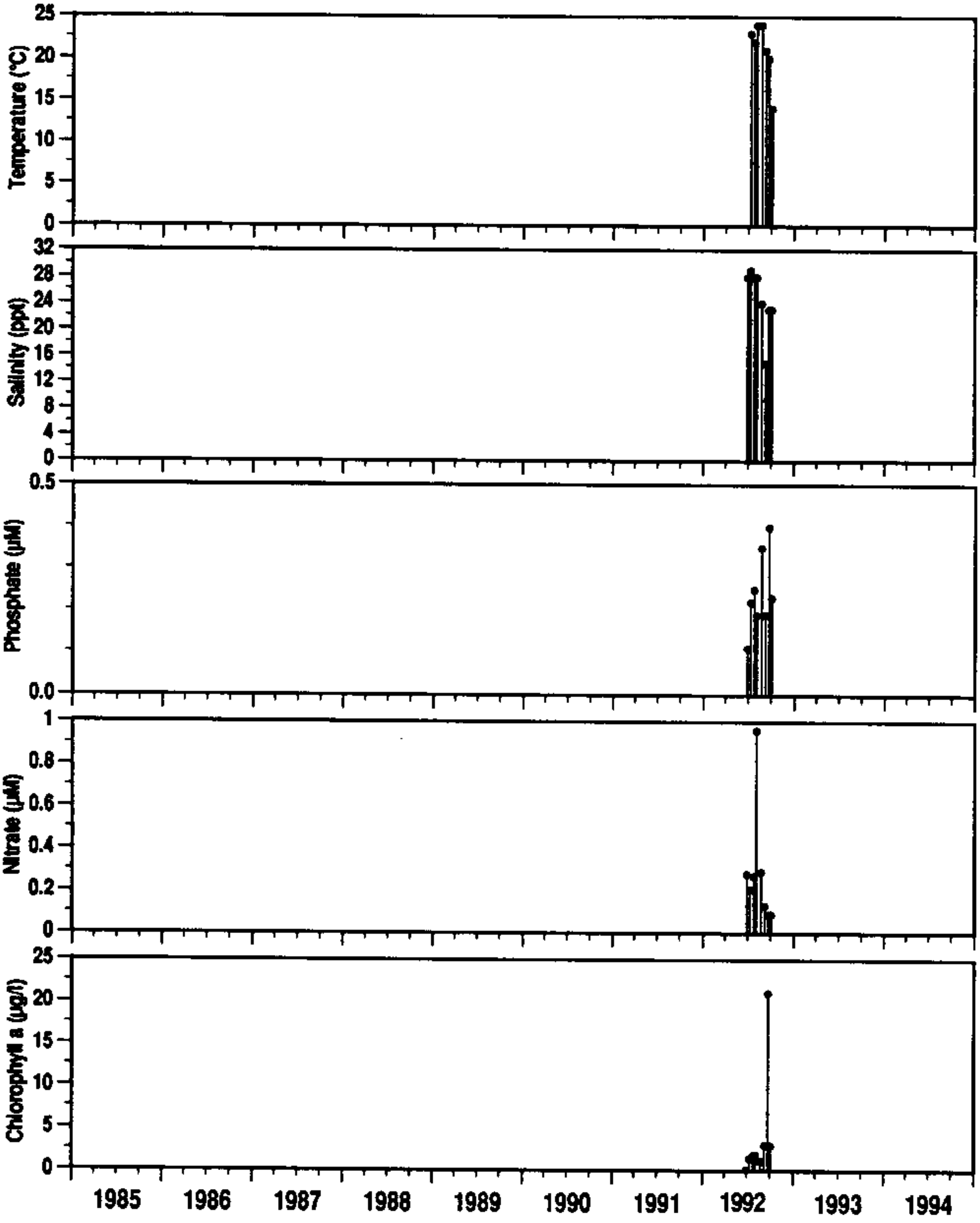
Ninigret Pond

Station UNH2



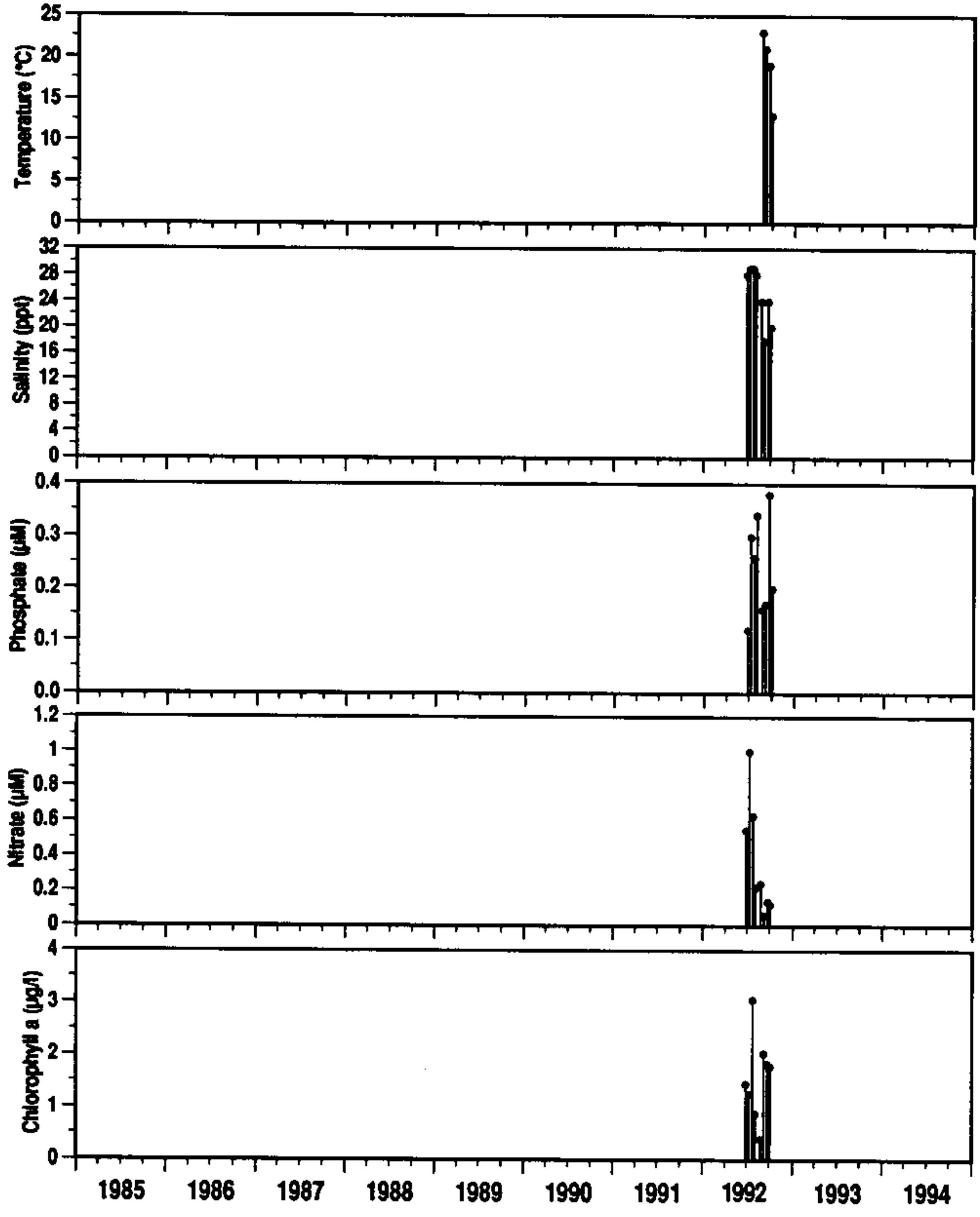
Ninigret Pond

Station UNH3



Ninigret Pond

Station UNH4



NINIGRET POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	12	25-Jul-85	24	10.0	.	.	.	.	7.39	.	.
ON	12	31-Jul-85	22	12.0	.	.	.	.	.	.	.
ON	12	8-Aug-85	24	8.0	.	.	.	.	3.95	.	.
ON	12	1-Sep-85	19	8.0	.	25	0.65	1.23	32.86	.	.
ON	12	8-Sep-85	22	8.0	.	.	.	.	.	.	.
ON	12	19-Sep-85	21	14.0	.	26	1.95	1.81	65.52	.	.
ON	12	29-Sep-85	19	9.0	.	10	3.48	1.17	3.57	.	.
ON	12	3-Nov-85	11	10.0	.	29	0.35	0.61	3.85	.	.
ON	12	1-Dec-85	4	10.0	.	26	.	.	.	.	.
ON	12	1-Jun-86	.	.	.	16	2.01	0.81	4.43	.	.
ON	12	25-Jun-86	20	11.0	.	24	0.28	0.46	11.99	.	.
ON	12	9-Jul-86	24	12.0	.	25	0.18	0.38	34.65	.	.
ON	12	25-Jul-86	25	12.0	.	18	0.07	0.48	45.92	.	.
ON	12	31-Jul-86	20	13.0	.	10	0.72	0.52	.	.	.
ON	12	7-Aug-86	24	11.0	.	21	0.07	2.32	218.35	.	.
ON	12	13-Aug-86	20	15.0	.	26	.	.	.	.	.
ON	12	25-Aug-86	20	12.0	.	.	.	.	0.47	.	.
ON	12	8-Sep-86	19	9.0	.	26	0.11	0.36	29.59	.	.
ON	12	22-Sep-86	17	7.0	.	26	2.72	0.26	14.85	.	.
ON	12	8-Oct-86	15	10.0	.	28	0.12	0.32	10.34	.	.
ON	12	22-Oct-86	14	11.0	.	28	0.21	0.22	7.96	.	.
ON	12	21-May-87	15	12.0	.	26	0.21	0.43	4.56	1.7	1.7
ON	12	5-Jun-87	18	.	.	26	0.07	0.30	6.48	1.5	1.5
ON	12	20-Jun-87	.	.	.	25	0.07	0.38	5.76	.	.
ON	12	30-Jun-87	24	.	.	20	0.39	0.70	3.34	1.6	1.6
ON	12	4-Jul-87	24	9.0	.	26	0.14	0.70	15.60	1.6	1.7
ON	12	16-Jul-87	23	7.0	.	27	0.07	0.97	0.02	1.6	1.9
ON	12	23-Aug-87	21	7.0	.	27	0.10	0.94	28.80	1.3	1.7
ON	12	8-Sep-87	23	10.0	.	25	0.15	0.95	37.20	1.4	2.0
ON	12	27-Sep-87	17	9.0	.	27	0.30	0.59	12.12	1.7	1.8
ON	12	15-Oct-87	13	10.0	.	27	1.40	0.71	1.81	1.7	1.7
ON	12	16-May-88	18	10.0	.	26	2.46	0.73	1.34	2.2	2.2
ON	12	2-Jun-88	16	10.0	.	28	0.11	0.36	8.71	1.9	2.1
ON	12	13-Jun-88	21	11.0	.	26	0.08	0.45	3.46	2.1	2.1
ON	12	28-Jun-88	20	10.0	.	26	0.17	0.49	4.04	2.0	2.0
ON	12	11-Jul-88	26	11.0	.	21	0.25	0.48	11.14	1.5	1.7
ON	12	26-Jul-88	26	12.0	.	24	0.22	1.44	7.12	1.4	1.8
ON	12	8-Aug-88	29	9.0	.	22	0.19	1.37	5.21	1.3	1.8
ON	12	7-Sep-88	20	8.0	.	28	0.20	1.04	7.47	1.4	1.9
ON	12	21-Sep-88	21	10.0	.	26	0.31	0.48	4.44	1.9	1.9
ON	12	19-Oct-88	12	8.0	.	28	0.42	0.64	3.64	1.8	1.8
ON	12	1-Nov-88	10	9.0	.	28	0.30	0.45	3.50	1.6	1.6
OFF	12	15-Dec-88	5	10.0	.	14	10.73	0.43	0.56	.	.
OFF	12	10-Jan-89	2	.	.	28	0.42	0.33	7.43	.	.
OFF	12	6-Feb-89	3	.	.	28	0.18	0.32	2.77	.	.
OFF	12	16-Mar-89	6	.	.	28	0.31	0.33	5.04	.	.
OFF	12	17-Apr-89	10	.	.	.	.	.	3.46	.	.
ON	12	29-May-89	.	.	.	21	0.17	1.04	.	.	.
ON	12	7-Jun-89	22	9.4	.	27	0.07	0.15	8.71	1.7	1.7
ON	12	21-Jun-89	.	9.6	.	21	.	.	8.16	1.8	1.8
ON	12	18-Jul-89	22	8.3	.	23	0.12	0.95	5.21	.	.
ON	12	1-Aug-89	24	7.5	.	28	0.07	0.26	6.00	.	.
ON	12	8-Aug-89	24	6.8	.	26	0.11	0.39	2.47	.	.
ON	12	29-Aug-89	23	8.0	.	26	0.07	0.16	1.31	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	12	12-Sep-89	25	7.3	.	27	0.32	0.21	1.87	2.0	2.0
ON	12	28-Sep-89	17	8.2	.	27	0.18	0.32	4.57	.	.
ON	12	9-Oct-89	16	8.4	.	30	0.07	0.19	2.68	.	.
ON	12	24-Oct-89	.	9.5	.	23	0.64	0.50	3.17	1.9	1.9
ON	12	7-Nov-89	13	8.1	.	24	4.41	0.58	1.37	1.5	1.5
OFF	12	8-Dec-89	3	3.3	.	24	1.14	0.02	6.30	.	.
OFF	12	8-Jan-90	5	3.6	.	4	7.00	0.50	1.27	.	.
OFF	12	21-Feb-90	4	12.6	.	15	3.53	0.25	3.45	.	.
OFF	12	13-Mar-90	9	11.3	.	9	6.31	0.37	1.84	.	.
OFF	12	11-Apr-90	10	11.0	.	20	3.03	0.06	0.74	.	.
ON	12	23-May-90	18	.	.	26	0.14	0.02	3.59	1.8	1.8
ON	12	4-Jun-90	18	.	.	18	0.14	0.32	9.49	2.1	3.5
ON	12	22-Jun-90	22	.	.	27	0.14	0.07	1.28	3.6	3.6
ON	12	2-Jul-90	19	.	.	25	0.15	0.40	1.05	3.6	3.6
ON	12	19-Jul-90	25	.	.	23	0.12	0.16	1.25	3.3	3.3
ON	12	31-Jul-90	24	.	.	24	0.16	0.63	0.90	3.0	3.0
ON	12	14-Aug-90	22	.	.	26	0.22	0.18	1.49	3.7	3.7
ON	12	28-Aug-90	24	.	.	25	0.31	0.16	1.87	3.4	3.4
ON	12	10-Sep-90	.	.	.	.	.	.	.	.	.
ON	12	24-Sep-90	15	.	.	25	0.46	0.52	2.21	3.3	3.3
ON	12	2-Oct-90	17	.	.	26	0.42	0.02	2.64	3.9	3.9
ON	12	24-Oct-90	20	.	.	27	0.45	0.02	2.49	3.7	3.7
OFF	12	18-Nov-90	10	.	.	24	1.09	0.20	6.32	.	.
OFF	12	9-Dec-90	8	.	.	27	2.11	0.35	47.88	.	.
OFF	12	5-Jan-91	4	.	.	29	0.20	0.11	10.30	.	.
OFF	12	3-Feb-91	4	.	.	10	13.54	0.38	0.69	.	.
OFF	12	10-Mar-91	7	.	.	28	0.07	0.13	14.54	1.0	.
OFF	12	7-Apr-91	16	.	.	4	2.65	0.36	23.06	0.9	.
ON	12	14-Jun-91	18	.	.	25	0.19	0.50	2.08	3.4	3.4
ON	12	25-Jun-91	20	.	.	23	0.21	0.48	1.86	3.8	3.8
ON	12	9-Jul-91	23	.	.	20	0.34	0.48	2.17	3.7	3.7
ON	12	24-Jul-91	24	.	.	17	0.41	0.60	2.15	4.0	.
ON	12	7-Aug-91	24	.	.	28	0.83	0.39	1.56	3.7	3.7
ON	12	23-Aug-91	24	.	.	21	0.25	0.29	1.82	3.9	3.1
ON	12	15-Sep-91	20	.	.	27	1.05	0.25	3.18	3.9	3.9
ON	12	4-Oct-91	18	.	.	26	0.59	0.10	1.29	3.8	3.8
ON	12	23-Oct-91	15	.	.	27	0.73	0.14	0.93	4.0	4.0
ON	12	29-Oct-91	11	.	.	26	0.10	0.22	1.03	4.3	4.8
OFF	12	4-Dec-91	8	.	.	28	0.81	0.04	18.26	.	1.50
ON	12	3-Jan-92	4	.	.	28	0.18	0.04	19.34	1.0	1.1
ON	12	3-Feb-92	2	.	.	28	0.34	0.04	3.90	1.3	1.3
ON	12	17-Mar-92	4	.	.	24	3.29	0.21	1.77	.	.
ON	12	8-Apr-92	12	.	.	28	0.26	0.04	2.58	.	.
ON	12	14-May-92	17	.	.	21	0.40	0.31	8.32	1.3	1.3
ON	12	13-Jun-92	22	.	.	26	0.24	0.08	.	3.7	3.7
ON	12	23-Jun-92	20	.	.	20	0.15	0.18	1.48	3.3	3.3
ON	12	9-Jul-92	21	.	.	26	0.22	0.36	0.89	3.3	3.3
ON	12	22-Jul-92	20	.	.	27	1.04	10.59 (?)	3.04	2.9	3.7
ON	12	4-Aug-92	24	.	.	26	0.35	1.00	33.02	2.5	3.5
ON	12	18-Aug-92	20	.	.	26	0.39	0.54	43.57	3.0	3.5
ON	12	10-Sep-92	.	.	.	23	0.11	0.29	2.59	3.5	3.5
ON	12	20-Sep-92	22	.	.	22	0.07	0.29	2.52	3.5	3.9
ON	12	11-Oct-92	16	.	.	24	0.69	0.03	.	3.8	3.8
ON	12	27-Oct-92	10	.	.	26	2.13	0.03	.	3.9	3.9

NINIGRET POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
OFF	12	10-Dec-92	6			27	0.81	0.21	170.87	1.4	1.4
OFF	12	7-Jan-93	7	.	.	18	1.09	0.28	2.63	1	1
OFF	12	3-Feb-93	4	.	.	18	0.63	0.57	8.73	1.5	1.5
OFF	12	4-Mar-93	5	.	.	18	0.25	0.16	2.29	1.4	1.4
OFF	12	7-Apr-93	9	.	.	25	0.19	0.15	15.90	1	1.1
OFF	12	13-May-93	19	.	.	26	0.52	0.16	7.67	1.3	1.3
ON	12	26-May-93	13	.	.	27	0.04	0.18	1.59	3.8	3.8
ON	12	2-Jun-93	16	.	.	28	0.30	0.17	1.92	3.2	3.9
ON	12	16-Jun-93	20	.	.	8	1.41	0.38	3.83	3.4	3.4
ON	12	30-Jun-93	21	.	.	22	1.74	1.35	1.8	3	4
ON	12	14-Jul-93	25	.	.	23	1.33	1.52	3.04	3	3.5
ON	12	28-Jul-93		.	.	17	1.71	1.69	0.23		
ON	12	11-Aug-93		.	.	24	1.44	1.52	4.31		
ON	12	25-Aug-93		.	.	26	1.25	1.18	1.7		
ON	12	8-Sep-93		.	.	24	1.02	1.29	2.4		
ON	12	22-Sep-93		.	.	22	2.10	1.42	2.74		
.	12A	17-Jun-94	21	.	.	16	0.02	0.29	1.34	3.4	3.4
.	12A	1-Jul-94	22	.	.	11	1.20	0.03	2.12	3.4	3.4
.	12A	29-Jul-94	24	.	.	17	0.22	0.08	2.27	3.4	3.4
.	12A	15-Aug-94	22	.	.	22	0.69	0.38	2.9	3.2	3.2
.	12A	23-Aug-94	18	.	.	28	0.46	0.45	6.12	2.9	2.9
.	12A	8-Sep-94	21	.	.	28	0.07	0.32	20.21	3.8	3.8
.	12A	28-Sep-94	.	.	.	27	0.70	0.24	3.16	3.8	3.8
ON	13	17-Jul-85	20	.	.	.	.	.	13.38	.	.
ON	13	25-Jul-85	22	12.0	.	.	.	.	6.93	.	.
ON	13	31-Jul-85	20	9.0	.	.	.	.	.	.	.
ON	13	8-Aug-85	29	6.0	.	.	.	.	12.80	.	.
ON	13	1-Sep-85	18	6.0	.	29	3.74	1.25	9.45	.	.
ON	13	8-Sep-85	21	6.0	.	.	.	.	.	.	.
ON	13	19-Sep-85	21	11.0	.	23	2.52	0.42	3.35	.	.
ON	13	29-Sep-85	17	10.0	.	24	13.71	0.47	4.91	.	.
ON	13	3-Nov-85	10	.	.	32	1.15	0.47	7.50	.	.
ON	13	1-Dec-85	5	9.0	.	31	5.97	1.12	2.40	.	.
ON	13	1-Jun-86	.	.	.	27	8.79	0.59	1.65	.	.
ON	13	31-Jul-86	18	7.0	.	20	2.12	0.76	.	.	.
ON	13	13-Aug-86	19	13.0	.	27	1.67	0.98	.	.	.
ON	13	27-Aug-86	17	11.0	.	22	7.52	0.29	77.25	.	.
ON	13	10-Sep-86	16	11.0	.	28	3.49	0.26	.	.	.
ON	13	22-Sep-86	14	11.0	.	15	1.66	0.26	11.05	.	.
ON	13	10-Oct-86	13	14.0	.	29	3.18	0.34	.	.	.
ON	13	20-Oct-86	10	13.0	.	30	0.96	0.29	.	.	.
ON	13	7-May-87	13	12.0	.	18	15.89	0.16	1.09	1.2	1.2
ON	13	22-May-87	12	.	.	27	6.50	0.04	0.03	1.3	1.3
ON	13	1-Jun-87	20	.	.	20	0.34	0.17	2.77	1.3	1.3
ON	13	15-Jun-87	17	.	.	24	1.62	0.26	3.56	1.4	1.4
ON	13	30-Jun-87	16	9.0	.	24	5.60	0.41	2.37	1.2	1.2
ON	13	14-Jul-87	18	7.0	.	24	3.85	0.52	4.36	1.3	1.5
ON	13	28-Jul-87	21	4.0	.	28	0.07	0.48	3.56	1.2	1.2
ON	13	11-Aug-87	21	4.0	.	28	1.06	1.38	3.87	1.4	1.4
ON	13	25-Aug-87	18	11.0	.	28	1.15	0.55	7.27	1.2	1.2
ON	13	8-Sep-87	18	7.0	.	26	3.12	0.68	2.08	1.3	1.3
ON	13	22-Sep-87	14	9.0	.	25	2.24	0.68	2.11	1.4	1.4

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	13	6-Oct-87	15	11.0	.	27	3.75	0.65	2.16	1.2	1.2
ON	13	23-Oct-87	11	12.0	.	28	3.20	0.60	14.54	1.2	1.2
ON	13	7-May-88	14	11.0	.	26	0.95	0.47	4.02	1.2	1.2
ON	13	16-May-88	15	11.0	.	26	1.05	0.36	5.60	1.5	1.5
ON	13	2-Jun-88	13	10.0	.	30	1.45	0.70	3.02	1.5	1.5
ON	13	14-Jun-88	20	9.0	.	28	1.28	0.79	7.08	1.0	1.0
ON	13	30-Jun-88	21	12.0	.	26	1.10	0.50	2.74	1.1	1.1
ON	13	13-Jul-88	23	4.0	.	30	0.96	2.32	2.62	1.0	1.0
ON	13	30-Jul-88	24	3.0	.	22	0.49	2.67	15.84	0.5	1.2
ON	13	22-Aug-88	22	8.0	.	30	0.65	0.75	68.41	0.4	1.0
ON	13	22-Sep-88	19	7.0	.	28	1.66	0.99	2.08	1.0	1.0
ON	13	5-Oct-88	14	8.0	.	29	2.20	0.76	1.21	1.2	1.2
ON	13	10-Oct-88	19	9.0	.	28	4.26	0.73	2.43	1.2	1.2
ON	13	16-Oct-88	12	10.0	.	30	1.94	0.65	2.43	0.9	0.9
ON	13	30-Oct-88	11	12.0	.	29	2.70	0.66	4.13	1.2	1.2
ON	13	22-May-89		.	.	26	4.29	0.13		.	.
ON	13	5-Jun-89	19	.	.	26	2.45	0.52	0.49	1.2	1.2
ON	13	19-Jun-89	21	.	.	23	5.01	0.88	3.34	1.1	1.1
ON	13	18-Jul-89	19	.	.	22	3.05	0.55	1.87	1.2	1.2
ON	13	31-Jul-89	22	.	.	26	0.83	0.24	7.73	1.2	1.2
ON	13	7-Aug-89	26	.	.	24	1.96	0.78	4.00	1.2	1.2
ON	13	28-Aug-89	21	.	.	29	1.83	0.31	3.10	1.2	1.2
ON	13	11-Sep-89	24.4	.	.	30	0.43	0.44	2.42	1.3	1.3
ON	13	25-Sep-89	17.7	.	.	31	2.54	0.64	5.27	1.0	1.0
ON	13	9-Oct-89	15	6.2	.	31	2.70	0.56	3.29	1.0	1.0
ON	13	23-Oct-89	11	.	.	30	1.01	0.63	4.98	1.1	1.1
ON	13	7-Nov-89	14	7.5	.	31	1.61	0.48	1.07	1.2	1.2
ON	13	23-May-90	13	.	.	29	1.43	.	1.94	.	0.0
ON	13	8-Jun-90	17	.	.	27	2.58	.	0.61	1.0	1.0
ON	13	18-Jun-90	20	.	.	24	4.17	0.15	1.06	1.1	1.1
ON	13	1-Jul-90	22	.	.	27	1.11	0.26	1.62	0.6	0.6
ON	13	17-Jul-90	22.7	.	.	27	0.44	.	12.54	0.5	0.5
ON	13	2-Aug-90	24	.	.	28	1.22	3.59 ?	8.82	0.4	0.6
ON	13	15-Aug-90	24	.	.	28	0.30	0.08	23.45	0.6	0.6
ON	13	27-Aug-90	22.7	.	.	28	0.56	0.00	3.05	0.6	0.6
ON	13	15-Sep-90	22	.	.	27	2.17	0.45	2.74	0.6	0.6
ON	13	24-Sep-90	16	.	.	26	0.76	0.09	2.41	0.6	0.6
ON	13	3-Oct-90	14	.	.	26	1.48	0.10	1.59	0.6	0.6
ON	13	21-Oct-90	12	.	.	26	1.96	0.25	1.17	0.6	0.6
ON	13	13-Jun-91	15	.	.	29	1.99	0.61	0.44	.	2.6
ON	13	24-Jun-91	18	.	.	30	1.34	0.60	2.18	.	2.5
ON	13	8-Jul-91	25	.	.	16	3.97	0.63	2.65	.	2.5
ON	13	22-Jul-91	25	.	.	16	0.18	0.58	12.41	.	2.1
ON	13	5-Aug-91		.	.	30	1.36	0.59	3.13	.	.
ON	13	24-Aug-91		.	.	29	2.16	0.51	4.15	.	.
ON	13	5-Sep-91	21	.	.	.	.	.	1.47	.	.
ON	13	16-Sep-91	.	.	.	26	7.58	0.10	1.85	.	2.1
ON	13	2-Oct-91	19	.	.	24	9.04	0.41	3.66	.	2.2
ON	13	14-Oct-91	15	.	.	26	2.85	0.52	0.96	.	2.4
ON	13	27-Oct-91	17	.	.	20	8.48	0.55	1.74	.	2.6
ON	13	9-Jun-92	19	.	.	29	1.05	0.59	3.46	1.2	2.3
ON	13	23-Jun-92	17	.	.	28	5.84	0.95	1.51	1.2	2.2
ON	13	9-Jul-92	21	.	.	26	7.64	1.35	1.75	1.2	2.3
ON	13	22-Jul-92	25	.	.	28	2.31	3.23	1.29	1.1	2.0

NINIGRET POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	13	5-Aug-92	.	.	.	24	3.43	0.92	2.37	1.2	2.3
ON	13	19-Aug-92	20	.	.	27	7.50	0.63	2.14	1.2	2.2
ON	13	2-Sep-92	21	.	.	16	0.78	0.63	1.27	1.3	2.3
ON	13	16-Sep-92	21	.	.	24	2.66	0.53	1.17	1.2	2.2
ON	13	30-Sep-92	16	.	.	26	1.07	0.49	1.94	1.4	2.6
ON	13	14-Oct-92	14	.	.	27	1.35	0.03	0.35	1.3	2.5
ON	13	28-Oct-92	13	.	.	26	2.28	0.03	0.30	1.2	2.4
ON	13	26-May-93	15	.	.	28	2.52	0.24	1.81	2.5	2.5
ON	13	2-Jun-93	15	.	.	30	2.04	0.38		2.1	2.1
ON	13	16-Jun-93	20	.	.	23	1.94	1.27	7.32	2.2	2.1
ON	13	30-Jun-93	20	.	.	28	2.39	1.75	7.84	2.4	2.35
ON	13	14-Jul-93	.	.	.	30	0.79	1.61	29.71	samples?	?
ON	13	28-Jul-93	.	.	.	28	1.46	1.44	1.8	samples?	?
ON	13	11-Aug-93	.	.	.	29	2.23	1.87	2.06		
ON	13	25-Aug-93	.	.	.	26	5.78	1.91	0.81		
ON	13	8-Sep-93	.	.	.	28	3.34	1.94	8.18		
ON	13	22-Sep-93	.	.	.	.	.	.	0.03		
ON	14	25-Jul-85	26	11.0	.	.	.	.	7.80	.	.
ON	14	31-Jul-85	23	10.0	.	.	.	.	.	.	.
ON	14	8-Aug-85	24	8.0	.	.	.	.	10.18	.	.
ON	14	1-Sep-85	18	10.0	.	21	1.77	0.75	54.22	.	.
ON	14	8-Sep-85	24	5.0	.	.	.	.	.	.	.
ON	14	19-Sep-85	23	.	.	21	0.11	0.87	12.90	.	.
ON	14	29-Sep-85	19	12.0	.	22	5.72	0.66	41.08	.	.
ON	14	3-Nov-85	9	11.0	.	26	0.22	0.52	20.21	.	.
ON	14	1-Dec-85	2	12.0	.	24	6.25	0.58	29.59	.	.
ON	14	1-Jun-86	.	.	.	20	7.86	0.83	2.21	.	.
ON	14	1-Aug-86	18	15.0	.	10	3.37	0.45	.	.	.
ON	14	13-Aug-86	21	13.0	.	8	0.24	0.40	37.97	.	.
ON	14	25-Aug-86	18	13.0	.	20	0.49	0.52	.	.	.
ON	14	10-Sep-86	15	13.0	.	21	2.73	0.40	6.89	.	.
ON	14	22-Sep-86	15	13.0	.	10	3.56	0.19	18.42	.	.
ON	14	10-Oct-86	12	15.0	.	24	2.10	0.20	16.04	.	.
ON	14	20-Oct-86	10	15.0	.	24	4.20	0.23	5.35	.	.
ON	14	7-May-87	12	13.0	.	13	17.67	0.34	3.37	1.2	1.2
ON	14	22-May-87	15	.	.	20	0.89	0.14	4.95	1.3	1.3
ON	14	1-Jun-87	26	.	.	18	0.96	0.21	21.80	1.1	1.1
ON	14	15-Jun-87	20	.	.	18	3.29	0.41	3.96	1.2	1.2
ON	14	30-Jun-87	17	10.0	.	20	3.24	0.58	4.56	1.3	1.3
ON	14	14-Jul-87	20	9.0	.	14	12.50	1.05	4.56	1.2	1.2
ON	14	28-Jul-87	20	10.0	.	20	0.20	0.70	3.37	1.3	1.3
ON	14	11-Aug-87	22	4.0	.	25	0.95	0.40	1.81	1.3	1.3
ON	14	25-Aug-87	19	10.0	.	22	1.65	0.51	5.81	1.1	1.1
ON	14	8-Sep-87	21	11.0	.	28	4.23	0.67	5.21	1.1	1.1
ON	14	22-Sep-87	16	10.0	.	20	1.90	0.52	3.84	1.3	1.3
ON	14	6-Oct-87	13	10.0	.	22	2.90	0.46	0.96	1.2	1.2
ON	14	20-Oct-87	14	13.0	.	24	3.30	0.42	3.99	1.2	1.2
ON	14	4-May-88	13	11.0	.	23	0.93	0.34	1.63	1.1	1.1
ON	14	13-May-88	17	12.0	.	15	2.09	0.22	1.53	1.3	1.3
ON	14	31-May-88	21	11.0	.	20	0.13	0.28	1.14	1.3	1.3
ON	14	14-Jun-88	23	10.0	.	23	0.38	0.41	4.23	1.7	1.7
ON	14	28-Jun-88	22	10.0	.	19	3.81	0.64	2.42	1.3	1.3
ON	14	12-Jul-88	26	9.0	.	18	1.22	0.83	4.00	0.9	0.9

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	14	26-Jul-88	25	12.0	.	16	0.17	0.40	3.16	1.2	1.2
ON	14	9-Aug-88	27	11.0	.	18	0.50	0.57	2.71	1.1	1.1
ON	14	23-Aug-88	22	8.0	.	24	0.31	0.44	5.19	2.0	2.0
ON	14	6-Sep-88	22	8.0	.	18	0.99	0.24	4.20	1.1	1.1
ON	14	20-Sep-88	20	11.0	.	22	6.30	0.31	2.43	1.3	1.3
ON	14	4-Oct-88	.	.	.	24	3.07	0.48	1.87	.	.
ON	14	18-Oct-88	14	11.0	.	24	5.42	0.30	2.57	1.2	1.2
ON	14	15-Nov-88	10	.	.	24	4.40	0.28	1.99	0.8	0.8
ON	14	22-May-89	.	.	.	23	0.55	0.46	2.00	.	.
ON	14	6-Jun-89	21	8.1	.	20	3.52	0.81	6.00	1.5	1.5
ON	14	20-Jun-89	25	8.3	.	20	5.45	1.29	8.48	1.0	1.0
ON	14	19-Jul-89	22	10.4	.	17	0.86	1.41	4.92	1.3	1.3
ON	14	1-Aug-89	25	7.1	.	21	0.14	0.17	2.79	1.2	1.3
ON	14	8-Aug-89	26	3.5	.	24	0.42	0.08	3.47	0.9	0.9
ON	14	28-Aug-89	23	8.2	.	21	3.74	0.65	4.40	1.2	1.2
ON	14	12-Sep-89	26	8.0	.	25	0.82	0.18	4.15	1.3	1.3
ON	14	25-Sep-89	19	9.1	.	21	2.26	1.06	4.31	0.9	0.9
ON	14	8-Oct-89	17	9.4	.	23	2.22	0.42	3.46	0.8	0.8
ON	14	24-Oct-89	12	9.4	.	18	5.80	0.76	2.34	1.3	1.3
ON	14	7-Nov-89	11	10.0	.	21	4.42	0.69	0.19	1.0	1.0
ON	14	21-May-90	14	8.3	.	20	1.79	0.41	2.38	1.3	1.3
ON	14	4-Jun-90	18	8.5	.	17	2.29	0.20	4.78	1.2	1.2
ON	14	18-Jun-90	24	9.1	.	20	0.32	0.08	4.50	1.4	1.4
ON	14	2-Jul-90	26	5.3	.	25	0.27	0.02	10.61	1.3	1.4
ON	14	16-Jul-90	25	9.2	.	22	0.18	0.02	2.13	1.2	1.2
ON	14	30-Jul-90	24	7.1	.	21	1.66	0.16	1.97	1.0	1.0
ON	14	15-Aug-90	26	5.9	.	21	0.55	0.12	4.45	1.3	1.4
ON	14	27-Aug-90	24	7.6	.	22	0.21	0.02	2.66	1.2	1.2
ON	14	10-Sep-90	20	8.2	.	21	1.76	0.19	6.43	1.0	1.0
ON	14	24-Sep-90	17	7.7	.	24	0.87	0.02	5.69	1.1	1.1
ON	14	1-Oct-90	20	6.8	.	22	1.71	0.05	2.17	1.3	1.3
ON	14	22-Oct-90	15	10.2	.	12	0.69	0.30	5.25	1.1	1.1
ON	14	15-May-91	21	.	.	24	.	.	3.78	.	0.9
ON	14	12-Jun-91	24	.	.	26	2.43	0.08	2.20	.	.
ON	14	21-Jun-91	22	.	.	24	2.89	0.10	3.57	.	.
ON	14	10-Jul-91	23	.	.	22	0.22	0.33	3.32	.	.
ON	14	24-Jul-91	27	.	.	17	0.94	0.30	31.20	.	.
ON	14	7-Aug-91	26	.	.	28	0.35	0.15	0.95	.	.
ON	14	4-Sep-91	21	.	.	24	0.79	0.08	2.20	.	.
ON	14	18-Sep-91	24	.	.	20	4.40	0.24	2.06	.	.
ON	14	2-Oct-91	17	.	.	18	5.86	0.08	3.52	.	.
ON	14	14-Oct-91	.	.	.	25	2.38	0.02	3.87	.	.
ON	14	30-Oct-91	10	.	.	26	2.31	0.02	3.38	.	.
ON	14	14-Jun-92	23	.	.	24	0.30	0.15	2.14	0.9	0.9
ON	14	26-Jun-92	24	.	.	24	1.61	0.44	2.29	1.1	1.1
ON	14	9-Jul-92	.	.	.	26	2.19	0.16	1.45	.	.
ON	14	24-Jul-92	23	.	.	26	0.65	0.22	3.66	1.2	1.2
ON	14	4-Aug-92	24	.	.	25	3.59	0.22	1.58	1.1	1.1
ON	14	9-Aug-92	23	.	.	.	.	.	.	1.1	1.1
ON	14	24-Aug-92	24	.	.	24	2.01	0.21	36.20	1.0	1.0
ON	14	7-Sep-92	21	.	.	20	0.57	0.17	30.75	1.3	1.3
ON	14	21-Sep-92	20	.	.	20	0.66	0.20	2.32	.	.
ON	14	3-Oct-92	16	.	.	20	1.14	0.20	3.46	1.2	1.2
ON	14	14-Oct-92	16	.	.	26	0.71	0.03	.	1.5	1.5

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	14	29-Oct-92	12	.	.	25	1.68	0.03	.	1.2	1.2
ON	14	26-May-93	18	.	.	23	7.28	0.18	3.26	1.1	1.1
ON	14	2-Jun-93	19	.	.	23	2.40	0.12	4.32	1.3	1.3
ON	14	16-Jun-93	23	.	.	23	1.58	0.30	5.11	1.1	1.1
ON	14	30-Jun-93	26	.	.	26	0.62	0.33	1.43	1.2	1.2
ON	14	14-Jul-93	28	.	.	22	1.45	1.14	5.02	1	1
ON	14	28-Jul-93	24	.	.	23	1.18	1.14	25.1	0.9	0.9
ON	14	11-Aug-93	29	.	.	24	1.36	1.21	15	1.1	1.2
ON	14	25-Aug-93	.	.	.	24	1.35	0.91	1.16		
ON	14	8-Sep-93	.	.	.	22	3.28	0.88	3.91		
ON	14	22-Sep-93	.	.	.	23	2.87	0.68	0.63		
ON	15	22-Jul-85	25	.	.	.	.	.	3.47	.	.
ON	15	25-Jul-85	20	9.0	.	.	.	.	.	.	.
ON	15	29-Jul-85	27	.	.	.	.	.	.	.	.
ON	15	9-Aug-85	25	7.0	.	.	.	.	4.39	.	.
ON	15	14-Aug-85	26	9.0	.	.	.	.	.	.	.
ON	15	21-Aug-85	22	6.0	.	.	.	.	.	.	.
ON	15	1-Sep-85	16	10.0	.	23	0.64	0.26	19.92	.	.
ON	15	4-Sep-85	23	10.0	.	.	.	.	.	.	.
ON	15	16-Sep-85	19	11.0	.	25	0.31	0.57	2.26	.	.
ON	15	18-Oct-85	14	10.0	.	27	0.12	0.41	1.19	.	.
ON	15	25-Oct-85	15	9.0	.	.	.	.	20.54	.	.
ON	15	1-Nov-85	7	10.0	.	26	0.12	0.56	.	.	.
ON	15	19-Nov-85	10	12.0	.	26	0.13	0.80	.	.	.
ON	15	24-May-87	18	11.0	.	24	1.31	0.10	1.68	1.0	1.0
ON	15	3-Jun-87	20	11.0	.	25	0.31	0.25	0.69	1.1	1.1
ON	15	15-Jun-87	23	11.0	.	25	0.16	0.48	1.78	0.9	1.0
ON	15	28-Jun-87	21	7.0	.	26	0.27	0.64	3.62	1.0	1.0
ON	15	15-Jul-87	24	10.0	.	26	0.37	0.60	8.45	0.9	1.1
ON	15	26-Jul-87	27	10.0	.	21	0.17	0.38	8.70	0.9	1.0
ON	15	11-Aug-87	21	10.0	.	26	0.19	0.40	6.28	1.2	1.2
ON	15	24-Aug-87	21	10.0	.	27	0.97	0.45	2.29	1.0	1.0
ON	15	9-Sep-87	23	9.0	.	25	0.24	0.39	5.81	1.2	1.2
ON	15	29-Sep-87	19	10.0	.	25	0.34	0.36	2.06	1.0	1.0
ON	15	31-Oct-87	10	9.0	.	26	0.47	0.30	1.69	1.0	1.0
ON	15	8-May-88	16	10.0	.	20	0.21	0.22	1.04	1.1	1.1
ON	15	18-May-88	17	9.0	.	22	1.15	0.41	3.32	1.0	1.0
ON	15	5-Jun-88	16	9.0	.	25	3.98	0.37	0.83	1.0	1.0
ON	15	26-Jun-88	17	6.0	.	27	3.41	0.65	0.97	1.0	1.0
ON	15	30-Jun-88	22	9.0	.	26	2.61	0.57	1.71	1.1	1.1
ON	15	17-Jul-88	24	7.0	.	28	0.07	0.56	1.26	1.0	1.0
ON	15	6-Aug-88	28	7.0	.	26	1.70	1.01	4.19	0.9	0.9
ON	15	22-Aug-88	22	5.0	.	28	2.06	0.80	2.08	1.1	1.1
ON	15	9-Oct-88	8	6.0	.	28	2.43	0.83	0.58	1.3	1.3
ON	15	30-Oct-88	8	.	.	28	2.51	0.47	1.07	.	.
OFF	15	15-Jan-89	2	.	.	27	0.54	0.54	4.32	.	.
OFF	15	29-Jan-89	2	.	.	27	7.14	0.36	1.77	.	.
OFF	15	18-Feb-89	-2	.	.	22	2.68	0.29	3.49	.	.
OFF	15	5-Mar-89	2	.	.	26	3.04	0.33	2.38	.	.
OFF	15	16-Mar-89	7	.	.	25	2.46	0.09	1.95	.	.
OFF	15	6-Apr-89	9	.	.	25	2.14	0.09	3.67	.	.
OFF	15	17-Apr-89	10	.	.	28	5.10	0.02	1.60	.	.
ON	15	22-May-89	19	.	.	26	0.21	0.77	2.59	1.0	1.0

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	15	5-Jun-89	22.7	.	.	24	2.81	0.27	2.66	0.9	0.9
ON	15	21-Jun-89	22.7	.	.	25	2.20	0.36	1.95	1.0	1.0
ON	15	19-Jul-89	22.7	.	.	21	0.29	0.82	1.81	0.5	0.5
ON	15	2-Aug-89	24.4	.	.	25	1.93	0.90	2.88	1.1	1.1
ON	15	9-Aug-89	25.5	.	.	26	1.49	0.85	.	1.4	1.4
ON	15	27-Aug-89	21	.	.	26	2.24	0.56	1.86	1.0	1.0
ON	15	12-Sep-89	25	.	.	23	1.28	0.40	2.39	1.1	1.1
ON	15	27-Sep-89	15.5	.	.	26	1.67	0.21	0.84	1.2	1.2
ON	15	11-Oct-89	13	.	.	23	1.86	0.27	0.48	1.1	1.1
ON	15	4-Nov-89	9.4	.	.	26	2.91	0.11	1.71	1.0	1.0
OFF	15	16-Dec-89	0	.	.	28	3.95	0.02	0.08	0.8	0.8
OFF	15	27-Jan-90	2.2	.	.	26	0.62	0.02	0.28	.	.
OFF	15	24-Feb-90	1.7	.	.	26	0.57	0.02	1.32	.	.
OFF	15	31-Mar-90	4.4	.	.	27	0.63	0.06	0.11	.	.
OFF	15	22-Apr-90	10	.	.	25	0.53	0.07	0.90	.	.
ON	15	22-May-90	13	.	.	26	0.23	0.02	1.99	1.0	1.0
ON	15	5-Jun-90	19	.	.	26	0.17	0.02	2.20	1.0	1.0
ON	15	19-Jun-90	22	.	.	26	0.57	0.04	1.69	1.1	1.1
ON	15	1-Jul-90	22.7	.	.	20	0.33	0.21	1.78	1.1	1.1
ON	15	16-Jul-90	24	.	.	27	0.12	0.07	1.25	1.1	1.1
ON	15	31-Jul-90	27	.	.	25	0.58	0.12	2.19	1.2	1.2
ON	15	14-Aug-90	28	.	.	25	0.81	0.84	20.80	1.1	1.1
ON	15	28-Aug-90	27	.	.	26	0.76	0.22	2.19	1.2	1.2
ON	15	11-Sep-90	22	.	.	29	0.39	0.02	2.32	1.1	1.1
ON	15	30-Sep-90	20	.	.	25	0.58	0.04	0.98	1.0	1.0
ON	15	22-Oct-90	16	.	.	26	0.73	0.02	3.48	1.0	1.0
OFF	15	18-Nov-90	7	.	.	.	.	.	.	.	.
OFF	15	9-Dec-90	4	.	.	27	3.81	0.11	2.62	.	.
OFF	15	5-Jan-91	0	.	.	27	5.62	0.09	1.37	.	.
OFF	15	3-Feb-91	4	.	.	26	1.29	0.05	0.48	.	.
OFF	15	10-Mar-91	3	.	.	23	1.03	0.04	0.38	.	.
OFF	15	7-Apr-91	18	.	.	27	1.55	0.07	0.89	.	.
OFF	15	15-Jun-91	21	.	.	22	0.44	0.30	0.56	.	.
OFF	15	30-Jun-91	23	.	.	22	1.26	0.60	2.12	.	.
OFF	15	16-Jul-91	25.5	.	.	22	1.36	0.61	1.34	.	.
ON	15	21-Sep-91	14	.	.	24	2.00	0.40	0.58	.	.
ON	15	9-Oct-91	14	.	.	26	0.91	0.40	.	.	.
ON	15	20-Oct-91	.	.	.	26	0.91	0.16	.	.	.
ON	15	29-Jun-92	20	.	.	28	0.36	0.30	2.93	.	.
ON	15	11-Jul-92	25	.	.	29	1.35	0.33	1.53	.	.
ON	15	25-Jul-92	22	.	.	29	1.66	0.21	2.38	.	.
ON	15	8-Aug-92	22	.	.	28	1.72	0.03	3.29	.	.
ON	15	22-Aug-92	19.6	.	.	26	1.47	0.03	1.79	.	.
ON	15	5-Sep-92	20	.	.	26	1.88	0.06	1.62	.	.
ON	15	19-Sep-92	21	.	.	27	1.38	0.03	1.26	.	.
ON	15	27-Sep-92	15.5	.	.	27	1.60	0.03	1.65	.	.
ON	15	16-Oct-92	13.9	.	.	27	0.54	0.42	1.27	.	.
ON	15	1-Nov-92	5	.	.	27	1.91	1.34	1.15	.	.
ON	15	29-May-93	15	.	.	26	2.07	1.08	0.14	.	1
ON	15	5-Jun-93	19	.	.	26	2.75	0.99	0.05	.	0.9
ON	15	19-Jun-93	22.7	.	.	28	2.03	1.03	0.13	1.1	1.1
ON	15	3-Jul-93	21	.	.	28	2.09	0.98	0.07	1.2	1.2
ON	15	11-Jul-93	26	.	.	28	1.55	1.39	0.07	1.05	1.05
ON	15	31-Jul-93	25	.	.	28	1.32	1.13	0.09	1.3	1.3

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	15	12-Aug-93	26	.	.	27	2.05	1.41	0.04	1.2	1.2
ON	15	28-Aug-93	27	.	.	28	1.44	1.09	0.45	1	1
ON	15	11-Sep-93	21	.	.	26	1.25	1.01	0.37	0.9	0.9
ON	15	19-Sep-93	18	.	.	26	2.25	1.18	0.23	1.3	1.3
.	15 A	17-Jun-94	23	.	.	24	0.27	0.20	1.51	1.21	1.82
.	15 A	2-Jul-94	23	.	.	.	.	.	2.59	1.52	1.88
.	15 A	16-Jul-94	24	.	.	22	0.31	0.17	2.42	1.1	1.5
.	15 A	30-Jul-94	.	.	.	.	.	.	.	.	.
.	15 A	10-Aug-94	23	.	.	30	0.54	0.39	18.42	1.82	2.02
.	15 A	25-Aug-94	21	.	.	29	0.78	0.19	3.13	1.22	1.75
.	15 A	9-Sep-94	19	.	.	30	0.12	0.20	2.86	1.9	1.9
.	15 A	24-Sep-94	18	.	.	29	0.43	0.17	2.96	1.22	2.1
.	15 A	8-Oct-94	13	.	.	30	0.38	0.14	1.99	1.95	1.95
ON	UNH 1	26-Jun-92	.	.	.	28	0.55	0.12	.	.	.
ON	UNH 1	9-Jul-92	21	.	.	28	5.59	0.47	4.34	1.3	2.6
ON	UNH 1	23-Jul-92	24	.	.	29	1.47	1.15	5.57	1.5	2.5
ON	UNH 1	5-Aug-92	22	.	.	20	0.75	0.53	2.76	1.3	2.3
ON	UNH 1	19-Aug-92	.	.	.	27	6.32	0.61	1.37	1.4	2.5
ON	UNH 1	2-Sep-92	20	.	.	26	0.45	0.72	0.79	1.3	2.3
ON	UNH 1	16-Sep-92	21	.	.	26	0.48	0.33	1.37	1.3	2.4
ON	UNH 1	30-Sep-92	14	.	.	25	0.23	0.36	0.68	1.5	2.6
ON	UNH 1	14-Oct-92	.	.	.	27	0.97	0.03	0.39	1.5	2.5
ON	UNH 2	26-Jun-92	.	.	.	28	0.28	0.11	0.86	.	.
ON	UNH 2	9-Jul-92	.	.	.	25	0.15	0.41	41.59	.	.
ON	UNH 2	22-Jul-92	.	.	.	26	0.16	0.45	4.33	.	.
ON	UNH 2	4-Aug-92	.	.	.	25	0.41	0.94	3.61	.	.
ON	UNH 2	18-Aug-92	.	.	.	26	0.51	0.64	5.29	.	.
ON	UNH 2	10-Sep-92	.	.	.	16	0.11	0.13	10.16	.	.
ON	UNH 2	21-Sep-92	.	.	.	16	0.07	0.42	1.93	.	.
ON	UNH 2	11-Oct-93	.	.	.	28	0.07	0.03	.	.	.
ON	UNH 2	27-Oct-93	.	.	.	25	2.25	0.03	.	.	.
ON	UNH 3	26-Jun-92	.	.	.	28	0.28	0.11	0.15	.	.
ON	UNH 3	9-Jul-92	23	.	.	29	0.21	0.22	1.40	.	1.7
ON	UNH 3	24-Jul-92	22	.	.	28	0.27	0.25	1.79	.	2.2
ON	UNH 3	4-Aug-92	24	.	.	28	0.96	0.19	1.86	.	.
ON	UNH 3	24-Aug-92	24	.	.	24	0.29	0.35	1.11	.	1.5
ON	UNH 3	7-Sep-92	21	.	.	15	0.13	0.19	2.97	1.3	1.3
ON	UNH 3	21-Sep-92	20	.	.	23	0.09	0.40	21.02	.	.
ON	UNH 3	3-Oct-92	14	.	.	23	0.09	0.23	2.91	.	.
ON	UNH 4	26-Jun-92	.	.	.	28	0.55	0.12	1.45	.	.
ON	UNH 4	9-Jul-92	.	.	.	29	1.00	0.30	1.27	.	.
ON	UNH 4	24-Jul-92	.	.	.	29	0.63	0.26	3.05	.	.
ON	UNH 4	4-Aug-92	.	.	.	28	0.22	0.34	0.88	.	1.6
ON	UNH 4	24-Aug-92	23	.	.	24	0.24	0.16	0.39	1.8	1.8
ON	UNH 4	7-Sep-92	21	.	.	18	0.06	0.17	2.03	1.8	1.8
ON	UNH 4	21-Sep-92	19	.	.	24	0.14	0.38	1.83	.	.
ON	UNH 4	3-Oct-92	13	.	.	20	0.12	0.20	1.78	2.0	2.0
.	CM 1	17-Jun-94	21	.	.	0	4.24	0.09	1.72	.	.

NINIGRET POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
.	CM 1	2-Jul-94	23	.	.	0	3.03	0.21	0.43	.	.
.	CM 1	16-Jul-94	22	.	.	0	1.04	0.17	1.32	.	.
.	CM 1	30-Jul-94	25	.	.	0	1.00	0.12	0.81	.	.
.	CM 1	14-Aug-94	29	.	.	0	1.87	0.05	1.19	.	.
.	CM 1	28-Aug-94	24	.	.	0	1.49	0.08	0.78	.	.
.	CM 1	11-Sep-94	20	.	.	0	1.61	0.05	0.7	.	.

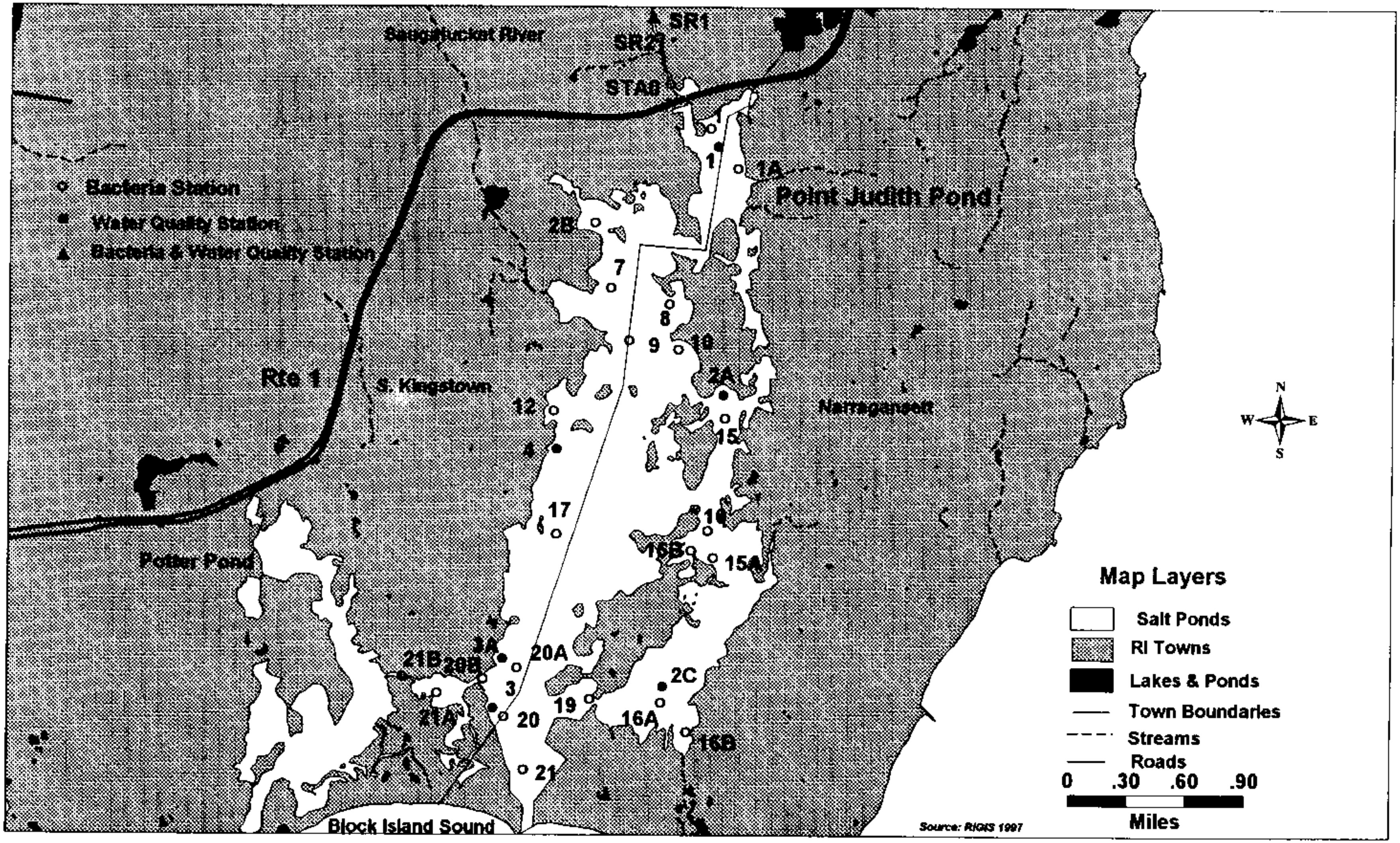
Point Judith Pond

Sections:

Pond Map
Bacteria
Water Quality

Point Judith Pond

Pond Map



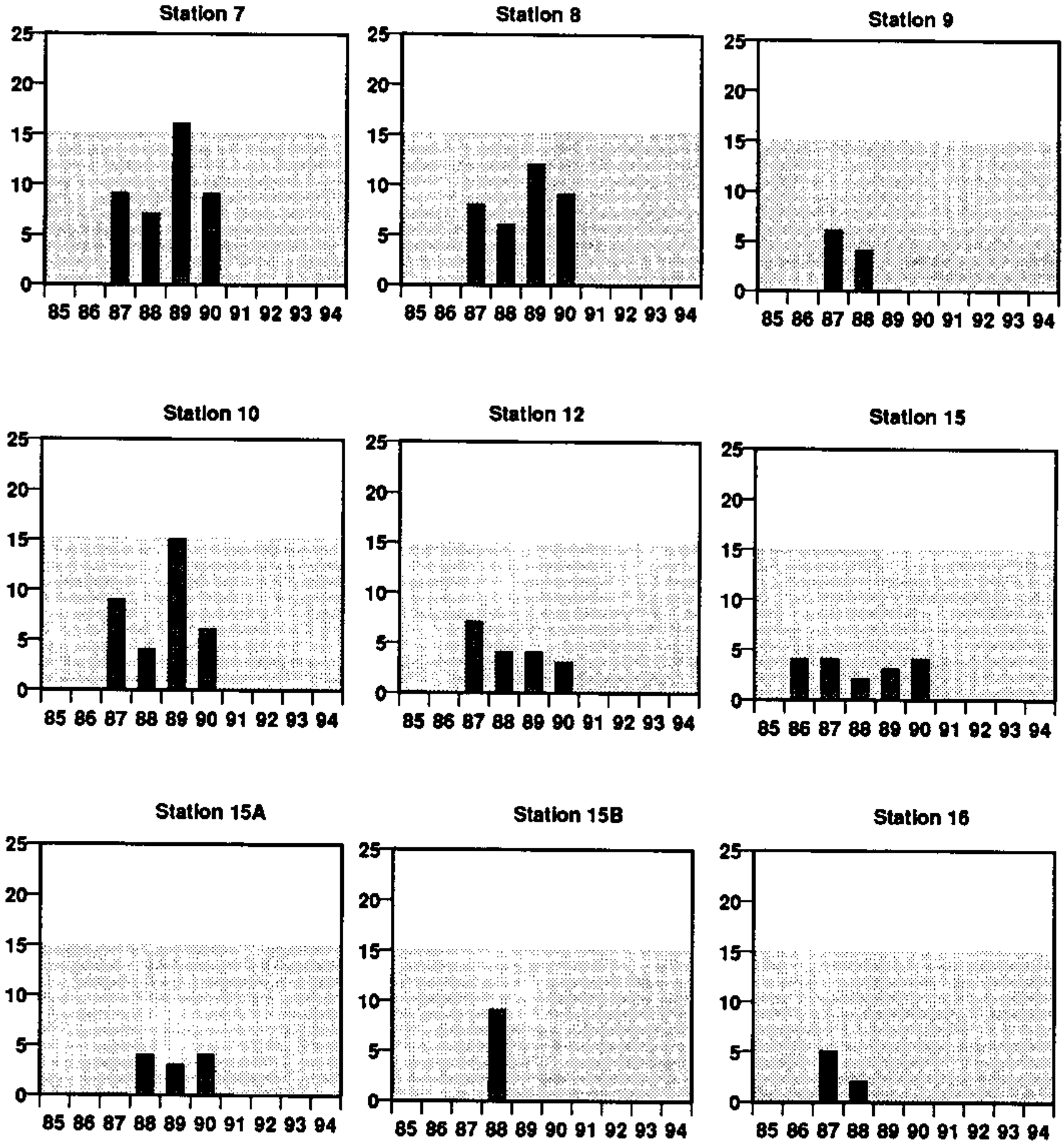
Saugatucket River
SR1
SR2
STA8
Point Judith Pond
Bacteria Station
Water Quality Station
Bacteria & Water Quality Station
Rte 1
S. Kingstown
Narragansett
Potter Pond
Block Island Sound
1
1A
2B
7
8
9
10
2A
12
15
17
16
16B
15A
3A
20A
21B
20B
3
2C
19
21A
20
16A
16B
21
N
W
E
S
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0
.30
.60
.90
Miles
Source: RIGIS 1997

Point Judith Pond

Bacteria

Pt. Judith Pond

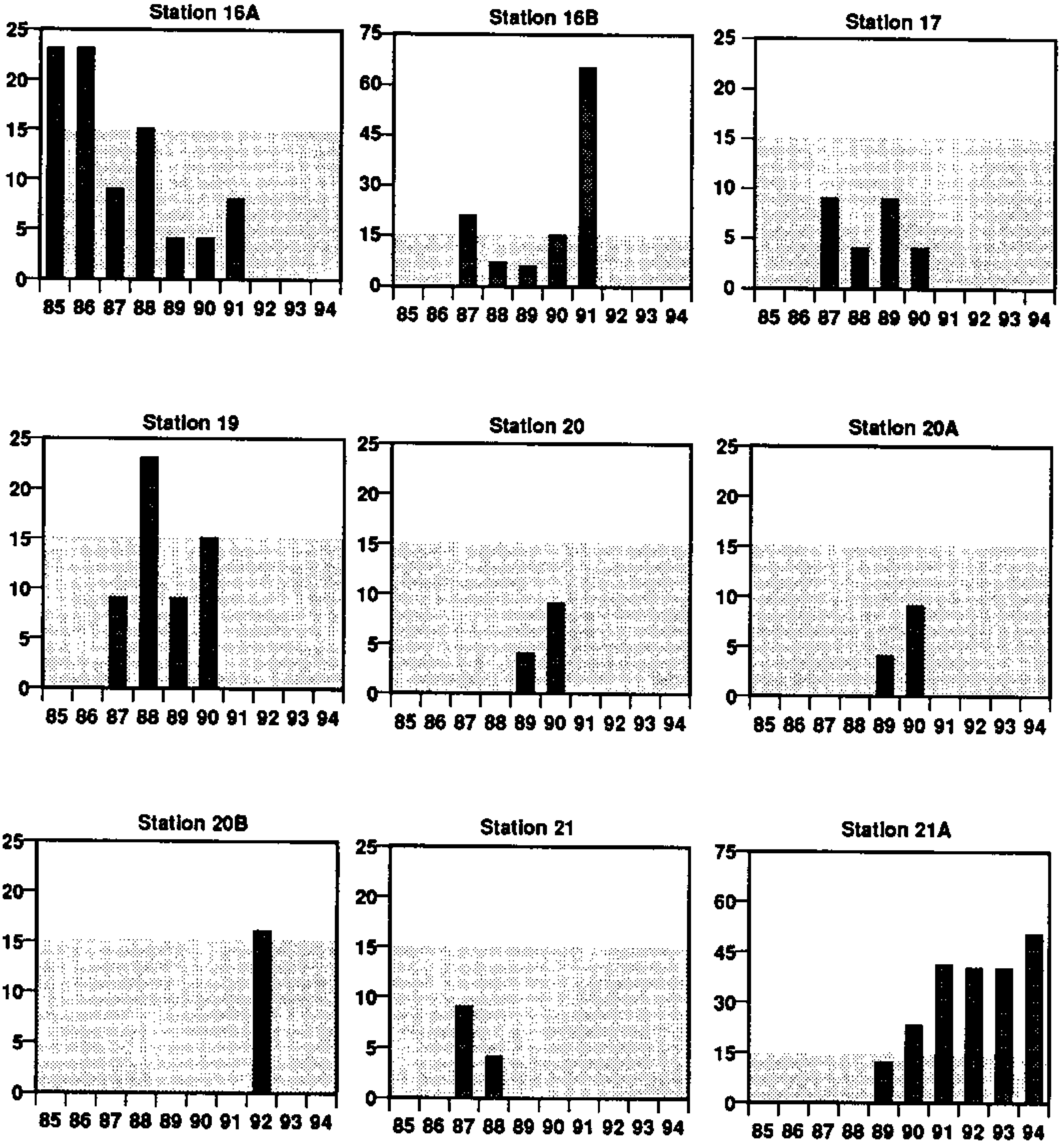
Median Fecal Coliform Bacteria (MPN/100ml)



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Pt. Judith Pond

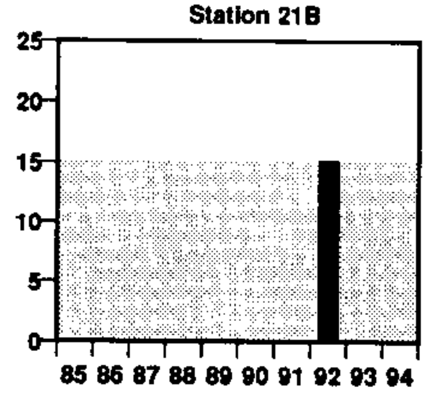
Median Fecal Coliform Bacteria (MPN/100ml)

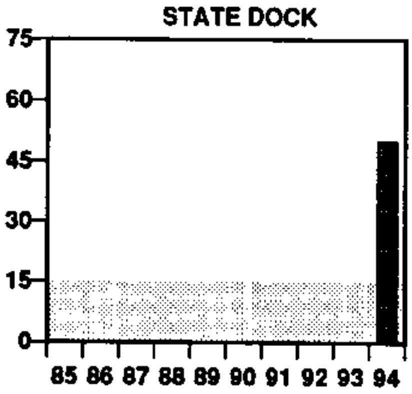


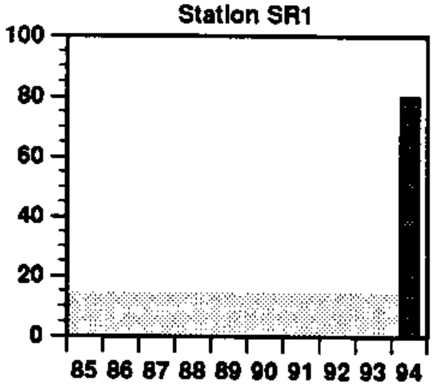
Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

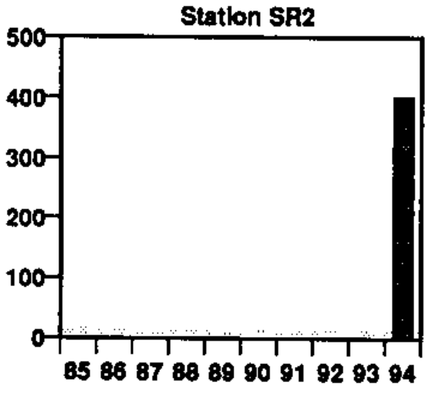
Pt. Judith Pond

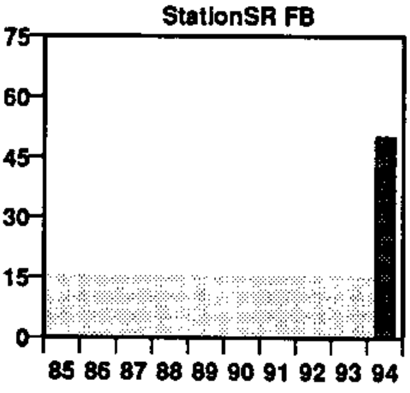
Median Fecal Coliform Bacteria (MPN/100ml)

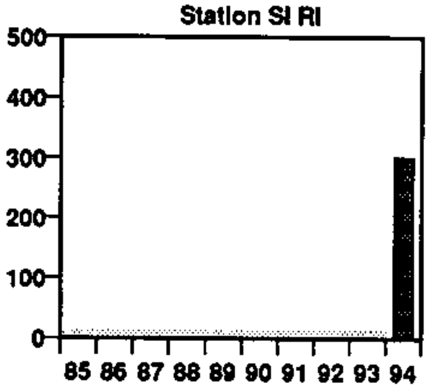


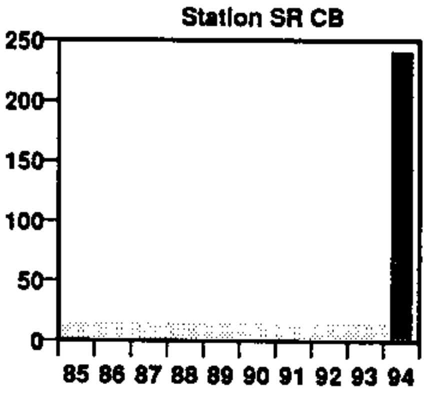


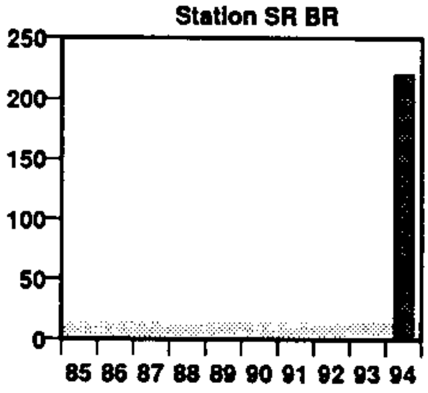












Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

POINT JUDITH POND BACTERIA DATA 1985 -1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
0	0	5-Aug-92	1600	.	.
0	0	19-Aug-92	1600	.	.
0	0	28-Oct-92	240	.	.
0	0	25-May-93	900	.	.
0	0	4-Jun-93	80	.	.
0	0	16-Jun-93	220	.	.
0	0	7-Jul-93	500	.	.
0	0	14-Jul-93	300	.	.
0	0	28-Jul-93	1600	.	.
0	0	11-Aug-93	130	.	.
0	0	25-Aug-93	240	.	.
0	0	8-Sep-93	50	.	.
0	0	22-Sep-93	1601	.	.
0	0	1-Jun-94	130	.	.
0	0	15-Jun-94	300	.	25(8)
0	0	29-Jun-94	500	.	.
0	0	13-Jul-94	220	.	5(5)
0	0	27-Jul-94	1601	.	0(1)
0	0	10-Aug-94	240*	.	5(1)
0	0	24-Aug-94	.	.	5(3)
0	0	21-Sep-94	50	.	.
1	1	13-May-87	3	.	.
1	1	27-May-87	9	.	.
1	1	10-Jun-87	41	.	.
1	1	29-Jun-87	39	.	.
1	1	13-Jul-87	93	.	.
1	1	27-Jul-87	9	.	.
1	1	24-Aug-87	9	.	.
1	1	21-Sep-87	93	.	.
1	1	5-Oct-87	43	.	.
1	1	19-Oct-87	7	.	.
1	1	16-May-88	43	93	.
1	1	13-Jun-88	23	75	.
1	1	27-Jun-88	240	1100	.
1	1	11-Jul-88	1100	2400	.
1	1	25-Jul-88	240	1100	.
1	1	10-Aug-88	23	120	.
1	1	22-Aug-88	930	1500	.
1	1	19-Sep-88	200	750	.
1	1	3-Oct-88	240	240	.
1	1	17-Oct-88	4	23	.

POINT JUDITH POND BACTERIA DATA 1985 -1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
1	1	31-Oct-88	4	75	.
1	1	14-Nov-88	750	1500	.
1	1	1-Jun-94	50	.	.
1	1	15-Jun-94	500	.	.
1	1	29-Jun-94	30	.	.
1	1	13-Jul-94	220	.	.
1	1	27-Jul-94	1601	.	.
1	1	10-Aug-94	80	.	.
1	1	24-Aug-94	.	.	.
1	1	21-Sep-94	50	.	.
1	1A	8-Jul-85	4	.	.
1	1A	22-Jul-85	43	.	.
1	1A	5-Aug-85	23	.	.
1	1A	19-Aug-85	43	.	.
1	1A	3-Sep-85	750	.	.
1	1A	16-Sep-85	15	.	.
1	1A	30-Sep-85	39	.	.
1	1A	21-Oct-85	7	.	.
1	1A	28-Oct-85	43	.	.
1	1A	5-May-86	9	.	.
1	1A	19-May-86	15	.	.
1	1A	2-Jun-86	150	.	.
1	1A	16-Jun-86	43	.	.
1	1A	30-Jun-86	390	.	.
1	1A	14-Jul-86	430	.	.
1	1A	28-Jul-86	390	.	.
1	1A	12-Aug-86	240	.	.
1	1A	25-Aug-86	93	.	.
1	1A	8-Sep-86	43	.	.
1	1A	22-Sep-86	28	.	.
1	1A	6-Oct-86	93	.	.
1	1A	20-Oct-86	150	.	.
2	2	13-May-87	23	.	.
2	2	27-May-87	18	.	.
2	2	10-Jun-87	88	.	.
2	2	29-Jun-87	4	.	.
2	2	13-Jul-87	15	.	.
2	2	27-Jul-87	21	.	.
2	2	24-Aug-87	9	.	.
2	2	21-Sep-87	43	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
2	2	5-Oct-87	93	.	.
2	2	19-Oct-87	21	.	.
2	2	16-May-88	150	460	.
2	2	13-Jun-88	460	460	.
2	2	27-Jun-88	240	460	.
2	2	11-Jul-88	43	11000	.
2	2	25-Jul-88	460	1100	.
2	2	10-Aug-88	9	23	.
2	2	22-Aug-88	140	390	.
2	2	19-Sep-88	150	1500	.
2	2	3-Oct-88	93	460	.
2	2	17-Oct-88	7	43	.
2	2	31-Oct-88	<3	93	.
2	2	14-Nov-88	230	430	.
2	2	22-May-89	23	75	(0)
2	2	19-Jun-89	150	460	(0)
2	2	17-Jul-89	248	.	(0)
2	2	31-Jul-89	43	1100	50(4)
2	2	7-Aug-89	75	2400	(0)
2	2	28-Aug-89	75	1100	(0)
2	2	11-Sep-89	<3	460	(0)
2	2	25-Sep-89	93	460	(0)
2	2	10-Oct-89	7	240	(0)
2	2	23-Oct-89	240	1100	(0)
2	2	6-Nov-89	240	1100	(0)
2	2	22-May-90	150	1100	(0)
2	2	5-Jun-90	23	1100	(0)
2	2	19-Jun-90	43	43	(0)
2	2	3-Jul-90	93	93	(0)
2	2	17-Jul-90	43	240	(0)
2	2	31-Jul-90	93	460	(0)
2	2	14-Aug-90	240	240	(0)
2	2	28-Aug-90	93	460	(0)
2	2	11-Sep-90	75	460	(0)
2	2	25-Sep-90	9	460	(0)
2	2	9-Oct-90	23	93	(0)
2	2	23-Oct-90	43	460	(0)
2	2	25-May-93	.	.	.
2	2	4-Jun-93	.	.	.
2	2	16-Jun-93	.	.	.
2	2	7-Jul-93	.	.	.
2	2	14-Jul-93	30	.	.

POINT JUDITH POND BACTERIA DATA 1985 -1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
2	2	28-Jul-93	110	.	.
2	2	11-Aug-93	50	.	.
2	2	25-Aug-93	30	.	.
2	2	8-Sep-93	110	.	.
2	2	22-Sep-93	.	.	.
3	3	13-May-87	23	.	.
3	3	27-May-87	41	.	.
3	3	10-Jun-87	139	.	.
3	3	29-Jun-87	4	.	.
3	3	13-Jul-87	4	.	.
3	3	27-Jul-87	4	.	.
3	3	24-Aug-87	4	.	.
3	3	21-Sep-87	43	.	.
3	3	5-Oct-87	23	.	.
3	3	19-Oct-87	9	.	.
3	3	16-May-88	93	93	.
3	3	13-Jun-88	3	21	.
3	3	27-Jun-88	460	1100	.
3	3	11-Jul-88	23	240	.
3	3	25-Jul-88	240	4600	.
3	3	10-Aug-88	23	23	.
3	3	22-Aug-88	93	430	.
3	3	19-Sep-88	240	240	.
3	3	3-Oct-88	240	460	.
3	3	17-Oct-88	15	750	.
3	3	31-Oct-88	23	240	.
3	3	14-Nov-88	93	150	.
4	4	13-May-87	3.6	.	.
4	4	27-May-87	9	.	.
4	4	10-Jun-87	54	.	.
4	4	29-Jun-87	7	.	.
4	4	13-Jul-87	4	.	.
4	4	27-Jul-87	4	.	.
4	4	24-Aug-87	4	.	.
4	4	21-Sep-87	9	.	.
4	4	5-Oct-87	23	.	.
4	4	19-Oct-87	9	.	.
4	4	16-May-88	9	23	.
4	4	13-Jun-88	23	43	.
4	4	27-Jun-88	240	4600	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
4	4	11-Jul-88	4	15	.
4	4	25-Jul-88	1100	1100	.
4	4	10-Aug-88	4	9	.
4	4	22-Aug-88	43	930	.
4	4	19-Sep-88	43	1100	.
4	4	3-Oct-88	93	460	.
4	4	17-Oct-88	4	23	.
4	4	31-Oct-88	9	150	.
4	4	14-Nov-88	43	43	.
5	5	13-May-87	23	.	.
5	5	27-May-87	9	.	.
5	5	10-Jun-87	69	.	.
5	5	29-Jun-87	9	.	.
5	5	13-Jul-87	4	.	.
5	5	27-Jul-87	7	.	.
5	5	24-Aug-87	4	.	.
5	5	21-Sep-87	9	.	.
5	5	5-Oct-87	4	.	.
5	5	19-Oct-87	3	.	.
5	5	16-May-88	23	93	.
5	5	13-Jun-88	4	4	.
5	5	27-Jun-88	43	93	.
5	5	11-Jul-88	4	23	.
5	5	25-Jul-88	93	1100	.
5	5	10-Aug-88	<3	9	.
5	5	22-Aug-88	23	43	.
5	5	19-Sep-88	4	23	.
5	5	3-Oct-88	4	9	.
5	5	17-Oct-88	4	43	.
5	5	31-Oct-88	9	23	.
5	5	14-Nov-88	43	93	.
5	5	22-May-89	<3	240	(0)
5	5	5-Jun-89	23	43	(0)
5	5	19-Jun-89	43	150	(0)
5	5	17-Jul-89	46	1100	(0)
5	5	28-Aug-89	<3	460	(0)
5	5	25-Sep-89	23	43	(0)
5	5	10-Oct-89	<9	.	(0)
5	5	23-Oct-89	93	240	(0)
5	5	6-Nov-89	23	240	(0)
5	5	22-May-90	43	240	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
5	5	5-Jun-90	4	93	(0)
5	5	19-Jun-90	93	240	(0)
5	5	3-Jul-90	43	43	(0)
5	5	17-Jul-90	43	43	(0)
5	5	31-Jul-90	93	240	(0)
5	5	14-Aug-90	43	460	(0)
5	5	28-Aug-90	43	93	(0)
5	5	25-Sep-90	<3	23	(0)
5	5	9-Oct-90	43	240	(0)
5	5	23-Oct-90	15	28	(0)
5	5	13-Jun-91	18	.	(0)
5	5	27-Jun-91	<9	.	(0)
5	5	11-Jul-91	9	.	(0)
5	5	25-Jul-91	18	.	(0)
5	5	8-Aug-91	18	.	10(4)
5	5	4-Sep-91	<9	.	(0)
5	5	15-Sep-91	9	.	(0)
5	5	2-Oct-91	<9	.	(0)
5	5	16-Oct-91	<9	.	(0)
2B	5A	30-Jun-86	3	.	.
2B	5A	14-Jul-86	930	.	.
2B	5A	28-Jul-86	23	.	.
2B	5A	12-Aug-86	23	.	.
2B	5A	25-Aug-86	9	.	.
2B	5A	8-Sep-86	4	.	.
2B	5A	22-Sep-86	23	.	.
2B	5A	6-Oct-86	9	.	.
2B	5A	20-Oct-86	11	.	.
6	6	13-May-87	3	.	.
6	6	27-May-87	41	.	.
6	6	10-Jun-87	69	.	.
6	6	29-Jun-87	4	.	.
6	6	13-Jul-87	23	.	.
6	6	27-Jul-87	4	.	.
6	6	24-Aug-87	3	.	.
6	6	21-Sep-87	23	.	.
6	6	5-Oct-87	9	.	.
6	6	19-Oct-87	3	.	.
6	6	16-May-88	<3	9	.
6	6	13-Jun-88	4	23	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
6	6	27-Jun-88	93	460	.
6	6	11-Jul-88	4	23	.
6	6	25-Jul-88	23	240	.
6	6	10-Aug-88	4	9	.
6	6	22-Aug-88	9	43	.
6	6	19-Sep-88	4	23	.
6	6	3-Oct-88	<3	4	.
6	6	17-Oct-88	4	93	.
6	6	31-Oct-88	4	21	.
6	6	14-Nov-88	23	23	.
7	7	13-May-87	21	.	.
7	7	27-May-87	9	.	.
7	7	10-Jun-87	41	.	.
7	7	29-Jun-87	9	.	.
7	7	13-Jul-87	4	.	.
7	7	27-Jul-87	15	.	.
7	7	24-Aug-87	3	.	.
7	7	21-Sep-87	15	.	.
7	7	5-Oct-87	4	.	.
7	7	19-Oct-87	3	.	.
7	7	16-May-88	<3	3	.
7	7	13-Jun-88	<3	9	.
7	7	27-Jun-88	43	93	.
7	7	11-Jul-88	9	23	.
7	7	25-Jul-88	93	240	.
7	7	10-Aug-88	4	4	.
7	7	22-Aug-88	9	23	.
7	7	19-Sep-88	<3	9	.
7	7	3-Oct-88	<3	4	.
7	7	17-Oct-88	4	43	.
7	7	31-Oct-88	9	15	.
7	7	14-Nov-88	15	20	.
7	7	22-May-89	<3	9	(0)
7	7	5-Jun-89	23	150	(0)
7	7	19-Jun-89	93	240	(0)
7	7	28-Aug-89	<3	23	(0)
7	7	25-Sep-89	43	93	(0)
7	7	10-Oct-89	<9	.	(0)
7	7	23-Oct-89	43	240	(0)
7	7	6-Nov-89	4	93	(0)
7	7	22-May-90	4	75	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
7	7	5-Jun-90	4	93	(0)
7	7	19-Jun-90	9	9	(0)
7	7	3-Jul-90	23	23	(0)
7	7	17-Jul-90	9	43	(0)
7	7	31-Jul-90	43	93	(0)
7	7	14-Aug-90	23	23	(0)
7	7	28-Aug-90	7	98	(0)
7	7	25-Sep-90	4	23	(0)
7	7	9-Oct-90	23	43	(0)
7	7	23-Oct-90	4	4	(0)
8	8	13-May-87	3.6	.	.
8	8	27-May-87	9	.	.
8	8	10-Jun-87	9	.	.
8	8	29-Jun-87	9	.	.
8	8	13-Jul-87	15	.	.
8	8	27-Jul-87	4	.	.
8	8	24-Aug-87	3	.	.
8	8	21-Sep-87	7	.	.
8	8	5-Oct-87	93	.	.
8	8	19-Oct-87	3	.	.
8	8	16-May-88	3	43	.
8	8	13-Jun-88	<3	15	.
8	8	27-Jun-88	93	1100	.
8	8	11-Jul-88	9	23	.
8	8	25-Jul-88	20	120	.
8	8	10-Aug-88	4	15	.
8	8	22-Aug-88	4	210	.
8	8	19-Sep-88	7	15	.
8	8	3-Oct-88	<3	<3	.
8	8	17-Oct-88	9	9	.
8	8	31-Oct-88	4	4	.
8	8	14-Nov-88	43	43	.
8	8	22-May-89	23	23	(0)
8	8	5-Jun-89	15	20	(0)
8	8	19-Jun-89	9	43	(0)
8	8	28-Aug-89	<3	4	(0)
8	8	25-Sep-89	43	43	(0)
8	8	11-Oct-89	<9	.	(0)
8	8	23-Oct-89	43	460	(0)
8	8	6-Nov-89	4	75	(0)
8	8	22-May-90	23	93	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
8	8	5-Jun-90	<3	43	(O)
8	8	19-Jun-90	9	15	(O)
8	8	3-Jul-90	9	9	(O)
8	8	17-Jul-90	<3	4	(O)
8	8	31-Jul-90	4	39	(O)
8	8	14-Aug-90	9	23	(O)
8	8	28-Aug-90	43	43	(O)
8	8	25-Sep-90	7	11	(O)
8	8	9-Oct-90	9	120	(O)
8	8	23-Oct-90	<3	4	(O)
9	9	13-May-87	9.1	.	.
9	9	27-May-87	9	.	.
9	9	10-Jun-87	41	.	.
9	9	29-Jun-87	4	.	.
9	9	13-Jul-87	4	.	.
9	9	27-Jul-87	3	.	.
9	9	24-Aug-87	3	.	.
9	9	21-Sep-87	7	.	.
9	9	5-Oct-87	23	.	.
9	9	19-Oct-87	3	.	.
9	9	16-May-88	9	23	.
9	9	13-Jun-88	4	4	.
9	9	27-Jun-88	43	43	.
9	9	11-Jul-88	9	23	.
9	9	25-Jul-88	23	93	.
9	9	10-Aug-88	<3	4	.
9	9	22-Aug-88	<3	9	.
9	9	19-Sep-88	4	4	.
9	9	3-Oct-88	<3	4	.
9	9	17-Oct-88	4	23	.
9	9	31-Oct-88	4	23	.
9	9	14-Nov-88	23	43	.
10	10	13-May-87	9.1	.	.
10	10	27-May-87	9	.	.
10	10	10-Jun-87	54	.	.
10	10	29-Jun-87	4	.	.
10	10	13-Jul-87	15	.	.
10	10	27-Jul-87	4	.	.
10	10	24-Aug-87	3	.	.
10	10	21-Sep-87	14	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
10	10	5-Oct-87	23	.	.
10	10	19-Oct-87	3	.	.
10	10	16-May-88	4	9	.
10	10	13-Jun-88	4	7	.
10	10	27-Jun-88	43	240	.
10	10	11-Jul-88	7	7	.
10	10	25-Jul-88	23	43	.
10	10	10-Aug-88	<3	<3	.
10	10	22-Aug-88	<3	4	.
10	10	3-Oct-88	<3	4	.
10	10	17-Oct-88	<3	4	.
10	10	31-Oct-88	<3	<3	.
10	10	14-Nov-88	15	21	.
10	10	22-May-89	43	93	(0)
10	10	5-Jun-89	15	240	(0)
10	10	19-Jun-89	39	75	(0)
10	10	31-Jul-89	<3	43	(0)
10	10	28-Aug-89	<3	9	(0)
10	10	11-Sep-89	<3	9	(0)
10	10	25-Sep-89	15	43	(0)
10	10	10-Oct-89	<3	<3	(0)
10	10	23-Oct-89	93	460	(0)
PJ	10	22-May-90	7	150	(0)
PJ	10	5-Jun-90	4	23	(0)
PJ	10	19-Jun-90	4	23	(0)
PJ	10	3-Jul-90	43	93	(0)
PJ	10	17-Jul-90	<3	93	(0)
PJ	10	31-Jul-90	<3	4	(0)
PJ	10	14-Aug-90	9	23	(0)
PJ	10	28-Aug-90	9	9	(0)
PJ	10	11-Sep-90	23	23	(0)
PJ	10	25-Sep-90	<3	<3	(0)
PJ	10	9-Oct-90	9	43	(0)
PJ	10	23-Oct-90	<3	4	(0)
12	12	13-May-87	3	.	.
12	12	27-May-87	9	.	.
12	12	10-Jun-87	9	.	.
12	12	29-Jun-87	4	.	.
12	12	13-Jul-87	4	.	.
12	12	27-Jul-87	4	.	.
12	12	24-Aug-87	3	.	.

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OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
12	12	21-Sep-87	15	.	.
12	12	5-Oct-87	39	.	.
12	12	19-Oct-87	23	.	.
12	12	16-May-88	4	4	.
12	12	13-Jun-88	23	23	.
12	12	27-Jun-88	23	23	.
12	12	11-Jul-88	7	15	.
12	12	25-Jul-88	9	93	.
12	12	10-Aug-88	4	9	.
12	12	22-Aug-88	<3	4	.
12	12	3-Oct-88	4	4	.
12	12	17-Oct-88	4	15	.
12	12	31-Oct-88	<3	<3	.
12	12	14-Nov-88	4	4	.
12	12	22-May-89	<3	<3	(0)
12	12	5-Jun-89	4	23	(0)
12	12	19-Jun-89	9	23	(0)
12	12	31-Jul-89	<3	23	(0)
12	12	28-Aug-89	4	15	(0)
12	12	11-Sep-89	<3	23	(0)
12	12	25-Sep-89	9	240	(0)
12	12	10-Oct-89	11	20	(0)
12	12	23-Oct-89	93	1100	(0)
12	12	22-May-90	9	1100	(0)
12	12	5-Jun-90	<3	15	(0)
12	12	19-Jun-90	<3	23	(0)
12	12	3-Jul-90	4	9	(0)
12	12	17-Jul-90	4	93	(0)
12	12	31-Jul-90	<3	9	(0)
12	12	14-Aug-90	<3	9	(0)
12	12	28-Aug-90	9	9	(0)
12	12	11-Sep-90	<3	9	(0)
12	12	25-Sep-90	<3	4	(0)
12	12	9-Oct-90	4	43	(0)
12	12	23-Oct-90	9	9	(0)
2A	15	5-May-86	3	.	.
2A	15	19-May-86	3	.	.
2A	15	2-Jun-86	1	.	.
2A	15	30-Jun-86	4	.	.
2A	15	14-Jul-86	43	.	.
2A	15	28-Jul-86	9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
2A	15	12-Aug-86	3	.	.
2A	15	25-Aug-86	9	.	.
2A	15	8-Sep-86	15	.	.
2A	15	22-Sep-86	4	.	.
15	15	13-May-87	3.6	.	.
15	15	10-Jun-87	9	.	.
15	15	29-Jun-87	3	.	.
15	15	13-Jul-87	4	.	.
15	15	27-Jul-87	3	.	.
15	15	24-Aug-87	9	.	.
15	15	5-Oct-87	43	.	.
15	15	19-Oct-87	3	.	.
15	15	11-Jul-88	<3	4	.
15	15	25-Jul-88	15	390	.
15	15	10-Aug-88	<3	<3	.
15	15	22-Aug-88	4	4	.
15	15	3-Oct-88	<3	<3	.
15	15	17-Oct-88	<3	4	.
15	15	31-Oct-88	<3	<3	.
15	15	22-May-89	<3	<3	(0)
15	15	5-Jun-89	7	150	(0)
15	15	19-Jun-89	240	240	(0)
15	15	31-Jul-89	<3	93	(0)
15	15	7-Aug-89	<3	390	(0)
15	15	28-Aug-89	<3	4	(0)
15	15	11-Sep-89	<3	23	50(2)
15	15	25-Sep-89	4	93	(0)
15	15	10-Oct-89	9	93	(0)
15	15	6-Nov-89	21	<3	(0)
15	15	5-Jun-90	4	75	(0)
15	15	19-Jun-90	4	9	(0)
15	15	3-Jul-90	<3	9	(0)
15	15	31-Jul-90	7	7	(0)
15	15	14-Aug-90	9	23	(0)
15	15	28-Aug-90	<3	9	(0)
15	15	25-Sep-90	4	4	(0)
15	15	9-Oct-90	4	4	(0)
15	15	23-Oct-90	4	4	(0)
15A	15A	16-May-88	4	4	.
15A	15A	13-Jun-88	4	9	.
15A	15A	27-Jun-88	39	39	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
15A	15A	11-Jul-88	<3	4	.
15A	15A	25-Jul-88	43	43	.
15A	15A	10-Aug-88	<3	<3	.
15A	15A	22-Aug-88	<3	4	.
15A	15A	3-Oct-88	<3	240	.
15A	15A	31-Oct-88	4	4	.
15A	15A	14-Nov-88	4	4	.
15A	15A	5-Jun-89	43	43	(0)
15A	15A	19-Jun-89	4	11	(0)
15A	15A	31-Jul-89	<3	4	50(5)
15A	15A	7-Aug-89	<3	4	(0)
15A	15A	28-Aug-89	<3	<3	(0)
15A	15A	11-Sep-89	<3	4	(0)
15A	15A	25-Sep-89	9	23	(0)
15A	15A	10-Oct-89	3	3	25(4)
15A	15A	6-Nov-88	9	9	(0)
15A	15A	22-May-90	4	23	(0)
15A	15A	5-Jun-90	4	23	(0)
15A	15A	19-Jun-90	<3	<3	(0)
15A	15A	3-Jul-90	9	9	(0)
15A	15A	31-Jul-90	<3	<3	(0)
15A	15A	14-Aug-90	4	15	10(1)
15A	15A	28-Aug-90	4	23	(0)
15A	15A	25-Sep-90	9	43	50(2)
15A	15A	9-Oct-90	9	43	50(1)
15A	15A	23-Oct-90	4	43	(0)
15B	15B	27-Jun-88	4	14	.
15B	15B	11-Jul-88	<3	93	.
15B	15B	25-Jul-88	21	240	.
15B	15B	10-Aug-88	<3	3	.
15B	15B	22-Aug-88	43	43	.
15B	15B	3-Oct-88	9	23	.
15B	15B	31-Oct-88	9	43	.
15B	15B	14-Nov-88	23	43	.
16	16	13-May-87	3.6	.	.
16	16	10-Jun-87	9	.	.
16	16	29-Jun-87	3	.	.
16	16	13-Jul-87	9	.	.
16	16	27-Jul-87	3	.	.
16	16	24-Aug-87	7	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
16	16	5-Oct-87	43	.	.
16	16	19-Oct-87	3	.	.
16	16	11-Jul-88	4	9	.
16	16	25-Jul-88	15	43	.
16	16	10-Aug-88	<3	<3	.
16	16	22-Aug-88	<3	<3	.
16	16	3-Oct-88	<3	<3	.
16	16	17-Oct-88	<3	<3	.
16	16	31-Oct-88	<3	4	.
2	16A	22-Jul-85	150	.	.
2	16A	5-Aug-85	150	.	.
2	16A	19-Aug-85	23	.	.
2	16A	3-Sep-85	23	.	.
2	16A	16-Sep-85	9	.	.
2	16A	21-Oct-85	9	.	.
2	16A	28-Oct-85	9	.	.
2	16A	5-May-86	3	.	.
2	16A	19-May-86	4	.	.
2	16A	30-Jun-86	23	.	.
2	16A	14-Jul-86	430	.	.
2	16A	28-Jul-86	150	.	.
2	16A	12-Aug-86	23	.	.
2	16A	25-Aug-86	14	.	.
2	16A	8-Sep-86	43	.	.
2	16A	22-Sep-86	23	.	.
16A	16A	27-May-87	9	.	.
16A	16A	10-Jun-87	9	.	.
16A	16A	13-Jul-87	7	.	.
16A	16A	27-Jul-87	43	.	.
16A	16A	24-Aug-87	3	.	.
16A	16A	5-Oct-87	9	.	.
16A	16A	19-Oct-87	3	.	.
16A	16A	16-May-88	460	460	.
16A	16A	13-Jun-88	9	23	.
16A	16A	27-Jun-88	9	39	.
16A	16A	11-Jul-88	43	93	.
16A	16A	17-Oct-88	23	23	.
16A	16A	31-Oct-88	4	23	.
16A	16A	14-Nov-88	15	15	.
16A	16A	22-May-89	<3	240	(0)
16A	16A	5-Jun-89	4	9	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
16A	16A	19-Jun-89	9	93	(0)
16A	16A	31-Jul-89	<9	.	(0)
16A	16A	7-Aug-89	<3	93	50(?)
16A	16A	28-Aug-89	<3	4	50(?)
16A	16A	11-Sep-89	<3	93	(0)
16A	16A	25-Sep-89	93	93	(0)
16A	16A	23-Oct-89	240	460	50(100)
16A	16A	22-May-90	<3	15	(0)
16A	16A	5-Jun-90	7	150	(0)
16A	16A	19-Jun-90	23	23	(0)
16A	16A	3-Jul-90	4	7	(0)
16A	16A	31-Jul-90	4	9	(0)
16A	16A	4-Aug-90	<3	9	(0)
16A	16A	14-Aug-90	4	15	(0)
16A	16A	28-Aug-90	4	4	50(15)
16A	16A	13-Jun-91	<9	.	(0)
16A	16A	27-Jun-91	9	.	(0)
16A	16A	11-Jul-91	<9	.	(0)
16A	16A	4-Sep-91	9	.	(0)
16A	16A	15-Sep-91	<9	.	(0)
16B	16B	10-Jun-87	9	.	.
16B	16B	27-Jul-87	93	.	.
16B	16B	24-Aug-87	21	.	.
16B	16B	5-Oct-87	43	.	.
16B	16B	19-Oct-87	3	.	.
16B	16B	16-May-88	43	93	.
16B	16B	13-Jun-88	7	21	.
16B	16B	27-Jun-88	93	240	.
16B	16B	11-Jul-88	<3	43	.
16B	16B	19-Sep-88	3	3	.
16B	16B	17-Oct-88	4	23	.
16B	16B	31-Oct-88	240	460	.
16B	16B	22-May-89	<3	23	(0)
16B	16B	31-Jul-89	<9	.	(0)
16B	16B	7-Aug-89	4	150	(0)
16B	16B	28-Aug-89	9	93	(0)
16B	16B	11-Sep-89	<3	93	(0)
16B	16B	25-Sep-89	43	75	(0)
16B	16B	22-May-90	7	93	50 (1)
16B	16B	5-Jun-90	4	15	50(7)
16B	16B	19-Jun-90	43	93	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
16B	16B	3-Jul-90	23	23	50(2)
16B	16B	1-Jun-94	.	.	.
16B	16B	15-Jun-94	1601	.	.
16B	16B	29-Jun-94	11	.	.
16B	16B	13-Jul-94	80	.	.
16B	16B	27-Jul-94	.	.	.
16B	16B	10-Aug-94	50	.	.
16B	16B	24-Aug-94	220	.	.
16B	16B	21-Sep-94	17	.	.
17	17	13-May-87	3	.	.
17	17	27-May-87	18	.	.
17	17	10-Jun-87	9	.	.
17	17	29-Jun-87	23	.	.
17	17	13-Jul-87	4	.	.
17	17	27-Jul-87	15	.	.
17	17	24-Aug-87	3	.	.
17	17	21-Sep-87	23	.	.
17	17	5-Oct-87	9	.	.
17	17	19-Oct-87	4	.	.
17	17	16-May-88	3	3	.
17	17	13-Jun-88	<3	<3	.
17	17	27-Jun-88	4	4	.
17	17	11-Jul-88	4	23	.
17	17	25-Jul-88	9	240	.
17	17	10-Aug-88	4	43	.
17	17	22-Aug-88	23	23	.
17	17	3-Oct-88	4	4	.
17	17	17-Oct-88	9	9	.
17	17	31-Oct-88	4	4	.
17	17	14-Nov-88	43	93	.
17	17	5-Jun-89	23	23	(0)
17	17	19-Jun-89	4	43	(0)
17	17	31-Jul-89	4	9	(0)
17	17	28-Aug-89	4	43	(0)
17	17	11-Sep-89	<3	15	(0)
17	17	25-Sep-89	43	93	(0)
17	17	10-Oct-89	14	14	(0)
17	17	23-Oct-89	43	460	(0)
17	17	22-May-90	4	9	(0)
17	17	5-Jun-90	<3	4	(0)
17	17	19-Jun-90	4	23	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
17	17	3-Jul-90	9	43	(0)
17	17	17-Jul-90	<3	43	(0)
17	17	31-Jul-90	<3	9	(0)
17	17	14-Aug-90	<3	9	(0)
17	17	28-Aug-90	9	9	(0)
17	17	11-Sep-90	15	15	(0)
17	17	25-Sep-90	4	15	(0)
17	17	9-Oct-90	4	43	(0)
17	17	23-Oct-90	4	9	(0)
19	19	27-May-87	54	.	.
19	19	10-Jun-87	9	.	.
19	19	29-Jun-87	43	.	.
19	19	13-Jul-87	43	.	.
19	19	27-Jul-87	9	.	.
19	19	24-Aug-87	4	.	.
19	19	21-Sep-87	4	.	.
19	19	5-Oct-87	9	.	.
19	19	19-Oct-87	14		.
19	19	16-May-88	43	43	.
19	19	13-Jun-88	<3	4	.
19	19	27-Jun-88	93	93	.
19	19	11-Jul-88	23	23	.
19	19	25-Jul-88	93	93	.
19	19	10-Aug-88	<3	93	.
19	19	22-Aug-88	43	93	.
19	19	3-Oct-88	23	93	.
19	19	17-Oct-88	9	9	.
19	19	31-Oct-88	4	9	.
19	19	14-Nov-88	4	4	.
19	19	5-Jun-89	9	43	(0)
19	19	19-Jun-89	<3	390	(0)
19	19	31-Jul-89	1	23	(0)
19	19	28-Aug-89	4	21	(0)
19	19	11-Sep-89	43	43	(0)
19	19	25-Sep-89	15	43	(0)
19	19	10-Oct-89	9	23	(0)
19	19	23-Oct-89	43	460	(0)
19	19	22-May-90	4	15	(0)
19	19	5-Jun-90	43	43	(0)
19	19	19-Jun-90	43	43	(0)
19	19	3-Jul-90	23	93	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
19	19	17-Jul-90	9	93	(0)
19	19	31-Jul-90	14	39	(0)
19	19	14-Aug-90	43	43	(0)
19	19	28-Aug-90	15	15	(0)
19	19	11-Sep-90	15	150	(0)
19	19	25-Sep-90	23	460	(0)
19	19	9-Oct-90	7	43	(0)
19	19	23-Oct-90	<3	23	(0)
3	20	5-May-86	3	.	.
3	20	19-May-86	3	.	.
3	20	30-Jun-86	9	.	.
3	20	14-Jul-86	430	.	.
3	20	28-Jul-86	43	.	.
3	20	12-Aug-86	460	.	.
3	20	25-Aug-86	15	.	.
3	20	8-Sep-86	23	.	.
3	20	6-Oct-86	23	.	.
3	20	20-Oct-86	9	.	.
20	20	13-May-87	3.6	.	.
20	20	27-May-87	9	.	.
20	20	10-Jun-87	9	.	.
20	20	29-Jun-87	9	.	.
20	20	13-Jul-87	4	.	.
20	20	27-Jul-87	4	.	.
20	20	24-Aug-87	4	.	.
20	20	21-Sep-87	9	.	.
20	20	5-Oct-87	43	.	.
20	20	19-Oct-87	3	.	.
20	20	16-May-88	<3	<3	.
20	20	13-Jun-88	<3	7	.
20	20	27-Jun-88	15	21	.
20	20	11-Jul-88	<3	4	.
20	20	25-Jul-88	23	43	.
20	20	10-Aug-88	4	43	.
20	20	22-Aug-88	9	43	.
20	20	19-Sep-88	23	23	.
20	20	3-Oct-88	9	9	.
20	20	17-Oct-88	9	23	.
20	20	31-Oct-88	4	23	.
20	20	14-Nov-88	4	9	.
20	20A	5-Jun-89	4	23	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
20	20A	19-Jun-89	4	93	0(2)
20	20A	31-Jul-89	4	9	5(3)
20	20A	7-Aug-89	7	1100	(0)
20	20A	28-Aug-89	<3	9	(0)
20	20A	11-Sep-89	<3	9	(0)
20	20A	25-Sep-89	23	43	(0)
20	20A	10-Oct-89	<3	<3	(0)
20	20A	23-Oct-89	9	150	(0)
20	20A	6-Nov-89	7	21	(0)
20	20A	22-May-90	4	43	(0)
20	20A	5-Jun-90	<3	4	(0)
20	20A	19-Jun-90	9	23	(0)
20	20A	3-Jul-90	43	460	(0)
20	20A	31-Jul-90	<3	15	(0)
20	20A	14-Aug-90	4	43	(0)
20	20A	28-Aug-90	9	21	(0)
20	20A	25-Sep-90	9	9	(0)
20	20A	9-Oct-90	15	43	(0)
20	20A	23-Oct-90	39	39	(0)
20B	20B	10-Jun-92	1	.	.
20B	20B	8-Jul-92	30	.	.
20B	20B	15-Jul-92	23	.	.
20B	20B	19-Aug-92	130	.	.
20B	20B	30-Sep-92	9	.	.
20B	20B	28-Oct-92	1	.	.
21	21	13-May-87	3.6	.	.
21	21	27-May-87	9	.	.
21	21	10-Jun-87	9	.	.
21	21	29-Jun-87	9	.	.
21	21	13-Jul-87	4	.	.
21	21	27-Jul-87	4	.	.
21	21	24-Aug-87	3	.	.
21	21	21-Sep-87	15	.	.
21	21	5-Oct-87	15	.	.
21	21	19-Oct-87	9	.	.
21	21	16-May-88	<3	<3	.
21	21	13-Jun-88	<3	4	.
21	21	27-Jun-88	9	9	.
21	21	11-Jul-88	3	15	.
21	21	25-Jul-88	9	23	.

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OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
21	21	10-Aug-88	<3	9	.
21	21	22-Aug-88	23	23	.
21	21	19-Sep-88	9	15	.
21	21	3-Oct-88	4	9	.
21	21	17-Oct-88	7	43	.
21	21	31-Oct-88	4	4	.
21	21	14-Nov-88	4	4	.
21A	21A	5-Jun-89	23	23	(0)
21A	21A	19-Jun-89	43	43	0(2)
21A	21A	31-Jul-89	4	43	5(3)
21A	21A	7-Aug-89	4	93	(0)
21A	21A	28-Aug-89	43	43	(0)
21A	21A	11-Sep-89	15	93	(0)
21A	21A	25-Sep-89	4	43	(0)
21A	21A	10-Oct-89	9	9	(0)
21A	21A	23-Oct-89	43	150	(0)
21A	21A	6-Nov-89	4	23	(0)
21A	21A	22-May-90	23	43	(0)
21A	21A	5-Jun-90	7	15	(0)
21A	21A	19-Jun-90	23	23	(0)
21A	21A	3-Jul-90	93	240	50(2)
21A	21A	31-Jul-90	43	43	(0)
21A	21A	14-Aug-90	43	43	(0)
21A	21A	28-Aug-90	93	150	(0)
21A	21A	25-Sep-90	4	23	(0)
21A	21A	9-Oct-90	9	15	(0)
21A	21A	23-Oct-90	9	23	(0)
21A	21A	13-Jun-91	70	.	5(50)
21A	21A	27-Jun-91	41	.	2(50)
21A	21A	11-Jul-91	9	.	(0)
21A	21A	25-Jul-91	41	.	(0)
21A	21A	8-Aug-91	41	.	(0)
21A	21A	15-Sep-91	29	.	(0)
21A	21A	10-Jun-92	80	.	.
21A	21A	8-Jul-92	50	.	.
21A	21A	15-Jul-92	30	.	.
21A	21A	19-Aug-92	240	.	.
21A	21A	30-Sep-92	23	.	.
21A	21A	28-Oct-92	2	.	.
21A	21A	25-May-93	8	.	.
21A	21A	4-Jun-93	.	.	.

POINT JUDITH POND BACTERIA DATA 1985 -1994

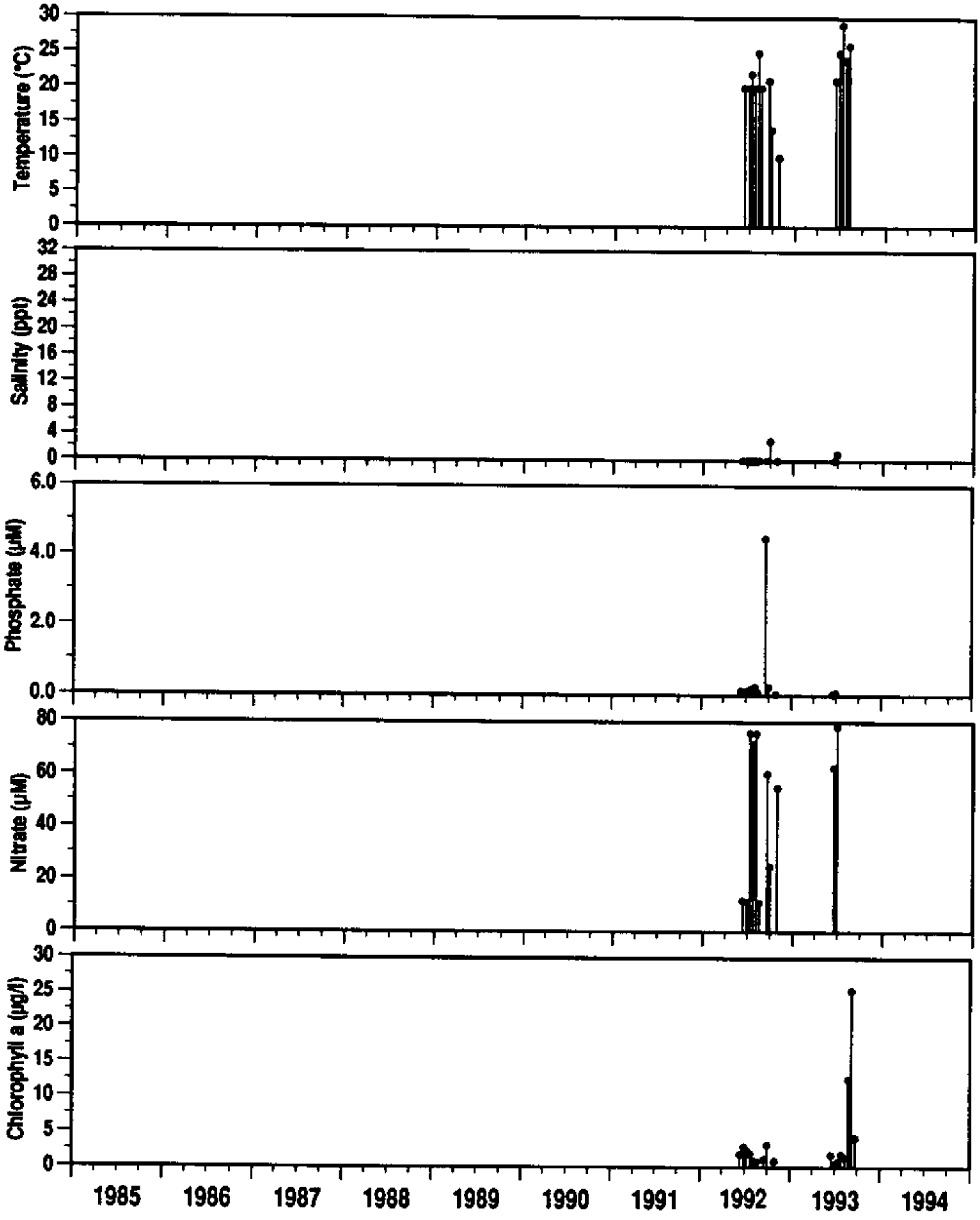
OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
SR 2	SR 2	21-Sep-94	80	.	.
SR FB	SR FB	10-Aug-94	50	.	.
SI RI	SI RI	10-Aug-94	300	.	.
SR CB	SR CB	10-Aug-94	240	.	.
SR BR	SR BR	10-Aug-94	220	.	.

Point Judith Pond

Water Quality

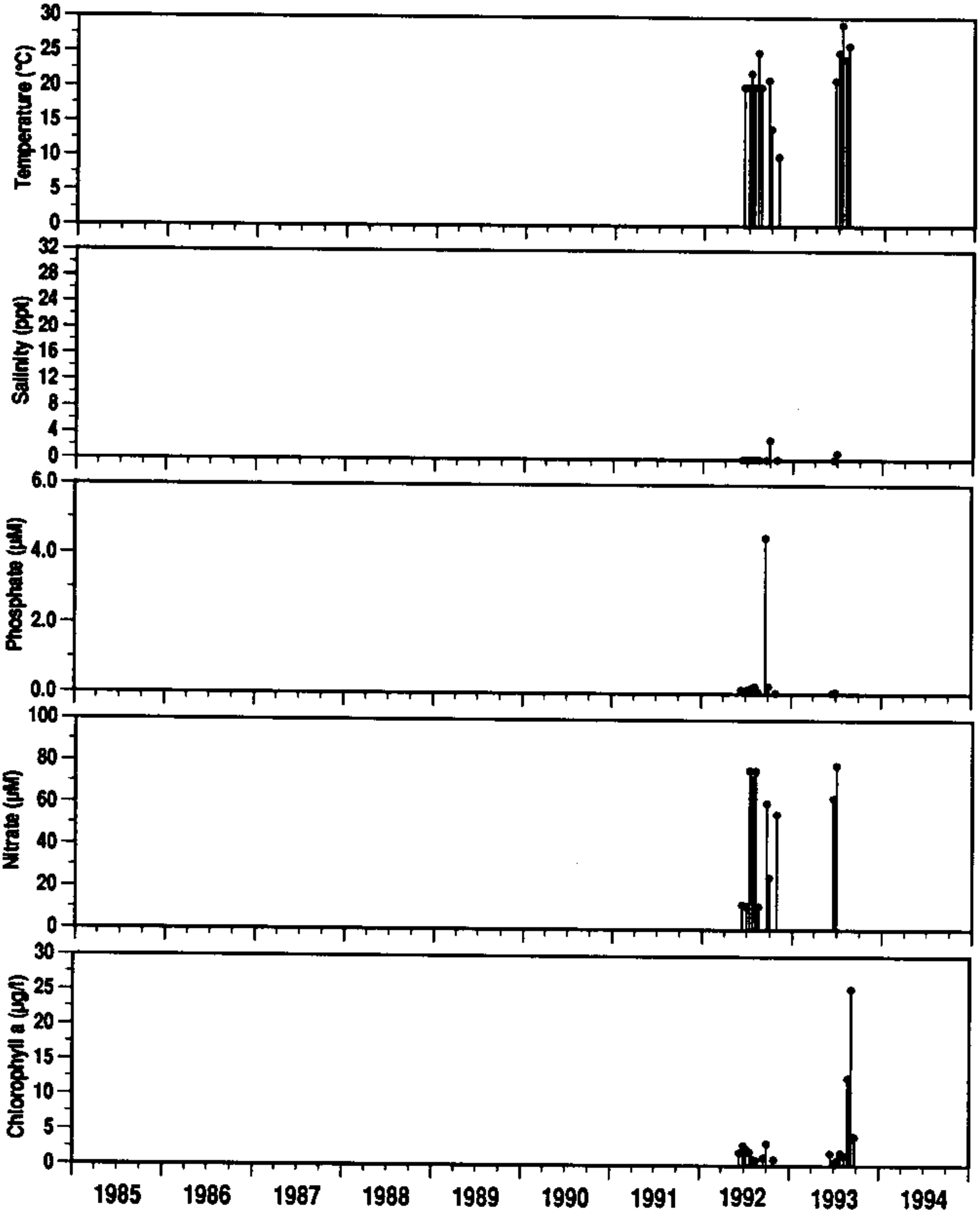
Pt. Judith Pond

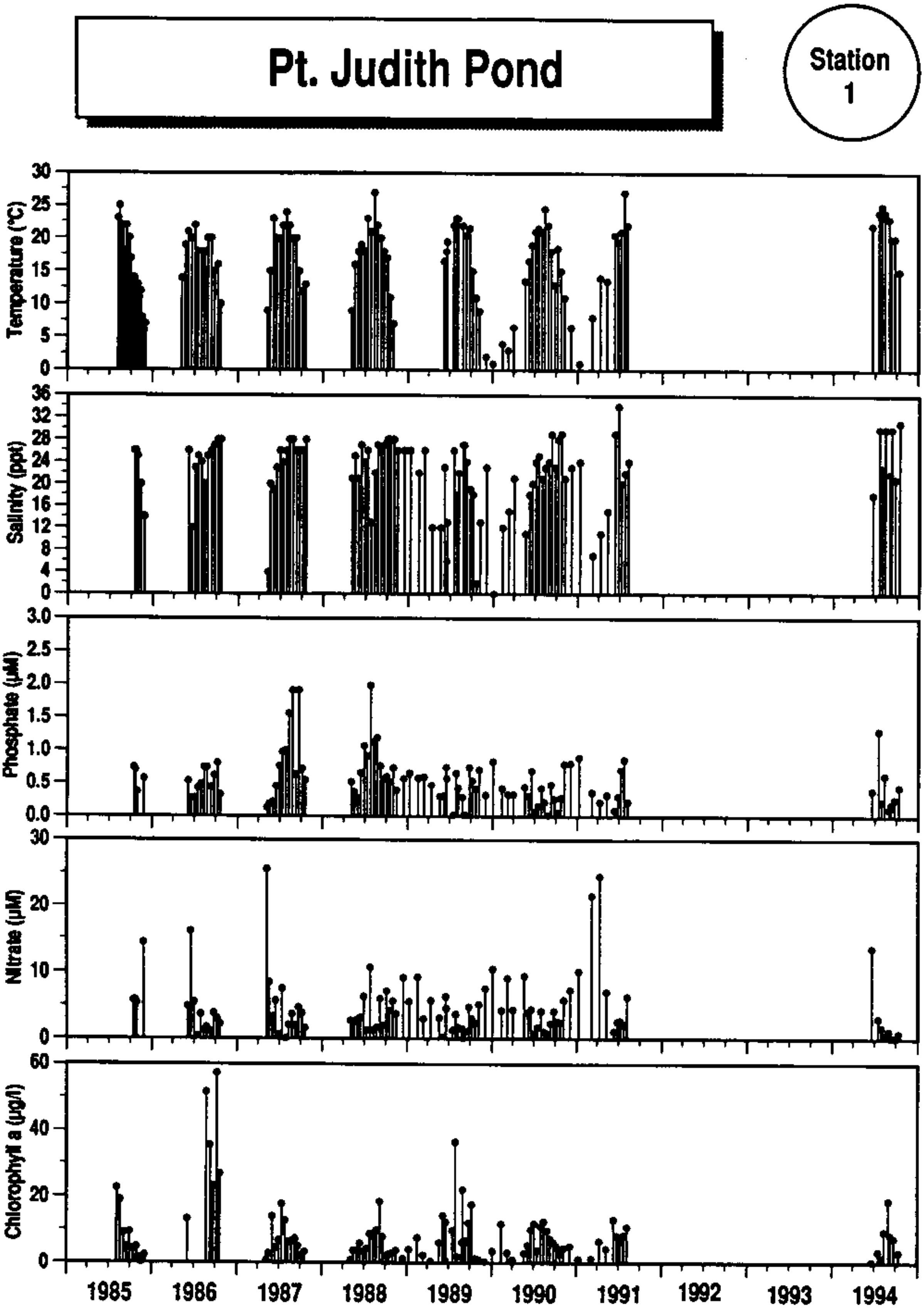
Station
0



Pt. Judith Pond

Station 0

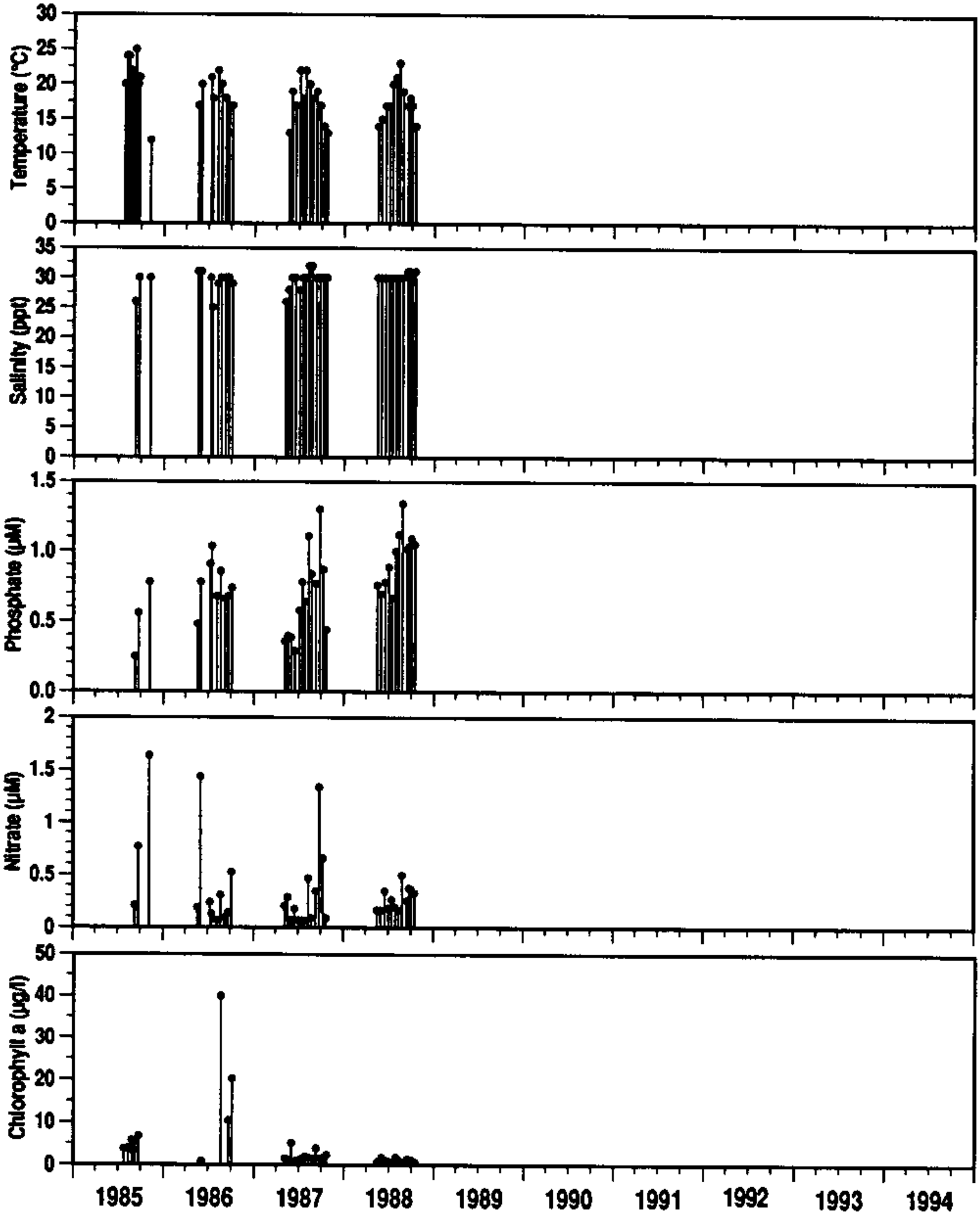




Pt. Judith Pond
Station 1
Temperature (°C)
Salinity (ppt)
Phosphate (µM)
Nitrate (µM)
Chlorophyll a (µg/l)
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

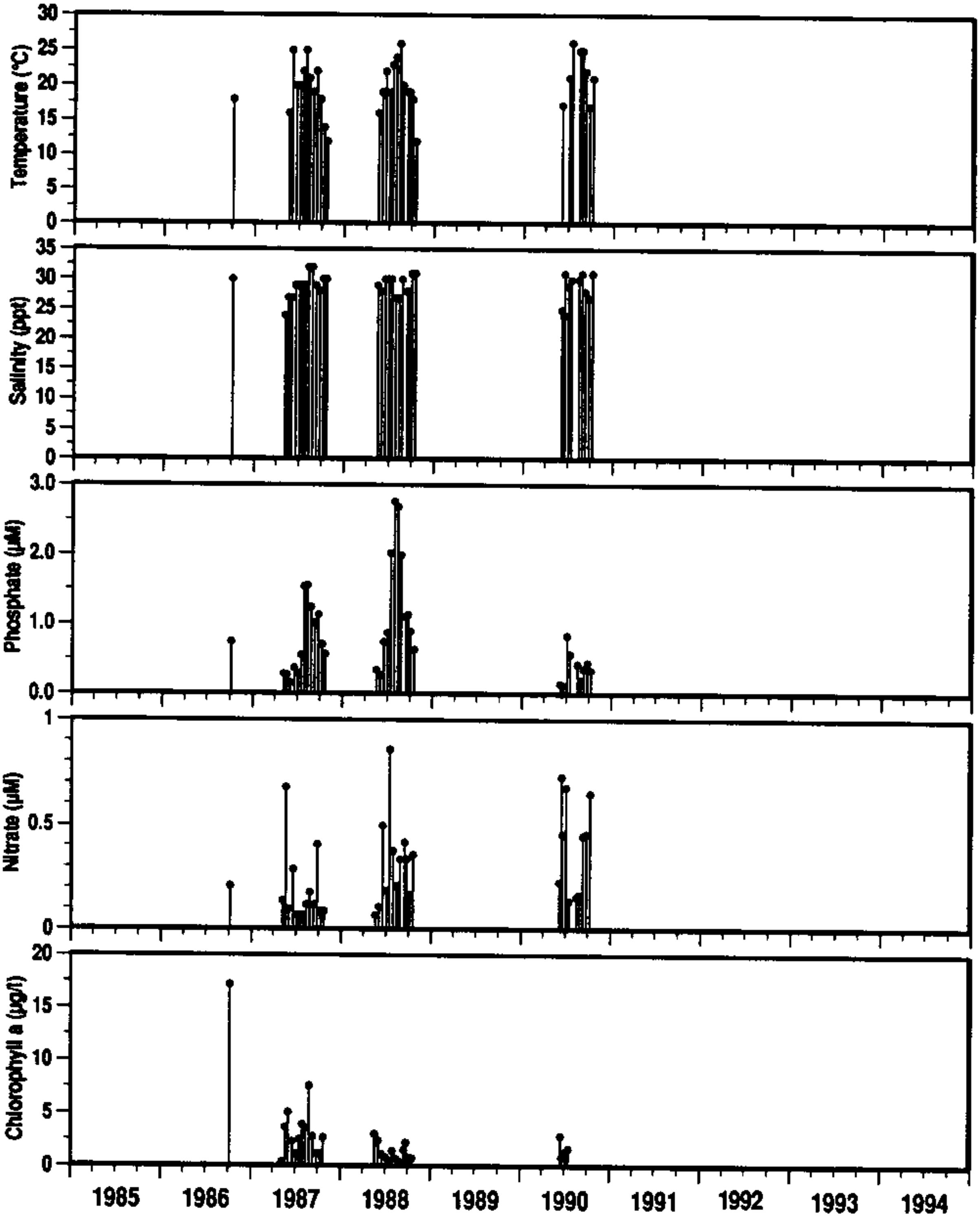
Pt. Judith Pond

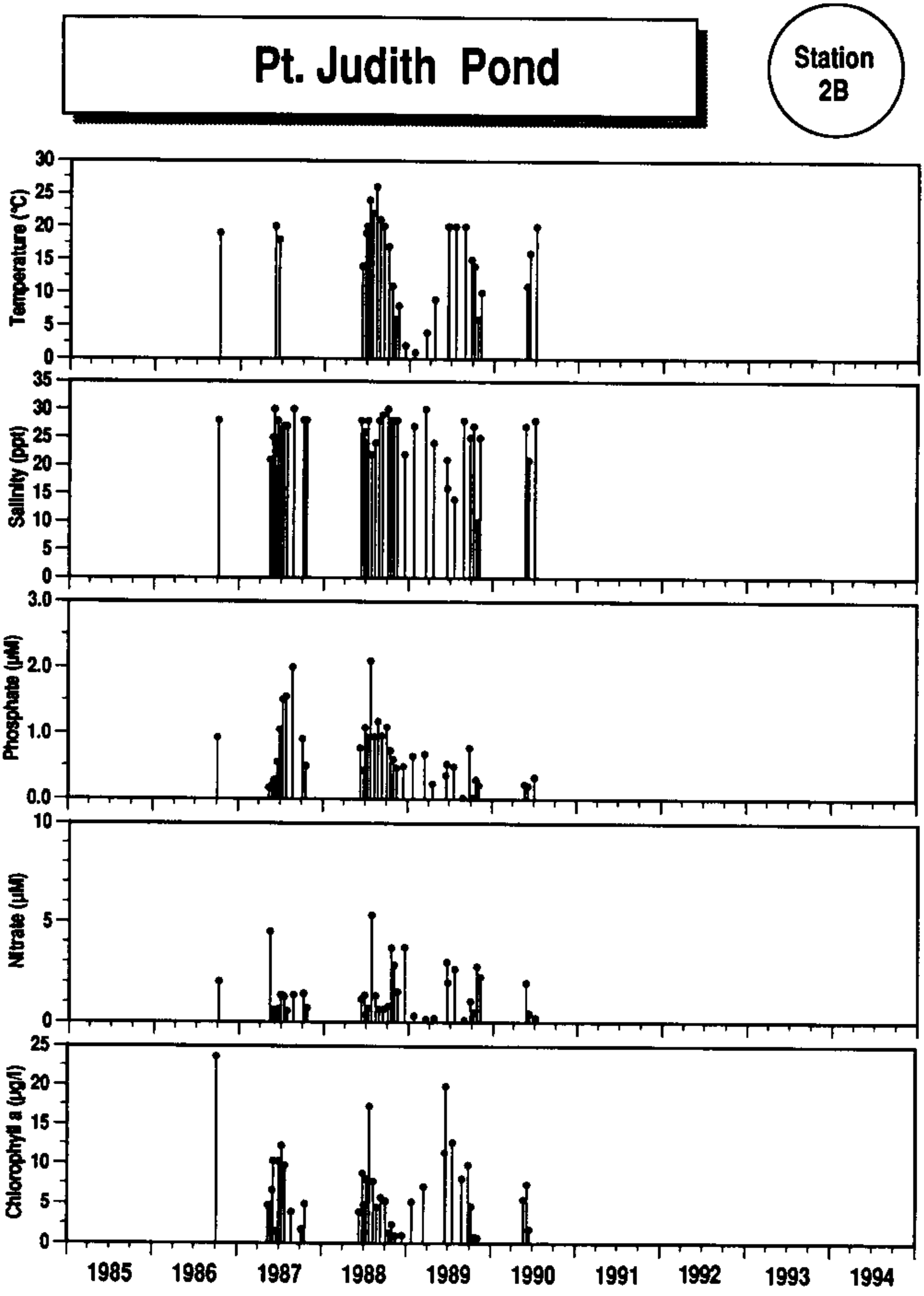
Station 2



Pt. Judith Pond

Station 2A

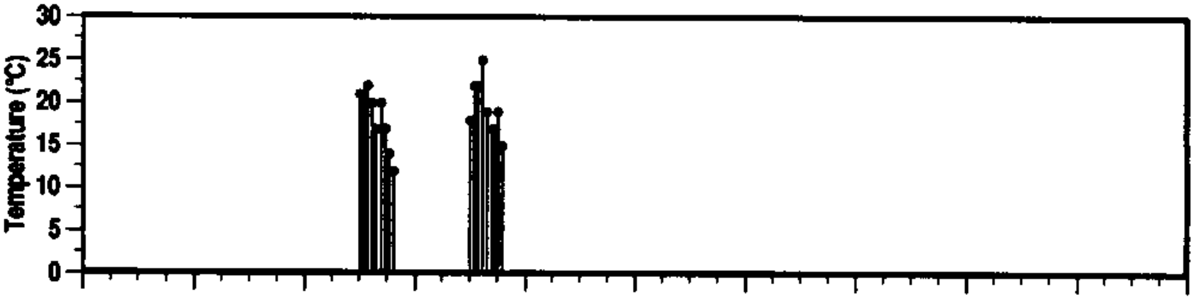




Pt. Judith Pond
Station 2B
Temperature (°C)
Salinity (ppt)
Phosphate (µM)
Nitrate (µM)
Chlorophyll a (µg/l)
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

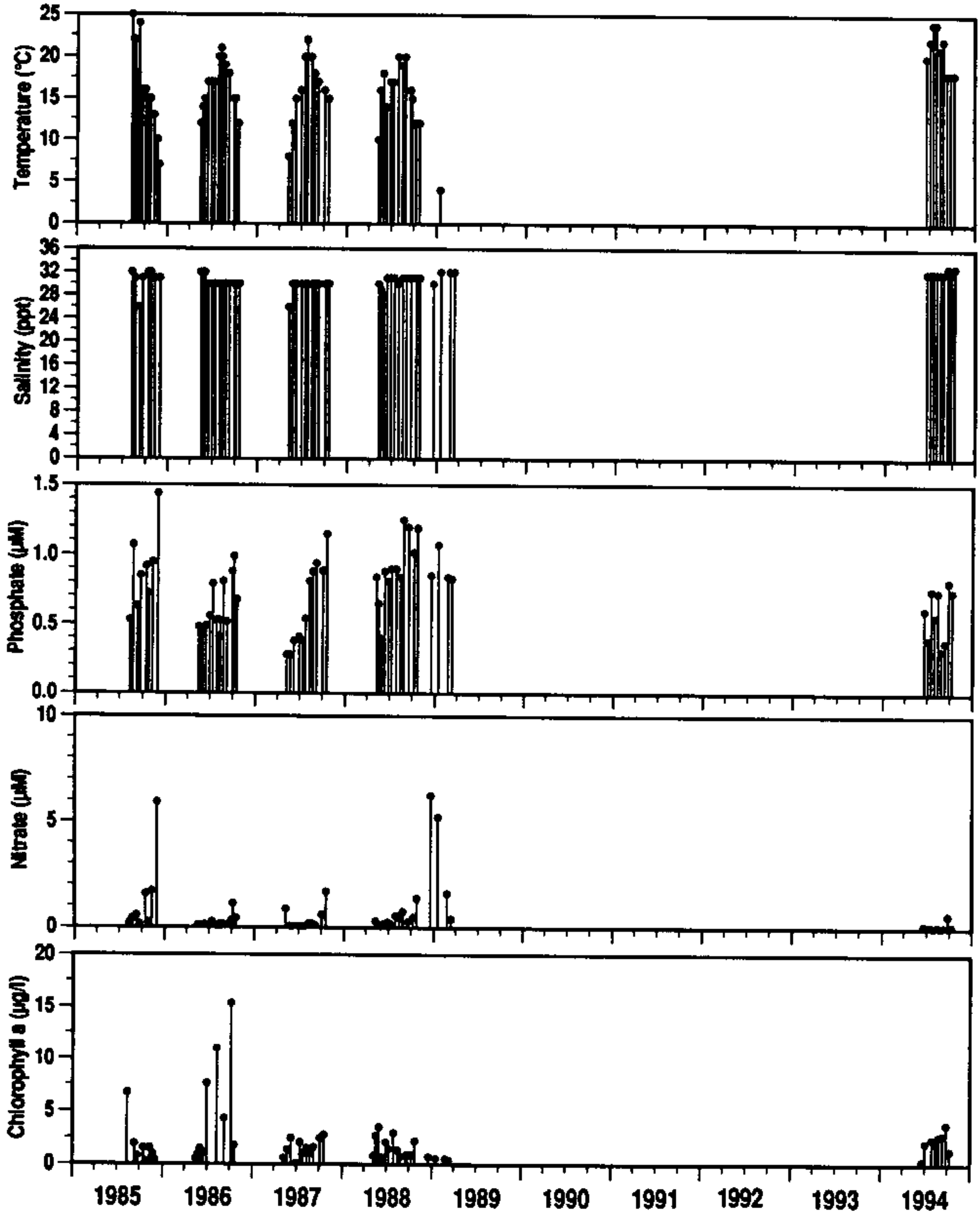
Pt. Judith Pond

Station 2C



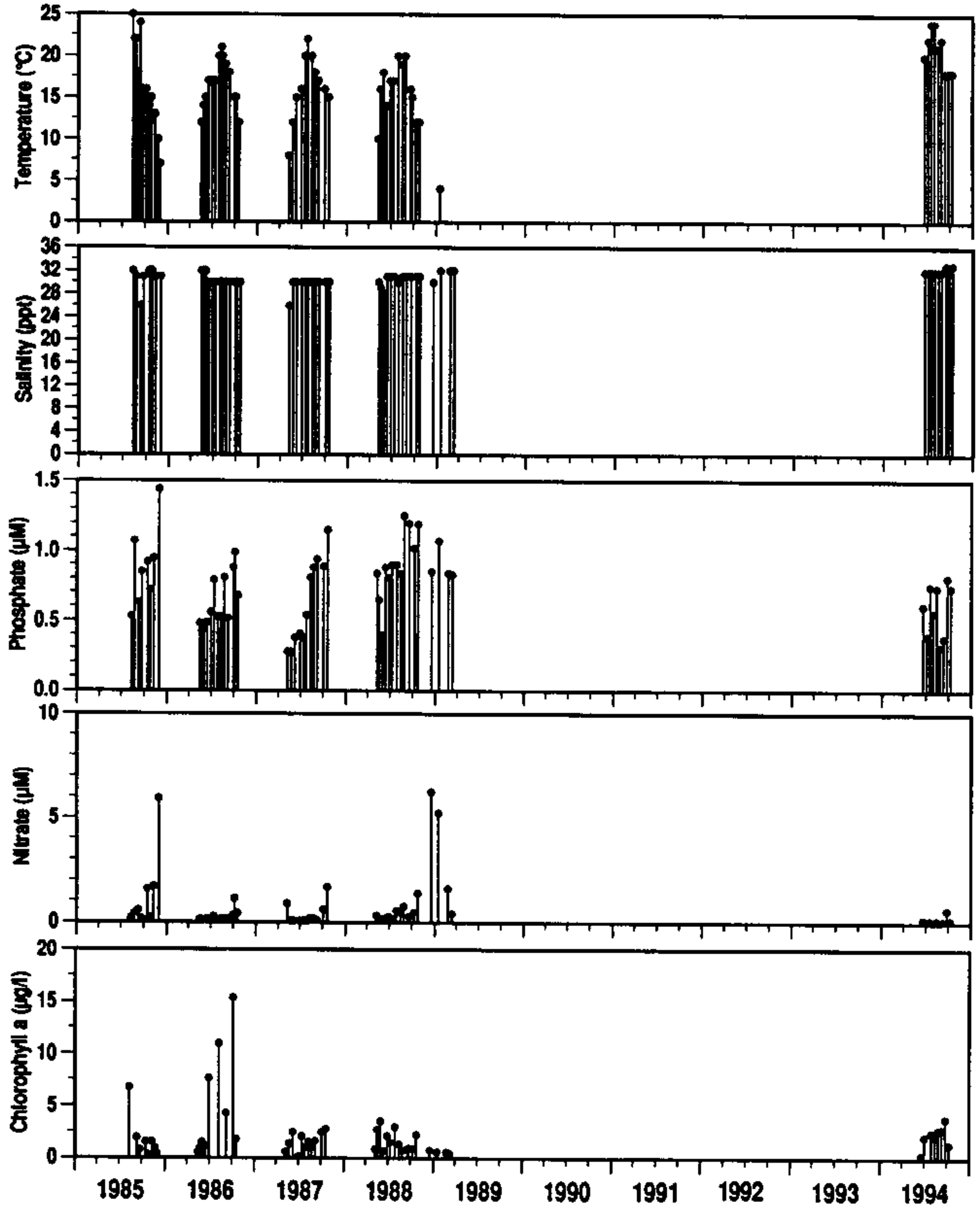
Pt. Judith Pond

Station 3



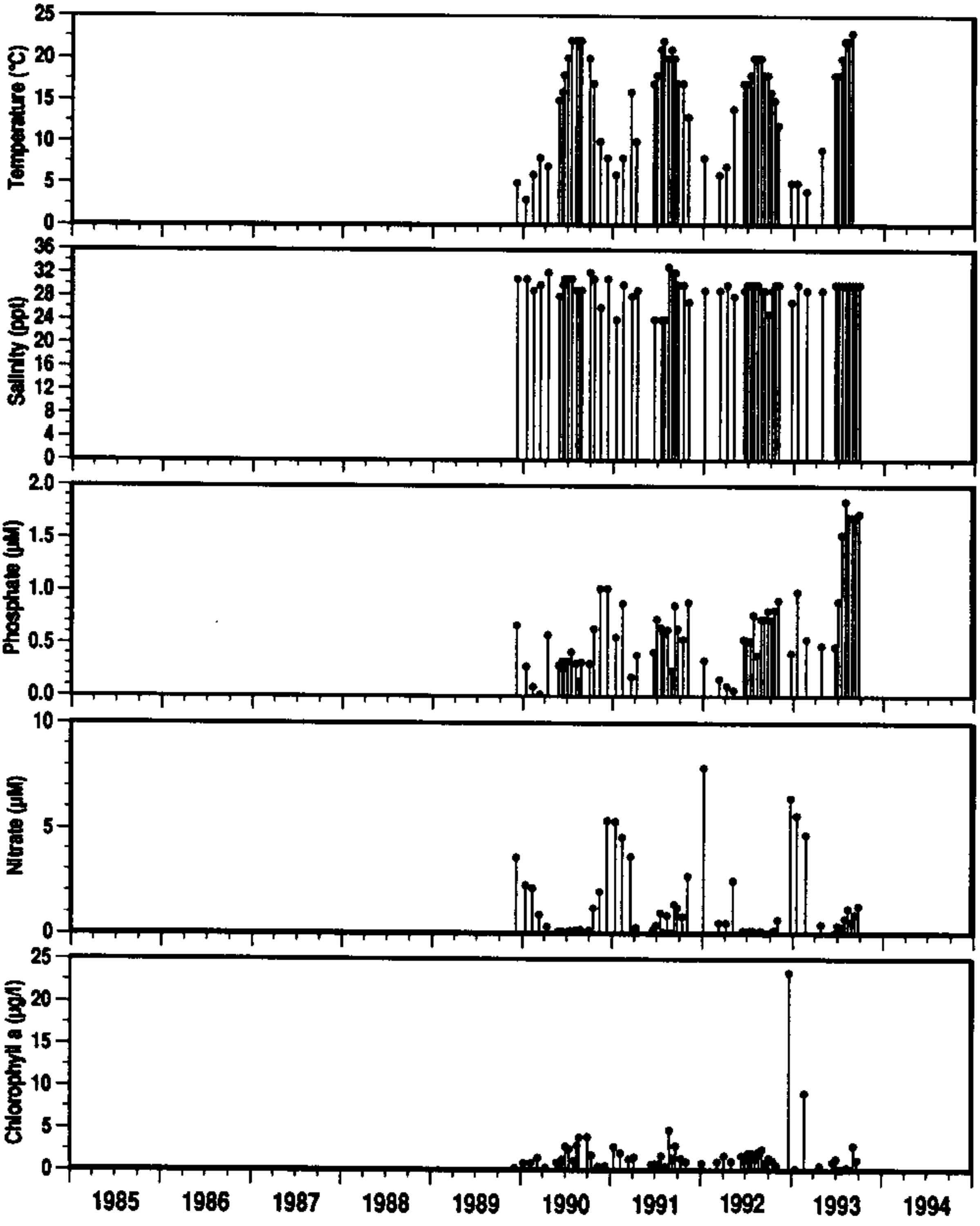
Pt. Judith Pond

Station 3



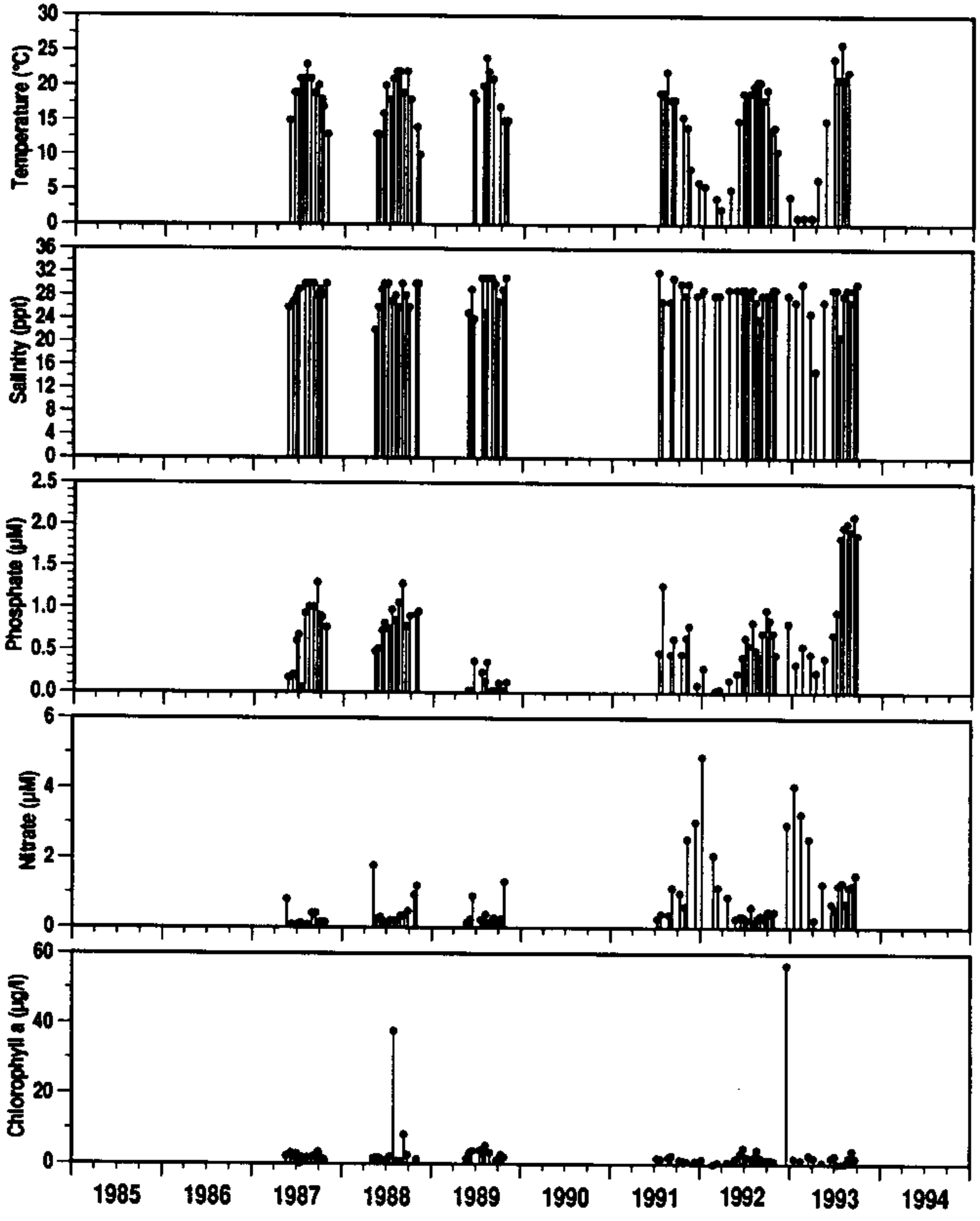
Pt. Judith Pond

Station 3A



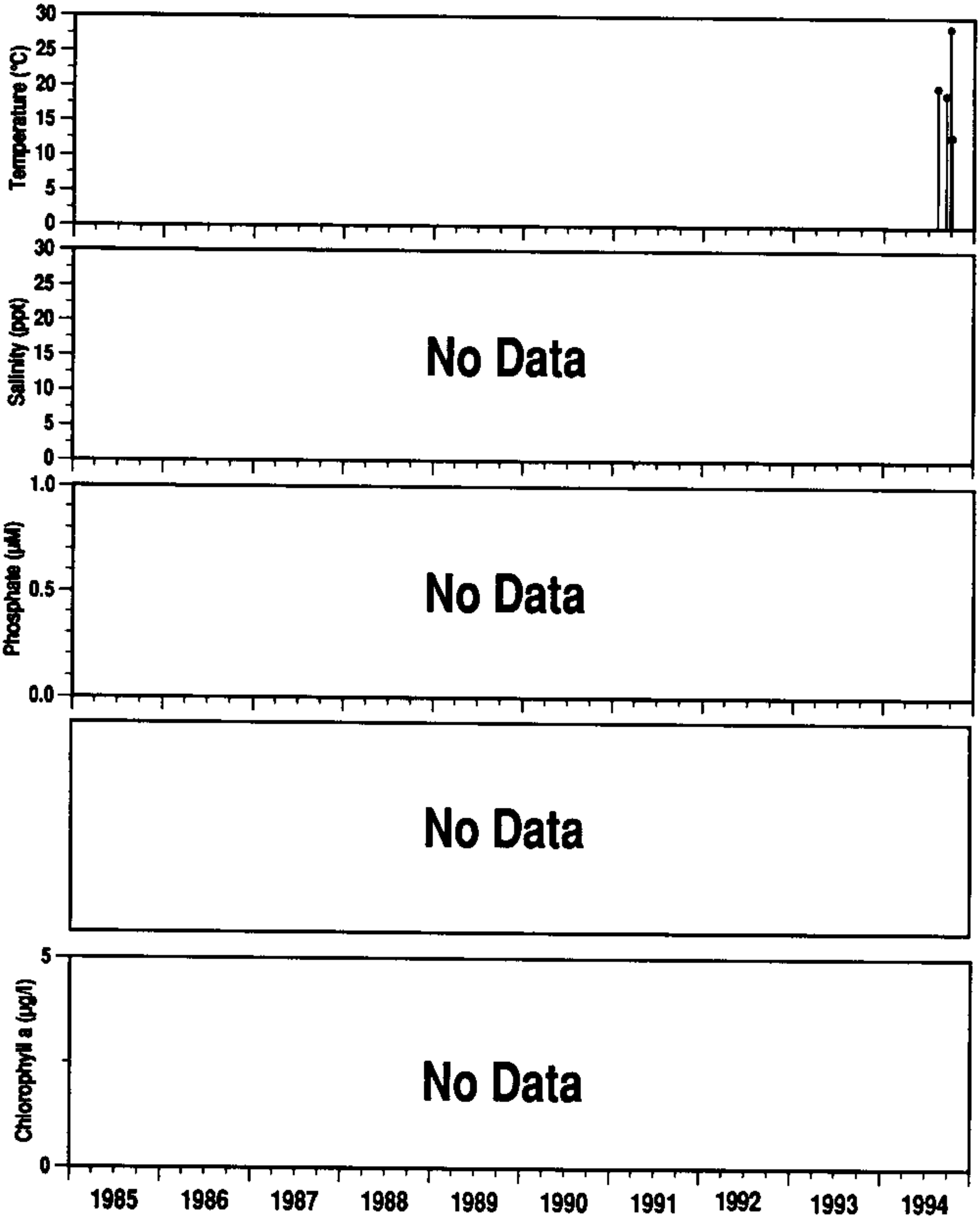
Pt. Judith Pond

Station 4



Pt. Judith Pond

Station SR1



SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	0	11-Jun-92	20	.	.	0	11.88	0.12	1.89	.	1.2
ON	0	29-Jun-92	20	.	.	0	11.51	0.06	2.89	0.8	0.8
ON	0	10-Jul-92	22	.	.	0	75.95	0.14	2.46	0.6	0.6
ON	0	23-Jul-92	20	.	.	0	71.66	0.18	2.01	.	0.9
ON	0	6-Aug-92	25	.	.	0	75.69	0.23	0.97	1.2	1.2
ON	0	19-Aug-92	20	.	.	0	11.23	0.07	0.85	0.3	0.3
ON	0	18-Sep-92	21	.	.	0	60.34	4.49	1.20	0.9	1.2
ON	0	30-Sep-92	14	.	.	3	24.94	0.22	3.22	0.9	1.3
ON	0	29-Oct-92	10	.	.	0	55.04	0.03	0.89	1.3	1.3
ON	0	26-May-93	.	.	.	.	.	.	.	.	.
ON	0	2-Jun-93	.	.	.	.	.	.	.	.	.
ON	0	16-Jun-93	21	.	.	0	62.84	0.03	1.8	1	1.5
ON	0	30-Jun-93	25	.	.	1	78.38	0.06	0.47	1	1
ON	0	8-Jul-93	.	.	.	.	.	.	0.23	.	.
ON	0	14-Jul-93	29	.	.	.	.	.	0.81	.	.
ON	0	28-Jul-93	24	.	.	.	.	.	1.87	.	.
ON	0	11-Aug-93	26	.	.	.	.	.	1.44	.	.
ON	0	25-Aug-93	.	.	.	.	.	.	12.54	.	.
ON	0	8-Sep-93	.	.	.	.	.	.	25.36	.	.
ON	0	22-Sep-93	.	.	.	.	.	.	4.19	.	.
ON	1	5-Aug-85	23	9.0	.	.	.	.	22.56	.	.
ON	1	12-Aug-85	25	7.0	.	.	.	.	.	.	.
ON	1	19-Aug-85	22	9.0	.	.	.	.	18.97	.	.
ON	1	26-Aug-85	22	10.0	.	.	.	.	.	.	.
ON	1	3-Sep-85	18	9.0	.	.	.	.	9.17	.	.
ON	1	9-Sep-85	22	11.0	.	.	.	.	.	.	.
ON	1	16-Sep-85	17	10.0	.	.	.	.	4.97	.	.
ON	1	23-Sep-85	20	8.0	.	.	.	.	.	.	.
ON	1	30-Sep-85	17	9.0	.	.	.	.	9.43	.	.
ON	1	7-Oct-85	14	10.0	.	.	.	.	.	.	.
ON	1	14-Oct-85	14	8.0	.	26	5.74	0.74	4.35	.	.
ON	1	21-Oct-85	12	10.0	.	26	5.83	0.70	.	.	.
ON	1	28-Oct-85	13	10.0	.	25	5.35	0.37	4.95	.	.
ON	1	5-Nov-85	11	11.0	.	.	.	.	1.52	.	.
ON	1	11-Nov-85	12	9.0	.	20	.	.	.	.	.
ON	1	18-Nov-85	8	12.0	.	.	.	.	0.20	.	.
ON	1	25-Nov-85	6	12.0	.	14	14.45	0.57	1.28	.	.
ON	1	1-Dec-85	7	12.0	.	.	.	.	2.32	.	.
ON	1	5-May-86	14	.	.	.	.	.	.	.	.
ON	1	19-May-86	19	.	.	.	.	.	.	.	.
ON	1	2-Jun-86	21	9.0	.	26	4.86	0.53	13.34	.	.
ON	1	16-Jun-86	20	10.0	.	12	16.16	0.27	.	.	.
ON	1	30-Jun-86	22	10.0	.	23	5.57	0.28	.	.	.
ON	1	14-Jul-86	18	9.0	.	25	0.38	0.43	.	.	.
ON	1	28-Jul-86	18	8.0	.	24	3.66	0.49	.	.	.
ON	1	11-Aug-86	18	11.0	.	20	1.21	0.74	.	.	.
ON	1	22-Aug-86	20	10.0	.	25	1.69	0.74	51.58	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	1	25-Aug-86	20	.	.	.	.	.	.	.	.
ON	1	8-Sep-86	20	12.0	.	26	1.03	0.44	35.65	.	.
ON	1	22-Sep-86	15	9.0	.	27	3.85	0.62	23.29	.	.
ON	1	6-Oct-86	16	9.0	.	28	3.03	0.81	57.28	.	.
ON	1	20-Oct-86	10	11.0	.	28	2.16	0.32	26.98	.	.
ON	1	7-May-87	9	13.0	.	4	25.58	0.13	0.78	1.8	1.8
ON	1	18-May-87	15	11.0	.	20	8.56	0.19	2.93	2.2	2.2
ON	1	1-Jun-87	23	11.0	.	19	3.27	0.22	14.07	1.4	2.1
ON	1	15-Jun-87	20	10.0	.	23	5.73	0.46	4.69	1.5	2.1
ON	1	29-Jun-87	20	9.0	.	26	0.57	0.76	6.94	1.9	2.2
ON	1	13-Jul-87	22	6.0	.	24	7.56	0.97	17.84	1.9	2.6
ON	1	27-Jul-87	24	8.0	.	26	0.07	1.00	12.89	1.8	2.8
ON	1	10-Aug-87	22	7.0	.	28	2.09	1.56	6.37	2.0	3.5
ON	1	24-Aug-87	20	7.0	.	28	3.69	1.91	6.61	2.1	2.7
ON	1	7-Sep-87	20	8.0	.	26	1.99	0.64	7.35	2.0	2.9
ON	1	21-Sep-87	15	8.0	.	26	4.70	1.91	5.14	2.6	2.9
ON	1	5-Oct-87	12	9.0	.	26	3.80	0.72	2.08	2.2	2.8
ON	1	19-Oct-87	13	10.0	.	28	1.55	0.55	3.38	2.5	2.6
ON	1	4-May-88	9	12.0	.	21	2.71	0.52	0.90	2.2	2.2
ON	1	16-May-88	16	10.0	.	25	2.54	0.37	3.76	2.1	2.5
ON	1	30-May-88	18	10.0	.	21	2.87	0.28	3.86	1.9	2.9
ON	1	13-Jun-88	19	9.0	.	27	3.11	0.66	6.06	1.9	2.7
ON	1	27-Jun-88	18	7.0	.	24	6.36	1.07	3.53	2.3	2.9
ON	1	11-Jul-88	23	10.0	.	26	1.28	0.92	4.37	1.7	2.8
ON	1	25-Jul-88	21	7.0	.	13	10.66	1.98	8.88	1.3	1.9
ON	1	10-Aug-88	27	8.0	.	22	1.27	1.13	8.28	1.3	2.3
ON	1	22-Aug-88	22	7.0	.	27	1.74	1.19	9.96	1.8	2.0
ON	1	5-Sep-88	20	8.0	.	26	6.07	0.76	18.63	1.5	1.7
ON	1	19-Sep-88	18	9.0	.	27	2.05	0.56	7.97	2.1	2.1
ON	1	3-Oct-88	17	8.0	.	28	7.17	0.60	2.34	1.9	1.9
ON	1	17-Oct-88	11	.	.	28	4.24	0.52	2.74	1.6	1.6
ON	1	31-Oct-88	7	.	.	28	5.65	0.73	3.07	2.3	2.3
ON	1	14-Nov-88	.	.	.	26	3.71	0.40	3.69	.	.
ON	1	14-Dec-88	.	.	.	26	9.21	0.57	1.30	.	.
OFF	1	9-Jan-89	.	.	.	26	5.58	0.65	4.03	.	.
OFF	1	15-Feb-89	.	.	.	22	9.28	0.58	7.59	.	.
OFF	1	13-Mar-89	.	.	.	26	2.97	0.59	2.32	.	.
OFF	1	12-Apr-89	.	.	.	12	5.74	0.47	0.59	.	.
ON	1	20-May-89	.	.	.	12	3.18	0.30	6.13	.	.
ON	1	5-Jun-89	16.5	10.1	.	23	0.27	0.31	14.30	1.3	2.4
ON	1	16-Jun-89	18	7.7	.	6	6.33	0.74	0.89	1.3	1.3
ON	1	19-Jun-89	19.5	7.4	.	13	4.58	0.58	12.38	1.0	2.0
ON	1	15-Jul-89	22	6.6	.	26	1.29	0.02	9.96	1.8	2.2
ON	1	29-Jul-89	23	5.5	.	18	3.64	0.65	36.60	1.7	2.7
ON	1	5-Aug-89	23	8.0	.	22	1.69	0.43	1.93	1.4	2.9
ON	1	26-Aug-89	22	5.9	.	27	1.49	0.29	6.24	1.5	2.3
ON	1	29-Aug-89	.	.	.	27	0.09	0.02	22.20	1.4	3.2
ON	1	9-Sep-89	20.5	8.6	.	24	1.11	0.02	6.80	1.9	2.2

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	1	23-Sep-89	21.5	7.6	.	19	4.77	0.74	12.20	1.3	2.3
ON	1	7-Oct-89	15	9.0	.	18	3.03	0.54	17.60	1.3	2.6
ON	1	22-Oct-89	11	8.4	.	2	2.36	0.42	1.44	0.5	2.5
OFF	1	5-Nov-89	9	9.1	.	13	5.15	0.70	1.05	2.4	2.8
OFF	1	3-Dec-89	2	3.0	.	23	7.57	0.32	0.43	2.7	2.7
OFF	1	3-Jan-90	1	3.1	.	0	10.49	0.83	3.56	1.2	1.2
OFF	1	11-Feb-90	4	11.0	.	12	4.27	0.42	11.76	1.1	1.1
OFF	1	9-Mar-90	3	11.5	.	15	9.15	0.33	3.14	1.7	1.7
OFF	1	2-Apr-90	6.5	10.6	.	21	4.35	0.33	1.06	3.0	3.0
ON	1	20-May-90	13.5	8.4	.	11	9.39	0.44	3.08	2.0	2.5
OFF	1	2-Apr-90	6.5	10.6	.	21	4.35	0.33	1.06	3.0	3.0
ON	1	20-May-90	13.5	8.4	.	11	9.39	0.44	3.08	2.0	2.5
ON	1	6-Jun-90	16.5	8.4	.	18	3.92	0.31	5.35	1.8	2.8
ON	1	19-Jun-90	19	8.1	.	20	4.40	0.69	10.13	1.6	2.4
ON	1	4-Jul-90	21	8.2	.	24	0.75	0.07	12.00	2.0	2.4
ON	1	17-Jul-90	21.5	7.6	.	25	1.72	0.16	3.96	2.0	2.0
ON	1	31-Jul-90	21	6.3	.	21	4.11	0.43	11.15	1.8	2.4
ON	1	14-Aug-90	24.5	6.4	.	23	1.07	0.22	12.65	1.2	1.8
ON	1	28-Aug-90	22	9.8	.	24	0.74	0.02	9.86	1.3	1.9
ON	1	11-Sep-90	18	6.8	.	29	2.32	0.48	7.38	2.0	2.0
ON	1	25-Sep-90	13	8.7	.	23	4.13	0.26	6.37	2.3	2.3
ON	1	8-Oct-90	18.5	7.6	.	28	2.65	0.06	5.15	2.4	2.7
ON	1	22-Oct-90	15	8.3	.	29	2.44	0.28	2.74	2.6	2.6
OFF	1	7-Nov-90	11	.	.	21	5.84	0.79	4.47	2.4	2.4
OFF	1	5-Dec-90	6.5	.	.	23	7.36	0.80	5.17	2.3	2.8
OFF	1	10-Jan-91	1	.	.	24	10.07	0.89	1.23	1.7	1.7
OFF	1	6-Mar-91	8	.	.	7	21.50	0.36	1.42	2.2	2.3
OFF	1	8-Apr-91	14	.	.	11	24.50	0.22	6.67	1.8	1.8
OFF	1	9-May-91	13.5	.	.	15	7.05	0.32	4.43	1.8	2.4
ON	1	10-Jun-91	20.5	.	.	29	1.15	0.09	13.23	1.3	2.3
ON	1	24-Jun-91	19.5	.	.	34	2.56	0.30	8.17	1.9	2.8
ON	1	8-Jul-91	21	.	.	20	2.71	0.70	6.57	1.7	2.2
ON	1	22-Jul-91	27	.	.	22	2.20	0.86	8.43	1.4	2.4
ON	1	5-Aug-91	22	.	.	24	6.28	0.22	10.91	1.2	1.9
.	1	18-Jun-94	22	.	.	18	13.63	0.39	0.52	1.5	1.5
.	1	16-Jul-94	24	.	.	30	3.09	1.30	3.49	1.4	1.6
.	1	28-Jul-94	25	.	.	23	1.73	0.23	1.45	1.1	2.2
.	1	10-Aug-94	24	.	.	30	0.53	0.62	9.59	1.1	2.2
.	1	30-Aug-94	23	.	.	22	1.11	0.11	18.81	1.2	1.8
.	1	8-Sep-94	20	.	.	30	0.25	0.19	8.46	1.3	1.8
.	1	22-Sep-94	20	.	.	21	0.17	0.26	7.48	2	2.6
.	1	12-Oct-94	15	.	.	31	0.84	0.44	3.19	2.4	2.6
ON	2	26-Jul-85	20	11.0	.	.	.	.	3.73	.	.
ON	2	3-Aug-85	24	16.0	.	.	.	.	.	.	.
ON	2	11-Aug-85	24	16.0	.	.	.	.	3.89	.	.
ON	2	20-Aug-85	22	13.0	.	.	.	.	.	.	.
ON	2	26-Aug-85	21	11.0	.	.	.	.	5.79	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	2	2-Sep-85	18	12.0	.	.	.	.	3.35	.	.
ON	2	8-Sep-85	25	15.0	.	26	0.21	0.25	5.50	.	.
ON	2	16-Sep-85	20	9.0	.	.	.	.	.	.	.
ON	2	23-Sep-85	21	10.0	.	30	0.77	0.56	6.78	.	.
ON	2	6-Nov-85	12	10.0	.	30	1.64	0.78	.	.	.
ON	2	19-May-86	17	10.0	.	31	0.19	0.48	.	.	.
ON	2	2-Jun-86	20	10.0	.	31	1.44	0.78	0.90	.	.
ON	2	10-Jul-86	21	7.0	.	30	0.24	0.91	.	.	.
ON	2	15-Jul-86	18	8.0	.	25	0.13	1.04	.	.	.
ON	2	7-Aug-86	22	9.0	.	29	0.07	0.68	.	.	.
ON	2	21-Aug-86	20	10.0	.	30	0.31	0.86	39.99	.	.
ON	2	6-Sep-86	18	9.0	.	30	0.09	0.66	.	.	.
ON	2	20-Sep-86	17	9.0	.	30	0.14	0.68	10.50	.	.
ON	2	5-Oct-86	17	8.0	.	29	0.53	0.74	20.29	.	
ON	2	7-May-87	.	.	.	26	0.21	0.36	1.48	0.9	0.9
ON	2	20-May-87	13	.	.	28	0.29	0.40	1.27	1.4	1.4
ON	2	2-Jun-87	19	.	.	30	0.07	0.39	5.08	1.6	1.6
ON	2	18-Jun-87	17	.	.	30	0.18	0.29	0.97	2.0	2.0
ON	2	3-Jul-87	22	.	.	28	0.07	0.58	1.22	1.6	1.6
ON	2	16-Jul-87	18	10.0	.	30	0.07	0.78	1.62	1.6	1.6
ON	2	28-Jul-87	22	8.0	.	30	0.07	0.64	1.98	1.7	1.7
ON	2	11-Aug-87	20	9.0	.	32	0.47	1.11	1.71	1.4	1.4
ON	2	25-Aug-87	18	8.0	.	32	0.09	0.84	1.59	1.9	1.9
ON	2	10-Sep-87	19	8.0	.	30	0.35	0.77	3.92	1.9	1.9
ON	2	25-Sep-87	17	8.0	.	30	1.34	1.30	1.59	1.8	1.8
ON	2	9-Oct-87	14	9.0	.	30	0.66	0.87	1.61	1.8	1.8
ON	2	23-Oct-87	13	9.0	.	30	0.09	0.44	2.32	1.6	1.6
ON	2	17-May-88	14	10.0	.	30	0.17	0.76	0.73	1.7	1.7
ON	2	1-Jun-88	15	11.0	.	30	0.17	0.70	1.73	1.6	1.6
ON	2	16-Jun-88	17	10.0	.	30	0.35	0.78	1.15	1.7	1.7
ON	2	1-Jul-88	17	9.0	.	30	0.19	0.89	0.86	1.4	1.4
ON	2	15-Jul-88	20	9.0	.	30	0.27	0.67	0.72	1.6	1.6
ON	2	29-Jul-88	21	9.0	.	30	0.20	1.00	1.92	1.3	1.3
ON	2	12-Aug-88	23	7.0	.	30	0.17	1.12	1.13	1.8	1.8
ON	2	26-Aug-88	19	7.0	.	30	0.50	1.34	0.67	2.6	2.6
ON	2	14-Sep-88	17	9.0	.	31	0.26	1.02	1.32	1.6	1.6
ON	2	23-Sep-88	18	8.0	.	31	0.38	1.04	0.72	1.4	1.4
ON	2	2-Oct-88	17	.	.	30	0.37	1.09	1.14	1.5	1.5
ON	2	17-Oct-88	14	.	.	31	0.33	1.05	0.56	.	.
ON	2A	5-Oct-86	18	8.0	.	30	0.21	0.75	17.19	.	.
ON	2A	7-May-87	.	.	.	24	0.14	0.29	0.43	2.2	2.2
ON	2A	20-May-87	16	.	.	27	0.68	0.28	3.71	2.1	2.1
ON	2A	2-Jun-87	25	.	.	27	0.10	0.17	5.08	2.2	2.2
ON	2A	18-Jun-87	20	.	.	29	0.29	0.38	2.34	1.5	1.5
ON	2A	3-Jul-87	20	.	.	29	0.07	0.30	1.18	2.4	2.4
ON	2A	16-Jul-87	22	8.0	.	29	0.07	0.56	2.57	2.1	2.1
ON	2A	28-Jul-87	25	8.0	.	29	0.07	1.54	3.96	2.8	2.8

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	2A	11-Aug-87	21	6.0	.	32	0.12	1.56	3.67	2.2	2.2
ON	2A	25-Aug-87	19	7.0	.	32	0.18	1.24	7.59	2.6	2.6
ON	2A	10-Sep-87	22	8.0	.	29	0.12	1.03	2.81	2.5	2.5
ON	2A	25-Sep-87	18	8.0	.	28	0.41	1.14	1.22	2.5	2.5
ON	2A	9-Oct-87	14	8.0	.	30	0.09	0.71	1.22	2.5	2.5
ON	2A	23-Oct-87	12	9.0	.	30	0.09	0.57	2.69	2.1	2.4
ON	2A	17-May-88	16	11.0	.	29	0.07	0.35	3.05	2.2	2.4
ON	2A	1-Jun-88	19	10.0	.	28	0.11	0.28	2.47	2.1	2.1
ON	2A	16-Jun-88	22	9.0	.	30	0.50	0.75	1.17	2.5	2.5
ON	2A	1-Jul-88	19	9.0	.	30	0.19	0.88	0.93	2.3	2.3
ON	2A	15-Jul-88	23	7.0	.	30	0.86	2.03	0.56	2.4	2.4
ON	2A	29-Jul-88	24	7.0	.	27	0.38	2.77	1.46	2.0	2.0
ON	2A	12-Aug-88	26	6.0	.	27	0.21	2.69	0.77	2.6	2.6
ON	2A	26-Aug-88	20	5.0	.	30	0.34	2.00	0.54	2.5	2.5
ON	2A	14-Sep-88	19	6.0	.	28	0.42	1.11	1.54	2.3	2.3
ON	2A	23-Sep-88	19	7.0	.	28	0.34	1.14	2.25	2.1	2.1
ON	2A	2-Oct-88	18	.	.	31	0.17	0.90	0.85	2.3	2.3
ON	2A	17-Oct-88	12	.	.	31	0.36	0.64	0.76	.	.
ON	2A	6-Jun-90	17.2	.	.	25	0.23	0.15		.	.
ON	2A	14-Jun-90	.	.	.	24	0.73	0.02	2.91	.	.
ON	2A	19-Jun-90	.	6.8	.	31	0.46	0.13	0.91	.	.
ON	2A	3-Jul-90	21.2	6.3	.	29	0.68	0.84	1.43	.	.
ON	2A	17-Jul-90	26.1	.	.	30	0.14	0.58	1.71	.	.
ON	2A	15-Aug-90	25	6.0	.	30	0.16	0.44	.	.	.
ON	2A	28-Aug-90	25	5.8	.	31	0.17	0.21	.	.	.
ON	2A	10-Sep-90	22	8.0	.	28	0.45	0.36	.	.	.
ON	2A	25-Sep-90	17	5.8	.	27	0.46	0.45	.	.	.
ON	2A	9-Oct-90	21	5.8	.	31	0.65	0.35	.	.	.
ON	2B	5-Oct-86	19	9.0	.	28	2.04	0.93	23.64	.	.
ON	2B	13-May-87	.	.	.	21	4.52	0.17	4.75	.	.
ON	2B	27-May-87	.	.	.	25	0.62	0.19	4.75	.	.
ON	2B	2-Jun-87	20	.	.	30	0.07	0.24	6.64	.	.
ON	2B	5-Jun-87	.	.	.	24	0.29	0.28	10.31	.	.
ON	2B	18-Jun-87	18	.	.	28	0.67	0.56	1.56	.	.
ON	2B	29-Jun-87	.	.	.	26	1.37	1.06	10.29	.	.
ON	2B	13-Jul-87	.	.	.	27	1.30	1.52	12.25	.	.
ON	2B	27-Jul-87	.	.	.	27	0.57	1.56	9.80	.	.
ON	2B	24-Aug-87	.	.	.	30	1.38	2.00	3.92	.	.
ON	2B	5-Oct-87	.	.	.	28	1.45	0.91	1.71	.	.
ON	2B	19-Oct-87	.	.	.	28	0.72	0.50	4.90	0.9	0.9
ON	2B	10-Jun-88	14	9.0	.	28	1.18	0.78	3.91	0.7	0.7
ON	2B	24-Jun-88	19	8.0	.	26	1.36	0.43	8.79	.	.
ON	2B	1-Jul-88	20	9.0	.	24	0.36	1.09	4.76	1.2	1.2
ON	2B	11-Jul-88	24	8.0	.	28	0.73	0.94	8.00	1.7	3.1
[illegible]	2B	25-Jul-88	22	6.0	.	22	5.35	2.10	17.28	1.5	3.3
ON	2B	10-Aug-88	26	7.0	.	24	1.34	0.95	7.79	.	2.2
ON	2B	26-Aug-88	21	8.0	.	28	0.66	1.18	4.50	.	1.3

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	2B	11-Sep-88	20	9.0	.	29	0.64	0.96	5.73	.	0.9
ON	2B	3-Oct-88	17	.	.	30	0.81	1.10	5.27	.	0.8
ON	2B	17-Oct-88	11	.	.	28	3.73	0.73	1.28	.	0.6
ON	2B	30-Oct-88	6	.	.	28	2.88	0.60	2.34	.	.
ON	2B	14-Nov-88	8	.	.	28	1.55	0.47	0.95	1.7	1.7
ON	2B	15-Dec-88	2	.	.	22	3.76	0.49	1.02	1.6	1.6
OFF	2B	24-Jan-89	1	.	.	27	0.32	0.65	5.15	0.5	0.5
OFF	2B	16-Mar-89	4	.	.	30	0.18	0.68	7.10	1.2	1.2
OFF	2B	20-Apr-89	9	.	.	24	0.19	0.23	.	1.2	1.2
ON	2B	16-Jun-89	20	8.2	.	21	3.04	0.36	11.40	0.8	0.8
ON	2B	19-Jun-89	20	8.2	.	16	2.02	0.53	19.84	1.0	1.0
ON	2B	19-Jul-89	20	8.6	.	14	2.70	0.49	12.70	1.1	1.1
ON	2B	28-Aug-89	20	7.8	.	28	0.11	0.02	8.08	1.3	1.3
ON	2B	25-Sep-89	15	8.3	.	25	1.08	0.78	9.83	1.0	1.0
ON	2B	9-Oct-89	14	9.3	.	27	0.49	0.02	4.60	1.2	1.2
ON	2B	23-Oct-89	6	9.9	.	10	2.82	0.29	0.75	0.8	0.8
ON	2B	6-Nov-89	10	8.4	.	25	2.29	0.21	0.65	0.8	0.8
ON	2B	23-May-90	11	9.2	.	27	1.98	0.22	5.49	.	.
ON	2B	5-Jun-90	16	7.6	.	21	0.45	0.20	7.42	.	.
ON	2B	14-Jun-90	.	.	.	.	.	.	1.65	.	.
ON	2B	17-Jun-90	.	.	.	.	.	.	1.71	.	.
ON	2B	3-Jul-90	20	6.8	.	28	0.21	0.33	.	.	.
ON	2C	3-Jul-87	21	.	.	28	0.08	0.42	0.59	1.2	1.2
ON	2C	16-Jul-87	21	9.0	.	29	0.07	0.68	1.58	1.0	1.0
ON	2C	28-Jul-87	22	8.0	.	30	0.07	0.80	1.82	0.9	0.9
ON	2C	11-Aug-87	20	8.0	.	32	0.39	1.14	1.71	1.3	1.3
ON	2C	25-Aug-87	17	7.0	.	30	0.15	0.90	1.47	0.9	0.9
ON	2C	10-Sep-87	20	7.0	.	.	.	.	1.22	1.3	1.3
ON	2C	25-Sep-87	17	9.0	.	30	1.23	1.32	1.29	1.2	1.2
ON	2C	9-Oct-87	14	9.0	.	.	.	.	0.98	1.1	1.1
ON	2C	19-Oct-87	.	.	.	30	0.90	0.92	.	1.1	1.1
ON	2C	23-Oct-87	12	9.0	.	30	0.13	0.70	2.32	1.2	1.2
ON	2C	1-Jul-88	18	9.0	.	30	0.30	0.90	2.81	1.2	1.2
ON	2C	15-Jul-88	22	9.0	.	30	0.44	1.21	0.41	0.9	0.9
ON	2C	29-Jul-88	22	5.0	.	29	0.37	1.58	1.16	1.0	1.0
ON	2C	12-Aug-88	25	5.0	.	30	0.43	1.69	1.31	0.6	0.6
ON	2C	26-Aug-88	19	5.0	.	30	0.40	1.55	0.55	1.2	1.2
ON	2C	14-Sep-88	17	8.0	.	30	0.40	1.19	0.51	1.0	1.0
ON	2C	23-Sep-88	17	8.0	.	29	0.31	0.96	0.64	1.2	1.2
ON	2C	2-Oct-88	19	.	.	31	0.45	1.18	0.67	0.9	0.9
ON	2C	17-Oct-88	15	.	.	30	0.42	1.07	0.65	1.1	1.1
ON	2C	22-May-90			.	26	0.31	0.33	0.63	.	.
ON	2C	5-Jun-90			.	32	0.21	0.73	1.29	.	.
ON	2C	19-Jun-90			.	32	0.16	0.79	2.00	.	.
ON	3	9-Aug-85	25	12.0	.	32	0.20	0.53	6.78	.	.
ON	3	16-Aug-85	22	10.0	.	.	.	.	.	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	3	23-Aug-85	22	11.0	.	31	0.42	1.07	.	.	.
ON	3	1-Sep-85	18	11.0	.	.	.	.	.	.	.
ON	3	8-Sep-85	24	11.0	.	26	0.56	0.63	1.95	.	.
ON	3	15-Sep-85	16	12.0	.	.	.	.	.	.	.
ON	3	22-Sep-85	16	12.0	.	31	0.16	0.85	0.76	.	.
ON	3	5-Oct-85	16	10.0	.	.	.	.	.	.	.
ON	3	10-Oct-85	15	12.0	.	.	.	.	.	.	.
ON	3	14-Oct-85	15	10.0	.	32	1.58	0.92	1.52	.	.
ON	3	25-Oct-85	15	12.0	.	32	0.25	0.72	0.27	.	.
ON	3	9-Nov-85	13	13.0	.	31	1.72	0.95	1.52	.	.
ON	3	23-Nov-85	10	13.0	.	.	.	.	0.95	.	.
ON	3	30-Nov-85	7	13.0	.	31	5.91	1.44	0.40	.	.
ON	3	16-May-86	12	14.0	.	32	0.12	0.48	0.54	.	.
ON	3	25-May-86	14	12.0	.	32	0.12	0.43	0.94	.	.
ON	3	1-Jun-86	15	14.0	.	32	0.08	0.47	1.48	.	.
ON	3	15-Jun-86	17	13.0	.	30	0.13	0.49	1.07	.	.
ON	3	29-Jun-86	17	12.0	.	30	0.09	0.56	7.64	.	.
ON	3	13-Jul-86	17	12.0	.	30	0.27	0.79	.	.	.
ON	3	28-Jul-86	20	11.0	.	30	0.12	0.53	.	.	.
ON	3	7-Aug-86	21	9.0	.	30	0.07	0.41	.	.	.
ON	3	10-Aug-86	20	12.0	.	29	0.15	0.53	10.98	.	.
ON	3	24-Aug-86	19	12.0	.	30	0.16	0.81	.	.	.
ON	3	8-Sep-86	18	12.0	.	30	0.13	0.52	4.30	.	.
ON	3	28-Sep-86	15	11.0	.	30	0.33	0.88	.	.	.
ON	3	5-Oct-86	15	12.0	.	30	1.13	0.99	15.40	.	.
ON	3	19-Oct-86	12	.	.	30	0.45	0.68	1.79	.	.
ON	3	9-May-87	8	13.0	.	26	0.89	0.28	0.59	1.0	1.0
ON	3	24-May-87	12	.	.	30	0.07	0.28	1.38	1.0	1.0
ON	3	7-Jun-87	15	.	.	30	0.07	0.38	2.47	1.2	1.2
ON	3	28-Jun-87	16	10.0	.	30	0.07	0.41	0.15	1.2	1.2
ON	3	13-Jul-87	20	10.0	.	30	0.07	0.38	2.08	0.8	0.8
ON	3	24-Jul-87	22	10.0	.	30	0.07	0.54	0.99	0.9	0.9
ON	3	9-Aug-87	20	9.0	.	30	0.18	0.81	1.54	1.2	1.2
ON	3	23-Aug-87	18	8.0	.	30	0.20	0.88	1.19	1.1	1.1
ON	3	7-Sep-87	17	8.0	.	30	0.11	0.94	1.61	0.8	0.8
ON	3	3-Oct-87	16	9.0	.	30	0.60	0.89	2.50	1.3	1.3
ON	3	19-Oct-87	15	9.0	.	30	1.69	1.15	2.78	1.1	1.1
ON	3	9-May-88	10	11.0	.	30	0.31	0.84	0.83	1.0	1.0
ON	3	16-May-88	16	12.0	.	29	0.19	0.65	2.75	0.5	0.5
ON	3	29-May-88	18	13.0	.	28	0.07	0.40	3.50	0.5	0.5
ON	3	12-Jun-88	14	12.0	.	31	0.20	0.88	0.66	1.4	1.4
ON	3	26-Jun-88	17	12.0	.	31	0.26	0.81	2.14	1.2	1.2
ON	3	10-Jul-88	17	12.0	.	31	0.19	0.90	1.46	1.2	1.2
ON	3	28-Jul-88	20	12.0	.	30	0.55	0.90	2.99	1.2	1.2
ON	3	14-Aug-88	19	13.0	.	31	0.49	0.84	1.33	1.1	1.1
ON	3	28-Aug-88	20	11.0	.	31	0.75	1.25	0.73	1.2	1.2
ON	3	17-Sep-88	16	.	.	31	0.29	1.20	0.90	1.1	1.1
ON	3	23-Sep-88	15	.	.	.	.	.	0.92	1.4	1.4

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	3	8-Oct-88	12	.	.	31	0.48	1.02	0.90	1.2	1.2
ON	3	23-Oct-88	12	.	.	31	1.38	1.19	2.22	1.1	1.1
ON	3	17-Dec-88	.	.	.	30	6.23	0.85	0.75	.	.
ON	3	16-Jan-89	4	.	.	32	5.22	1.07	0.57	.	.
ON	3	24-Feb-89	.	.	.	32	1.61	0.84	0.53	.	.
ON	3	12-Mar-89	.	.	.	32	0.42	0.83	0.40	.	.
.	3	19-Jun-94	20	.	.	32	0.13	0.61	0.32	.	1.4
.	3	3-Jul-94	22	.	.	32	0.09	0.40	2.07	.	1
.	3	17-Jul-94	24	.	.	32	0.12	0.75	.	.	1.2
.	3	30-Jul-94	24	.	.	32	0.03	0.56	2.47	.	1
.	3	14-Aug-94	21	.	.	32	0.12	0.74	2.12	.	1.6
.	3	27-Aug-94	22	.	.	32	0.03	0.32	2.71	.	1.1
.	3	11-Sep-94	18	.	.	33	0.09	0.38	2.82	.	1.3
.	3	25-Sep-94	18	.	.	32	0.60	0.81	3.8	.	1
.	3	9-Oct-94	18	.	.	33	0.11	0.74	1.34	.	1.1
OFF	3A	6-Dec-89	5	.	.	31	3.62	0.67	0.36	.	.
OFF	3A	13-Jan-90	3	.	.	31	2.31	0.28	0.91	.	.
OFF	3A	10-Feb-90	6		.	29	2.16	0.09	0.92	.	.
OFF	3A	10-Mar-90	8	.	.	30	0.91	0.02	1.56	.	.
OFF	3A	11-Apr-90	7	.	.	32	0.36	0.58	0.40	.	.
OFF	3A	26-May-90	15		.	28	0.14	0.29	0.95	.	.
ON	3A	9-Jun-90	16	.	.	30	0.11	0.33	0.95	.	.
ON	3A	17-Jun-90	18	.	.	31	0.13	0.26	1.35	.	.
ON	3A	1-Jul-90	20	.	.	31	0.11	0.33	2.94	.	.
ON	3A	17-Jul-90	22	.	.	31	0.18	0.42	2.57	.	.
ON	3A	4-Aug-90	22	.	.	29	0.20	0.31	1.22	.	.
ON	3A	17-Aug-90	22	.	.	29	0.15	0.14	3.05	.	.
ON	3A	26-Aug-90	22	.	.	29	0.21	0.32	3.96	.	.
ON	3A	29-Sep-90	20	.	.	32	0.19	0.31	4.01	.	.
ON	3A	16-Oct-90	17	.	.	31	1.25	0.64	1.83	.	.
OFF	3A	11-Nov-90	10	.	.	26	2.01	1.02	0.53	.	0.9
OFF	3A	9-Dec-90	8	.	.	31	5.39	1.02	0.58	.	1.1
OFF	3A	13-Jan-91	6	.	.	24	5.35	0.56	2.82	.	1.0
OFF	3A	9-Feb-91	8	.	.	30	4.61	0.88	2.12	.	1.0
OFF	3A	16-Mar-91	16	.	.	28	3.69	0.18	1.41	.	0.7
OFF	3A	7-Apr-91	10	.	.	29	0.32	0.39	1.60	.	0.9
ON	3A	15-Jun-91	17	.	.	24	0.22	0.42	0.79	.	1.3
ON	3A	28-Jun-91	18	.	.	.	0.43	0.73	0.88	.	1.3
ON	3A	15-Jul-91	21	.	.	24	1.02	0.65	0.88	.	1.1
ON	3A	25-Jul-91	22	.	.	24	0.13	0.60	1.76	.	1.1
ON	3A	11-Aug-91	20	.	.	33	0.88	0.63	0.57	.	1.4
ON	3A	26-Aug-91	21	.	.	32	0.10	0.24	4.85	.	0.9
ON	3A	8-Sep-91	20	.	.	32	1.41	0.86	1.54	.	1.4
ON	3A	22-Sep-91	17	.	.	30	1.27	0.64	3.00	.	1.1
ON	3A	12-Oct-91	17	.	.	30	0.85	0.54	1.49	.	0.8
ON	3A	2-Nov-91	13	.	.	27	2.77	0.89	1.10	.	1.0
OFF	3A	5-Jan-92	8	.	.	29	7.92	0.34	0.92	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
OFF	3A	8-Mar-92	6	.	.	29	0.55	0.16	1.12	.	.
OFF	3A	5-Apr-92	7	.	.	30	0.54	0.10	1.76	.	.
ON	3A	3-May-92	14	.	.	28	2.53	0.06	1.18	.	.
ON	3A	13-Jun-92	17	.	.	29	0.18	0.54	1.80	.	1.0
ON	3A	26-Jun-92	17	.	.	30	0.12	0.53	1.34	.	1.1
ON	3A	11-Jul-92	18	.	.	30	0.16	0.53	2.10	.	1.1
ON	3A	24-Jul-92	20	.	.	30	0.16	0.77	2.09	.	1.0
ON	3A	7-Aug-92	20	.	.	30	0.10	0.39	1.50	.	2.5
ON	3A	22-Aug-92	20	.	.	29	0.16	0.73	2.31	.	1.2
ON	3A	5-Sep-92	18	.	.	29	0.07	0.73	2.53	.	1.2
ON	3A	20-Sep-92	18	.	.	25	0.07	0.81	1.05	.	1.1
ON	3A	3-Oct-92	16	.	.	29	0.09	0.72	1.53	.	1.5
ON	3A	17-Oct-92	15	.	.	30	0.20	0.82	1.24	.	1.1
ON	3A	31-Oct-92	12	.	.	30	0.70	0.91	0.70	.	1.4
OFF	3A	21-Dec-92	5	.	.	27	6.48	0.41	23.46	.	.
OFF	3A	17-Jan-93	5	.	.	30	5.64	0.99	0.32	.	0.6
OFF	3A	21-Feb-93	4	.	.	29	4.73	0.54	9.20	.	0.3
OFF	3A	25-Apr-93	9	.	.	29	0.46	0.48	0.59	.	.
ON	3A	26-May-93	.	.	.	.	.	.	.	.	.
ON	3A	2-Jun-93	.	.	.	.	.	.	.	.	.
ON	3A	16-Jun-93	18	.	.	30	0.07	0.47	1.02	.	1.7
ON	3A	30-Jun-93	18	.	.	30	0.41	0.90	1.41	.	2
ON	3A	10-Jul-93	.						0.13	.	.
ON	3A	14-Jul-93	20	.	.	30	0.37	1.53	0.25	3	3
ON	3A	28-Jul-93	22	.	.	30	0.75	1.85	0.18	2.1	2.1
ON	3A	11-Aug-93	22	.	.	30	1.21	1.70	0.42	2.1	2.1
ON	3A	25-Aug-93	23	.	.	30	0.60	1.70	0.14	2.1	2.1
ON	3A	8-Sep-93	.	.	.	30	0.93	1.70	2.97	.	.
ON	3A	22-Sep-93	.	.	.	30	1.34	1.73	1.29	.	.
ON	4	21-May-87	15	.	.	26	0.82	0.17	2.18	1.7	1.7
ON	4	8-Jun-87	19	.	.	27	0.08	0.21	3.17	1.8	1.8
ON	4	23-Jun-87	19	.	.	28	0.07	0.61	1.98	2.3	2.3
ON	4	2-Jul-87	21	9.0	.	29	0.07	0.68	2.77	2.4	2.4
ON	4	15-Jul-87	21	8.0	.	.	0.13	0.06	0.07	2.4	2.4
ON	4	28-Jul-87	23	10.0	.	30	0.07	0.94	1.78	2.7	2.7
ON	4	13-Aug-87	21	9.0	.	30	0.08	1.01	1.78	2.6	2.6
ON	4	31-Aug-87	19	8.0	.	30	0.42	1.01	1.90	2.5	2.5
ON	4	14-Sep-87	20	9.0	.	28	0.41	1.30	2.38	2.8	2.8
ON	4	28-Sep-87	18	8.0	.	29	0.10	0.91	3.45	2.3	2.3
ON	4	4-Oct-87	17	8.0	.	28	0.16	0.89	2.02	2.4	2.4
ON	4	22-Oct-87	13	10.0	.	30	0.14	0.77	1.16	2.7	2.7
ON	4	7-May-88	13	11.0	.	22	1.79	0.49	1.47	1.9	1.9
ON	4	20-May-88	13	10.0	.	26	0.25	0.52	1.69	2.2	2.2
ON	4	5-Jun-88	16	10.0	.	29	0.31	0.73	1.59	2.6	2.6
ON	4	15-Jun-88	20	10.0	.	30	0.19	0.82	1.20	2.5	2.5
ON	4	1-Jul-88	18	9.0	.	30	0.14	0.75	0.77	2.5	2.5
ON	4	15-Jul-88	21	9.0	.	27	0.22	0.98	2.09	1.7	2.5

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	4	29-Jul-88	22	8.0	.	28	0.22	0.85	37.73	1.4	2.9
ON	4	12-Aug-88	22	7.0	.	26	0.21	1.06	0.88	1.6	2.0
ON	4	26-Aug-88	19	6.0	.	30	0.36	1.29	0.83	2.7	3.0
ON	4	10-Sep-88	22	10.0	.	28	0.35	0.78	8.28	1.9	1.9
ON	4	25-Sep-88	18	.	.	26	0.48	0.90	2.53	2.2	2.2
ON	4	21-Oct-88	14	.	.	30	0.95	0.92	.	1.8	1.8
ON	4	31-Oct-88	10	.	.	30	1.20	0.96	1.31	2.3	2.3
ON	4	23-May-89	.	.	.	25	0.15	0.02	1.44	2.0	2.2
ON	4	6-Jun-89	19	.	.	29	0.24	0.02	3.11	2.0	2.0
ON	4	16-Jun-89	18	.	.	24	0.91	0.37	3.73	1.8	1.9
ON	4	19-Jul-89	20	.	.	31	0.23	0.24	3.85	2.2	2.8
ON	4	31-Jul-89	24	.	.	25	0.12	0.13	3.19	2.0	2.1
ON	4	9-Aug-89	22	.	.	31	0.38	0.36	5.24	2.0	2.2
ON	4	28-Aug-89	21	.	.	31	0.16	0.02	3.30	1.7	2.0
ON	4	11-Sep-89	.	.	.	30	0.28	0.02	.	1.9	2.0
ON	4	25-Sep-89	17	.	.	27	0.17	0.11	1.16	1.7	1.8
ON	4	11-Oct-89	15	.	.	29	0.26	0.02	2.67	1.8	1.9
ON	4	25-Oct-89	15	.	.	31	1.33	0.12	1.93	1.8	1.9
ON	4	10-Jul-91	19	.	.	32	0.27	0.47	1.54	.	1.4
ON	4	25-Jul-91	19	.	.	27	0.40	1.27	1.43	.	2.2
ON	4	7-Aug-91	22	.	.	.	.	.	.	.	1.5
ON	4	26-Aug-91	18	.	.	27	0.38	0.45	1.88	.	2.4
ON	4	7-Sep-91	18	.	.	31	1.14	0.64	2.30	.	1.5
ON	4	10-Oct-91	15.5	.	.	30	1.00	0.46	1.17	.	2.6
ON	4	28-Oct-91	14	.	.	28	0.61	0.65	0.83	.	2.3
ON	4	8-Nov-91	8	.	.	30	2.57	0.79	0.69	.	.
ON	4	12-Dec-91	6	.	.	28	3.05	0.09	0.88	.	.
OFF	4	7-Jan-92	5.5	.	.	29	4.91	0.29	1.26	.	.
OFF	4	23-Feb-92	3.8	.	.	28	2.09	0.02	0.02	.	1.8
OFF	4	13-Mar-92	2.2	.	.	28	1.16	0.04	0.42	.	1.5
OFF	4	20-Apr-92	5	.	.	29	0.89	0.15	0.52	.	2.3
ON	4	22-May-92	15	.	.	29	0.26	0.23	1.42	.	1.8
ON	4	12-Jun-92	19	.	.	29	0.34	0.42	2.90	.	1.6
ON	4	24-Jun-92	18	.	.	29	0.31	0.65	4.55	.	1.7
ON	4	8-Jul-92	19	.	.	28	0.23	0.56	2.01	.	1.6
ON	4	24-Jul-92	20	.	.	29	0.59	0.83	1.75	.	2.6
ON	4	7-Aug-92	20.5	.	.	27	0.14	0.51	1.88	1.6	1.6
ON	4	20-Aug-92	20.5	.	.	24	0.28	0.43	3.96	2.1	2.1
ON	4	1-Sep-92	18	.	.	28	0.35	0.71	1.73	.	2.5
ON	4	17-Sep-92	19.5	.	.	28	0.27	0.98	0.89	2.3	2.3
ON	4	1-Oct-92	13.5	.	.	28	0.47	0.86	1.22	2.4	2.4
ON	4	15-Oct-92	14	.	.	29	0.40	0.71	1.00	.	2.8
ON	4	27-Oct-92	10.5	.	.	29	0.46	0.45	0.92	.	2.7
OFF	4	16-Dec-92	4			28	2.97	0.82	56.81	.	2.1
OFF	4	16-Jan-93	1	.	.	27	4.07	0.34	1.67	.	2.3
OFF	4	11-Feb-93	1	.	.	30	3.27	0.55	1.13	.	2.3
OFF	4	16-Mar-93	1	.	.	25	2.56	0.46	2.47	.	1.4
OFF	4	7-Apr-93	6.5	.	.	15	0.24	0.24	1.72	.	1.4

POINT JUDITH POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
OFF	4	11-May-93	15	.	.	27	1.27	0.41	0.61	.	1.9
ON	4	26-May-93	.	.	.	.	.	.	.	.	.
ON	4	2-Jun-93	.	.	.	.	.	.	.	.	.
ON	4	16-Jun-93	24	.	.	29	0.70	0.69	1.72	.	1.5
ON	4	30-Jun-93	21	.	.	29	0.53	0.96	2.29	1.5	1.5
ON	4	14-Jul-93	26	.	.	21	1.22	1.85	0.12	1.8	1.8
ON	4	28-Jul-93	21	.	.	28	1.31	1.97	0.16	1.6	1.6
ON	4	11-Aug-93	22	.	.	29	0.71	2.02	0.3	1.8	1.8
ON	4	25-Aug-93	.	.	.	27	1.17	1.92	1.77	.	.
ON	4	8-Sep-93	.	.	.	29	1.24	2.10	3.79	.	.
ON	4	22-Sep-93	.	.	.	30	1.52	1.88	1.66	.	.
.	SR1	.	.	.	.	.	.	.	.	.	.
.	SR1	.	.	.	.	.	.	.	.	.	.
.	SR 1	14-Jul-94	.	.	.	.	.	.	.	.	.
.	SR 1	.	.	.	.	.	.	.	.	.	.
.	SR 1	6-Aug-94	20	.	.	.	.	.	.	.	.
.	SR 1	.	.	.	.	.	.	.	.	.	.
.	SR 1	10-Sep-94	19	.	.	.	.	.	.	.	.
.	SR 1	27-Sep-94	28.5	.	.	.	.	.	.	.	.
.	SR 1	3-Oct-94	13	.	.	.	.	.	.	.	.

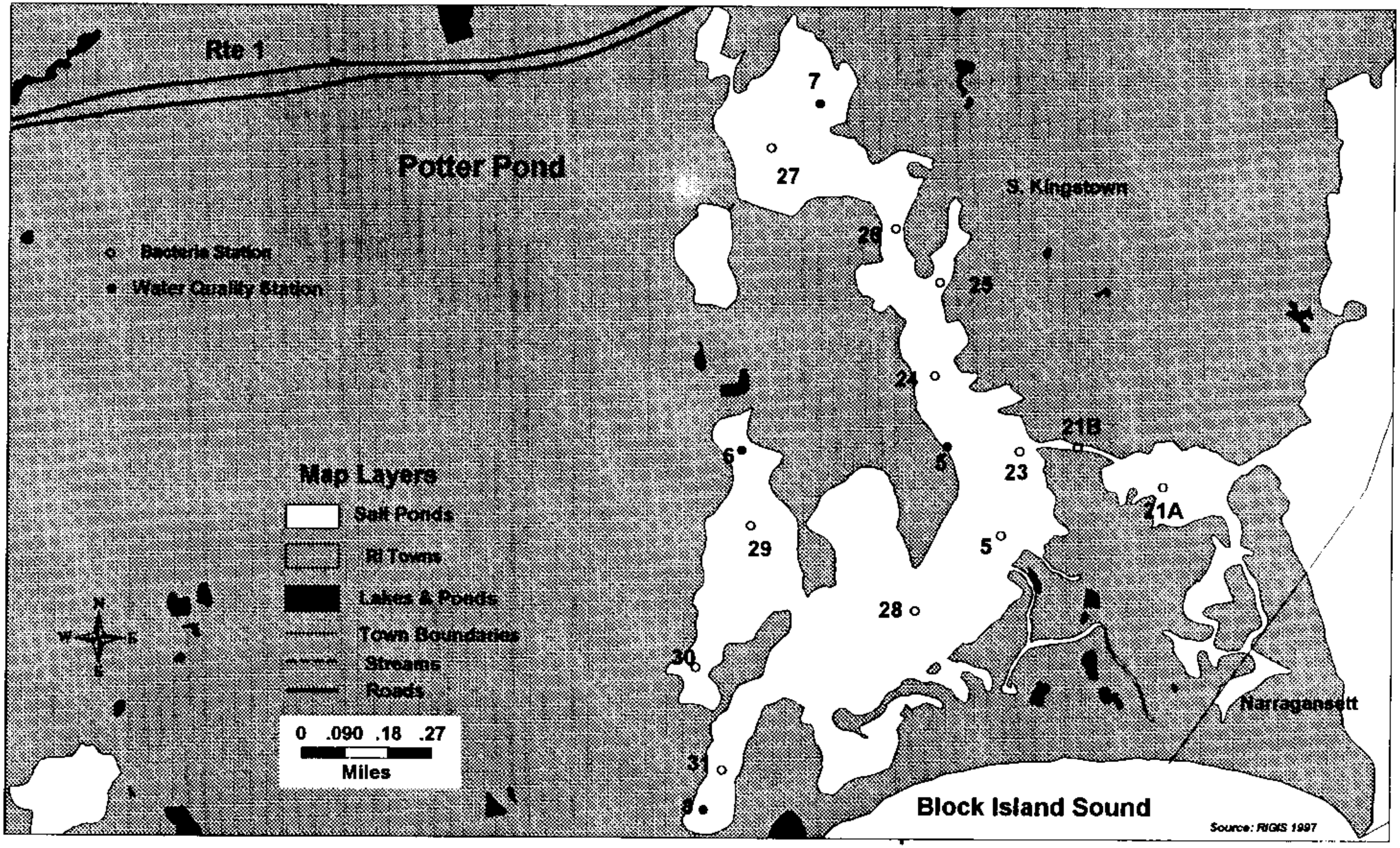
Potter Pond

Sections:

Pond Map
Bacteria
Water Quality

Potter Pond

Pond Map


Rte 1
Potter Pond
Bacteria Station
Water Quality Station
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .090 .18 .27
Miles
N
W
E
S
S. Kingstown
Narragansett
Block Island Sound
7
27
26
25
24
6
23
21B
21A
5
28
29
30
31
8
Source: RIGIS 1997

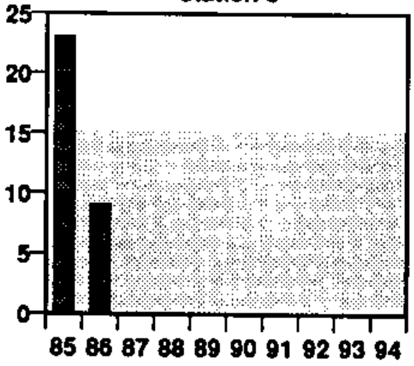
Potter Pond

Bacteria

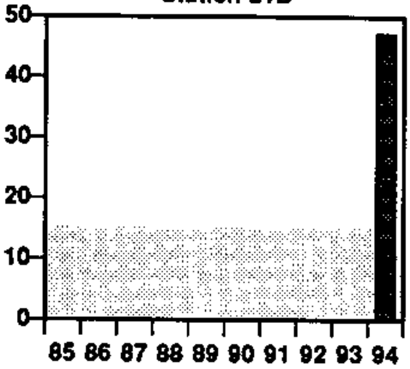
Potter Pond

Median Fecal Coliform Bacteria (MPN/100ml)

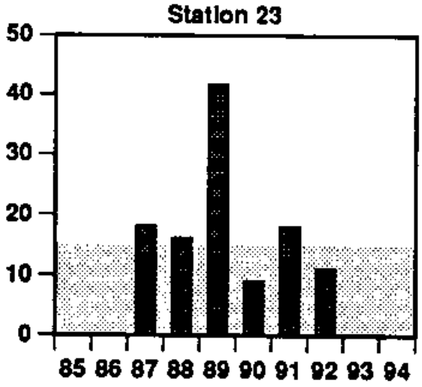
Station 5



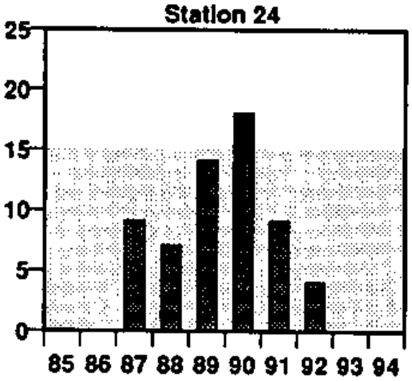
Station 21B



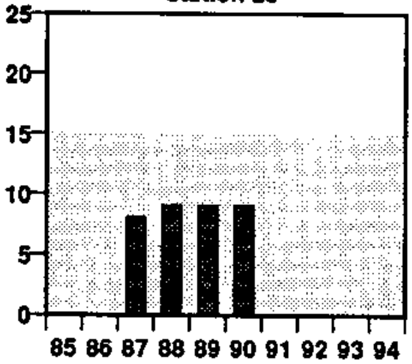
Station 23



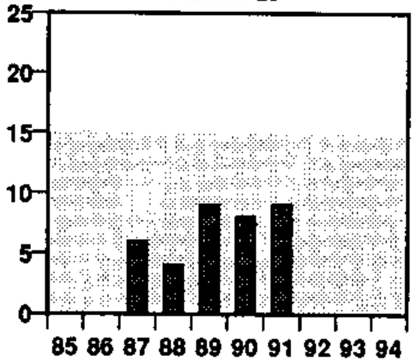
Station 24



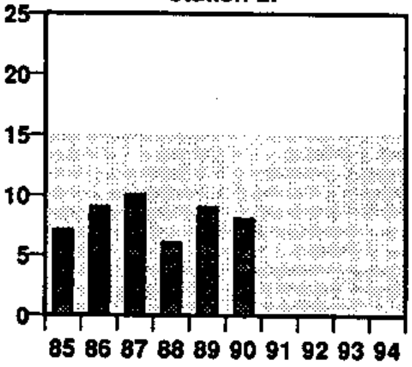
Station 25



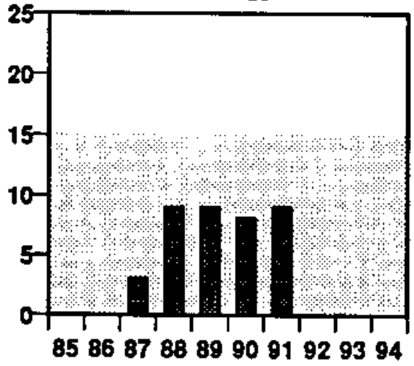
Station 26



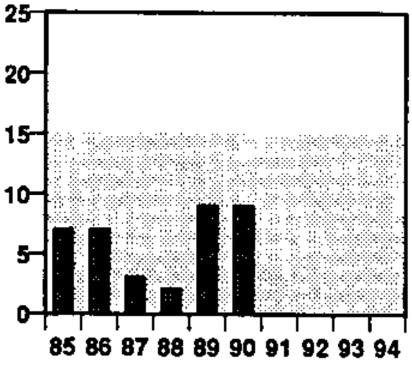
Station 27



Station 28



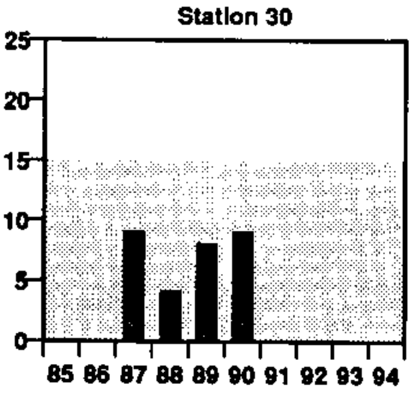
Station 29

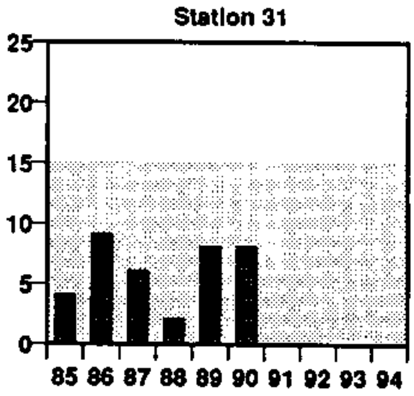


Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Potter Pond

Median Fecal Coliform Bacteria (MPN/100ml)





Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

POTTER POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
5	5	2-Jun-86	3	.	.
5	5	16-Jun-86	43	.	.
5	5	30-Jun-86	3	.	.
5	5	14-Jul-86	150	.	.
5	5	28-Jul-86	7	.	.
5	5	12-Aug-86	15	.	.
5	5	25-Aug-86	3	.	.
5	5	8-Sep-86	240	.	.
5	5	22-Sep-86	9	.	.
5	5	6-Oct-86	23	.	.
5	5	20-Oct-86	4	.	.
21B	21B	1-Jun-94	.	.	.
21B	21B	15-Jun-94	170	.	.
21B	21B	29-Jun-94	11	.	.
21B	21B	13-Jul-94	13	.	.
21B	21B	27-Jul-94	140	.	.
21B	21B	10-Aug-94	13	.	.
21B	21B	24-Aug-94	.	.	.
21B	21B	21-Sep-94	80	.	.
23	23	11-May-87	3	.	.
23	23	8-Jun-87	15	.	.
23	23	29-Jun-87	4	.	.
23	23	13-Jul-87	21	.	.
23	23	27-Jul-87	75	.	.
23	23	24-Aug-87	75	.	.
23	23	21-Sep-87	23	.	.
23	23	19-Oct-87	3	.	.
23	23	16-May-88	4	9	.
23	23	13-Jun-88	3	7	.
23	23	27-Jun-88	23	23	.
23	23	11-Jul-88	43	75	.
23	23	25-Jul-88	23	2400	.
23	23	10-Aug-88	43	75	.
23	23	22-Aug-88	9	23	.
23	23	19-Sep-88	23	23	.
23	23	3-Oct-88	43	43	.
23	23	17-Oct-88	4	4	.
23	23	31-Oct-88	<3	4	.
23	23	14-Nov-88	<3	43	.
23	23	7-Jun-89	88	.	50(1)
23	23	21-Jun-89	18	.	50(12)
23	23	19-Jul-89	179	.	50(4)

POTTER POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
23	23	2-Aug-89	70		50(7)
23	23	9-Aug-89	9	.	50(15)
23	23	30-Aug-89	54	.	(O)
23	23	12-Sep-89	9	.	(O)
23	23	27-Sep-89	69	.	(O)
23	23	25-Oct-89	29	.	(O)
23	23	8-Nov-89	29	.	50(37)
23	23	23-May-90	<9	.	(O)
23	23	6-Jun-90	9	.	(O)
23	23	20-Jun-90	<9	.	(O)
23	23	11-Jul-90	9	.	(O)
23	23	1-Aug-90	54	.	(O)
23	23	15-Aug-90	9	.	(O)
23	23	29-Aug-90	110	.	(O)
23	23	12-Sep-90	<9	.	50(10)
23	23	26-Sep-90	9	.	(O)
23	23	10-Oct-90	9	.	(O)
23	23	24-Oct-90	54	.	50(60)
23	23	13-Jun-91	18	.	(O)
23	23	27-Jun-91	<9	.	(O)
23	23	11-Jul-91	<9	.	(O)
23	23	25-Jul-91	69	.	(O)
23	23	8-Aug-91	29	.	(O)
23	23	4-Sep-91	18	.	(O)
23	23	15-Sep-91	29	.	(O)
23	23	2-Oct-91	<9	.	(O)
23	23	10-Jun-92	11	.	.
23	23	8-Jul-92	14	.	.
23	23	19-Aug-92	50	.	.
23	23	30-Sep-92	4	.	.
23	23	28-Oct-92	11	.	.
24	24	11-May-87	4	.	.
24	24	8-Jun-87	3	.	.
24	24	29-Jun-87	3	.	.
24	24	13-Jul-87	9	.	.
24	24	27-Jul-87	93	.	.
24	24	24-Aug-87	9	.	.
24	24	21-Sep-87	75	.	.
24	24	19-Oct-87	9	.	.
24	24	16-May-88	<3	<3	.
24	24	13-Jun-88	43	43	.
24	24	27-Jun-88	23	23	.
24	24	11-Jul-88	43	93	.

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OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
24	24	25-Jul-88	93	430	.
24	24	10-Aug-88	21	240	.
24	24	22-Aug-88	4	9	.
24	24	19-Sep-88	9	9	.
24	24	3-Oct-88	<3	9	.
24	24	17-Oct-88	4	9	.
24	24	31-Oct-88	<3	<3	.
24	24	14-Nov-88	<3	9	.
24	24	7-Jun-89	9	.	50(3)
24	24	21-Jun-89	70	.	50(3)
24	24	19-Jul-89	<9	.	50(6)
24	24	2-Aug-89	9	.	50(2)
24	24	9-Aug-89	9	.	(O)
24	24	30-Aug-89	>248	.	(O)
24	24	12-Sep-89	41	.	(O)
24	24	27-Sep-89	179	.	(O)
24	24	25-Oct-89	18	.	(O)
24	24	8-Nov-89	<9	.	(O)
24	24	23-May-90	<9	.	(O)
24	24	6-Jun-90	23	.	(O)
24	24	20-Jun-90	69	.	(O)
24	24	11-Jul-90	18	.	50(9)
24	24	1-Aug-90	29	.	(O)
24	24	15-Aug-90	9	.	(O)
24	24	29-Aug-90	9	.	10(36)
24	24	12-Sep-90	29	.	50(20)
24	24	26-Sep-90	<9	.	(O)
24	24	10-Oct-90	<9	.	(O)
24	24	24-Oct-90	54	.	50(60)
24	24	13-Jun-91	9	.	(O)
24	24	27-Jun-91	9	.	(O)
24	24	11-Jul-91	9	.	(O)
24	24	10-Jun-92	23	.	.
24	24	8-Jul-92	4	.	.
24	24	19-Aug-92	23	.	.
24	24	30-Sep-92	2	.	.
24	24	28-Oct-92	4	.	.
25	25	11-May-87	3	.	.
25	25	8-Jun-87	43	.	.
25	25	29-Jun-87	7	.	.
25	25	13-Jul-87	23	.	.
25	25	27-Jul-87	9	.	.
25	25	24-Aug-87	4	.	.

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
25	25	21-Sep-87	43	.	.
25	25	19-Oct-87	3	.	.
25	25	16-May-88	9	9	.
25	25	13-Jun-88	3	3	.
25	25	27-Jun-88	93	93	.
25	25	11-Jul-88	9	23	.
25	25	25-Jul-88	9	93	.
25	25	10-Aug-88	9	23	.
25	25	22-Aug-88	9	9	.
25	25	19-Sep-88	<3	23	.
25	25	3-Oct-88	93	93	.
25	25	17-Oct-88	9	23	.
25	25	31-Oct-88	<3	4	.
25	25	14-Nov-88	9	150	.
25	25	7-Jun-89	54	.	25(3)
25	25	21-Jun-89	9	.	25,50(2,11)
25	25	19-Jul-89	18	.	50(10)
25	25	2-Aug-89	<9	.	25(5)
25	25	9-Aug-89	9	.	(O)
25	25	30-Aug-89	88	.	(O)
25	25	12-Sep-89	9	.	(O)
25	25	27-Sep-89	110	.	50(33)
25	25	11-Oct-89	.	.	(O)
25	25	25-Oct-89	<9	.	(O)
25	25	8-Nov-89	<9	.	(O)
25	25	23-May-90	9	.	(O)
25	25	6-Jun-90	<9	.	(O)
25	25	20-Jun-90	69	.	(O)
25	25	11-Jul-90	29	.	(O)
25	25	1-Aug-90	69	.	(O)
25	25	15-Aug-90	<9	.	(O)
25	25	29-Aug-90	9	.	(O)
25	25	12-Sep-90	9	.	50(60)
25	25	26-Sep-90	<9	.	(O)
25	25	10-Oct-90	<9	.	(O)
25	25	24-Oct-90	88	.	50(60)
26	26	11-May-87	3	.	.
26	26	8-Jun-87	23	.	.
26	26	29-Jun-87	9	.	.
26	26	13-Jul-87	7	.	.
26	26	27-Jul-87	4	.	.
26	26	24-Aug-87	3	.	.
26	26	21-Sep-87	93	.	.

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
26	26	19-Oct-87	3	.	.
26	26	16-May-88	4	4	.
26	26	13-Jun-88	<3	<3	.
26	26	27-Jun-88	43	150	.
26	26	11-Jul-88	93	93	.
26	26	25-Jul-88	21	93	.
26	26	10-Aug-88	4	23	.
26	26	22-Aug-88	4	15	.
26	26	19-Sep-88	4	4	.
26	26	3-Oct-88	15	15	.
26	26	17-Oct-88	<3	9	.
26	26	31-Oct-88	4	4	.
26	26	14-Nov-88	23	23	.
26	26	7-Jun-89	41	.	(O)
26	26	21-Jun-89	<9	.	(O)
26	26	19-Jul-89	9	.	(O)
26	26	2-Aug-89	9	.	25(3)
26	26	9-Aug-89	<9	.	(O)
26	26	30-Aug-89	70	.	(O)
26	26	12-Sep-89	18	.	(O)
26	26	27-Sep-89	110	.	(O)
26	26	25-Oct-89	18	.	(O)
26	26	8-Nov-89	<9	.	50(3)
26	26	23-May-90	<9	.	(O)
26	26	6-Jun-90	9	.	50(1)
26	26	20-Jun-90	29	.	50(1)
26	26	11-Jul-90	<9	.	25(9)
26	26	1-Aug-90	69	.	(O)
26	26	15-Aug-90	<9	.	(O)
26	26	29-Aug-90	18	.	(O)
26	26	12-Sep-90	<9	.	(O)
26	26	26-Sep-90	<9	.	(O)
26	26	10-Oct-90	<9	.	(O)
26	26	24-Oct-90	139	.	50(60)
26	26	13-Jun-91	29	.	(O)
26	26	27-Jun-91	<9	.	(O)
26	26	11-Jul-91	9	.	(O)
26	26	25-Jul-91	179	.	(O)
26	26	8-Aug-91	9	.	(O)
26	26	4-Sep-91	<9	.	(O)
26	26	15-Sep-91	<9	.	(O)
26	26	2-Oct-91	<9	.	(O)
4	27	22-Jul-85	75	.	.

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OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
4	27	5-Aug-85	3	.	.
4	27	19-Aug-85	3	.	.
4	27	3-Sep-85	15	.	.
4	27	16-Sep-85	9	.	.
4	27	30-Sep-85	23	.	.
4	27	21-Oct-85	3	.	.
4	27	28-Oct-85	4	.	.
4	27	5-May-86	3	.	.
4	27	19-May-86	3	.	.
4	27	2-Jun-86	9	.	.
4	27	16-Jun-86	4	.	.
4	27	30-Jun-86	43	.	.
4	27	14-Jul-86	23	.	.
4	27	28-Jul-86	15	.	.
4	27	12-Aug-86	9	.	.
4	27	25-Aug-86	3	.	.
4	27	8-Sep-86	15	.	.
4	27	22-Sep-86	43	.	.
4	27	6-Oct-86	23	.	.
4	27	20-Oct-86	4	.	.
27	27	11-May-87	3	.	.
27	27	8-Jun-87	23	.	.
27	27	29-Jun-87	15	.	.
27	27	13-Jul-87	93	.	.
27	27	27-Jul-87	4	.	.
27	27	24-Aug-87	3	.	.
27	27	21-Sep-87	23	.	.
27	27	19-Oct-87	4	.	.
27	27	16-May-88	<3	<3	.
27	27	13-Jun-88	9	15	.
27	27	27-Jun-88	15	93	.
27	27	11-Jul-88	9	23	.
27	27	25-Jul-88	43	150	.
27	27	10-Aug-88	15	43	.
27	27	22-Aug-88	<3	4	.
27	27	19-Sep-88	<3	4	.
27	27	3-Oct-88	<3	<3	.
27	27	17-Oct-88	<3	20	.
27	27	31-Oct-88	<3	4	.
27	27	14-Nov-88	9	43	.
27	27	7-Jun-89	9	.	(O)
27	27	21-Jun-89	9	.	50(1)
27	27	19-Jul-89	<9	.	(O)
27	27	2-Aug-89	<9	.	(O)

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
27	27	9-Aug-89	9	.	(O)
27	27	30-Aug-89	88	.	(O)
27	27	12-Sep-89	<9	.	(O)
27	27	27-Sep-89	54	.	(O)
27	27	25-Oct-89	<9	.	(O)
27	27	8-Nov-89	<9	.	50(200)
27	27	23-May-90	9	.	(O)
27	27	6-Jun-90	<9	.	(O)
27	27	20-Jun-90	41	.	(O)
27	27	11-Jul-90	<9	.	(O)
27	27	1-Aug-90	29	.	(O)
27	27	15-Aug-90	<9	.	25(2)
27	27	29-Aug-90	<9	.	(O)
27	27	12-Sep-90	<9	.	(O)
27	27	26-Sep-90	<9	.	(O)
27	27	10-Oct-90	<9	.	(O)
27	27	24-Oct-90	70	.	50(60)
28	28	11-May-87	3	.	.
28	28	8-Jun-87	3	.	.
28	28	29-Jun-87	3	.	.
28	28	13-Jul-87	3	.	.
28	28	27-Jul-87	43	.	.
28	28	24-Aug-87	4	.	.
28	28	21-Sep-87	9	.	.
28	28	19-Oct-87	3	.	.
28	28	16-May-88	4	4	.
28	28	13-Jun-88	23	23	.
28	28	27-Jun-88	23	43	.
28	28	11-Jul-88	43	460	.
28	28	25-Jul-88	240	240	.
28	28	10-Aug-88	23	43	.
28	28	22-Aug-88	9	23	.
28	28	19-Sep-88	9	43	.
28	28	3-Oct-88	<3	<3	.
28	28	17-Oct-88	<3	<3	.
28	28	31-Oct-88	4	4	.
28	28	14-Nov-88	4	15	.
28	28	7-Jun-89	9	.	50(1)
28	28	21-Jun-89	<9	.	(O)
28	28	19-Jul-89	<9	.	(O)
28	28	2-Aug-89	<9	.	(O)
28	28	9-Aug-89	<9	.	50(7)
28	28	30-Aug-89	29	.	(O)

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
28	28	12-Sep-89	9	.	(O)
28	28	27-Sep-89	88	.	(O)
28	28	25-Oct-89	9	.	(O)
28	28	8-Nov-89	9	.	50(42)
28	28	23-May-90	<9	.	(O)
28	28	6-Jun-90	<9	.	(O)
28	28	20-Jun-90	29	.	(O)
28	28	11-Jul-90	<9	.	50(7)
28	28	18-Jul-90	.	.	(O)
28	28	1-Aug-90	9	.	(O)
28	28	15-Aug-90	<9	.	(O)
28	28	29-Aug-90	<9	.	(O)
28	28	12-Sep-90	<9	.	50(24)
28	28	26-Sep-90	41	.	(O)
28	28	10-Oct-90	18	.	(O)
28	28	24-Oct-90	29	.	50(60)
28	28	13-Jun-91	54	.	(O)
28	28	11-Jul-91	<9	.	(O)
28	28	25-Jul-91	18	.	(O)
28	28	8-Aug-91	9	.	(O)
28	28	4-Sep-91	<9	.	(O)
28	28	15-Sep-91	9	.	(O)
28	28	2-Oct-91	<9	.	(O)
6	29	22-Jul-85	43	.	.
6	29	5-Aug-85	3	.	.
6	29	19-Aug-85	4	.	.
6	29	3-Sep-85	9	.	.
6	29	16-Sep-85	4	.	.
6	29	30-Sep-85	9	.	.
6	29	21-Oct-85	4	.	.
6	29	28-Oct-85	9	.	.
6	29	5-May-86	3	.	.
6	29	19-May-86	7	.	.
6	29	2-Jun-86	43	.	.
6	29	16-Jun-86	3	.	.
6	29	30-Jun-86	4	.	.
6	29	14-Jul-86	150	.	.
6	29	28-Jul-86	9	.	.
6	29	12-Aug-86	7	.	.
6	29	25-Aug-86	3	.	.
6	29	8-Sep-86	43	.	.
6	29	22-Sep-86	4	.	.
6	29	6-Oct-86	93	.	.

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
6	29	20-Oct-86	4	.	.
29	29	11-May-87	3	.	.
29	29	8-Jun-87	4	.	.
29	29	29-Jun-87	3	.	.
29	29	13-Jul-87	23	.	.
29	29	27-Jul-87	43	.	.
29	29	24-Aug-87	3	.	.
29	29	21-Sep-87	3	.	.
29	29	19-Oct-87	3	.	.
29	29	16-May-88	7	7	.
29	29	13-Jun-88	<3	<3	.
29	29	27-Jun-88	43	43	.
29	29	11-Jul-88	<3	4	.
29	29	25-Jul-88	<3	23	.
29	29	10-Aug-88	<3	9	.
29	29	22-Aug-88	<3	<3	.
29	29	19-Sep-88	3	3	.
29	29	3-Oct-88	4	9	.
29	29	17-Oct-88	4	4	.
29	29	31-Oct-88	<3	<3	.
29	29	14-Nov-88	<3	<3	.
29	29	7-Jun-89	29	.	50(1)
29	29	21-Jun-89	9	.	(O)
29	29	19-Jul-89	9	.	(O)
29	29	2-Aug-89	9	.	(O)
29	29	9-Aug-89	<9	.	(O)
29	29	30-Aug-89	54	.	(O)
29	29	12-Sep-89	<9	.	(O)
29	29	27-Sep-89	18	.	(O)
29	29	25-Oct-89	<9	.	(O)
29	29	8-Nov-89	9	.	50(20)
29	29	23-May-90	<9	.	(O)
29	29	6-Jun-90	<9	.	(O)
29	29	20-Jun-90	18	.	(O)
29	29	11-Jul-90	9	.	(O)
29	29	1-Aug-90	9	.	(O)
29	29	15-Aug-90	<9	.	(O)
29	29	29-Aug-90	9	.	(O)
29	29	12-Sep-90	18	.	(O)
29	29	26-Sep-90	9	.	(O)
29	29	10-Oct-90	<9	.	(O)
29	29	24-Oct-90	70	.	(O)
30	30	11-May-87	4	.	.

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OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
30	30	8-Jun-87	43	.	.
30	30	29-Jun-87	3	.	.
30	30	13-Jul-87	39	.	.
30	30	27-Jul-87	14	.	.
30	30	24-Aug-87	3	.	.
30	30	21-Sep-87	240	.	.
30	30	19-Oct-87	4	.	.
30	30	16-May-88	9	9	.
30	30	13-Jun-88	4600	4600	.
30	30	27-Jun-88	4	75	.
30	30	11-Jul-88	23	23	.
30	30	25-Jul-88	93	>2400	.
30	30	10-Aug-88	43	43	.
30	30	22-Aug-88	<3	4	.
30	30	19-Sep-88	<3	15	.
30	30	3-Oct-88	4	9	.
30	30	17-Oct-88	4	43	.
30	30	31-Oct-88	<3	<3	.
30	30	14-Nov-88	<3	15	.
30	30	7-Jun-89	18	.	(O)
30	30	21-Jun-89	<9	.	(O)
30	30	19-Jul-89	<9	.	25(10)
30	30	2-Aug-89	<9	.	(O)
30	30	9-Aug-89	<9	.	(O)
30	30	30-Aug-89	29	.	(O)
30	30	12-Sep-89	<9	.	(O)
30	30	27-Sep-89	54	.	(O)
30	30	25-Oct-89	<9	.	(O)
30	30	8-Nov-89	<9	.	(O)
30	30	23-May-90	18	.	(O)
30	30	6-Jun-90	<9	.	(O)
30	30	20-Jun-90	41	.	(O)
30	30	11-Jul-90	<9	.	(O)
30	30	1-Aug-90	18	.	(O)
30	30	15-Aug-90	<9	.	(O)
30	30	29-Aug-90	29	.	(O)
30	30	12-Sep-90	<9	.	(O)
30	30	26-Sep-90	9	.	(O)
30	30	10-Oct-90	9	.	(O)
30	30	24-Oct-90	88	.	(O)
7	31	22-Jul-85	93	.	.
7	31	5-Aug-85	3	.	.
7	31	19-Aug-85	4	.	.

POTTER POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
7	31	3-Sep-85	3	.	.
7	31	16-Sep-85	3	.	.
7	31	30-Sep-85	15	.	.
7	31	21-Oct-85	15	.	.
7	31	28-Oct-85	3	.	.
7	31	5-May-86	4	.	.
7	31	19-May-86	23	.	.
7	31	16-Jun-86	9	.	.
7	31	16-Jun-86	4	.	.
7	31	30-Jun-86	4	.	.
7	31	14-Jul-86	93	.	.
7	31	28-Jul-86	9	.	.
7	31	12-Aug-86	9	.	.
7	31	25-Aug-86	9	.	.
7	31	8-Sep-86	15	.	.
7	31	22-Sep-86	240	.	.
7	31	6-Oct-86	240	.	.
7	31	20-Oct-86	23	.	.
31	31	11-May-87	9	.	.
31	31	8-Jun-87	3	.	.
31	31	29-Jun-87	460	.	.
31	31	13-Jul-87	15	.	.
31	31	27-Jul-87	3	.	.
31	31	24-Aug-87	3	.	.
31	31	21-Sep-87	93	.	.
31	31	19-Oct-87	3	.	.
31	31	16-May-88	<3	<3	.
31	31	13-Jun-88	<3	<3	.
31	31	27-Jun-88	43	43	.
31	31	11-Jul-88	<3	150	.
31	31	25-Jul-88	9	23	.
31	31	10-Aug-88	<3	4	.
31	31	22-Aug-88	<3	3	.
31	31	19-Sep-88	4	4	.
31	31	3-Oct-88	3	7	.
31	31	17-Oct-88	<3	<3	.
31	31	31-Oct-88	<3	4	.
31	31	14-Nov-88	4	4	.
31	31	7-Jun-89	<9	.	(O)
31	31	21-Jun-89	<9	.	25(3)
31	31	19-Jul-89	<9	.	25(5)
31	31	2-Aug-89	<9	.	(O)
31	31	9-Aug-89	<9	.	(O)
31	31	30-Aug-89	88	.	(O)

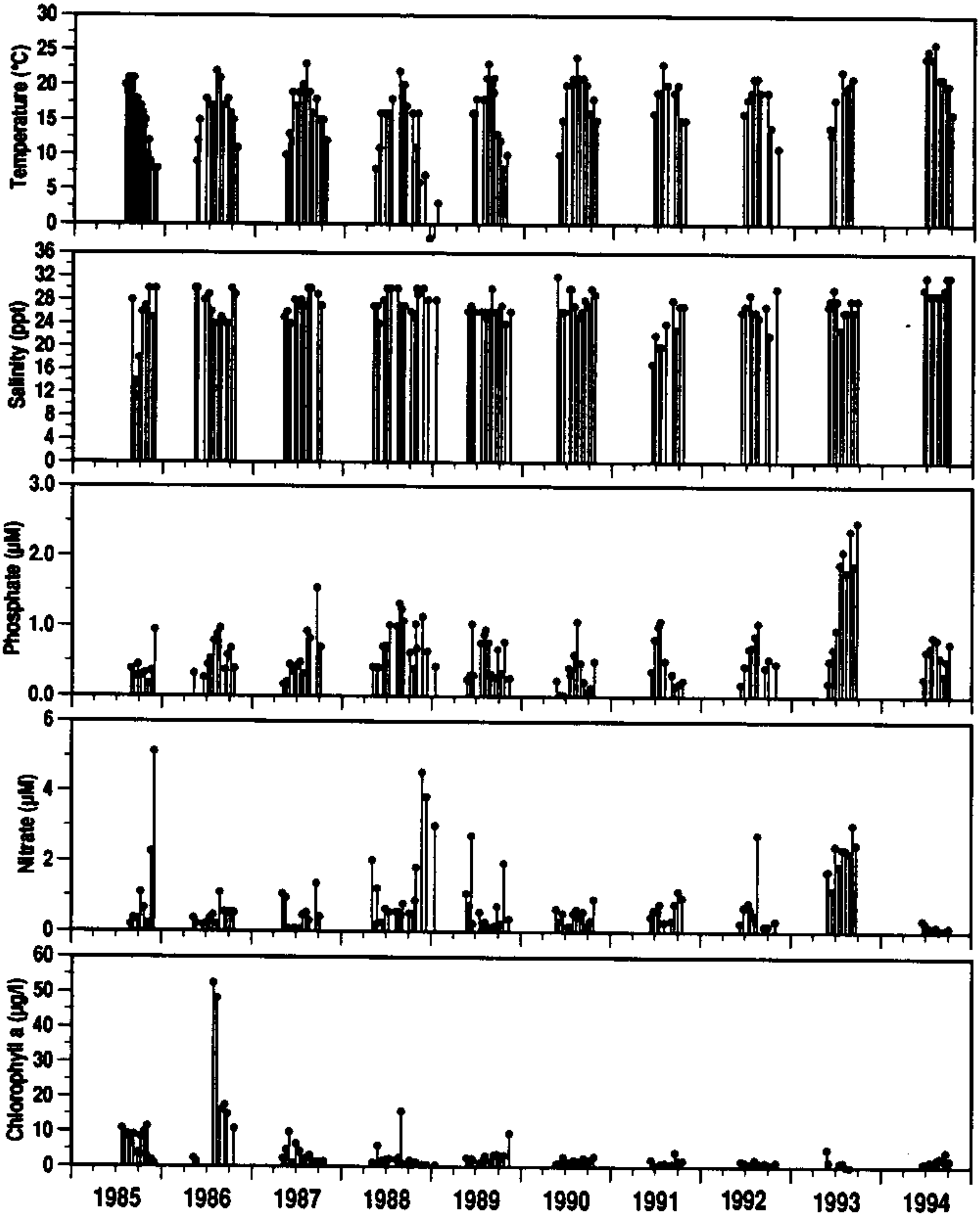
OLDST	NEWST	DATE	FECAL (MPN)	TOTAL (MPN)	WATERFOWL DISTANCE, FT (NUMBER)
31	31	12-Sep-89	9	.	(O)
31	31	27-Sep-89	18	.	(O)
31	31	25-Oct-89	<9	.	(O)
31	31	8-Nov-89	<9	.	50(14)
31	31	23-May-90	<9	.	(O)
31	31	6-Jun-90	<9	.	(O)
31	31	20-Jun-90	88	.	(O)
31	31	11-Jul-90	<9	.	(O)
31	31	1-Aug-90	<9	.	(O)
31	31	15-Aug-90	9	.	(O)
31	31	29-Aug-90	<9	.	(O)
31	31	12-Sep-90	18	.	(O)
31	31	26-Sep-90	<9	.	(O)
31	31	10-Oct-90	<9	.	(O)
31	31	24-Oct-90	18	.	(O)

Potter Pond

Water Quality

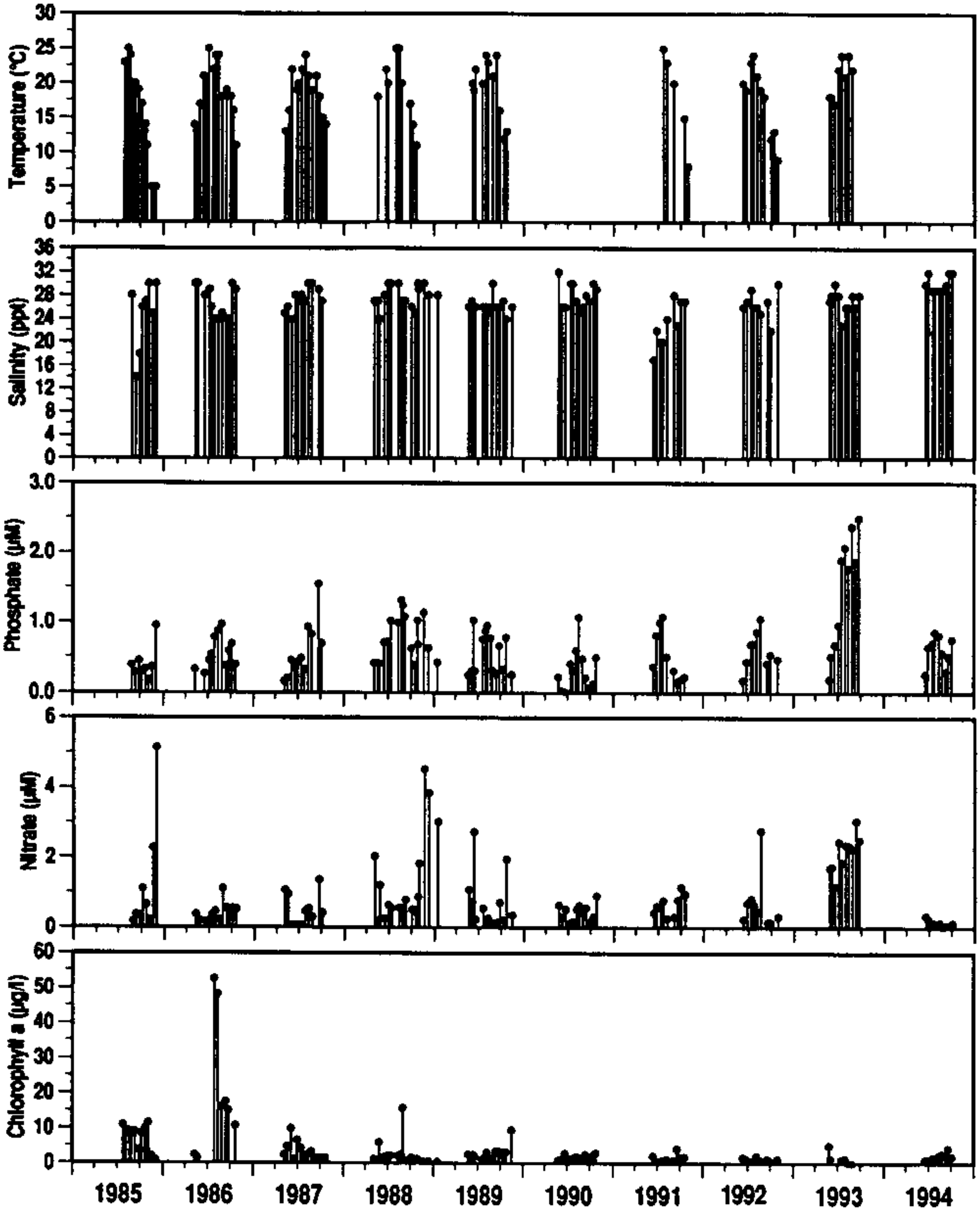
Potter Pond

Station 5



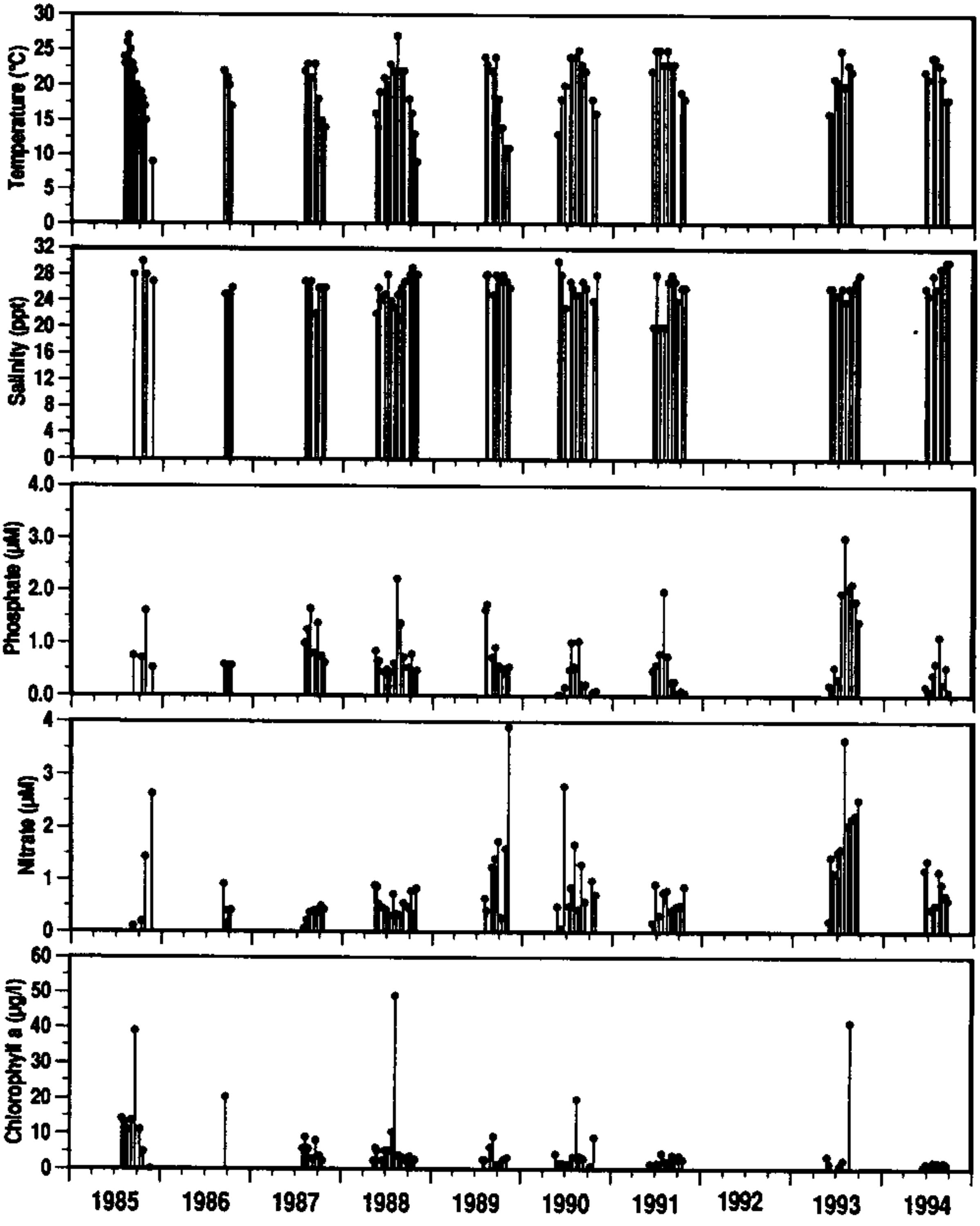
Potter Pond

Station 6



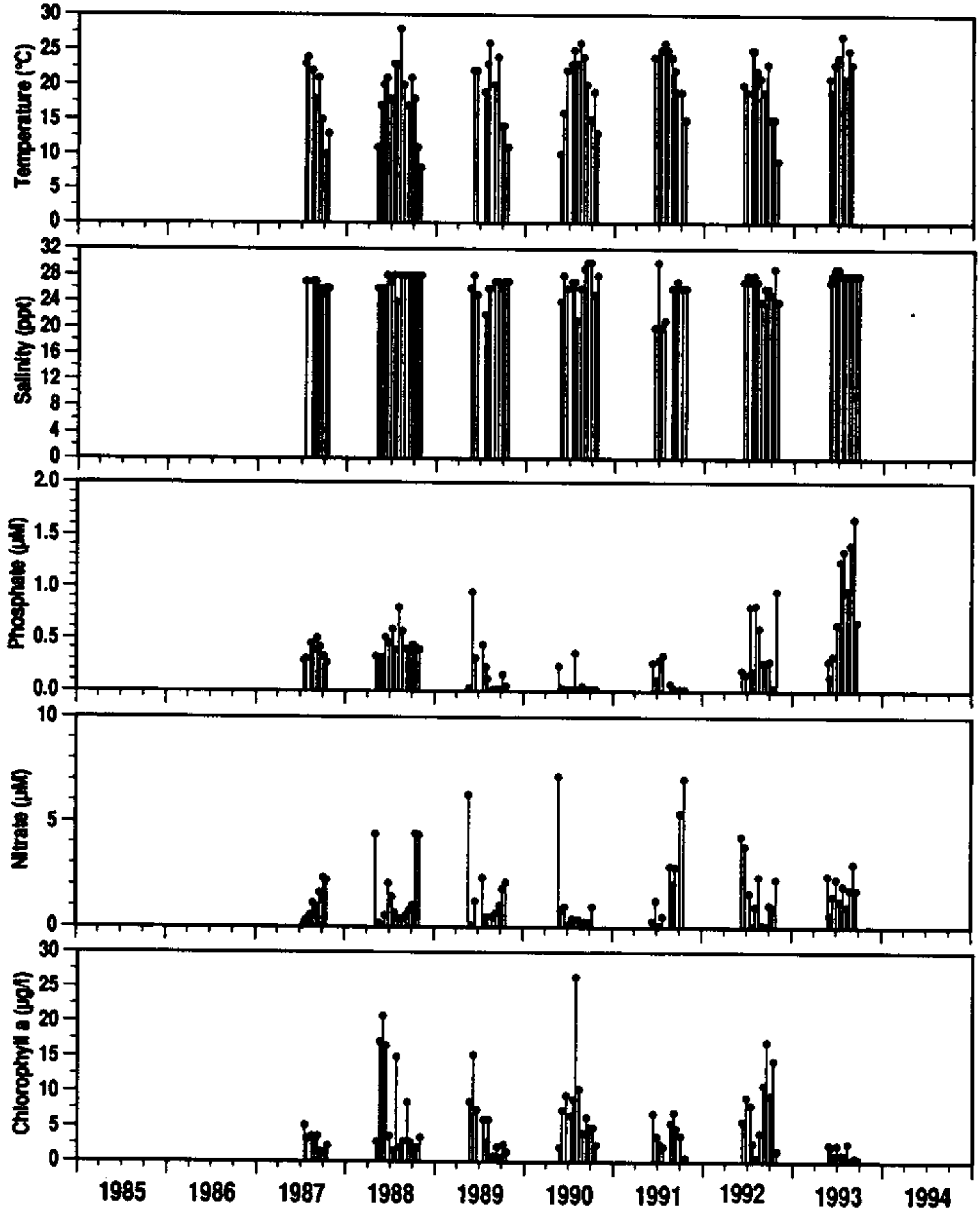
Potter Pond

Station 7



Potter Pond

Station 8



POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	5	24-Jul-85	20	.	.	.	10.90	.	.
ON	5	1-Aug-85	19	.	.	.	.	.	.
ON	5	6-Aug-85	21	.	.	.	9.38	.	.
ON	5	13-Aug-85	21	.	.	.	.	.	.
ON	5	20-Aug-85	21	.	.	.	9.19	.	.
ON	5	28-Aug-85	21	28	0.19	0.39	8.24	.	.
ON	5	3-Sep-85	17	.	.	.	.	.	.
ON	5	10-Sep-85	18	14	0.38	0.29	9.14	.	.
ON	5	18-Sep-85	17	.	.	.	.	.	.
ON	5	25-Sep-85	17	18	0.34	0.45	3.94	.	.
ON	5	3-Oct-85	16	.	.	.	.	.	.
ON	5	7-Oct-85	14	26	1.11	0.30	8.59	.	.
ON	5	14-Oct-85	15	.	.	.	.	.	.
ON	5	21-Oct-85	10	27	0.66	0.34	9.86	.	.
ON	5	28-Oct-85	12	.	.	.	3.42	.	.
ON	5	4-Nov-85	9	30	0.23	0.18	11.58	.	.
ON	5	18-Nov-85	8	25	2.27	0.37	2.01	.	.
ON	5	2-Dec-85	8	30	5.15	0.95	0.88	.	.
ON	5	9-May-86	9	30	0.37	0.33	2.40	.	.
ON	5	15-May-86	12	.	.	.	.	.	.
ON	5	21-May-86	15	30	0.22	.	1.56	.	.
ON	5	17-Jun-86	18	28	0.19	0.27	.	.	.
ON	5	5-Jul-86	17	29	0.22	0.46	.	.	.
ON	5	7-Jul-86	.	29	.	.	.	.	.
ON	5	14-Jul-86	17	26	0.36	0.54	.	.	.
ON	5	28-Jul-86	22	24	0.46	0.79	52.63	.	.
ON	5	12-Aug-86	21	24	0.23	0.88	48.28	.	.
ON	5	25-Aug-86	17	25	1.11	0.97	16.12	.	.
ON	5	12-Sep-86	18	24	0.55	0.38	17.67	.	.
ON	5	22-Sep-86	16	24	0.52	0.59	15.16	.	.
ON	5	6-Oct-86	15	30	0.54	0.69	.	.	.
ON	5	20-Oct-86	11	29	0.52	0.40	10.86	.	.
ON	5	7-May-87	10	25	1.06	0.17	2.37	0.7	0.7
ON	5	19-May-87	13	26	0.96	0.21	4.75	0.7	0.7
ON	5	2-Jun-87	19	24	0.07	0.46	9.91	0.7	0.7
ON	5	18-Jun-87	17	28	0.07	0.35	1.09	0.7	0.7
ON	5	29-Jun-87	19	27	0.07	0.43	6.54	0.7	0.7
ON	5	13-Jul-87	20	28	0.07	0.49	4.36	0.7	0.7
ON	5	27-Jul-87	23	27	0.46	0.33	2.02	0.7	0.7
ON	5	10-Aug-87	19	30	0.54	0.93	2.62	0.7	0.7
ON	5	24-Aug-87	16	30	0.32	0.83	3.33	0.7	0.7
ON	5	8-Sep-87	18	.	.	.	1.31	0.7	0.7
ON	5	21-Sep-87	15	29	1.36	1.55	1.31	0.7	0.7

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	5	5-Oct-87	15	27	0.42	0.70	1.31	0.7	0.7
ON	5	19-Oct-87	12	.	.	.	1.54	0.7	0.7
ON	5	4-May-88	8	27	2.04	0.42	1.22	0.7	0.7
ON	5	19-May-88	11	27	0.21	0.42	0.86	0.8	0.8
ON	5	26-May-88	16	24	1.22	0.41	6.01	0.7	0.7
ON	5	14-Jun-88	16	28	0.27	0.71	1.86	0.8	0.8
ON	5	28-Jun-88	16	30	0.65	0.72	2.15	0.8	0.8
ON	5	11-Jul-88	18	30	0.55	1.02	2.22	0.8	0.8
ON	5	10-Aug-88	22	30	0.57	1.00	2.12	0.8	0.8
ON	5	22-Aug-88	20	27	0.56	1.32	2.63	0.6	0.6
ON	5	29-Aug-88	20	27	0.47	1.24	15.82	0.7	0.7
ON	5	7-Sep-88	17	27	0.80	1.08	0.95	0.8	0.8
ON	5	3-Oct-88	16	26	0.53	0.63	1.74	0.6	0.6
ON	5	17-Oct-88	11	25	0.50	0.40	1.22	0.5	0.5
ON	5	27-Oct-88	16	30	0.88	1.03	1.27	0.8	0.8
ON	5	31-Oct-88	6	29	1.82	0.68	1.25	0.5	0.5
ON	5	23-Nov-88	7	30	4.54	1.14	0.54	.	.
ON	5	12-Dec-88	-2	28	3.85	0.64	0.67	.	.
ON	5	16-Jan-89	3	28	3.02	0.43	0.42	.	.
ON	5	16-Jan-89	3	28	3.02	0.43	0.42	.	.
ON	5	22-May-89	.	26	1.08	0.25	2.56	.	.
ON	5	5-Jun-89	16	27	0.74	0.31	1.90	0.8	0.8
ON	5	13-Jun-89	16	26	2.74	1.03	2.40	0.7	0.7
ON	5	19-Jun-89	18	26	0.24	0.31	1.97	0.7	0.7
ON	5	18-Jul-89	18	26	0.55	0.76	1.18	0.9	0.9
ON	5	1-Aug-89	21	26	0.20	0.88	2.02	0.7	0.7
ON	5	7-Aug-89	23	25	0.28	0.95	3.13	0.7	0.7
ON	5	21-Aug-89	20	26	0.14	0.77	.	0.7	0.7
ON	5	28-Aug-89	19	30	0.07	0.32	.	0.9	0.9
ON	5	30-Aug-89	21	.	.	.	1.49		
ON	5	12-Sep-89	13	26	0.16	0.28	3.41	0.9	0.9
ON	5	25-Sep-89	12	26	0.72	0.67	3.54	0.7	0.7
ON	5	9-Oct-89	8	27	0.22	0.33	2.52	0.6	0.6
ON	5	23-Oct-89	10	24	1.95	0.78	3.35	0.7	0.7
ON	5	14-Nov-89	.	26	0.36	0.26	9.54	0.8	0.8
ON	5	24-May-90	10	32	0.65	0.23	0.98	1.0	1.0
ON	5	5-Jun-90	15	26	0.30	0.03	1.03	0.6	0.6
ON	5	20-Jun-90	20	26	0.52	0.02	2.81	0.7	0.7
ON	5	11-Jul-90	20	30	0.16	0.41	1.33	0.7	0.7
ON	5	19-Jul-90	21	30	0.17	0.32	1.28	0.7	0.7
ON	5	3-Aug-90	24	27	0.53	0.60	1.91	0.6	0.6
ON	5	15-Aug-90	21	25	0.63	1.07	1.60	0.7	0.7
ON	5	29-Aug-90	21	26	0.42	0.48	1.59	0.8	0.8

POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	5	12-Sep-90	20	28	0.57	0.22	2.56	0.7	0.7
ON	5	26-Sep-90	16	27	0.17	0.07	1.60	0.6	0.6
ON	5	10-Oct-90	18	30	0.32	0.13	2.12	0.7	0.7
ON	5	24-Oct-90	15	29	0.92	0.50	2.98	1.0	1.0
ON	5	13-Jun-91	16	17	0.43	0.37	2.10	.	0.8
ON	5	26-Jun-91	19	22	0.62	0.82	0.46	.	0.8
ON	5	10-Jul-91	19	20	0.60	1.00	0.59	.	.
ON	5	20-Jul-91	23	20	0.78	1.08	0.97	.	0.7
ON	5	7-Aug-91	20	24	0.28	0.51	1.23	.	0.8
ON	5	4-Sep-91	19	28	0.32	0.32	0.95	.	0.8
ON	5	18-Sep-91	20	23	0.80	0.16	4.27	.	.
ON	5	2-Oct-91	15	27	1.15	0.19	1.83	.	.
ON	5	18-Oct-91	15	27	0.96	0.23	1.87	.	.
ON	5	10-Jun-92	16	26	0.25	0.18	1.70	0.8	0.8
ON	5	25-Jun-92	18	27	0.71	0.44	1.29	0.7	0.7
ON	5	13-Jul-92	19	29	0.82	0.69	0.69	0.9	0.9
ON	5	22-Jul-92	21	26	0.65	0.70	0.62	0.7	0.7
ON	5	5-Aug-92	21	26	0.46	0.87	2.15	0.7	0.7
ON	5	19-Aug-92	19	25	2.77	1.05	1.15	0.8	0.8
ON	5	16-Sep-92	19	27	0.16	0.42	1.22	0.7	0.7
ON	5	30-Sep-92	14	22	0.16	0.54	0.80	0.7	0.7
ON	5	29-Oct-92	11	30	0.31	0.47	1.29	0.9	0.9
ON	5	26-May-93	14	27	1.70	0.20	5.16	0.55	0.55
ON	5	2-Jun-93	13	28	1.73	0.52	1.45	0.9	0.9
ON	5	16-Jun-93	18	30	1.18	0.68	.	0.7	0.7
ON	5	30-Jun-93	.	28	2.45	0.96	.	.	.
ON	5	14-Jul-93	22	23	1.87	1.89	1.09	0.6	0.6
ON	5	28-Jul-93	19.5	26	2.37	2.07	1.34	0.8	0.8
ON	5	11-Aug-93	20	26	2.35	1.78	0.15	0.6	0.6
ON	5	25-Aug-93	21	28	2.26	2.37	0.07	0.8	0.8
ON	5	8-Sep-93	.	26	3.05	1.87	.	.	.
ON	5	22-Sep-93	.	28	2.50	2.49	.	.	.
.	5	17-Jun-94	24	30	0.34	0.27	1.1	0.8	0.8
.	5	28-Jun-94	25	32	0.26	0.65	1.11	0.8	0.8
.	5	16-Jul-94	24	29	0.15	0.71	1.63	1	1
.	5	26-Jul-94	26	29	0.09	0.86	1.23	1.25	1.25
.	5	12-Aug-94	21	29	0.16	0.82	2.22	0.65	0.65
.	5	24-Aug-94	21	29	0.04	0.57	2.75	1	1
.	5	8-Sep-94	20	30	0.08	0.31	2.32	0.8	0.8
.	5	19-Sep-94	20	32	0.07	0.52	4.33	1.1	1.1
.	5	3-Oct-94	16	32	0.14	0.76	1.95	0.9	0.9
ON	6	27-Jul-85	23	.	.	.	21.76	.	.

POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	6	3-Aug-85	23	.	.	.	.	.	.
ON	6	10-Aug-85	25	.	.	.	11.22	.	.
ON	6	18-Aug-85	24	.	.	.	.	.	.
ON	6	24-Aug-85	20	28	4.14	0.26	10.27	.	.
ON	6	31-Aug-85	18	.	.	.	.	.	.
ON	6	7-Sep-85	20	24	12.88	0.20	14.38	.	.
ON	6	14-Sep-85	15	.	.	.	.	.	.
ON	6	21-Sep-85	19	25	10.59	0.15	7.45	.	.
ON	6	5-Oct-85	17	.	.	.	.	.	.
ON	6	14-Oct-85	13	27	9.62	0.47	14.17	.	.
ON	6	19-Oct-85	14	.	.	.	.	.	.
ON	6	26-Oct-85	11	28	6.46	0.20	14.58	.	.
ON	6	3-Nov-85	.	29	5.17	1.06	11.25	.	.
ON	6	16-Nov-85	5	28	2.25	0.17	15.44	.	.
ON	6	30-Nov-85	5	27	11.82	0.30	1.10	.	.
ON	6	5-May-86	14	26	12.31	0.90	2.84	.	.
ON	6	13-May-86	13	30	0.58	0.30	7.69	.	.
ON	6	26-May-86	17	.	.	.	.	.	.
ON	6	10-Jun-86	21	26	3.55	0.43	25.02	.	.
ON	6	21-Jun-86	20	26	2.08	0.29	27.72	.	.
ON	6	1-Jul-86	25	26	0.86	0.36	20.44	.	.
ON	6	19-Jul-86	22	20	0.33	0.15	62.02	.	.
ON	6	29-Jul-86	24	26	0.30	0.24	10.81	.	.
ON	6	11-Aug-86	24	24	0.31	0.85	124.52	.	.
ON	6	25-Aug-86	18	25	0.27	2.36	16.77	.	.
ON	6	12-Sep-86	19	25	0.52	0.26	88.09	.	.
ON	6	18-Sep-86	.	.	.	.	52.10	.	.
ON	6	29-Sep-86	18	25	2.29	0.36	46.66	.	.
ON	6	9-Oct-86	16	27	1.45	0.30	.	.	.
ON	6	20-Oct-86	11	28	1.51	0.37	16.52	.	.
ON	6	8-May-87	13	24	13.30	0.43	12.29	1.0	1.0
ON	6	23-May-87	16	22	11.39	0.23	13.28	0.6	1.3
ON	6	2-Jun-87	22	26	0.45	0.32	13.88	0.6	1.3
ON	6	24-Jun-87	19	26	5.45	0.51	0.49	1.1	1.5
ON	6	29-Jun-87	20	25	7.25	0.70	2.57	0.9	1.3
ON	6	13-Jul-87	22	26	2.11	0.94	13.88	0.7	1.3
ON	6	28-Jul-87	24	26	0.07	0.49	10.70	0.6	1.2
ON	6	11-Aug-87	21	28	1.76	0.75	8.58	1.0	1.3
ON	6	25-Aug-87	19	28	1.19	0.72	14.29	0.8	1.2
ON	6	11-Sep-87	21	27	0.46	0.63	6.19	1.1	1.1
ON	6	23-Sep-87	18	26	6.77	0.60	2.73	1.2	1.3
ON	6	6-Oct-87	15	27	3.75	0.43	2.50	1.3	1.3
ON	6	20-Oct-87	14	27	5.08	0.43	1.71	1.3	1.3

POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	6	18-May-88	18	28	2.28	0.53	13.05	0.5	1.6
ON	6	19-Jun-88	22	28	0.76	0.56	10.83	0.5	1.7
ON	6	29-Jun-88	20	28	1.18	0.52	7.42	0.7	1.8
ON	6	31-Jul-88	25	28	2.95	0.59	15.82	0.8	1.8
ON	6	13-Aug-88	25	28	1.36	0.46	6.64	1.0	1.8
ON	6	23-Aug-88	20	28	1.47	0.45	12.14	0.8	1.8
ON	6	27-Sep-88	17	28	2.28	0.43	2.92	1.4	1.9
ON	6	6-Oct-88	14	29	2.91	0.77	0.51	1.7	1.9
ON	6	21-Oct-88	11	29	2.93	0.59	1.82	1.6	1.6
ON	6	22-May-89		24	7.74	1.48	0.59	0.8	1.3
ON	6	7-Jun-89	20	28	0.27	0.58	9.10	0.6	1.2
ON	6	13-Jun-89	19	25	0.73	0.87	10.83	1.1	1.1
ON	6	19-Jun-89	22	24	0.11	0.94	8.92	0.6	1.3
ON	6	17-Jul-89	20	26	1.73	1.30	8.19	0.7	1.5
ON	6	31-Jul-89	24	26	0.50	1.06	2.19	1.4	1.4
ON	6	9-Aug-89	23	25	0.53	0.76	4.87	1.2	1.2
ON	6	28-Aug-89	21	26	0.51	0.15	1.15	1.4	1.4
ON	6	12-Sep-89	24	28	0.46	0.06	1.36	1.3	1.3
ON	6	25-Sep-89	16	27	0.64	0.43	1.66	1.2	1.2
ON	6	11-Oct-89	12	27	3.83	0.17	3.03	1.1	1.1
ON	6	24-Oct-89	13	25	7.96	0.72	1.63	1.1	1.1
ON	6	6-Nov-89	.	.	.	.	3.12	.	.
ON	6	10-Jul-91	.	26	1.43	1.43	.	.	.
ON	6	24-Jul-91	25	25	1.48	1.05	18.28	.	1.4
ON	6	7-Aug-91	23	30	0.77	0.35	1.54	.	1.2
ON	6	4-Sep-91	20	31	0.31	0.31	2.30	.	.
ON	6	16-Oct-91	15	26	3.46	0.25	3.31	.	1.4
ON	6	1-Nov-91	8	28	2.79	0.17	0.70	1.1	1.7
ON	6	11-Jun-92	20	27	0.98	0.18	3.64	1.0	1.4
ON	6	24-Jun-92	19	28	2.01	1.48	4.06	1.3	1.3
ON	6	13-Jul-92	23	27	0.98	0.78	4.58	1.3	1.5
ON	6	22-Jul-92	24	27	1.09	1.16	7.52	1.1	1.2
ON	6	5-Aug-92	21	27	0.74	0.77	6.62	0.9	1.2
ON	6	19-Aug-92	19	23	3.07	0.83	7.55	0.9	1.2
ON	6	4-Sep-92	18	27	0.60	0.61	1.76	1.2	1.2
ON	6	1-Oct-92	12	26	0.43	0.30	1.73	1.1	1.1
ON	6	14-Oct-92	13	29	2.02	0.03	3.75	1.4	1.4
ON	6	28-Oct-92	9	30	1.74	0.02	23.27	.	.
ON	6	26-May-93	18	27	2.28	0.48	4.76	.	.
ON	6	2-Jun-93	18	28	4.38	0.30	2.34	.	.
ON	6	16-Jun-93	17	27	2.94	0.87	2.22	.	.
ON	6	30-Jun-93	22	29	0.81	0.43	3.42	.	.
ON	6	14-Jul-93	24	26	1.91	2.31	6.35	.	.

POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	6	28-Jul-93	21	24	4.65	1.32	6.17	.	.
ON	6	11-Aug-93	24	27	1.49	1.06	0.6	1.1	1.1
ON	6	25-Aug-93	22	26	3.66	1.39	3.31	1.2	1.2
ON	6	8-Sep-93	.	28	2.28	1.07	1.23	.	.
ON	6	22-Sep-93	.	28	2.78	0.79	1.08	.	.
								.	
ON	7	29-Jul-85	24	.	.	.	14.18	.	.
ON	7	2-Aug-85	23	.	.	.	.	.	.
ON	7	9-Aug-85	26	.	.	.	13.18	.	.
ON	7	16-Aug-85	27	.	.	.	.	.	.
ON	7	23-Aug-85	25	.	.	.	11.10	.	.
ON	7	30-Aug-85	23	.	.	.	.	.	.
ON	7	6-Sep-85	22	28	0.11	0.75	13.76	.	.
ON	7	14-Sep-85	20	.	.	.	.	.	.
ON	7	20-Sep-85	19	.	.	.	39.02	.	.
ON	7	4-Oct-85	19	.	.	.	.	.	.
ON	7	11-Oct-85	18	30	0.20	0.71	11.13	.	.
ON	7	18-Oct-85	17	.	.	.	.	.	.
ON	7	25-Oct-85	15	28	1.44	1.61	5.01	.	.
ON	7	22-Nov-85	9	27	2.63	0.53	0.23	.	.
ON	7	6-Sep-86	22	25	0.92	0.59	.	.	.
ON	7	19-Sep-86	21	25	0.16	0.45	20.44	.	.
ON	7	26-Sep-86	20	25	0.41	0.57	.	.	.
ON	7	6-Oct-86	17	26	0.42	0.57	.	.	.
ON	7	29-Jul-87	22	27	0.07	1.00	5.94	0.9	1.3
ON	7	10-Aug-87	23	26	0.23	1.26	9.05	0.9	1.8
ON	7	23-Aug-87	21	27	0.38	1.65	5.95	1.0	1.4
ON	7	9-Sep-87	23	22	0.41	0.81	3.09	0.9	1.7
ON	7	21-Sep-87	18	26	0.41	1.38	8.09	0.8	1.4
ON	7	5-Oct-87	15	26	0.50	0.75	3.81	1.2	1.2
ON	7	19-Oct-87	14	26	0.44	0.63	2.38	0.9	1.3
ON	7	12-May-88	16	22	0.90	0.85	2.47	1.4	1.4
ON	7	20-May-88	14	26	0.87	0.66	6.02	0.8	1.6
ON	7	27-May-88	19	24	0.54	0.66	5.32	0.6	1.3
ON	7	15-Jun-88	21	25	0.46	0.45	2.42	1.0	1.4
ON	7	27-Jun-88	20	28	0.42	0.50	5.23	0.9	1.5
ON	7	11-Jul-88	23	24	0.32	0.45	5.28	0.7	1.5
ON	7	25-Jul-88	22	23	0.73	0.62	10.55	0.6	1.5
ON	7	8-Aug-88	27	25	0.36	2.23	49.11	0.6	1.5
ON	7	23-Aug-88	22	26	0.33	1.38	3.90	0.9	1.7
ON	7	5-Sep-88	22	27	0.56	0.73	3.54	0.9	1.8
ON	7	26-Sep-88	18	28	0.47	0.54	2.10	1.3	1.5
ON	7	6-Oct-88	16	29	0.79	0.79	3.65	1.6	1.6

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	7	17-Oct-88	13	28	0.35	0.45	1.04	1.3	1.3
ON	7	28-Oct-88	9	28	0.84	0.48	2.75	1.4	1.4
ON	7	1-Aug-89	24	28	0.65	1.63	2.69	1.3	1.6
ON	7	9-Aug-89	23	28	0.42	1.74	2.79	1.5	1.5
ON	7	30-Aug-89	22	25	1.25	0.73	6.33	1.1	1.7
ON	7	11-Sep-89	24	28	1.41	0.92	9.33	1.3	1.7
ON	7	25-Sep-89	18	27	1.74	0.57	1.43	1.3	1.3
ON	7	10-Oct-89	14	28	0.29	0.52	1.58	1.4	1.4
ON	7	23-Oct-89	11	27	1.60	0.43	2.78	1.4	1.4
ON	7	6-Nov-89	11	26	3.90	0.55	3.35	1.5	1.5
ON	7	23-May-90	13	30	0.49	0.02	4.40	0.9	1.8
ON	7	5-Jun-90	18	28	0.07	0.02	1.76	1.0	1.4
ON	7	20-Jun-90	20	23	2.78	0.17	1.89	0.8	1.6
ON	7	11-Jul-90	24	27	0.50	0.50	1.34	1.1	1.4
ON	7	18-Jul-90	24	26	0.86	1.02	1.56	1.0	1.4
ON	7	1-Aug-90	24	25	1.68	0.55	3.45	0.9	1.5
ON	7	15-Aug-90	25	25	0.44	1.04	19.94	0.5	1.4
ON	7	29-Aug-90	23	27	1.30	0.22	3.66	1.0	1.5
ON	7	12-Sep-90	22	26	0.59	0.22	3.10	1.0	1.4
ON	7	10-Oct-90	18	24	0.99	0.07	1.01	1.4	1.4
ON	7	25-Oct-90	16	28	0.72	0.10	8.95	0.9	1.7
ON	7	11-Jun-91	22	20	0.18	0.48	1.56	.	1.6
ON	7	24-Jun-91	25	28	0.92	0.59	1.17	.	2.3
ON	7	10-Jul-91	25	20	0.33	0.80	1.91	.	.
ON	7	26-Jul-91	23	20	0.77	1.99	4.58	.	0.7
ON	7	10-Aug-91	25	27	0.80	0.76	2.30	.	.
ON	7	26-Aug-91	23	28	0.42	0.27	1.76	.	.
ON	7	7-Sep-91	23	27	0.45	0.28	3.96	.	1.6
ON	7	18-Sep-91	.	24	0.49	0.05	2.58	.	2.0
ON	7	5-Oct-91	19	26	0.52	0.10	3.75	.	2.2
ON	7	19-Oct-91	18	26	0.87	0.06	2.68	.	2.5
ON	7	26-May-93	16	26	0.22	0.21	3.7	1.8	2
ON	7	2-Jun-93	15	26	1.44	0.18	1.7	1.9	2.3
ON	7	16-Jun-93	21	25	1.14	0.55	.	1.9	2.1
ON	7	30-Jun-93	20.5	25	1.54	0.33	.	2.2	2.3
ON	7	14-Jul-93	25	26	1.60	1.96	1.17	1.9	1.9
ON	7	28-Jul-93	20	24	3.67	3.02	2.55	2	2.7
ON	7	11-Aug-93	23	26	2.05	2.05	.	2.4	2.8
ON	7	25-Aug-93	22	26	2.18	2.14	41.49	1.5	2.7
ON	7	8-Sep-93		27	2.24	1.81	.	.	.
ON	7	22-Sep-93		28	2.52	1.42	.	.	.
.	7	17-Jun-94	22	26	1.20	0.19	0.73	2.2	4
.	7	28-Jun-94	21	25	1.38	0.11	1.71	2.4	2.7

POTTER POND WATER CHEMISTRY DATA 1985-1994

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
.	7	16-Jul-94	24	28	0.45	0.41	0.95	2.5	3
.	7	26-Jul-94	24	26	0.53	0.63	2.17	1.9	2.6
.	7	12-Aug-94	23	29	1.17	1.13	1.95	2	2.8
.	7	24-Aug-94	21	29	0.93	0.23	1.35	2.4	3.4
.	7	8-Sep-94	18	30	0.72	0.55	1.98	2	2.5
.	7	19-Sep-94	18	30	0.62	0.09	1.37	3	3.5
ON	8	16-Jul-87	23	27	0.07	0.29	5.15	1.3	1.3
ON	8	25-Jul-87	24	.	0.31	0.31	3.17	1.1	1.1
ON	8	14-Aug-87	22	27	0.56	0.45	3.57	1.1	1.2
ON	8	25-Aug-87	18	27	1.14	0.39	2.85	0.9	1.0
ON	8	8-Sep-87	21	26	0.93	0.50	3.57	1.1	1.1
ON	8	21-Sep-87	15	25	1.65	0.42	1.42	0.6	0.6
ON	8	5-Oct-87	10	26	2.33	0.33	1.19	1.1	1.1
ON	8	19-Oct-87	13	26	2.24	0.27	2.26	1.3	1.3
ON	8	5-May-88	11	26	4.44	0.33	2.86	0.9	0.9
ON	8	18-May-88	17	26	0.23	0.26	17.10	1.0	1.1
ON	8	31-May-88	20	26	0.13	0.32	20.77	1.0	1.0
ON	8	13-Jun-88	21	28	0.56	0.51	16.61	1.0	1.1
ON	8	27-Jun-88	18	27	2.10	0.46	3.62	1.2	1.2
ON	8	13-Jul-88	23	28	1.44	0.59	1.58	1.2	1.2
ON	8	24-Jul-88	23	24	0.69	0.39	14.90	1.2	1.2
ON	8	8-Aug-88	28	28	0.39	0.80	1.99	1.2	1.2
ON	8	22-Aug-88	20	28	0.40	0.57	2.93	1.3	1.3
ON	8	7-Sep-88	17	28	0.56	0.40	8.46	1.3	1.3
ON	8	21-Sep-88	21	28	0.81	0.40	2.73	1.2	1.2
ON	8	3-Oct-88	18	28	1.05	0.44	1.76	1.1	1.1
ON	8	17-Oct-88	11	28	4.46	0.41	2.03	1.1	1.1
ON	8	31-Oct-88	8	28	4.37	0.39	3.39	1.0	1.0
ON	8	22-May-89	.	26	6.31	0.03	8.53		
ON	8	4-Jun-89	22	28	0.09	0.95	15.20	1.2	1.2
ON	8	19-Jun-89	22	25	1.23	0.32	7.40	1.1	1.1
ON	8	18-Jul-89	19	22	2.35	0.44	5.94	1.1	1.1
ON	8	31-Jul-89	23	26	0.14	0.23	2.83	1.1	1.1
ON	8	7-Aug-89	26	26	0.49	0.12	6.00	1.2	1.2
ON	8	28-Aug-89	20	27	0.51	0.02	0.83	1.2	1.2
ON	8	11-Sep-89	24	27	0.69	0.02	2.07	1.3	1.3
ON	8	27-Sep-89	14	26	1.04	0.02	0.67	0.9	0.9
ON	8	7-Oct-89	14	27	1.84	0.16	2.42	1.0	1.0
ON	8	21-Oct-89	11	27	2.15	0.05	1.37	1.0	1.0
ON	8	24-May-90	10	24	7.18	0.24	2.06	1.2	1.2
ON	8	5-Jun-90	16	28	0.81	0.03	7.32	1.0	1.0

SITE	STATION	DATE	TEMP (°C)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	8	20-Jun-90	22	26	1.00	0.02	9.46	1.3	1.3
ON	8	10-Jul-90	23	27	0.18	0.02	6.53	1.0	1.0
ON	8	20-Jul-90	25	27	0.41	0.02	8.90	1.2	1.2
ON	8	30-Jul-90	23	21	0.37	0.36	26.42	0.8	1.1
ON	8	14-Aug-90	26	26	0.40	0.02	10.40	0.7	1.1
ON	8	28-Aug-90	24	29	0.22	0.05	4.13	1.1	1.1
ON	8	11-Sep-90	20	30	0.27	0.02	6.37	1.1	1.1
ON	8	25-Sep-90	15	30	0.24	0.02	4.91	1.0	1.0
ON	8	10-Oct-90	19	25	0.99	0.02	4.83	1.0	1.0
ON	8	22-Oct-90	13	28	.	0.02	2.40	1.1	1.1
ON	8	12-Jun-91	24	20	0.29	0.27	6.87	1.2	1.2
ON	8	26-Jun-91	24	30	1.26	0.11	3.63	1.0	1.0
ON	8	10-Jul-91	25	20	0.07	0.30	2.54	.	.
ON	8	24-Jul-91	26	21	0.51	0.34	2.12	.	1.0
ON	8	7-Aug-91	25	.	.	.	.	.	1.0
ON	8	23-Aug-91	24	26	2.92	0.07	5.50	.	1.1
ON	8	4-Sep-91	22	26	2.06	0.02	7.04	.	0.9
ON	8	14-Sep-91	19	27	2.88	0.02	4.76	.	.
ON	8	2-Oct-91	19	26	5.43	0.02	3.69	.	.
ON	8	19-Oct-91	15	26	7.04	0.02	0.61	.	1.2
ON	8	10-Jun-92	20	27	4.33	0.20	5.71	1.1	1.4
ON	8	24-Jun-92	19	28	3.86	0.16	9.17	1.0	1.2
ON	8	13-Jul-92	25	27	1.63	0.81	8.03	1.2	1.2
ON	8	22-Jul-92	25	28	0.07	0.19	2.69	1.2	1.2
ON	8	4-Aug-92	22	27	0.98	0.82	0.59	1.1	1.1
ON	8	19-Aug-92	21	24	2.42	0.60	4.12	1.2	1.2
ON	8	2-Sep-92	19	26	0.13	0.27	10.89	1.1	1.1
ON	8	16-Sep-92	23	26	0.07	0.27	17.10	0.9	0.9
ON	8	30-Sep-92	15	25	1.06	0.29	9.39	1.0	1.0
ON	8	14-Oct-92	15	29	0.94	0.03	14.42	.	1.4
ON	8	28-Oct-92	9	24	2.28	0.96	1.52	1.2	1.2
ON	8	26-May-93	21	27	2.46	0.29	2.47	1.1	1.1.
ON	8	2-Jun-93	19	28	0.59	0.14	2.19	1.35	1.35
ON	8	16-Jun-93	23	29	1.50	0.34	0.94	1.2	1.2
ON	8	30-Jun-93	24	29	2.32	0.64	2.36	1.3	1.3
ON	8	14-Jul-93	27	28	1.25	1.25	1.06	1.2	1.2
ON	8	28-Jul-93	21	28	1.99	1.35	0.98	1.3	1.3
ON	8	11-Aug-93	25	28	1.01	0.97	2.58	1.15	1.15
ON	8	25-Aug-93	23	28	1.81	1.41	0.3	1.2	1.2
ON	8	8-Sep-93	.	28	3.03	1.66	0.62	.	.
ON	8	22-Sep-93	.	28	1.80	0.66	0.36	.	.

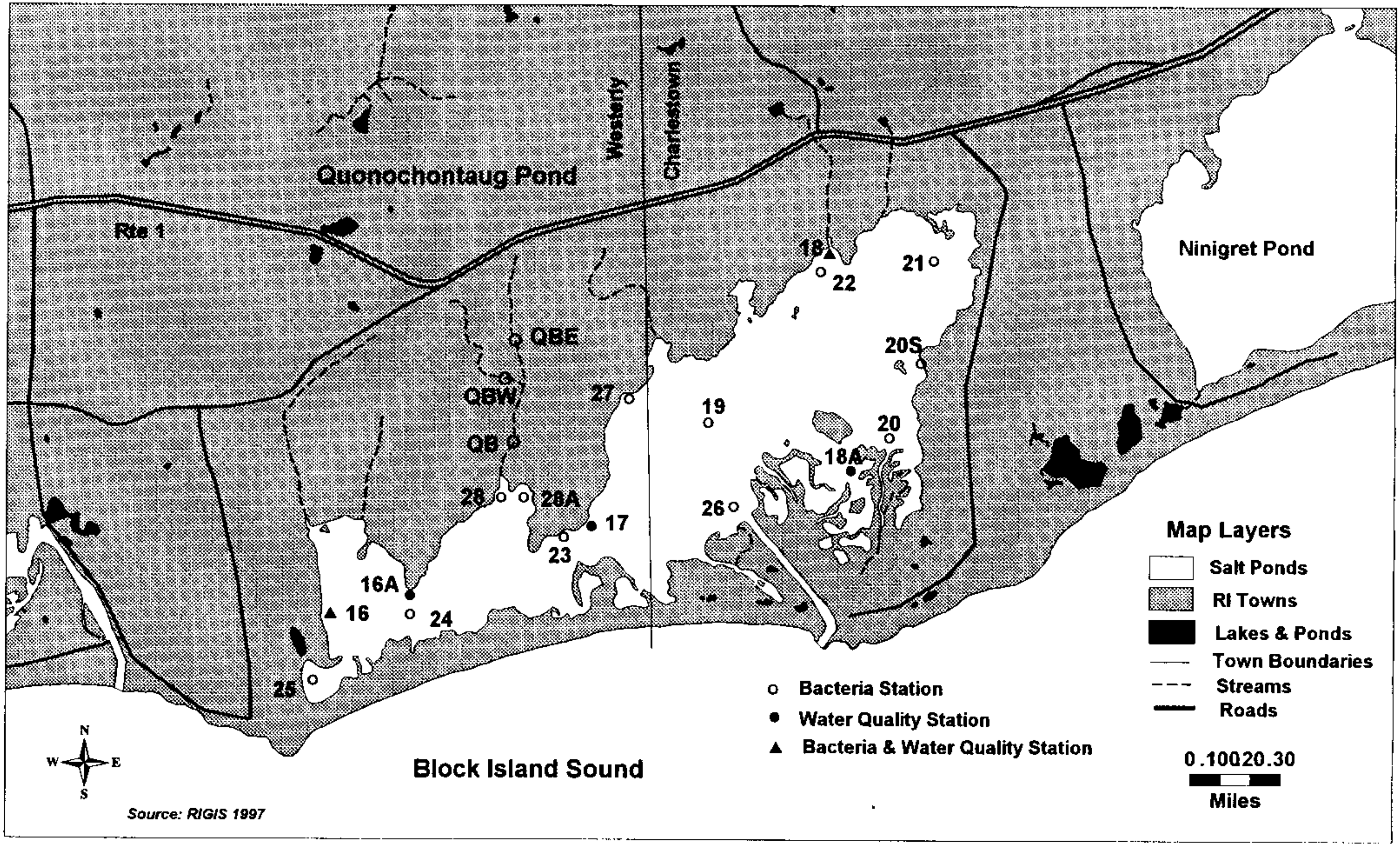
Quonochontaug Pond

Sections:

Pond Map
Bacteria
Water Quality

Quonochontaug Pond

Pond Map



Quonochontaug Pond
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Charlestown
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Map Layers
Salt Ponds
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Lakes & Ponds
Town Boundaries
Streams
Roads
Bacteria Station
Water Quality Station
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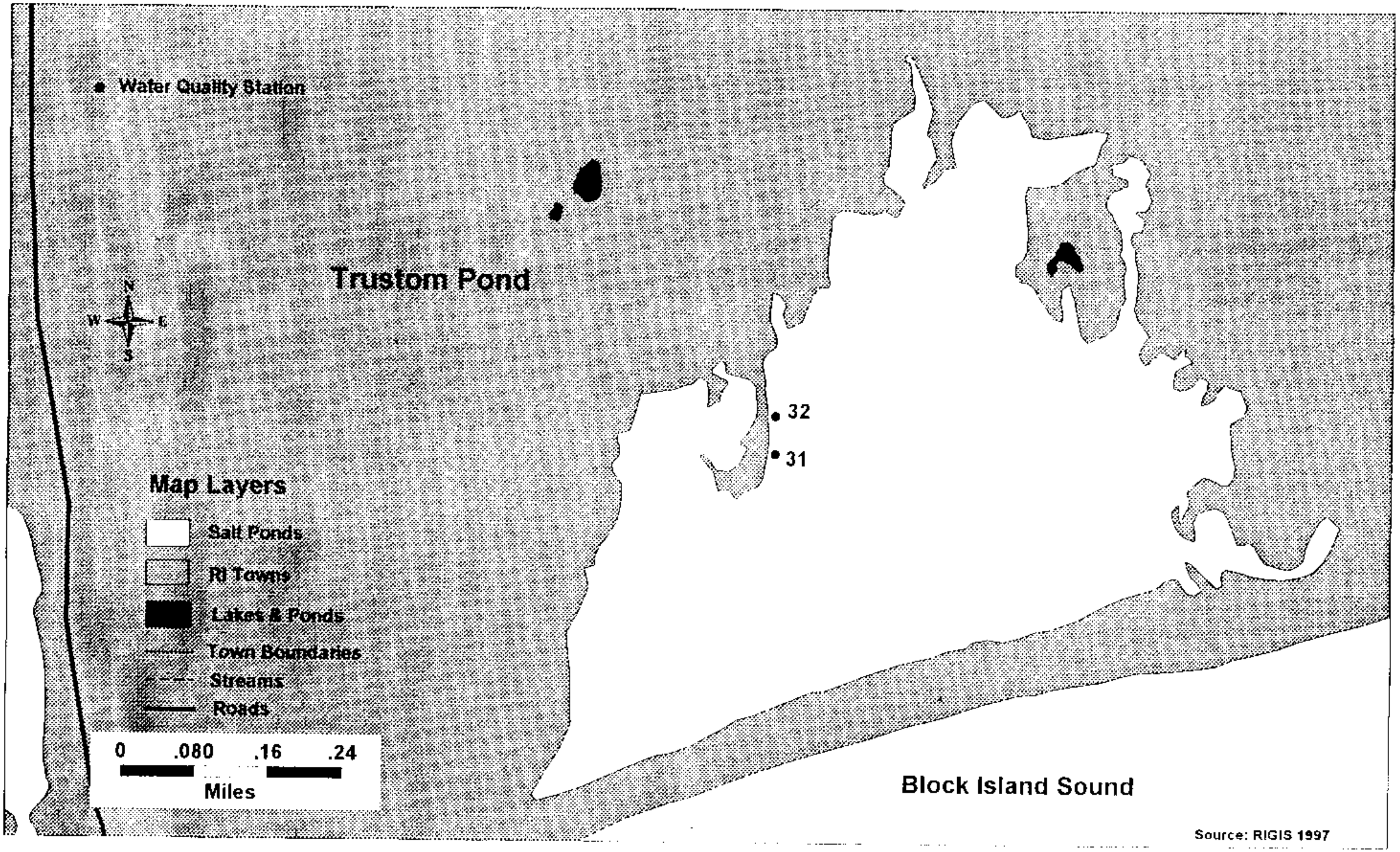
Block Island Sound
Source: RIGIS 1997

Quonochontaug Pond

Bacteria



Water Quality Station
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Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
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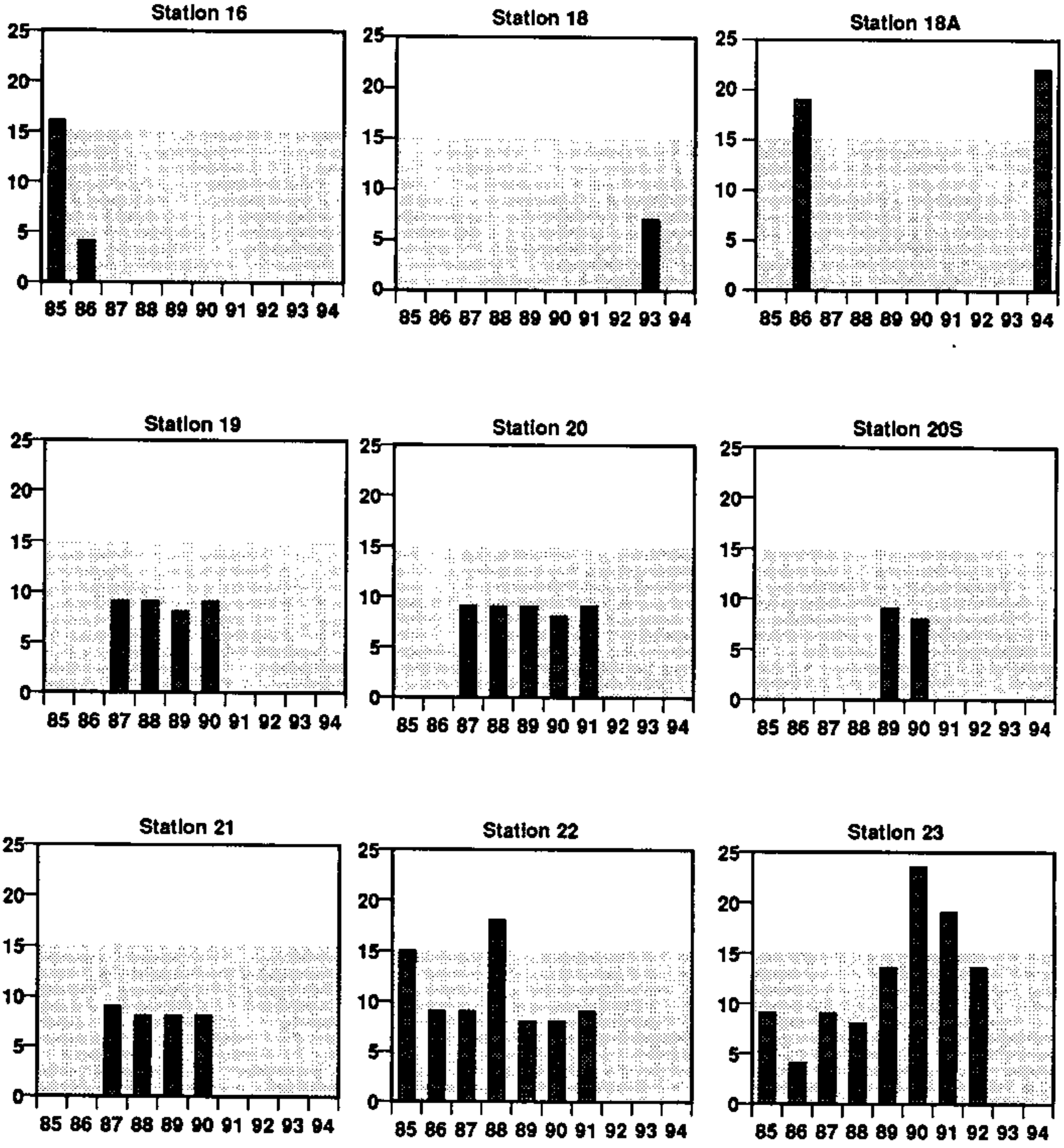
Miles
Block Island Sound
Source: RIGIS 1997

Quonochontaug Pond

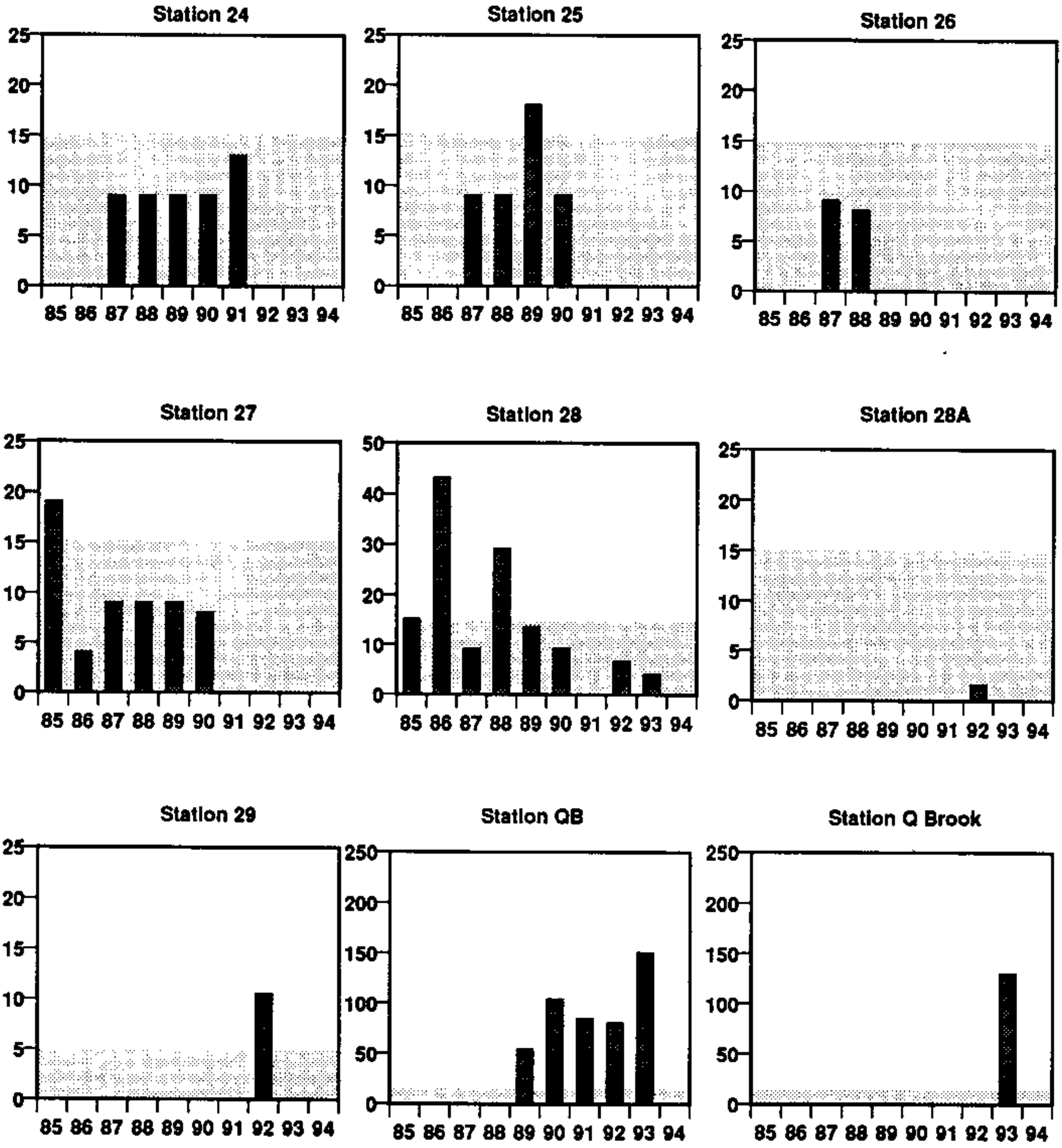
Median Fecal Coliform Bacteria (MPN/100ml)



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Quonochontaug Pond

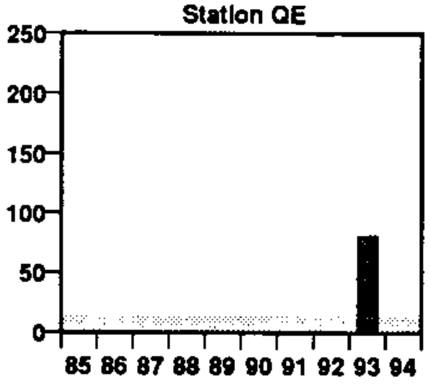
Median Fecal Coliform Bacteria (MPN/100ml)

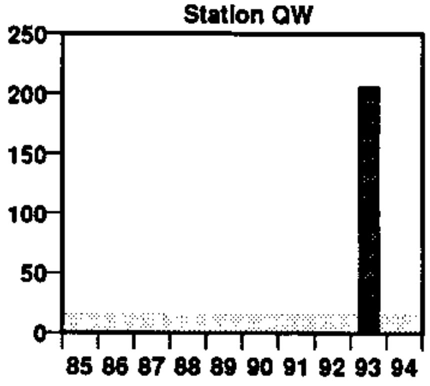


Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

Quonochontaug Pond

Median Fecal Coliform Bacteria (MPN/100ml)





Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
16	16	23-Jul-85	23	.	.
16	16	5-Aug-85	4	.	.
16	16	19-Aug-85	9	.	.
16	16	3-Sep-85	23	.	.
16	16	16-Sep-85	9	.	.
16	16	30-Sep-85	23	.	.
16	16	21-Oct-85	23	.	.
16	16	28-Oct-85	4	.	.
16	16	5-May-86	4	.	.
16	16	19-May-86	3	.	.
16	16	2-Jun-86	23	.	.
16	16	16-Jun-86	3	.	.
16	16	30-Jun-86	4	.	.
16	16	14-Jul-86	93	.	.
16	16	28-Jul-86	93	.	.
16	16	12-Aug-86	3	.	.
16	16	25-Aug-86	4	.	.
16	16	8-Sep-86	7	.	.
16	16	22-Sep-86	4	.	.
16	16	6-Oct-86	93	.	.
16	16	20-Oct-86	9	.	.
18	18	25-May-93	2	.	.
18	18	4-Jun-93	1	.	.
18	18	16-Jun-93	7	.	.
18	18	7-Jul-93	8	.	.
18	18	14-Jul-93	2	.	.
18	18	28-Jul-93	4	.	.
18	18	11-Aug-93	.	.	.
18	18	25-Aug-93	80	.	.
18	18	8-Sep-93	1601	.	.
18	18	22-Sep-93	130	.	.
18A	18A	2-Jun-86	9	.	.
18A	18A	16-Jun-86	230	.	.
18A	18A	30-Jun-86	9	.	.
18A	18A	14-Jul-86	93	.	.
18A	18A	28-Jul-86	9	.	.
18A	18A	25-Aug-86	15	.	.
18A	18A	8-Sep-86	23	.	.
18A	18A	22-Sep-86	93	.	.
18A	18A	6-Oct-86	43	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
18A	18A	20-Oct-86	4	.	.
18A	18A	1-Jun-94	.	.	.
18A	18A	15-Jun-94	.	.	.
18A	18A	29-Jun-94	22	.	.
18A	18A	13-Jul-94	1	.	.
18A	18A	27-Jul-94	50	.	.
18A	18A	10-Aug-94	.	.	.
18A	18A	24-Aug-94	14	.	.
18A	18A	21-Sep-94	30	.	.
19	19	27-May-87	9	.	.
19	19	10-Jun-87	9	.	.
19	19	1-Jul-87	9	.	.
19	19	15-Jul-87	9	.	.
19	19	29-Jul-87	9	.	.
19	19	12-Aug-87	41	.	.
19	19	26-Aug-87	18	.	.
19	19	9-Sep-87	9	.	.
19	19	23-Sep-87	9	.	.
19	19	7-Oct-87	9	.	.
19	19	19-Oct-87	9	.	.
19	19	18-May-88	<9	.	.
19	19	15-Jun-88	<9	.	.
19	19	29-Jun-88	<9	.	.
19	19	13-Jul-88	<9	.	.
19	19	27-Jul-88	<9	.	.
19	19	10-Aug-88	9	.	.
19	19	24-Aug-88	69	.	.
19	19	7-Sep-88	<9	.	.
19	19	21-Sep-88	41	.	.
19	19	5-Oct-88	9	.	.
19	19	19-Oct-88	9	.	.
19	19	2-Nov-88	>248	.	.
19	19	16-Nov-88	9	.	.
19	19	24-May-89	<9	.	(0)
19	19	7-Jun-89	<9	.	(0)
19	19	21-Jun-89	<9	.	(0)
19	19	19-Jul-89	<9	.	(0)
19	19	2-Aug-89	<9	.	(0)
19	19	9-Aug-89	<9	.	(0)
19	19	30-Aug-89	9	.	(0)
19	19	13-Sep-89	<9	.	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
19	19	27-Sep-89	<9	.	(0)
19	19	11-Oct-89	18	.	(0)
19	19	25-Oct-89	9	.	(0)
19	19	8-Nov-89	<9	.	(0)
19	19	23-May-90	18	.	(0)
19	19	6-Jun-90	<9	.	(0)
19	19	20-Jun-90	69	.	(0)
19	19	11-Jul-90	<9	.	(0)
19	19	18-Jul-90	<9	.	(0)
19	19	1-Aug-90	9	.	(0)
19	19	15-Aug-90	54	.	(0)
19	19	29-Aug-90	<9	.	25(1)
19	19	12-Sep-90	<9	.	(0)
19	19	26-Sep-90	9	.	(0)
19	19	10-Oct-90	54	.	(0)
19	19	24-Oct-90	29	.	(0)
20	20	13-May-87	3	.	.
20	20	27-May-87	18	.	.
20	20	10-Jun-87	29	.	.
20	20	1-Jul-87	9	.	.
20	20	15-Jul-87	69	.	.
20	20	29-Jul-87	9	.	.
20	20	12-Aug-87	9	.	.
20	20	26-Aug-87	9	.	.
20	20	9-Sep-87	29	.	.
20	20	23-Sep-87	9	.	.
20	20	7-Oct-87	9	.	.
20	20	19-Oct-87	9	.	.
20	20	18-May-88	9	.	.
20	20	15-Jun-88	<9	.	.
20	20	29-Jun-88	<9	.	.
20	20	13-Jul-88	9	.	.
20	20	27-Jul-88	18	.	.
20	20	10-Aug-88	9	.	.
20	20	24-Aug-88	<9	.	.
20	20	7-Sep-88	<9	.	.
20	20	21-Sep-88	9	.	.
20	20	5-Oct-88	<9	.	.
20	20	19-Oct-88	18	.	.
20	20	2-Nov-88	41	.	.
20	20	16-Nov-88	<9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
20	20	24-May-89	<9	.	(0)
20	20	7-Jun-89	>248	.	(0)
20	20	21-Jun-89	9	.	(0)
20	20	19-Jul-89	41	.	(0)
20	20	2-Aug-89	<9	.	(0)
20	20	9-Aug-89	18	.	(0)
20	20	30-Aug-89	139	.	(0)
20	20	13-Sep-89	<9	.	(0)
20	20	27-Sep-89	88	.	(0)
20	20	11-Oct-89	9	.	(0)
20	20	25-Oct-89	9	.	(0)
20	20	8-Nov-89	<9	.	(0)
20	20	23-May-90	<9	.	(0)
20	20	6-Jun-90	<9	.	(0)
20	20	11-Jul-90	<9	.	(0)
20	20	18-Jul-90	<9	.	(0)
20	20	15-Aug-90	<9	.	(0)
20	20	29-Aug-90	<9	.	(0)
20	20	12-Sep-90	9	.	(0)
20	20	26-Sep-90	<9	.	(0)
20	20	10-Oct-90	9	.	(0)
20	20	24-Oct-90	<9	.	(0)
20	20	13-Jun-91	9	.	(0)
20	20	27-Jun-91	<9	.	(0)
20	20	11-Jul-91	18	.	(0)
20	20	25-Jul-91	20	.	(0)
20	20	8-Aug-91	<9	.	(0)
20	20	4-Sep-91	9	.	(0)
20	20	15-Sep-91	9	.	(0)
20	20	2-Oct-91	18	.	(0)
20	20	17-Oct-91	9	.	(0)
20	20	30-Oct-91	139	.	(0)
20S	20S	24-May-89	<9	.	50(1)
20S	20S	7-Jun-89	70	.	(0)
20S	20S	21-Jun-89	<9	.	(0)
20S	20S	19-Jul-89	9	.	50(4)
20S	20S	2-Aug-89	18	.	(0)
20S	20S	9-Aug-89	<9	.	(0)
20S	20S	30-Aug-89	>248	.	(0)
20S	20S	13-Sep-89	<9	.	(0)
20S	20S	27-Sep-89	179	.	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
20S	20S	11-Oct-89	<9	.	(0)
20S	20S	25-Oct-89	9	.	(0)
20S	20S	8-Nov-89	9	.	(0)
20S	20S	23-May-90	<9	.	(0)
20S	20S	6-Jun-90	<9	.	(0)
20S	20S	20-Jun-90	41	.	(0)
20S	20S	11-Jul-90	9	.	(0)
20S	20S	18-Jul-90	<9	.	(0)
20S	20S	15-Aug-90	<9	.	(0)
20S	20S	29-Aug-90	<9	.	(0)
20S	20S	12-Sep-90	<9	.	(0)
20S	20S	26-Sep-90	<9	.	(0)
20S	20S	10-Oct-90	<9	.	(0)
20S	20S	24-Oct-90	70	.	(0)
21	21	13-May-87	3	.	.
21	21	27-May-87	9	.	.
21	21	1-Jul-87	18	.	.
21	21	29-Jul-87	9	.	.
21	21	12-Aug-87	9	.	.
21	21	26-Aug-87	9	.	.
21	21	9-Sep-87	9	.	.
21	21	23-Sep-87	9	.	.
21	21	7-Oct-87	9	.	.
21	21	19-Oct-87	9	.	.
21	21	18-May-88	<9	.	.
21	21	15-Jun-88	<9	.	.
21	21	29-Jun-88	<9	.	.
21	21	13-Jul-88	<9	.	.
21	21	27-Jul-88	<9	.	.
21	21	10-Aug-88	<9	.	.
21	21	24-Aug-88	<9	.	.
21	21	7-Sep-88	<9	.	.
21	21	21-Sep-88	<9	.	.
21	21	5-Oct-88	<9	.	.
21	21	19-Oct-88	9	.	.
21	21	2-Nov-88	<9	.	.
21	21	16-Nov-88	<9	.	.
21	21	24-May-89	<9	.	(0)
21	21	7-Jun-89	9	.	(0)
21	21	21-Jun-89	<9	.	(0)
21	21	19-Jul-89	41	.	50(4)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
21	21	2-Aug-89	<9	.	(0)
21	21	9-Aug-89	<9	.	(0)
21	21	30-Aug-89	>248	.	(0)
21	21	13-Sep-89	<9	.	(0)
21	21	27-Sep-89	110	.	(0)
21	21	11-Oct-89	<9	.	(0)
21	21	25-Oct-89	9	.	(0)
21	21	8-Nov-89	<9	.	(0)
21	21	23-May-90	<9	.	(0)
21	21	6-Jun-90	9	.	(0)
21	21	20-Jun-90	41	.	(0)
21	21	11-Jul-90	<9	.	(0)
21	21	18-Jul-90	<9	.	(0)
21	21	15-Aug-90	9	.	(0)
21	21	29-Aug-90	<9	.	(0)
21	21	12-Sep-90	<9	.	(0)
21	21	26-Sep-90	<9	.	(0)
21	21	10-Oct-90	<9	.	(0)
21	21	24-Oct-90	18	.	(0)
18	22	8-Jul-85	3	.	.
18	22	22-Jul-85	230	.	.
18	22	5-Aug-85	21	.	.
18	22	19-Aug-85	43	.	.
18	22	3-Sep-85	4	.	.
18	22	16-Sep-85	4	.	.
18	22	30-Sep-85	4	.	.
18	22	21-Oct-85	23	.	.
18	22	28-Oct-85	15	.	.
18	22	5-May-86	3	.	.
18	22	19-May-86	3	.	.
18	22	2-Jun-86	3	.	.
18	22	16-Jun-86	9	.	.
18	22	30-Jun-86	4	.	.
18	22	14-Jul-86	7	.	.
18	22	28-Jul-86	9	.	.
18	22	12-Aug-86	43	.	.
18	22	25-Aug-86	43	.	.
18	22	8-Sep-86	21	.	.
18	22	22-Sep-86	93	.	.
18	22	6-Oct-86	9	.	.
18	22	20-Oct-86	3	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
22	22	13-May-87	3	.	.
22	22	27-May-87	9	.	.
22	22	10-Jun-87	9	.	.
22	22	1-Jul-87	9	.	.
22	22	15-Jul-87	9	.	.
22	22	29-Jul-87	9	.	.
22	22	12-Aug-87	54	.	.
22	22	26-Aug-87	9	.	.
22	22	9-Sep-87	139	.	.
22	22	23-Sep-87	9	.	.
22	22	7-Oct-87	9	.	.
22	22	19-Oct-87	9	.	.
22	22	18-May-88	248	.	.
22	22	15-Jun-88	<9	.	.
22	22	29-Jun-88	9	.	.
22	22	13-Jul-88	<9	.	.
22	22	27-Jul-88	41	.	.
22	22	10-Aug-88	29	.	.
22	22	24-Aug-88	18	.	.
22	22	7-Sep-88	<9	.	.
22	22	21-Sep-88	18	.	.
22	22	5-Oct-88	41	.	.
22	22	19-Oct-88	29	.	.
22	22	2-Nov-88	29	.	.
22	22	16-Nov-88	<9	.	.
22	22	24-May-89	<9	.	(0)
22	22	7-Jun-89	<9	.	(0)
22	22	21-Jun-89	9	.	(0)
22	22	19-Jul-89	<9	.	0(100)
22	22	2-Aug-89	9	.	(0)
22	22	9-Aug-89	<9	.	(0)
22	22	30-Aug-89	>248	.	(0)
22	22	13-Sep-89	<9	.	(0)
22	22	27-Sep-89	54	.	(0)
22	22	11-Oct-89	<9	.	(0)
22	22	25-Oct-89	<9	.	(0)
22	22	8-Nov-89	<9	.	(0)
22	22	23-May-90	<9	.	50(5)
22	22	6-Jun-90	<9	.	(0)
22	22	20-Jun-90	69	.	(0)
22	22	11-Jul-90	<9	.	(0)
22	22	18-Jul-90	<9	.	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
22	22	1-Aug-90	9	.	25(1)
22	22	15-Aug-90	9	.	(0)
22	22	29-Aug-90	<9	.	(0)
22	22	12-Sep-90	<9	.	(0)
22	22	26-Sep-90	9	.	(0)
22	22	10-Oct-90	<9	.	(0)
22	22	24-Oct-90	9	.	(0)
22	22	13-Jun-91	18	.	(0)
22	22	27-Jun-91	<9	.	(0)
22	22	11-Jul-91	<9	.	(0)
22	22	25-Jul-91	18	.	(0)
22	22	8-Aug-91	9	.	(0)
22	22	4-Sep-91	9	.	(0)
22	22	15-Sep-91	9	.	(0)
22	22	2-Oct-91	<9	.	(0)
22	22	17-Oct-91	139	.	(0)
22	22	30-Oct-91	249	.	(0)
17	23	8-Jul-85	9	.	.
17	23	22-Jul-85	9	.	.
17	23	5-Aug-85	4	.	.
17	23	19-Aug-85	3	.	.
17	23	3-Sep-85	43	.	.
17	23	16-Sep-85	4	.	.
17	23	30-Sep-85	9	.	.
17	23	21-Oct-85	43	.	.
17	23	28-Oct-85	43	.	.
17	23	5-May-86	3	.	.
17	23	19-May-86	3	.	.
17	23	2-Jun-86	3	.	.
17	23	16-Jun-86	3	.	.
17	23	30-Jun-86	9	.	.
17	23	14-Jul-86	240	.	.
17	23	28-Jul-86	9	.	.
17	23	12-Aug-86	3	.	.
17	23	25-Aug-86	23	.	.
17	23	8-Sep-86	43	.	.
17	23	22-Sep-86	43	.	.
17	23	6-Oct-86	4	.	.
17	23	20-Oct-86	3	.	.
23	23	13-May-87	3	.	.
23	23	27-May-87	9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
23	23	10-Jun-87	9	.	.
23	23	1-Jul-87	9	.	.
23	23	15-Jul-87	9	.	.
23	23	29-Jul-87	9	.	.
23	23	12-Aug-87	9	.	.
23	23	26-Aug-87	9	.	.
23	23	9-Sep-87	29	.	.
23	23	23-Sep-87	9	.	.
23	23	7-Oct-87	9	.	.
23	23	19-Oct-87	9	.	.
23	23	18-May-88	29	.	.
23	23	15-Jun-88	<9	.	.
23	23	29-Jun-88	<9	.	.
23	23	13-Jul-88	<9	.	.
23	23	27-Jul-88	<9	.	.
23	23	10-Aug-88	<9	.	.
23	23	24-Aug-88	179	.	.
23	23	7-Sep-88	<9	.	.
23	23	21-Sep-88	>248	.	.
23	23	5-Oct-88	<9	.	.
23	23	19-Oct-88	41	.	.
23	23	2-Nov-88	54	.	.
23	23	16-Nov-88	<9	.	.
23	23	24-May-89	<9	.	(0)
23	23	7-Jun-89	<9	.	(0)
23	23	21-Jun-89	<9	.	(0)
23	23	19-Jul-89	70	.	0(100+)
23	23	2-Aug-89	<9	.	(0)
23	23	9-Aug-89	<9	.	(0)
23	23	30-Aug-89	18	.	(0)
23	23	13-Sep-89	18	.	(0)
23	23	27-Sep-89	88	.	(0)
23	23	11-Oct-89	18	.	(0)
23	23	25-Oct-89	29	.	(0)
23	23	8-Nov-89	9	.	50(1)
23	23	23-May-90	9	.	(0)
23	23	6-Jun-90	<9	.	(0)
23	23	20-Jun-90	69	.	(0)
23	23	11-Jul-90	<9	.	(0)
23	23	18-Jul-90	<9	.	(0)
23	23	1-Aug-90	9	.	(0)
23	23	15-Aug-90	139	.	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
23	23	29-Aug-90	69	.	(O)
23	23	12-Sep-90	18	.	(O)
23	23	26-Sep-90	139	.	(O)
23	23	10-Oct-90	54	.	(O)
23	23	24-Oct-90	29	.	(O)
23	23	13-Jun-91	<9	.	(O)
23	23	27-Jun-91	<9	.	(O)
23	23	11-Jul-91	<9	.	(O)
23	23	25-Jul-91	88	.	(O)
23	23	8-Aug-91	<9	.	(O)
23	23	4-Sep-91	29	.	(O)
23	23	15-Sep-91	88	.	(O)
23	23	2-Oct-91	9	.	(O)
23	23	17-Oct-91	69	.	(O)
23	23	30-Oct-91	54	.	(O)
23	23	24-Jun-92	2	.	.
23	23	15-Jul-92	4	.	.
23	23	19-Aug-92	23	.	.
23	23	2-Sep-92	30	.	.
24	24	13-May-87	3.6	.	.
24	24	27-May-87	9	.	.
24	24	10-Jun-87	9	.	.
24	24	1-Jul-87	9	.	.
24	24	15-Jul-87	9	.	.
24	24	29-Jul-87	9	.	.
24	24	12-Aug-87	9	.	.
24	24	26-Aug-87	9	.	.
24	24	9-Sep-87	18	.	.
24	24	7-Oct-87	18	.	.
24	24	19-Oct-87	9	.	.
24	24	18-May-88	18	.	.
24	24	15-Jun-88	29	.	.
24	24	29-Jun-88	9	.	.
24	24	13-Jul-88	29	.	.
24	24	27-Jul-88	<9	.	.
24	24	10-Aug-88	<9	.	.
24	24	7-Sep-88	<9	.	.
24	24	21-Sep-88	110	.	.
24	24	5-Oct-88	<9	.	.
24	24	19-Oct-88	9	.	.
24	24	16-Nov-88	<9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
24	24	24-May-89	<9	.	(0)
24	24	7-Jun-89	<9	.	(0)
24	24	21-Jun-89	<9	.	(0)
24	24	19-Jul-89	88	.	(0)
24	24	2-Aug-89	9	.	(0)
24	24	9-Aug-89	<9	.	(0)
24	24	30-Aug-89	110	.	(0)
24	24	13-Sep-89	<9	.	(0)
24	24	27-Sep-89	41	.	(0)
24	24	11-Oct-89	18	.	(0)
24	24	8-Nov-89	9	.	(0)
24	24	6-Jun-90	9	.	(0)
24	24	20-Jun-90	9	.	(0)
24	24	11-Jul-90	<9	.	(0)
24	24	18-Jul-90	9	.	(0)
24	24	15-Aug-90	<9	.	(0)
24	24	29-Aug-90	9	.	(0)
24	24	12-Sep-90	9	.	(0)
24	24	26-Sep-90	<9	.	(0)
24	24	10-Oct-90	18	.	(0)
24	24	24-Oct-90	29	.	(0)
24	24	13-Jun-91	18	.	(0)
24	24	27-Jun-91	<9	.	(0)
24	24	11-Jul-91	<9	.	(0)
24	24	25-Jul-91	69	.	(0)
24	24	8-Aug-91	<9	.	(0)
24	24	4-Sep-91	<9	.	(0)
24	24	15-Sep-91	64	.	(0)
24	24	2-Oct-91	29	.	(0)
24	24	17-Oct-91	<9	.	(0)
24	24	30-Oct-91	139	.	(0)
25	25	13-May-87	9.1	.	.
25	25	27-May-87	9	.	.
25	25	10-Jun-87	88	.	.
25	25	1-Jul-87	9	.	.
25	25	15-Jul-87	18	.	.
25	25	29-Jul-87	9	.	.
25	25	12-Aug-87	9	.	.
25	25	26-Aug-87	9	.	.
25	25	9-Sep-87	110	.	.
25	25	23-Sep-87	41	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
25	25	19-Oct-87	9	.	.
25	25	18-May-88	41	.	.
25	25	15-Jun-88	9	.	.
25	25	29-Jun-88	9	.	.
25	25	13-Jul-88	<9	.	.
25	25	27-Jul-88	41	.	.
25	25	10-Aug-88	9	.	.
25	25	24-Aug-88	9	.	.
25	25	7-Sep-88	<9	.	.
25	25	21-Sep-88	248	.	.
25	25	5-Oct-88	41	.	.
25	25	19-Oct-88	18	.	.
25	25	2-Nov-88	18	.	.
25	25	16-Nov-88	<9	.	.
25	25	24-May-89	<9	.	(0)
25	25	7-Jun-89	248	.	(0)
25	25	21-Jun-89	18	.	(0)
25	25	19-Jul-89	110	.	(0)
25	25	2-Aug-89	18	.	(0)
25	25	9-Aug-89	18	.	(0)
25	25	30-Aug-89	>248	.	(0)
25	25	13-Sep-89	<9	.	(0)
25	25	27-Sep-89	110	.	(0)
25	25	11-Oct-89	18	.	(0)
25	25	8-Nov-89	9	.	(0)
25	25	23-May-90	29	.	(0)
25	25	6-Jun-90	18	.	0(?)
25	25	20-Jun-90	41	.	(0)
25	25	11-Jul-90	9	.	(0)
25	25	1-Aug-90	54	.	(0)
25	25	15-Aug-90	<9	.	50(2)
25	25	29-Aug-90	<9	.	(0)
25	25	12-Sep-90	9	.	(0)
25	25	26-Sep-90	<9	.	(0)
25	25	10-Oct-90	9	.	50(15)
25	25	24-Oct-90	70	.	(0)
26	26	27-May-87	9	.	.
26	26	10-Jun-87	9	.	.
26	26	1-Jul-87	9	.	.
26	26	15-Jul-87	29	.	.
26	26	29-Jul-87	9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
26	26	12-Aug-87	9	.	.
26	26	26-Aug-87	9	.	.
26	26	9-Sep-87	9	.	.
26	26	23-Sep-87	9	.	.
26	26	7-Oct-87	9	.	.
26	26	19-Oct-87	9	.	.
26	26	18-May-88	<9	.	.
26	26	15-Jun-88	<9	.	.
26	26	29-Jun-88	9	.	.
26	26	13-Jul-88	<9	.	.
26	26	27-Jul-88	<9	.	.
26	26	10-Aug-88	<9	.	.
26	26	24-Aug-88	54	.	.
26	26	7-Sep-88	<9	.	.
26	26	21-Sep-88	29	.	.
26	26	5-Oct-88	<9	.	.
26	26	19-Oct-88	<9	.	.
26	26	2-Nov-88	54	.	.
26	26	16-Nov-88	29	.	.
					.
17A	27	19-Aug-85	43	.	.
17A	27	3-Sep-85	9	.	.
17A	27	16-Sep-85	4	.	.
17A	27	30-Sep-85	23	.	.
17A	27	21-Oct-85	43	.	.
17A	27	28-Oct-85	15	.	.
17A	27	5-May-86	3	.	.
17A	27	19-May-86	3	.	.
17A	27	2-Jun-86	9	.	.
17A	27	16-Jun-86	3	.	.
17A	27	30-Jun-86	4	.	.
17A	27	14-Jul-86	93	.	.
17A	27	28-Jul-86	9	.	.
17A	27	12-Aug-86	23	.	.
17A	27	25-Aug-86	9	.	.
17A	27	8-Sep-86	4	.	.
17A	27	22-Sep-86	3	.	.
17A	27	6-Oct-86	9	.	.
17A	27	20-Oct-86	4	.	.
27	27	13-May-87	3.6	.	.
27	27	27-May-87	9	.	.
27	27	10-Jun-87	9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
27	27	1-Jul-87	9	.	.
27	27	15-Jul-87	9	.	.
27	27	29-Jul-87	9	.	.
27	27	12-Aug-87	9	.	.
27	27	26-Aug-87	9	.	.
27	27	9-Sep-87	9	.	.
27	27	23-Sep-87	29	.	.
27	27	7-Oct-87	9	.	.
27	27	19-Oct-87	9	.	.
27	27	18-May-88	9	.	.
27	27	15-Jun-88	<9	.	.
27	27	29-Jun-88	<9	.	.
27	27	13-Jul-88	9	.	.
27	27	27-Jul-88	9	.	.
27	27	10-Aug-88	9	.	.
27	27	24-Aug-88	41	.	.
27	27	7-Sep-88	<9	.	.
27	27	21-Sep-88	<9	.	.
27	27	5-Oct-88	<9	.	.
27	27	19-Oct-88	18	.	.
27	27	2-Nov-88	110	.	.
27	27	16-Nov-88	29	.	.
27	27	24-May-89	<9	.	(0)
27	27	7-Jun-89	9	.	(0)
27	27	21-Jun-89	9	.	(0)
27	27	19-Jul-89	<9	.	0(100+)
27	27	2-Aug-89	9	.	(0)
27	27	9-Aug-89	<9	.	(0)
27	27	30-Aug-89	29	.	(0)
27	27	13-Sep-89	<9	.	(0)
27	27	27-Sep-89	29	.	(0)
27	27	11-Oct-89	<9	.	(0)
27	27	25-Oct-89	29	.	(0)
27	27	8-Nov-89	18	.	(0)
27	27	23-May-90	<9	.	(0)
27	27	6-Jun-90	<9	.	(0)
27	27	20-Jun-90	69	.	(0)
27	27	11-Jul-90	<9	.	(0)
27	27	18-Jul-90	<9	.	(0)
27	27	1-Aug-90	9	.	(0)
27	27	15-Aug-90	<9	.	(0)
27	27	27-Aug-90	<9	.	50(2)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
27	27	12-Sep-90	<9	.	(0)
27	27	26-Sep-90	29	.	(0)
27	27	10-Oct-90	<9	.	(0)
27	27	24-Oct-90	41	.	(0)
16A	28	8-Jul-85	9	.	.
16A	28	22-Jul-85	230	.	.
16A	28	5-Aug-85	3	.	.
16A	28	19-Aug-85	43	.	.
16A	28	3-Sep-85	15	.	.
16A	28	16-Sep-85	15	.	.
16A	28	30-Sep-85	150	.	.
16A	28	21-Oct-85	43	.	.
16A	28	28-Oct-85	9	.	.
16A	28	5-May-86	4	.	.
16A	28	19-May-86	43	.	.
16A	28	2-Jun-86	9	.	.
16A	28	16-Jun-86	3	.	.
16A	28	30-Jun-86	3	.	.
16A	28	14-Jul-86	75	.	.
16A	28	28-Jul-86	7	.	.
16A	28	12-Aug-86	43	.	.
16A	28	25-Aug-86	4	.	.
16A	28	8-Sep-86	240	.	.
16A	28	22-Sep-86	75	.	.
16A	28	6-Oct-86	240	.	.
16A	28	20-Oct-86	43	.	.
28	28	13-May-87	3	.	.
28	28	27-May-87	9	.	.
28	28	10-Jun-87	9	.	.
28	28	1-Jul-87	9	.	.
28	28	15-Jul-87	9	.	.
28	28	29-Jul-87	9	.	.
28	28	12-Aug-87	9	.	.
28	28	26-Aug-87	9	.	.
28	28	9-Sep-87	29	.	.
28	28	23-Sep-87	9	.	.
28	28	7-Oct-87	29	.	.
28	28	19-Oct-87	18	.	.
28	28	18-May-88	41	.	.
28	28	15-Jun-88	29	.	.
28	28	29-Jun-88	9	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
28	28	13-Jul-88	29	.	.
28	28	27-Jul-88	29	.	.
28	28	10-Aug-88	<9	.	.
28	28	24-Aug-88	69	.	.
28	28	7-Sep-88	<9	.	.
28	28	21-Sep-88	248	.	.
28	28	5-Oct-88	18	.	.
28	28	19-Oct-88	69	.	.
28	28	2-Nov-88	110	.	.
28	28	16-Nov-88	<9	.	.
28	28	24-May-89	<9	.	(0)
28	28	7-Jun-89	>248	.	50(2)
28	28	21-Jun-89	9	.	10(4)
28	28	19-Jul-89	18	.	0(100+)
28	28	2-Aug-89	<9	.	50(4)
28	28	9-Aug-89	<9	.	(0)
28	28	30-Aug-89	>248	.	(0)
28	28	13-Sep-89	18	.	(0)
28	28	27-Sep-89	54	.	10,25(5,5)
28	28	11-Oct-89	29	.	(0)
28	28	25-Oct-89	<9	.	(0)
28	28	8-Nov-89	9	.	(0)
28	28	23-May-90	<9	.	(0)
28	28	6-Jun-90	<9	.	(0)
28	28	20-Jun-90	9	.	(0)
28	28	11-Jul-90	<9	.	(0)
28	28	18-Jul-90	<9	.	50(6)
28	28	1-Aug-90	9	.	(0)
28	28	15-Aug-90	<9	.	(0)
28	28	29-Aug-90	9	.	(0)
28	28	12-Sep-90	18	.	(0)
28	28	26-Sep-90	29	.	(0)
28	28	10-Oct-90	29	.	50(3)
28	28	24-Oct-90	248	.	(0)
28	28	24-Jun-92	11	.	.
28	28	15-Jul-92	2	.	.
28	28	19-Aug-92	17	.	.
28	28	2-Sep-92	2	.	.
28	28	25-May-93	.	.	.
28	28	4-Jun-93	2	.	.
28	28	16-Jun-93	2	.	.
28	28	7-Jul-93	4	.	.

QUONOCHONTAUG POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
28	28	14-Jul-93	1	.	.
28	28	28-Jul-93	22	.	.
28	28	11-Aug-93	1	.	.
28	28	25-Aug-93	9	.	.
28	28	8-Sep-93	500	.	.
28	28	22-Sep-93	50	.	.
28A	28A	24-Jun-92	1	.	.
28A	28A	15-Jul-92	2	.	.
28A	28A	19-Aug-92	30	.	.
28A	28A	2-Sep-92	1	.	.
29	29	24-Jun-92	13	.	.
29	29	15-Jul-92	8	.	.
29	29	19-Aug-92	240	.	.
29	29	2-Sep-92	1	.	.
QB	QB	24-May-89	9	.	(0)
QB	QB	21-Jun-89	29	.	(0)
QB	QB	19-Jul-89	54	.	(0)
QB	QB	9-Aug-89	54	.	(0)
QB	QB	30-Aug-89	>248	.	(0)
QB	QB	27-Sep-89	88	.	(0)
QB	QB	25-Oct-89	<9	.	(0)
QB	QB	20-Jun-90	41	.	(0)
QB	QB	18-Jul-90	41	.	(0)
QB	QB	1-Aug-90	69	.	(0)
QB	QB	15-Aug-90	139	.	(0)
QB	QB	12-Sep-90	248	.	(0)
QB	QB	10-Oct-90	139	.	(0)
QB	QB	25-Jul-91	>248	.	(0)
QB	QB	4-Sep-91	139	.	(0)
QB	QB	2-Oct-91	9	.	(0)
QB	QB	30-Oct-91	29	.	(0)
QB	QB	24-Jun-92	23	.	.
QB	QB	15-Jul-92	80	.	.
QB	QB	19-Aug-92	80	.	.
QB	QB	2-Sep-92	130	.	.
QB	QB	25-May-93	22	.	.
QB	QB	4-Jun-93	130	.	.
QB	QB	16-Jun-93	11	.	.
QB	QB	7-Jul-93	50	.	.

QUONOCHONTAUG POND BACTERIA DATA 1985-1994

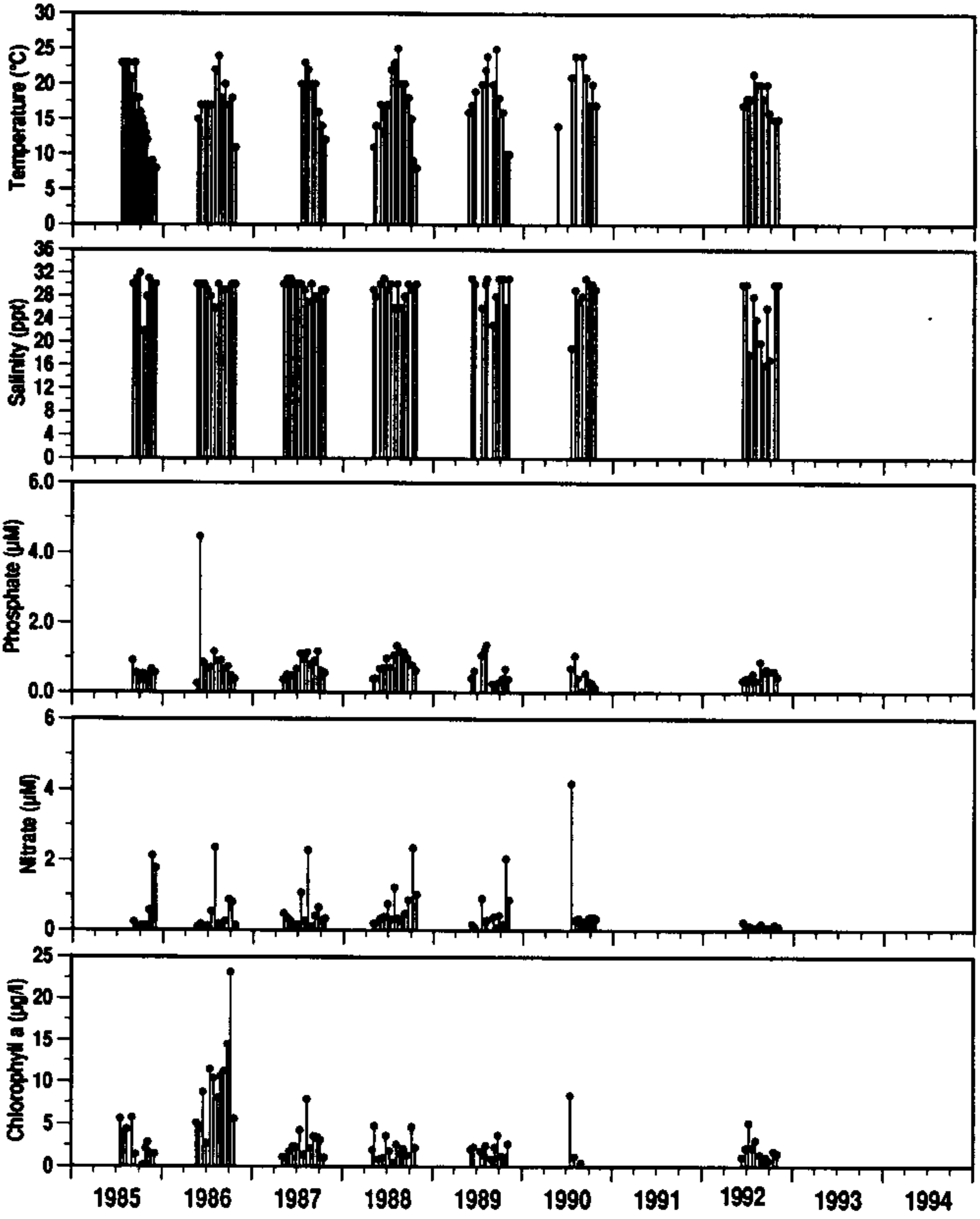
OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
QB	QB	14-Jul-93	50	.	.
QB	QB	28-Jul-93	1600	.	.
QB	QB	11-Aug-93	170	.	.
QB	QB	25-Aug-93	900	.	.
QB	QB	8-Sep-93	1601	.	.
QB	QB	22-Sep-93	1600	.	.
QBrook	QBrook	1-Jun-94	.	.	.
QBrook	QBrook	15-Jun-94	900	.	.
QBrook	QBrook	29-Jun-94	130	.	.
QBrook	QBrook	13-Jul-94	80	.	.
QBrook	QBrook	27-Jul-94	1601	.	.
QBrook	QBrook	10-Aug-94	70	.	.
QBrook	QBrook	24-Aug-94	300	.	.
QBrook	QBrook	21-Sep-94	80	.	.
QB E	QB E	1-Jun-94	2	.	.
QB E	QB E	15-Jun-94	1601	.	.
QB E	QB E	29-Jun-94	.	.	.
QB E	QB E	13-Jul-94	30	.	.
QB E	QB E	27-Jul-94	1601	.	.
QB E	QB E	10-Aug-94	80	.	.
QB E	QB E	24-Aug-94	80	.	.
QB E	QB E	21-Sep-94	240	.	.
QB W	QB W	1-Jun-94	2	.	.
QB W	QB W	15-Jun-94	900	.	.
QB W	QB W	29-Jun-94	.	.	.
QB W	QB W	13-Jul-94	.	.	.
QB W	QB W	27-Jul-94	1601	.	.
QB W	QB W	10-Aug-94	30	.	.
QB W	QB W	24-Aug-94	110	.	.
QB W	QB W	21-Sep-94	300	.	.

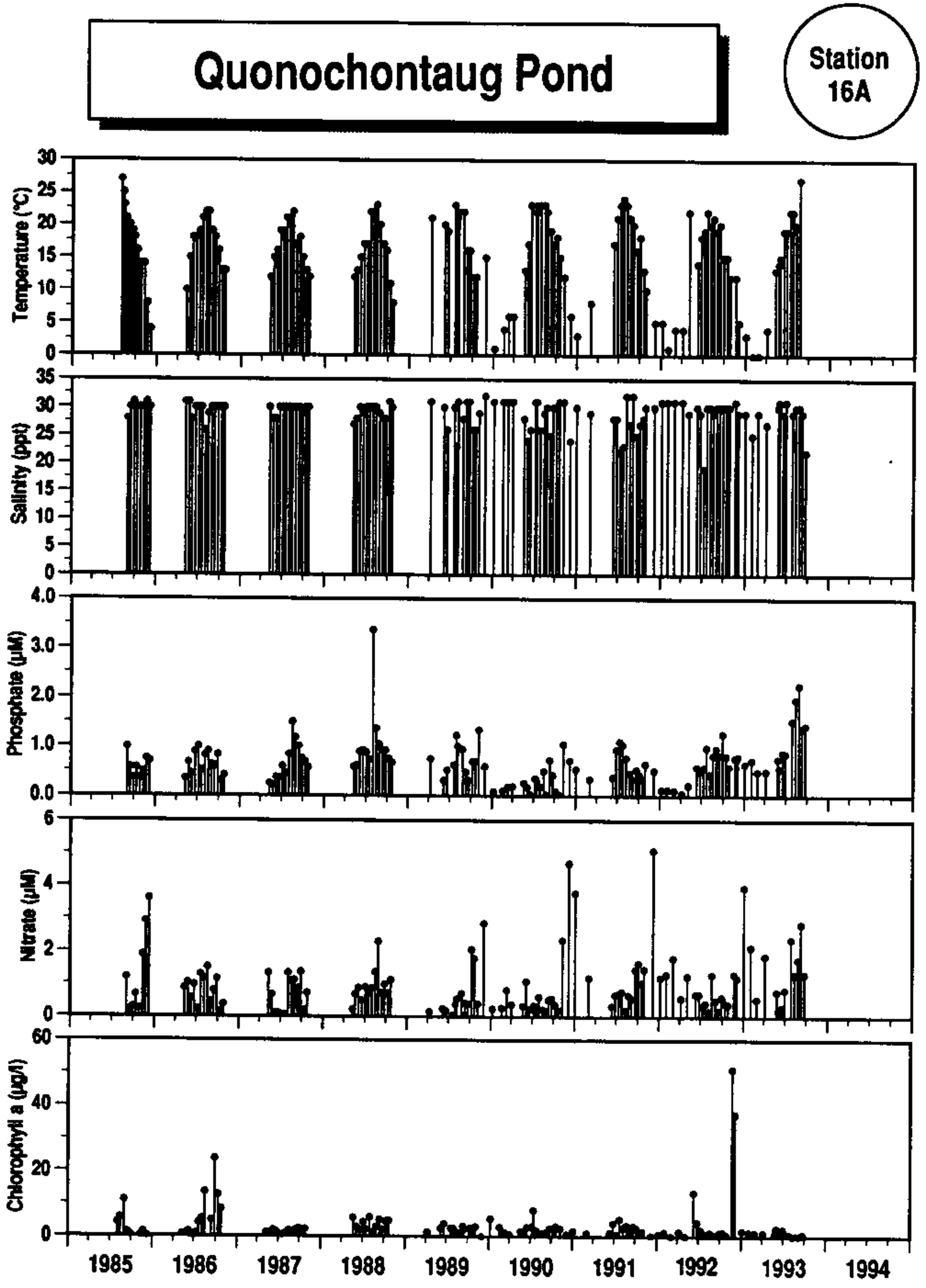
Quonochontaug Pond

Water Quality

Quonochontaug Pond

Station 16

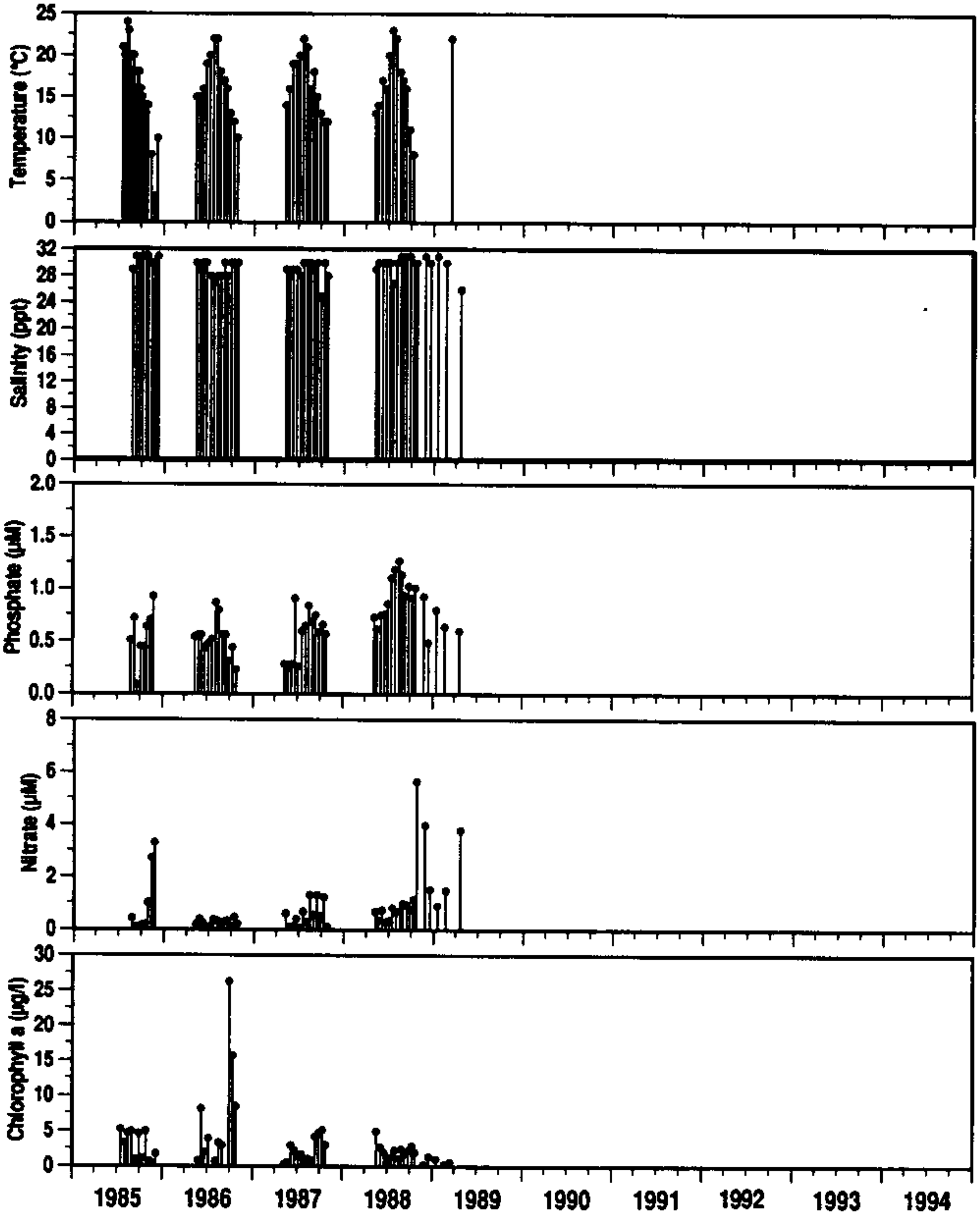




Quonochontaug Pond
Station 16A
Temperature (°C)
Salinity (ppt)
Phosphate (µM)
Nitrate (µM)
Chlorophyll a (µg/l)
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994

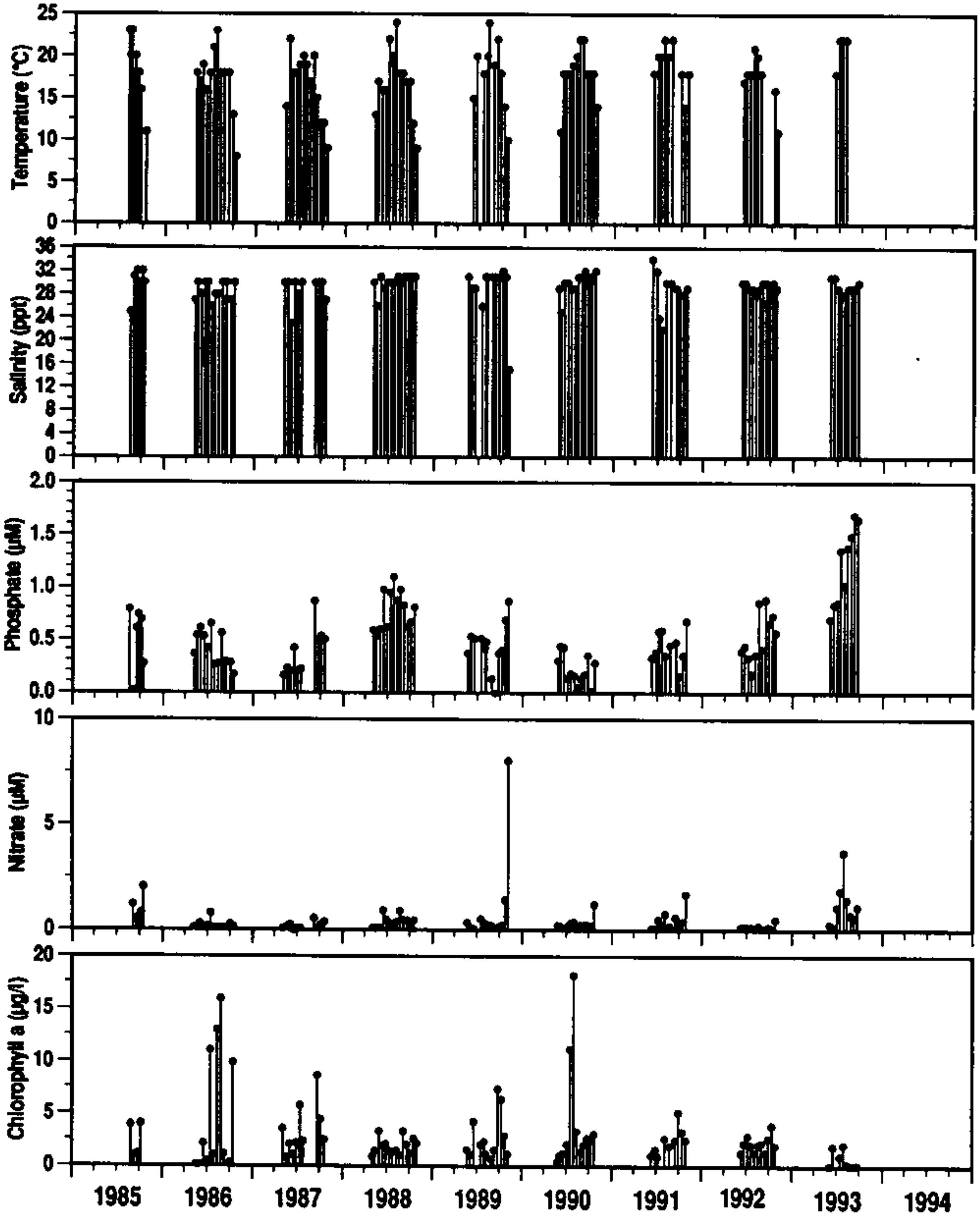
Quonochontaug Pond

Station 17



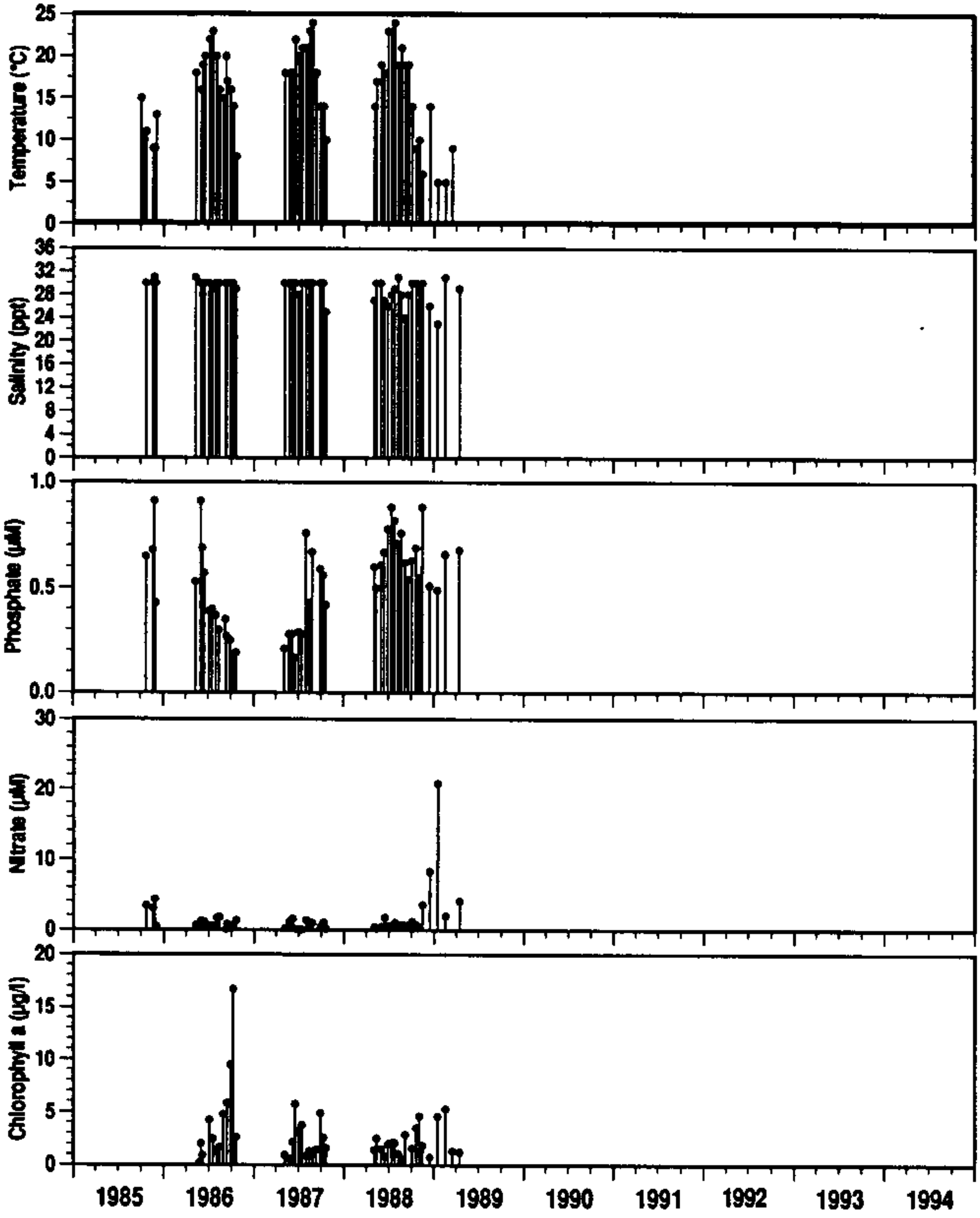
Quonochontaug Pond

Station 18



Quonochontaug Pond

Station 18A



SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	16	17-Jul-85	23	10.0	.	.	.	.	5.61	.	.
ON	16	29-Jul-85	23	11.0	.	.	.	.	3.75	.	.
ON	16	5-Aug-85	21	12.0	.	.	.	.	.	.	.
ON	16	12-Aug-85	23	11.0	.	.	.	.	4.39	.	.
ON	16	19-Aug-85	21	9.0	.	.	.	.	.	.	.
ON	16	25-Aug-85	21	9.0	.	.	.	.	.	.	.
ON	16	3-Sep-85	18	10.0	.	30	0.23	0.92	5.71	.	.
ON	16	9-Sep-85	23	10.0	.	.	.	.	.	.	.
ON	16	16-Sep-85	15	11.0	.	31	0.08	0.57	1.42	.	.
ON	16	23-Sep-85	18	10.0	.	.	.	.	.	.	.
ON	16	30-Sep-85	16	11.0	.	32	0.11	0.36	.	.	.
ON	16	7-Oct-85	15	10.0	.	.	.	.	.	.	.
ON	16	14-Oct-85	14	11.0	.	22	0.14	0.54	0.20	.	.
ON	16	21-Oct-85	13	11.0	.	.	.	.	.	.	.
ON	16	28-Oct-85	12	11.0	.	28	0.13	0.36	2.14	.	.
ON	16	4-Nov-85	8	12.0	.	31	0.56	0.49	2.85	.	.
ON	16	18-Nov-85	9	14.0	.	30	2.14	0.67	1.56	.	.
ON	16	2-Dec-85	8	13.0	.	30	1.77	0.57	1.48	.	.
ON	16	19-May-86	15	15.0	.	30	0.10	0.26	5.10	.	.
ON	16	2-Jun-86	17	13.0	.	30	0.18	4.47	4.75	.	.
ON	16	16-Jun-86	17	16.0	.	30	0.07	0.87	8.78	.	.
ON	16	30-Jun-86	17	13.0	.	29	0.13	0.70	2.73	.	.
ON	16	14-Jul-86	17	10.0	.	28	0.54	0.73	11.51	.	.
ON	16	28-Jul-86	22	10.0	.	26	2.36	1.17	10.44	.	.
ON	16	12-Aug-86	24	10.0	.	30	0.19	0.91	8.07	.	.
ON	16	25-Aug-86	18	12.0	.	29	0.15	0.93	10.70	.	.
ON	16	8-Sep-86	20	10.0	.	29	0.26	0.68	11.29	.	.
ON	16	22-Sep-86	17	8.0	.	29	0.88	0.75	14.50	.	.
ON	16	6-Oct-86	18	10.0	.	30	0.81	0.48	23.17	.	.
ON	16	20-Oct-86	11	11.0	.	30	0.14	0.38	5.58	.	.
ON	16	3-May-87	.	.	.	30	0.48	0.37	1.12	.	.
ON	16	18-May-87	.	.	.	31	0.36	0.50	1.08	.	.
ON	16	1-Jun-87	.	.	.	31	0.26	0.47	1.80	.	.
ON	16	15-Jun-87	.	.	.	30	0.16	0.49	2.35	.	.
ON	16	29-Jun-87	.	.	.	30	0.16	0.69	2.28	.	.
ON	16	13-Jul-87	20	8.0	.	30	1.08	1.12	4.32	0.7	0.7
ON	16	27-Jul-87	23	8.0	.	29	0.27	0.95	1.44	1.1	1.1
ON	16	10-Aug-87	22	7.0	.	27	2.28	1.15	7.92	1.8	1.8
ON	16	24-Aug-87	20	8.0	.	30	0.11	0.80	2.16	1.4	1.4
ON	16	7-Sep-87	20	8.0	.	28	0.42	0.91	3.60	1.9	1.9
ON	16	21-Sep-87	16	8.0	.	28	0.65	1.17	3.48	1.8	1.8
ON	16	5-Oct-87	14	8.0	.	29	0.30	0.62	3.12	1.5	1.5
ON	16	19-Oct-87	12	10.0	.	29	0.34	0.57	1.08	1.2	1.2
ON	16	2-May-88	11	12.0	.	29	0.19	0.38	1.98	1.5	1.5
ON	16	11-May-88	14	10.0	.	28	0.20	0.40	4.76	1.5	1.5
ON	16	30-May-88	17	10.0	.	30	0.34	0.68	0.89	1.9	1.9
ON	16	13-Jun-88	16	12.0	.	31	0.39	0.72	1.06	1.8	1.8
ON	16	27-Jun-88	17	9.0	.	29	0.76	0.98	3.67	1.1	1.1
ON	16	11-Jul-88	22	13.0	.	30	0.32	0.73	1.84	1.8	1.8
ON	16	25-Jul-88	23	10.0	.	26	1.22	1.07	0.49	1.9	1.9

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	16	8-Aug-88	25	11.0	.	30	0.34	1.34	2.59	1.8	1.8
ON	16	22-Aug-88	20	8.0	.	26	0.26	1.17	1.55	1.5	1.5
ON	16	5-Sep-88	20	8.0	.	28	0.47	1.16	2.10	0.9	0.9
ON	16	19-Sep-88	18	10.0	.	30	0.87	0.98	1.35	0.5	0.5
ON	16	3-Oct-88	15	8.0	.	.	.	.	.	0.8	0.8
ON	16	9-Oct-88	9	10.0	.	29	2.34	0.79	4.67	2.2	2.2
ON	16	23-Oct-88	8	9.0	.	30	1.02	0.64	2.24	2.4	2.4
ON	16	22-May-89	16	.	.					2.0	2.0
ON	16	5-Jun-89	17	.	.	31	0.16	0.41	2.07	2.0	2.0
ON	16	19-Jun-89	19	.	.	30	0.07	0.62	2.31	1.5	1.5
ON	16	17-Jul-89	20	.	.	26	0.91	1.07	1.81	1.2	1.2
ON	16	31-Jul-89	22	.	.	30	0.23	1.22	1.34	2.0	2.0
ON	16	7-Aug-89	24	.	.	31	0.29	1.37	2.47	1.4	1.4
ON	16	31-Aug-89	20	.	.	23	0.38	0.25	0.87	1.6	1.6
ON	16	11-Sep-89	25	.	.	28	0.07	0.05	2.32	2.0	2.0
ON	16	25-Sep-89	18	.	.	31	0.43	0.30	3.71	1.3	1.6
ON	16	9-Oct-89	16	.	.	31	0.18	0.40	1.27	1.1	1.1
ON	16	23-Oct-89	10	.	.	26	2.05	0.69	1.09	1.3	1.3
ON	16	4-Nov-89	10	.	.	31	0.86	0.39	2.65	1.6	1.6
ON	16	20-May-90	14	.	.	.	.	.	.	.	.
ON	16	3-Jun-90	.	.	.	.	.	.	.	.	.
ON	16	17-Jun-90	.	.	.	.	.	.	.	.	.
ON	16	15-Jul-90	21	.	.	19	4.18	0.70	8.40	.	.
ON	16	1-Aug-90	24	.	.	29	0.29	1.05	1.20	1.4	1.4
ON	16	14-Aug-90	.	.	.	27	0.34	0.41	.	.	
ON	16	29-Aug-90	24	.	.	28	0.17	0.04	0.41	1.3	1.3
ON	16	12-Sep-90	21	.	.	31	0.26	0.55	.	1.6	1.6
ON	16	26-Sep-90	17	.	.	30	0.36	0.32	.	1.5	1.5
ON	16	9-Oct-90	20	.	.	30	0.37	0.28	.	2.2	2.2
ON	16	24-Oct-90	17	.	.	29	0.34	0.13	.	1.6	1.6
ON	16	10-Jun-92	17	.	.	30	0.24	0.35	1.12	2.0	2.5
ON	16	26-Jun-92	18	.	.	30	0.11	0.42	2.16	1.9	2.3
ON	16	7-Jul-92	18	.	.	18	0.12	0.36	5.18	1.6	2.2
ON	16	23-Jul-92	21.5	.	.	28	0.07	0.55	2.25	2.0	2.0
ON	16	5-Aug-92	20	.	.	24	0.07	0.36	3.13	2.0	2.0
ON	16	22-Aug-92	20	.	.	20	0.19	0.90	1.40	1.9	1.9
ON	16	2-Sep-92	18	.	.	16	0.07	0.59	0.50	2.3	2.3
ON	16	16-Sep-92	20	.	.	26	0.07	0.68	1.11	2.4	2.4
ON	16	24-Sep-92	16	.	.	17	0.07	0.61	0.69	2.0	2.0
ON	16	15-Oct-92	15	.	.	30	0.16	0.63	1.77	2.8	2.8
ON	16	30-Oct-92	15	.	.	30	0.10	0.46	1.53	2.3	2.3
					.						
OFF	16A	2-Aug-85	27	10.0	.	.	.	.	4.23	.	.
ON	16A	10-Aug-85	25	9.0	.	.	.	.	.	.	.
ON	16A	16-Aug-85	23	12.0	.	.	.	.	5.77	.	.
ON	16A	23-Aug-85	21	11.0	.	.	.	.	.	.	.
ON	16A	31-Aug-85	20	9.0	.	28	1.20	0.99	11.07	.	.
ON	16A	7-Sep-85	20	10.0	.	.	.	.	.	.	.
ON	16A	14-Sep-85	17	10.0	.	30	0.20	0.57	1.38	.	.
ON	16A	21-Sep-85	19	10.0	.	.	.	.	.	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	16A	28-Sep-85	18	12.0	.	31	0.29	0.36	0.58	.	.
ON	16A	4-Oct-85	16	9.0	.	.	.	.	.	.	.
ON	16A	11-Oct-85	16	9.0	.	30	0.67	0.56	.	.	.
ON	16A	18-Oct-85	14	9.0	.	.	.	.	.	.	.
ON	16A	26-Oct-85	14	8.0	.	30	0.24	0.36	.	.	.
ON	16A	10-Nov-85	14	11.0	.	30	1.89	0.49	0.28	.	.
ON	16A	23-Nov-85	8	11.0	.	31	2.92	0.75	1.31	.	.
ON	16A	7-Dec-85	4	11.0	.	30	3.61	0.70	0.24	.	.
ON	16A	10-May-86	10	12.0	.	31	0.87	0.35	0.83	.	.
ON	16A	25-May-86	15	12.0	.	31	1.04	0.67	0.85	.	.
ON	16A	7-Jun-86	18	12.0	.	28	0.58	0.45	1.54	.	.
ON	16A	21-Jun-86	18	13.0	.	30	0.97	0.89	0.36	.	.
ON	16A	6-Jul-86	19	13.0	.	30	0.23	1.00	0.95	.	.
ON	16A	20-Jul-86	21	11.0	.	30	1.29	0.52	4.16	.	.
ON	16A	3-Aug-86	22	11.0	.	26	1.17	0.82	5.47	.	.
ON	16A	17-Aug-86	22	8.0	.	29	1.51	0.90	13.67	.	.
ON	16A	31-Aug-86	19	9.0	.	30	0.46	0.62	.	.	.
ON	16A	13-Sep-86	18	9.0	.	30	0.79	0.60	5.04	.	.
ON	16A	27-Sep-86	16	7.0	.	30	1.15	0.83	23.85	.	.
ON	16A	12-Oct-86	13	13.0	.	30	0.15	0.30	12.73	.	.
ON	16A	26-Oct-86	13	10.0	.	30	0.38	0.41	8.37	.	.
ON	16A	10-May-87	12	11.0	.	30	1.33	0.25	1.28	2.2	2.2
ON	16A	23-May-87	15	.	.	28	0.68	0.22	0.99	2.6	2.6
ON	16A	7-Jun-87	16	.	.	28	0.13	0.37	1.98	1.9	1.9
ON	16A	21-Jun-87	19	.	.	30	0.11	0.36	1.58	2.1	2.1
ON	16A	5-Jul-87	19	11.0	.	30	0.07	0.59	0.59	2.0	2.0
ON	16A	18-Jul-87	21	12.0	.	30	0.07	0.45	0.49	1.8	1.8
ON	16A	2-Aug-87	21	10.0	.	30	1.34	0.84	1.08	1.8	1.8
ON	16A	16-Aug-87	22	8.0	.	30	1.09	1.50	1.81	1.9	1.9
ON	16A	30-Aug-87	17	7.0	.	30	1.13	1.18	1.57	2.0	2.0
ON	16A	13-Sep-87	18	7.0	.	30	0.86	1.01	2.05	1.9	1.9
ON	16A	27-Sep-87	15	9.0	.	29	1.36	0.76	2.41	1.9	1.9
ON	16A	11-Oct-87	13	10.0	.	30	0.20	0.68	1.57	0.8	0.8
ON	16A	25-Oct-87	12	11.0	.	30	0.72	0.57	2.32	1.0	1.0
ON	16A	8-May-88	12	10.0	.	27	0.23	0.58	.	1.8	1.8
ON	16A	19-May-88	13	11.0	.	28	0.69	0.61	5.73	2.2	2.3
ON	16A	4-Jun-88	15	13.0	.	30	0.87	0.89	3.07	2.0	2.0
ON	16A	19-Jun-88	17	13.0	.	29	0.50	0.92	2.13	1.7	1.7
ON	16A	3-Jul-88	17	11.0	.	30	0.90	0.88	4.39	1.8	1.8
ON	16A	17-Jul-88	22	11.0	.	30	0.71	0.74	2.24	1.8	1.8
ON	16A	31-Jul-88	22	8.0	.	30	0.87	3.37	5.94	1.3	1.8
ON	16A	14-Aug-88	23	9.0	.	30	1.36	1.37	1.38	1.7	1.7
ON	16A	28-Aug-88	20	12.0	.	29	2.29	1.05	2.99	2.0	2.0
ON	16A	11-Sep-88	17	10.0	.	28	0.74	0.92	5.14	2.3	2.3
ON	16A	25-Sep-88	16	11.0	.	28	0.99	0.92	2.24	2.4	2.4
ON	16A	9-Oct-88	11	10.0	.	31	0.72	0.75	4.60	2.7	2.7
ON	16A	23-Oct-88	8	12.0	.	30	1.13	0.67	4.79	2.0	2.7
ON	16A	8-Apr-89	21	.	.	31	0.16	0.75	1.32	.	.
ON	16A	4-Jun-89	20	.	.	30	0.24	0.31	2.59	1.7	1.7
ON	16A	19-Jun-89	19	.	.	26	0.19	0.52	3.85	2.0	2.0

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	16A	19-Jul-89	23	.	.	30	0.07	0.62	2.53	1.8	1.9
ON	16A	6-Aug-89	22	.	.	31	0.54	1.01	1.62	.	.
ON	16A	30-Jul-89	21	.	.	23	0.38	1.23	2.53	2.3	2.3
ON	16A	27-Aug-89	22	.	.	28	0.71	0.94	1.11	1.8	1.8
ON	16A	11-Sep-89	16	.	.	31	0.43	0.30	1.98	2.2	2.2
ON	16A	10-Sep-89	13	.	.	31	0.07	0.48	3.14	1.5	2.0
ON	16A	24-Sep-89	16	.	.	31	0.40	0.31	.	1.5	2.0
ON	16A	8-Oct-89	12	.	.	26	2.05	0.69	2.62	1.9	1.9
ON	16A	22-Oct-89	12	.	.	26	1.78	0.69	1.53	2.0	2.0
ON	16A	5-Nov-89	.	.	.	29	0.39	1.34	3.06	.	.
OFF	16A	1-Dec-89	15	10.0	.	32	2.85	0.59	0.04	.	.
OFF	16A	7-Jan-90	1	0.4	.	31	0.25	0.09	5.42	.	.
OFF	16A	18-Feb-90	4	7.2	.	31	0.27	0.11	2.94	.	.
OFF	16A	11-Mar-90	6	9.7	.	31	0.81	0.18	1.30	.	.
OFF	16A	1-Apr-90	6	9.0	.	31	0.38	0.19	0.71	.	.
ON	16A	20-May-90	13	.	.	28	0.34	0.26	1.66	2.0	2.0
ON	16A	3-Jun-90	17	.	.	24	1.08	0.18	1.61	1.8	2.0
ON	16A	17-Jun-90	23	.	.	26	0.25	0.04	2.95	1.8	2.0
ON	16A	8-Jul-90	22		.	31	0.35	0.35	3.08	1.5	1.6
ON	16A	15-Jul-90	23	.	.	31	0.18	0.32	8.11	1.9	1.9
ON	16A	29-Jul-90	23	.	.	26	0.61	0.19	1.83	1.9	1.9
ON	16A	15-Aug-90	23	.	.	29	0.23	0.50	0.88	2.1	2.1
ON	16A	26-Aug-90	22	.	.	30	0.18	0.03	1.07	1.8	1.8
ON	16A	9-Sep-90	19	.	.	25	0.51	0.72	1.43	2.0	2.0
ON	16A	23-Sep-90	17	.	.	30	0.56	0.42	2.43	2.0	2.0
ON	16A	7-Oct-90	18	.	.	30	0.38	0.09	2.40	1.9	1.9
ON	16A	21-Oct-90	15	.	.	31	0.20	0.03	3.12	2.0	2.2
ON	16A	8-Nov-90	12	.	.	31	2.33	1.05	2.36	.	0.3
ON	16A	6-Dec-90	6	.	.	24	4.70	0.71	0.73	.	0.4
ON	16A	2-Jan-91	3	.	.	30	3.77	0.54	1.66	.	0.3
ON	16A	3-Mar-91	8	.	.	29	1.18	0.34	1.15	.	1.5
ON	16A	12-Jun-91	17	.	.	28	0.33	0.38	1.23	.	.
ON	16A	26-Jun-91	21	.	.	28	0.68	0.94	4.10	.	.
ON	16A	10-Jul-91	23	.	.	22	0.70	1.10	0.67	.	.
ON	16A	24-Jul-91	24	.	.	23	0.77	1.04	5.31	.	.
ON	16A	7-Aug-91	23	.	.	32	0.22	0.77	2.74	.	.
ON	16A	23-Aug-91	21	.	.	27	0.66	0.46	3.51	.	.
ON	16A	4-Sep-91	20	.	.	32	0.56	0.34	1.33	.	.
ON	16A	22-Sep-91	16	.	.	25	1.44	0.53	3.17	.	.
ON	16A	5-Oct-91	18	.	.	27	1.64	0.43	2.55	.	.
ON	16A	19-Oct-91	13	.	.	28	1.04	0.34	1.49	.	.
ON	16A	30-Oct-91	10	.	.	30	1.46	0.64	1.60	.	.
OFF	16A	7-Dec-91	5	.	.	30	5.08	0.51	0.33	.	.
OFF	16A	7-Jan-92	5	.	.	31	1.20	0.13	0.74	.	.
OFF	16A	3-Feb-92	1	.	.	31	1.30	0.13	1.37	.	.
OFF	16A	4-Mar-92	4	.	.	31	1.80	0.11	0.25	.	.
OFF	16A	6-Apr-92	4	.	.	31	0.57	0.06	1.47	.	.
ON	16A	4-May-92	22	.	.	29	1.25	0.22	0.19	.	.
ON	16A	10-Jun-92	14	.	.	30	0.69	0.58	13.51	1.4	1.5
ON	16A	24-Jun-92	18	.	.	29	0.69	0.50	4.41	1.4	2.0

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	16A	8-Jul-92	19	.	.	19	0.35	0.57	2.18	1.8	1.8
ON	16A	22-Jul-92	22	.	.	30	0.42	0.98	1.07	1.6	1.7
ON	16A	5-Aug-92	20	.	.	30	0.18	0.44	0.81	1.8	1.8
ON	16A	19-Aug-92	21	.	.	29	1.29	0.82	1.27	1.9	1.9
ON	16A	2-Sep-92	19	.	.	30	0.50	0.96	0.61	2.0	2.0
ON	16A	16-Sep-92	20	.	.	30	0.20	0.83	0.55	2.0	2.0
ON	16A	30-Sep-92	15	.	.	30	0.60	1.26	1.20	2.0	2.0
ON	16A	14-Oct-92	15	.	.	30	0.42	0.81	1.44	2.5	2.5
ON	16A	28-Oct-92	12	.	.	30	0.39	0.59	0.62	2.5	2.5
OFF	16A	23-Nov-92	12			31	1.31	0.77	51.14	.	.
OFF	16A	4-Dec-92	5			29	1.19	0.79	37.38	.	.
OFF	16A	4-Jan-93	3	.	.	29	3.95	0.64	1.85	.	.
OFF	16A	3-Feb-93	0	.	.	25	2.12	0.72	1.34	.	.
OFF	16A	1-Mar-93	0	.	.	29	0.54	0.49	1.26	.	.
OFF	16A	5-Apr-93	4	.	.	27	1.86	0.5	1.17	.	.
OFF	16A	11-May-93	13	.	.	.	.	.	.	.	.
ON	16A	26-May-93	14	.	.	30	0.77	0.75	1.1	2.3	2.6
ON	16A	2-Jun-93	15	.	.	31	0.19	0.56	2.52	2.1	2.1
ON	16A	16-Jun-93	19	.	.	29	0.30	0.88	1.79	2.5	2.5
ON	16A	30-Jun-93	19	.	.	31	0.83	0.86	2.23	2.7	2.7
ON	16A	14-Jul-93	22	.	.	.	.	.	0.67	2.6	2.6
ON	16A	28-Jul-93	22	.	.	29	2.36	1.53	0.61	2.7	2.7
ON	16A	11-Aug-93	20	.	.	30	1.31	1.97	0.12	2.3	2.3
ON	16A	25-Aug-93	27	.	.	30	1.75	2.24	0.3	2.7	2.7
ON	16A	8-Sep-93	.	.	.	29	2.83	1.38	0.15	.	.
ON	16A	22-Sep-93	.	.	.	22	1.3	1.43	0.82	.	.
										.	.
ON	17	17-Jul-85	21	8.0	.	.	.	.	5.19	.	.
ON	17	26-Jul-85	20	9.0	.	.	.	.	.	.	.
ON	17	2-Aug-85	24	12.0	.	.	.	.	3.33	.	.
ON	17	10-Aug-85	23	10.0	.	.	.	.	.	.	.
ON	17	16-Aug-85	20	10.0	.	.	.	.	4.67	.	.
ON	17	23-Aug-85	18	9.0	.	29	0.43	0.51	.	.	.
ON	17	31-Aug-85	20	10.0	.	.	.	.	4.89	.	.
ON	17	7-Sep-85	16	10.0	.	31	0.11	0.72	.	.	.
ON	17	14-Sep-85	18	9.0	.	.	.	.	0.92	.	.
ON	17	21-Sep-85	18	11.0	.	30	0.12	0.09	.	.	.
ON	17	28-Sep-85	16	10.0	.	.	.	.	4.58	.	.
ON	17	4-Oct-85	15	9.0	.	31	0.17	0.45	.	.	.
ON	17	11-Oct-85	14	10.0	.	.	.	.	1.19	.	.
ON	17	18-Oct-85	13	6.0	.	31	0.22	0.44	.	.	.
ON	17	26-Oct-85	14	5.0	.	31	1.01	0.64	4.99	.	.
ON	17	10-Nov-85	8	10.0	.	30	2.73	0.70	0.70	.	.
ON	17	23-Nov-85	3	9.0	.	30	3.29	0.93	0.31	.	.
ON	17	7-Dec-85	10	13.0	.	31	.	.	1.79	.	.
ON	17	10-May-86	15	10.0	.	30	0.19	0.54	.	.	.
ON	17	25-May-86	15	9.0	.	29	0.40	0.56	0.79	.	.
ON	17	7-Jun-86	16	12.0	.	30	0.26	0.56	8.20	.	.
ON	17	21-Jun-86	19	13.0	.	30	0.08	0.44	2.02	.	.
ON	17	6-Jul-86	20	11.0	.	28	0.14	0.48	3.92	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	17	20-Jul-86	22	10.0	.	27	0.37	0.52	.	.	.
ON	17	3-Aug-86	22	8.0	.	28	0.33	0.87	0.71	.	.
ON	17	17-Aug-86	18	11.0	.	28	0.18	0.80	3.33	.	.
ON	17	31-Aug-86	17	10.0	.	30	0.29	0.56	2.98	.	.
ON	17	13-Sep-86	16	9.0	.	28	0.33	0.56	.	.	.
ON	17	27-Sep-86	13	.	.	30	0.13	0.31	26.26	.	.
ON	17	12-Oct-86	12	11.0	.	30	0.46	0.44	15.71	.	.
ON	17	26-Oct-86	10	16.0	.	30	0.21	0.23	8.48	.	.
ON	17	10-May-87	14	.	.	29	0.60	0.28	0.29	3.2	3.2
ON	17	23-May-87	16	.	.	28	0.10	0.24	0.59	3.0	3.0
ON	17	7-Jun-87	19	.	.	29	0.14	0.28	2.97	2.3	3.0
ON	17	21-Jun-87	19	10.0	.	29	0.42	0.91	2.18	2.9	3.2
ON	17	5-Jul-87	20	12.0	.	28	0.07	0.26	1.42	3.2	3.2
ON	17	18-Jul-87	22	12.0	.	30	0.68	0.60	1.68	2.2	2.7
ON	17	2-Aug-87	21	10.0	.	30	0.32	0.65	1.01	2.6	2.9
ON	17	16-Aug-87	16	9.0	.	30	1.30	0.84	1.08	2.9	2.9
ON	17	30-Aug-87	18	8.0	.	29	0.56	0.69	0.84	2.8	2.8
ON	17	13-Sep-87	15	11.0	.	30	1.30	0.75	4.16	2.9	2.9
ON	17	27-Sep-87	13	11.0	.	25	0.50	0.59	4.65	2.7	2.7
ON	17	11-Oct-87	12	12.0	.	30	1.23	0.66	5.14	1.4	1.4
ON	17	25-Oct-87	12	12.0	.	28	0.12	0.57	3.06	1.4	1.4
ON	17	8-May-88	13	10.0	.	29	0.68	0.73	.	2.8	2.8
ON	17	19-May-88	14	10.0	.	30	0.37	0.62	4.96	2.4	3.3
ON	17	4-Jun-88	17	9.0	.	30	0.75	0.75	2.71	2.7	3.0
ON	17	19-Jun-88	16	11.0	.	30	0.32	0.76	1.98	2.4	2.6
ON	17	3-Jul-88	20	10.0	.	30	0.38	0.86	0.89	2.5	3.0
ON	17	17-Jul-88	23	11.0	.	27	0.83	1.11	1.35	2.5	2.5
ON	17	31-Jul-88	22	9.0	.	30	0.68	1.19	2.27	1.5	1.5
ON	17	18-Aug-88	18	10.0	.	31	0.73	1.27	1.14	2.1	2.1
ON	17	28-Aug-88	17	10.0	.	30	0.99	1.14	2.43	2.5	2.5
ON	17	11-Sep-88	16	10.0	.	31	0.94	0.94	1.73	2.9	3.1
ON	17	25-Sep-88	11	8.0	.	31	0.78	1.03	2.22	2.4	2.7
ON	17	9-Oct-88	8	11.0	.	30	1.14	0.92	2.85	2.8	3.4
ON	17	23-Oct-88	.	.	.	30	5.65	1.01	2.00	1.9	3.3
ON	17	26-Nov-88	.	.	.	31	3.97	0.93	0.24	.	.
ON	17	16-Dec-88	.	.	.	30	1.52	0.49	1.38	.	.
ON	17	16-Jan-89	.	.	.	31	0.90	0.80	0.98	.	.
ON	17	18-Feb-89	.	.	.	30	1.48	0.64	0.27	.	.
ON	17	15-Mar-89	22	9.0	.	.	.	.	0.58	.	.
ON	17	19-Apr-89	.	.	.	26	3.78	0.60	.	.	.
					.						
ON	18	5-Aug-85	23	8.0	.	.	.	.		.	.
ON	18	12-Aug-85	20	6.0	.	.	.	.	.	.	.
ON	18	19-Aug-85	23	9.0	.	25	.	0.79	.	.	.
ON	18	26-Aug-85	18	8.0	.	.	.	.	3.90	.	.
ON	18	2-Sep-85	20	8.0	.	31	1.19	0.02	.	.	.
ON	18	9-Sep-85	18	9.0	.	.	.	.	0.97	.	.
ON	18	16-Sep-85	18	5.0	.	32	0.47	0.61	.	.	.
ON	18	23-Sep-85	16	5.0	.	30	0.57	0.74	1.13	.	.
ON	18	7-Oct-85	.		.	32	0.80	0.69	4.01	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	18	14-Oct-85	11	9.0	.	30	2.02	0.27	.	.	.
ON	18	8-May-86	18	9.0	.	27	0.08	0.36	.	.	.
ON	18	19-May-86	17	11.0	.	30	0.13	0.54	0.12	.	.
ON	18	2-Jun-86	19	9.0	.	28	0.29	0.61	0.12	.	.
ON	18	16-Jun-86	16	8.0	.	30	0.13	0.53	2.14	.	.
ON	18	30-Jun-86	18	2.0	.	30	0.17	0.42	0.47	.	.
ON	18	14-Jul-86	21	7.0	.	26	0.78	0.65	11.05	.	.
ON	18	28-Jul-86	23	10.0	.	28	0.07	0.26	1.07	.	.
ON	18	11-Aug-86	18	10.0	.	28	0.07	0.27	12.95	.	.
ON	18	25-Aug-86	18	9.0	.	30	0.09	0.56	15.94	.	.
ON	18	8-Sep-86	.		.	27	0.07	0.28	1.15	.	.
ON	18	13-Sep-86	18	5.0	.	30	0.07	0.29	.	.	.
ON	18	1-Oct-86	13	11.0	.	27	0.26	0.28	0.34	.	.
ON	18	13-Oct-86	8	12.0	.	30	0.14	0.17	9.86	.	.
ON	18	4-May-87	14	.	.	30	0.07	0.16	3.56	2.5	2.5
ON	18	18-May-87	22	.	.	30	0.12	0.23	0.79	2.3	2.3
ON	18	1-Jun-87	18	.	.	23	0.24	0.20	2.08	2.5	2.7
ON	18	15-Jun-87	18	9.0	.	30	0.00	0.42	1.09	2.6	2.6
ON	18	29-Jun-87	19	10.0	.	28	0.07	0.20	2.18	2.5	2.5
ON	18	13-Jul-87	20	10.0	.	30	0.07	0.22	5.75	2.3	2.5
ON	18	27-Jul-87	19	11.0	.	.	.	.	2.34	1.6	2.4
ON	18	10-Aug-87	17	10.0	.	.	.	.	.	2.6	2.7
ON	18	24-Aug-87	20	10.0	.	.	.	.	.	1.6	2.6
ON	18	7-Sep-87	15	9.0	.	30	0.54	0.87	.	2.6	2.6
ON	18	21-Sep-87	12	5.0	.	30	0.08	0.50	8.58	2.0	2.9
ON	18	5-Oct-87	12	7.0	.	30	0.25	0.53	4.41	2.3	2.6
ON	18	19-Oct-87	9	11.0	.	27	0.37	0.50	2.45	2.8	2.8
ON	18	2-May-88	13	10.0	.	30	0.08	0.59	0.90	2.3	2.3
ON	18	13-May-88	17	11.0	.	26	0.07	0.53	1.43	2.7	2.7
ON	18	30-May-88	16	10.0	.	31	0.11	0.60	3.30	2.3	2.4
ON	18	13-Jun-88	16	8.0	.	29	0.91	0.98	1.94	2.8	2.8
ON	18	27-Jun-88	22	14.0	.	30	0.48	0.62	2.08	2.7	2.7
ON	18	11-Jul-88	20	9.0	.	30	0.29	0.95	1.41	2.6	2.8
ON	18	25-Jul-88	24	9.0	.	30	0.28	1.10	1.33	2.2	2.2
ON	18	8-Aug-88	18	10.0	.	31	0.40	0.88	1.48	2.7	3.0
ON	18	21-Aug-88	18	9.0	.	30	0.88	0.98	0.99	2.5	2.5
ON	18	5-Sep-88	17	9.0	.	31	0.46	0.83	3.32	2.6	3.0
ON	18	19-Sep-88	17	9.0	.	31	0.45	0.62	2.05	2.6	2.6
ON	18	3-Oct-88	12	11.0	.	31	0.26	0.67	1.21	2.7	2.7
ON	18	17-Oct-88	9	11.0	.	31	0.45	0.81	2.57	2.4	2.4
ON	18	31-Oct-88	.	.	.	.	.	.	2.15	2.1	2.1
ON	18	22-May-89	.	.	.	31	0.34	0.37	1.55	2.3	2.3
ON	18	5-Jun-89	15	.	.	29	0.11	0.53	1.10	2.5	2.5
ON	18	19-Jun-89	20	.	.	29	0.07	0.51	4.24	2.3	2.4
ON	18	17-Jul-89	18	.	.	26	0.52	0.51	2.01	2.7	3.2
ON	18	31-Jul-89	20	.	.	31	0.13	0.42	2.35	2.4	2.4
ON	18	7-Aug-89	24	.	.	31	0.29	0.48	1.16	2.6	2.6
ON	18	28-Aug-89	19	.	.	31	0.22	0.13	0.68	2.7	2.7
ON	18	11-Sep-89	22	.	.	31	0.07	0.00	1.52	2.8	2.8
ON	18	24-Sep-89	18	.	.	31	0.13	0.37	7.37	1.7	2.6

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	18	9-Oct-89	14	.	.	32	0.22	0.40	6.36	2.6	2.6
ON	18	23-Oct-89	10	.	.	31	1.44	0.69	2.85	2.6	2.6
ON	18	4-Nov-89			.	15	8.03	0.87	1.11	.	.
ON	18	25-May-90	11	.	.	29	0.21	0.30	0.45	2.5	2.5
ON	18	4-Jun-90	18	.	.	25	0.20	0.44	1.03	2.4	2.4
ON	18	18-Jun-90	18	.	.	30	0.12	0.43	1.22	2.7	2.7
ON	18	2-Jul-90	18	.	.	30	0.17	0.14	2.06	2.5	2.5
ON	18	16-Jul-90	19	.	.	29	0.32	0.18	11.15	2.6	2.6
ON	18	30-Jul-90	20	.	.	29	0.38	0.16	18.22	2.4	2.6
ON	18	12-Aug-90	22	.	.	31	0.22	0.05	3.32	2.4	2.4
ON	18	27-Aug-90	22	.	.	31	0.23	0.13	1.37	2.6	2.6
ON	18	10-Sep-90	18	.	.	32	0.25	0.17	2.02	2.5	2.5
ON	18	24-Sep-90	18	.	.	31	0.25	0.35	2.68	2.3	2.4
ON	18	7-Oct-90	18	.	.	31	0.19	0.02	2.57	2.0	2.3
ON	18	22-Oct-90	14	.	.	32	1.20	0.28	3.09	2.2	2.4
ON	18	10-Jun-91	18	.	.	34	0.07	0.33	1.03	5.1	4.2
ON	18	28-Jun-91	20	.	.	32	0.08	0.38	1.60	4.7	4.7
ON	18	8-Jul-91	20	.	.	24	0.49	0.58	0.91	5.2	5.2
ON	18	22-Jul-91	22	.	.	22	0.26	0.59	.	5.1	5.0
ON	18	5-Aug-91	20	.	.	30	0.77	0.35	2.64	5.2	5.0
ON	18	24-Aug-91	22	.	.	30	0.19	0.45	1.91	4.0	4.5
ON	18	16-Sep-91	.	.	.	29	0.59	0.48	2.46	4.9	4.6
ON	18	30-Sep-91	18	.	.	28	0.21	0.16	5.13	4.2	3.5
ON	18	14-Oct-91	14	.	.	28	0.39	0.35	3.29	4.2	4.5
ON	18	28-Oct-91	18	.	.	29	1.69	0.68	2.47	4.2	4.6
ON	18	8-Jun-92	17	.	.	30	0.13	0.39	1.29	3.7	4.7
ON	18	22-Jun-92	18	.	.	30	0.13	0.44	2.16	3.7	4.8
ON	18	6-Jul-92	18	.	.	29	0.11	0.33	2.87	4.8	4.8
ON	18	20-Jul-92	21	.	.	29	0.14	0.18	2.01	3.6	4.3
ON	18	3-Aug-92	20	.	.	28	0.07	0.36	1.29	3.8	4.3
ON	18	17-Aug-92	18	.	.	29	0.20	0.86	2.01	3.8	4.3
ON	18	31-Aug-92	.	.	.	30	0.07	0.41	2.16	.	.
ON	18	14-Sep-92	.	.	.	30	0.07	0.89	1.27	.	.
ON	18	28-Sep-92	.	.	.	29	0.15	0.66	2.62	.	.
ON	18	12-Oct-92	16	.	.	30	0.07	0.73	3.88	5.1	5.1
ON	18	25-Oct-92	11	.	.	29	0.49	0.57	1.94	5.6	5.6
ON	18	26-May-93	.	.	.	.	.	.			
ON	18	2-Jun-93	.	.	.	31	0.27	0.70	0.03	.	.
ON	18	16-Jun-93	18	.	.	31	0.17	0.84	1.88	1.2	1.2
ON	18	30-Jun-93	22	.	.	29	1.09	0.86	.	1	1
ON	18	14-Jul-93	22	.	.	28	1.85	1.36	1	1	1
ON	18	28-Jul-93	22	.	.	28	3.68	1.03	2.01	1	1
ON	18	11-Aug-93	.	.	.	29	1.44	1.39	0.21	.	.
ON	18	25-Aug-93	.	.	.	29	0.7	1.49	0.02	.	.
ON	18	8-Sep-93	.	.	.	29	0.58	1.69	0.09	.	.
ON	18	22-Sep-93	.	.	.	30	1.08	1.65	0.08	.	.
ON	18A	30-Sep-85	15	4.0	.	.	.	.	.	.	.
ON	18A	14-Oct-85	10	8.0	.	.	.	.	.	.	.
ON	18A	21-Oct-85	11	5.0	.	30	3.46	0.65	.	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
ON	18A	19-Nov-85	9	9.0	.	30	3.04	0.68	.	.	.
ON	18A	25-Nov-85	9	7.0	.	31	4.33	0.91	.	.	.
ON	18A	2-Dec-85	13	12.0	.	30	0.40	0.43	.	.	.
ON	18A	10-May-86	18	11.0	.	31	0.64	0.53	.	.	.
ON	18A	25-May-86	.		.	.	.	.	0.22	.	.
ON	18A	1-Jun-86	16	8.0	.	30	1.26	0.91	2.02	.	.
ON	18A	7-Jun-86	19	10.0	.	28	0.35	0.69	0.95	.	.
ON	18A	16-Jun-86	20	7.0	.	30	1.00	0.57	.	.	.
ON	18A	5-Jul-86	22	9.0	.	30	0.49	0.39	4.28	.	.
ON	18A	18-Jul-86	23	8.0	.	29	0.56	0.40	2.50	.	.
ON	18A	2-Aug-86	20	7.0	.	30	1.72	0.37	1.31	.	.
ON	18A	14-Aug-86	16	5.0	.	30	1.81	0.30	1.66	.	.
ON	18A	29-Aug-86	15	.	.	.	.	.	4.82	.	.
ON	18A	8-Sep-86	20	11.0	.	30	0.09	0.35	.	.	.
ON	18A	13-Sep-86	17	10.0	.	30	0.80	0.27	5.85	.	.
ON	18A	27-Sep-86	16	12.0	.	30	0.33	0.25	9.52	.	.
ON	18A	8-Oct-86	14	12.0	.	30	0.64	0.16	16.74	.	.
ON	18A	20-Oct-86	8	13.0	.	29	1.31	0.19	2.64	.	.
ON	18A	4-May-87	18	.	.	30	0.22	0.21	0.95	0.5	0.5
ON	18A	23-May-87	18	.	.	30	1.09	0.28	0.59	1.1	1.1
ON	18A	5-Jun-87	18	.	.	30	1.52	0.28	2.18	0.8	0.8
ON	18A	17-Jun-87	22	11.0	.	30	0.12	0.17	5.75	0.9	0.9
ON	18A	1-Jul-87	20	10.0	.	28	0.07	0.29	3.17	0.7	0.7
ON	18A	14-Jul-87	21	11.0	.	30	0.07	0.28	3.76	1.0	1.0
ON	18A	30-Jul-87	21	12.0	.	30	1.30	0.76	0.89	0.6	0.6
ON	18A	12-Aug-87	23	13.0	.	30	0.62	0.43	1.34	1.0	1.0
ON	18A	26-Aug-87	24	12.0	.	30	0.95	0.67	1.22	0.5	0.5
ON	18A	10-Sep-87	18	11.0	.	.	.	.	1.47	1.0	1.0
ON	18A	26-Sep-87	14	10.0	.	30	0.43	0.59	4.90	0.7	0.7
ON	18A	9-Oct-87	14	10.0	.	30	1.03	0.56	2.57	0.7	0.7
ON	18A	19-Oct-87	10	14.0	.	25	0.12	0.42	1.59	0.9	0.9
ON	18A	3-May-88	14	12.0	.	27	0.45	0.60	1.43	0.6	0.6
ON	18A	12-May-88	17	12.0	.	30	0.20	0.50	2.51	0.7	0.7
ON	18A	30-May-88	19	11.0	.	30	0.50	0.61	1.52	0.8	0.8
ON	18A	13-Jun-88	18	11.0	.	27	1.78	0.67	0.85	0.8	0.8
ON	18A	27-Jun-88	23	9.0	.	26	0.60	0.78	1.96	0.8	0.8
ON	18A	11-Jul-88	23	11.0	.	28	0.68	0.88	2.08	0.7	0.7
ON	18A	25-Jul-88	24	11.0	.	29	1.02	0.82	2.10	1.0	1.0
ON	18A	8-Aug-88	19	9.0	.	31	0.72	0.71	1.07	0.9	0.9
ON	18A	22-Aug-88	21	11.0	.	28	0.71	0.76	0.56	0.4	0.4
ON	18A	5-Sep-88	19	8.0	.	24	0.66	0.62	2.87	1.0	1.0
ON	18A	19-Sep-88	19	11.0	.	28	0.76	0.54	.	0.3	0.3
ON	18A	3-Oct-88	14	10.0	.	30	1.16	0.63	1.59	0.9	0.9
ON	18A	19-Oct-88	9	12.0	.	30	0.75	0.69	3.53	0.9	0.9
ON	18A	1-Nov-88	10	.	.	29	0.47	0.55	4.60	0.4	0.4
ON	18A	15-Nov-88	6	.	.	30	3.58	0.88	1.85	.	.
ON	18A	15-Dec-88	14	.	.	26	8.27	0.51	0.72	.	.
ON	18A	15-Jan-89	5	.	.	23	20.83	0.49	4.63	.	.
ON	18A	16-Feb-89	5	.	.	31	1.98	0.66	5.33	.	.
ON	18A	15-Mar-89	9	.	.	.	.	.	1.33	.	.

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
ON	18A	15-Apr-89	.	.	.	29	4.10	0.68	1.25	.	.

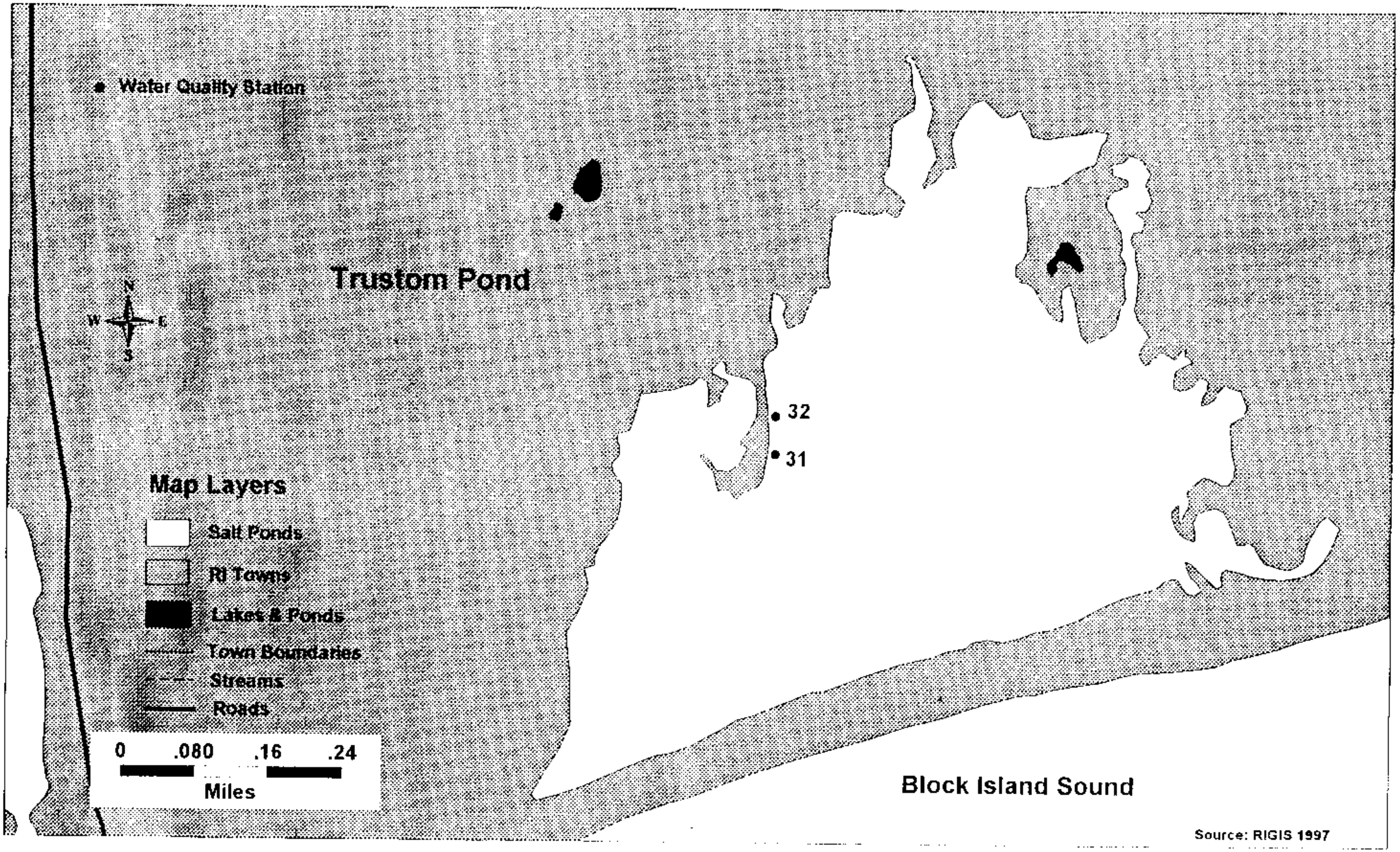
Trustom Pond

Sections:

Pond Map
Bacteria
Water Quality

Trustom Pond

Pond Map

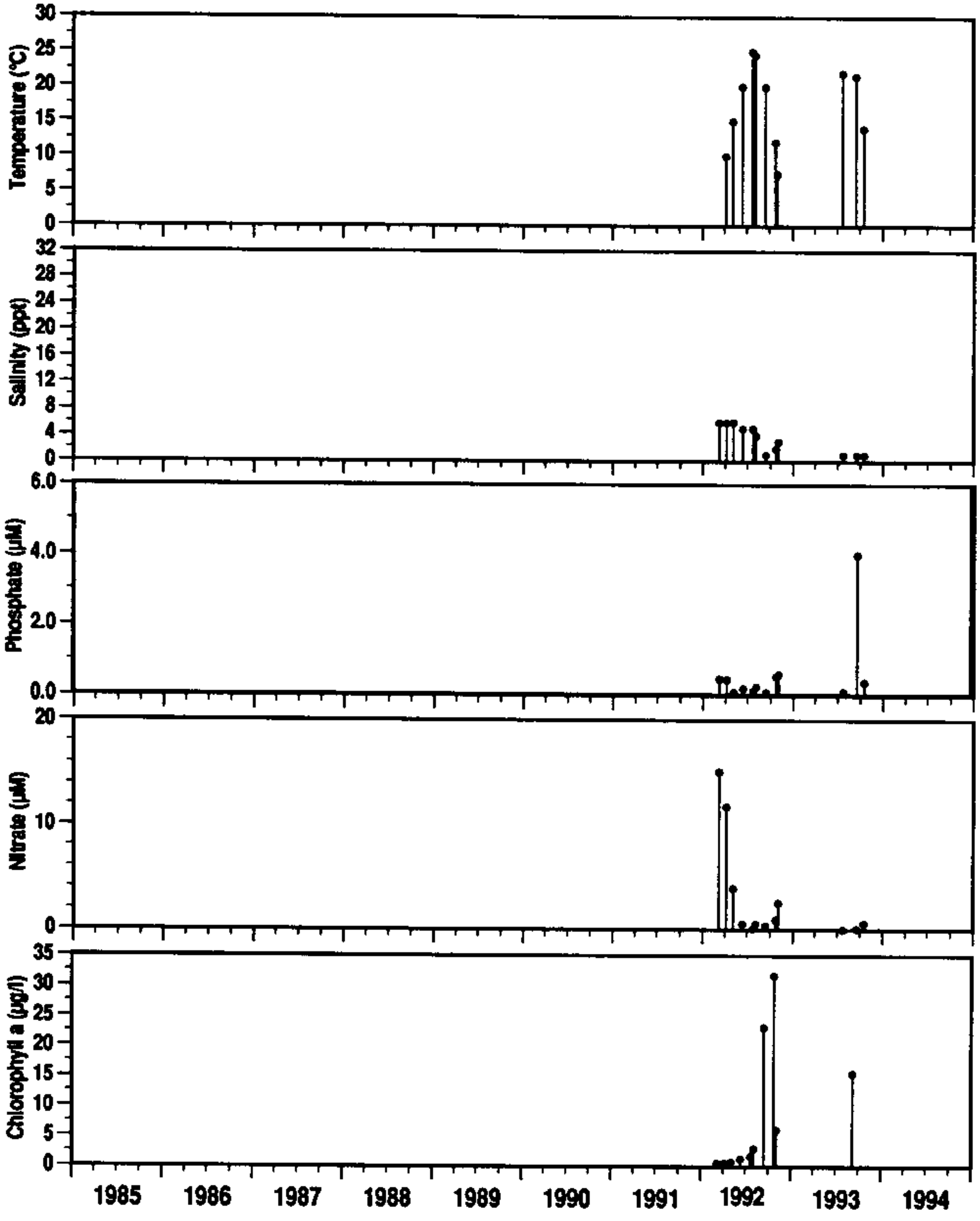

Water Quality Station
Trustom Pond
N
W
E
S
32
31
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0
.080
.16
.24
Miles
Block Island Sound
Source: RIGIS 1997

Trustom Pond

Water Quality

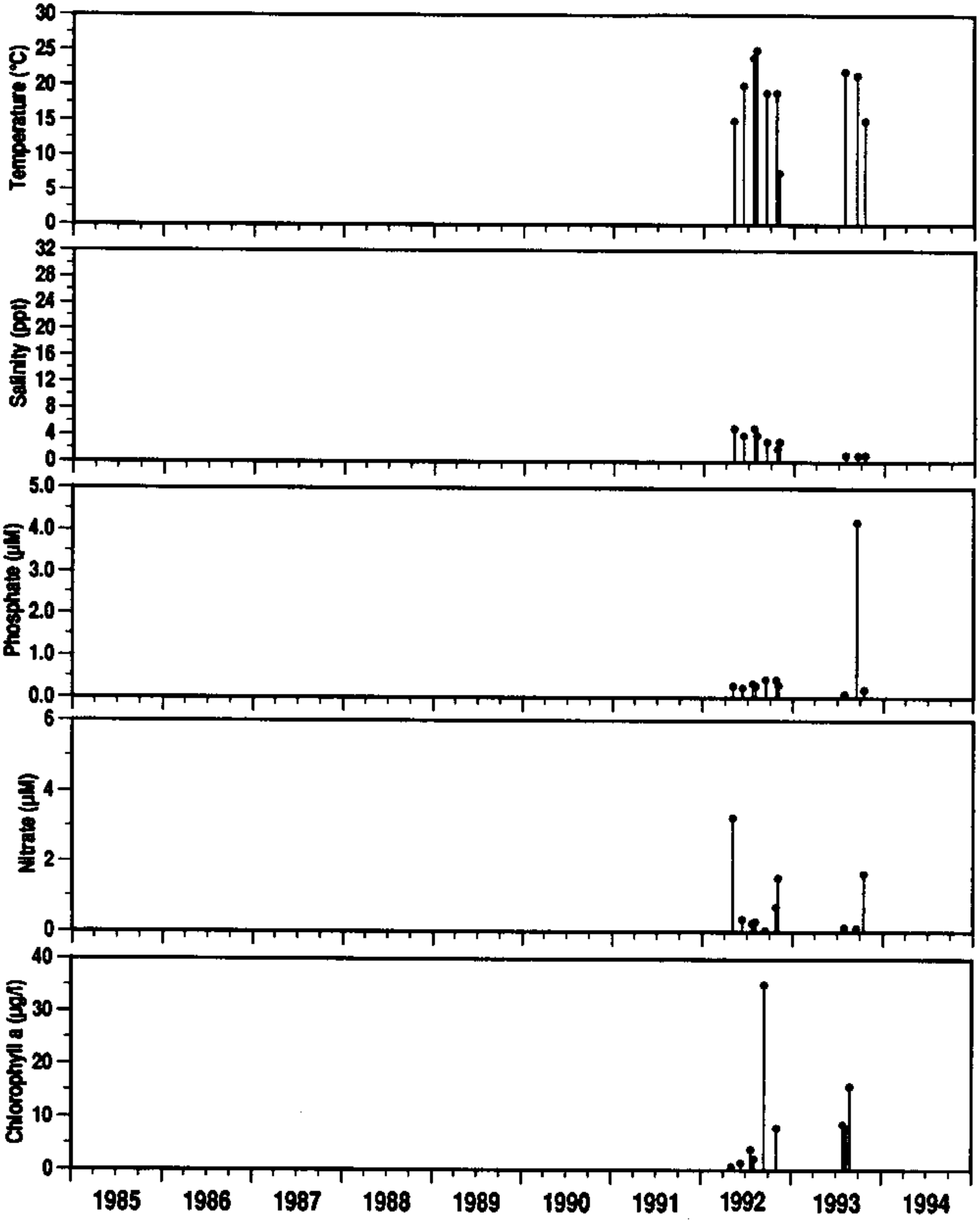
Trustom Pond

Station 31



Trustom Pond

Station 32



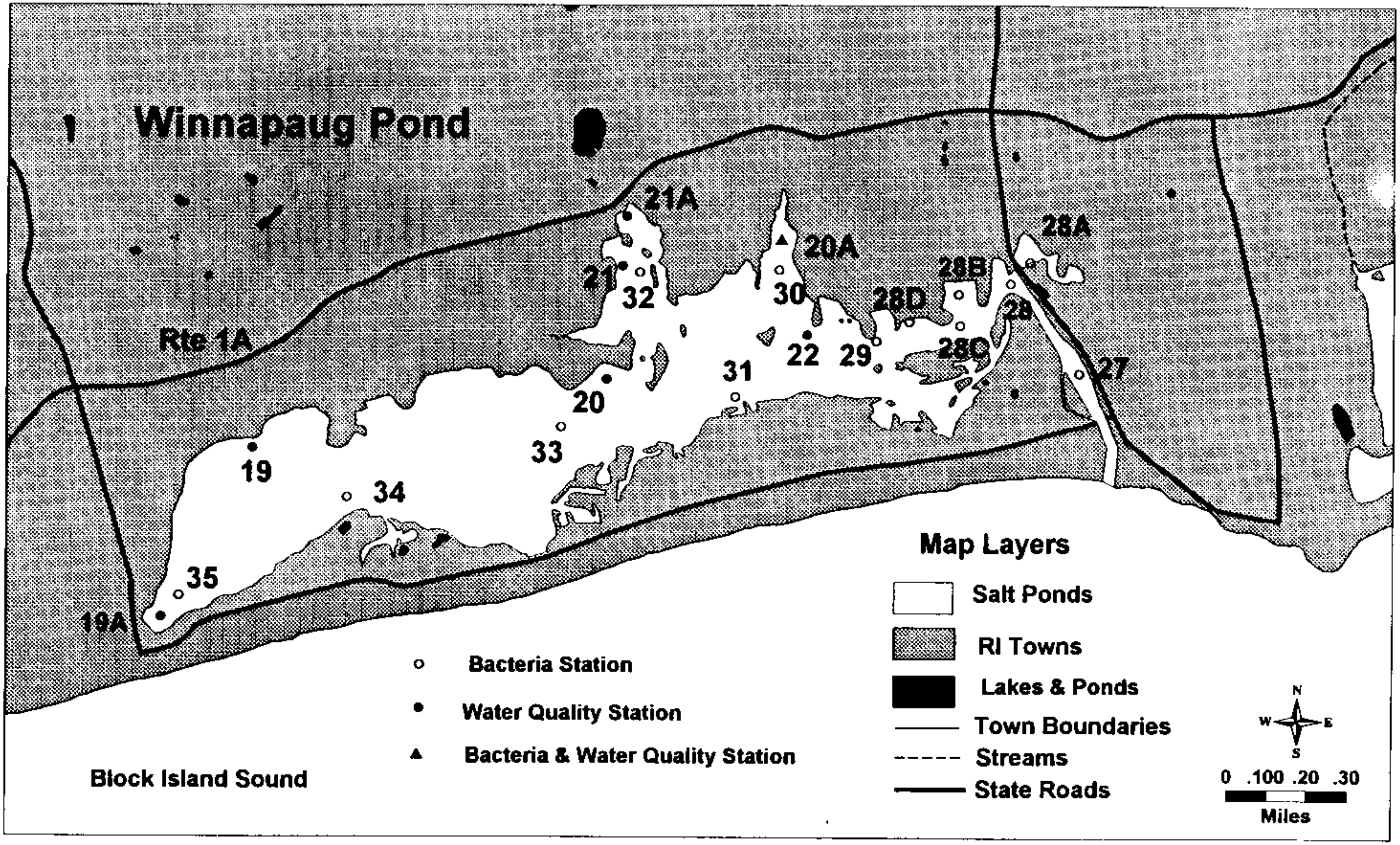
TRUSTOM POND WATER CHEMISTRY DATA 1992-1994

SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (μM/l)	P (μM/l)	CHLA (μg/l)	SECCHI (m)	DEPTH (m)
OFF	31	7-Mar-92	.	.	.	6	15.06	0.46	0.57	0.8	2.5
OFF	31	6-Apr-92	10	.	.	6	11.75	0.44	0.59	.	.
ON	31	4-May-92	15	.	.	6	3.94	0.10	0.77	1.9	2.0
ON	31	11-Jun-92	20	.	.	5	0.55	0.19	1.30	0.8	2.5
ON	31	22-Jul-92	25	.	.	5	0.07	0.13	1.73	2.0	2.4
ON	31	3-Aug-92	24.5	.	.	4	0.52	0.23	2.94	0.9	2.2
ON	31	13-Sep-92	20	.	.	1	0.38	0.08	23.05	0.3	2.4
ON	31	24-Oct-92	12	.	.	2	0.91	0.53	31.71	.	1.3
ON	31	2-Nov-92	7.5	.	.	3	2.51	0.60	6.10	1.9	2.3
ON	31	16-Jun-93	.	.	.	.	.	.	.	.	.
ON	31	30-Jun-93	.	.	.	.	.	.	.	.	.
ON	31	22-Jul-93	22	.	.	1	0.01	0.10	.	.	.
ON	31	11-Aug-93	.	.	.	.	.	.	.	.	.
ON	31	25-Aug-93	.	.	.	.	.	.	.	.	.
ON	31	8-Sep-93	.	.	.	.	.	.	15.49	.	.
ON	31	15-Sep-93	21.5	.		1	0.07	4.00	.	0.25	.
ON	31	16-Oct-93	14	.	.	1	0.57	0.37	.	0.7	3.6
ON	32	4-May-92	15	.	.	5	3.26	0.29	0.68	2.2	2.2
ON	32	11-Jun-92	20	.	.	4	0.36	0.23	1.35	1.6	2.3
ON	32	22-Jul-92	24	.	.	5	0.25	0.33	3.88	.	1.3
ON	32	3-Aug-92	25	.	.	4	0.29	0.28	2.23	0.8	1.9
ON	32	13-Sep-92	19	.	.	3	0.04	0.44	35.19	0.3	2.1
ON	32	24-Oct-92	19	.	.	2	0.72	0.42	.	0.3	2.1
ON	32	2-Nov-92	7.5	.	.	3	1.54	0.30	7.97	1.6	2.0
ON	32	26-May-93	.	.	.	.	.	.	.	.	.
ON	32	2-Jun-93	.	.	.	.	.	.	.	.	.
ON	32	16-Jun-93	.	.	.	.	.	.	.	.	.
ON	32	30-Jun-93	.	.	.	.	.	.	.	.	.
ON	32	14-Jul-93	.	.	.	.	.	.	.	.	.
ON	32	28-Jul-93	22	.	.	1	0.13	0.09	8.66	.	.
ON	32	11-Aug-93	.	.	.	.	.	.	7.82	.	.
ON	32	25-Aug-93	.	.	.	.	.	.	15.86	.	.
ON	32	15-Sep-93	21.5	.	.	1	0.11	4.20	.	.	.
ON	32	16-Oct-93	15	.	.	1	1.65	0.20	.	.	.

Winnapaug Pond

Sections:

Pond Map
Bacteria
Water Quality

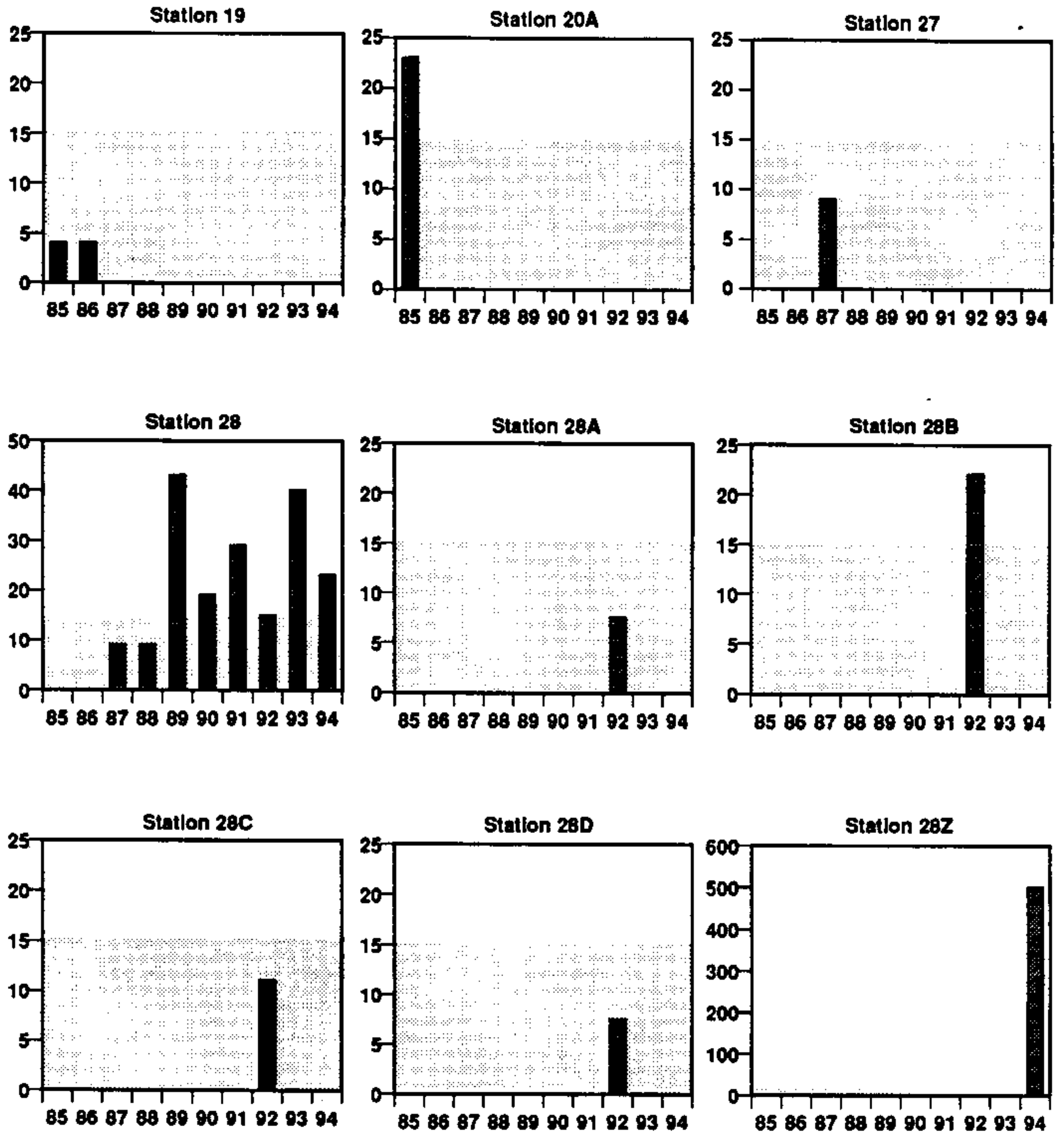

1
Winnapaug Pond
Rte 1A
21A
20A
28A
28B
28D
28C
28
27
21
32
30
22
29
31
20
33
19
34
35
19A
Bacteria Station
Water Quality Station
Bacteria & Water Quality Station
Block Island Sound
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
State Roads
N
W
E
S
0 .100 .20 .30
Miles

Winnapaug Pond

Bacteria

Winnapaug Pond

Median Fecal Coliform Bacteria (MPN/100ml)

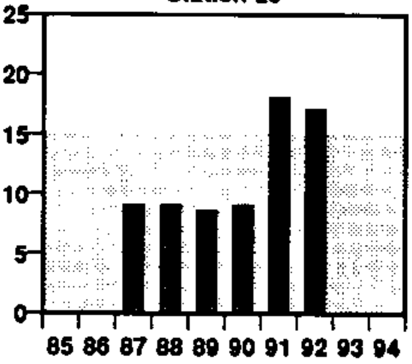


Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

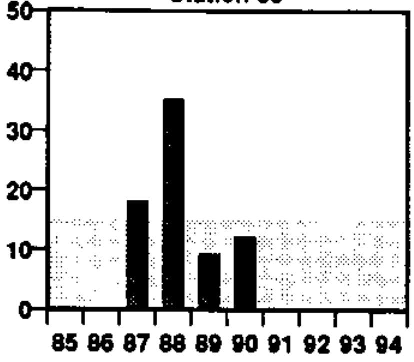
Winnapaug Pond

Median Fecal Coliform Bacteria (MPN/100ml)

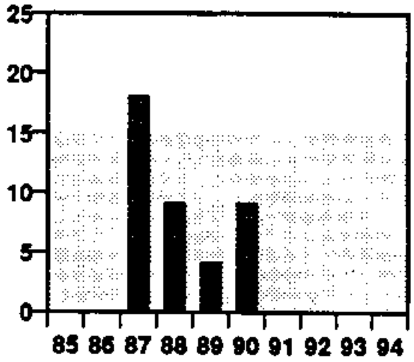
Station 29



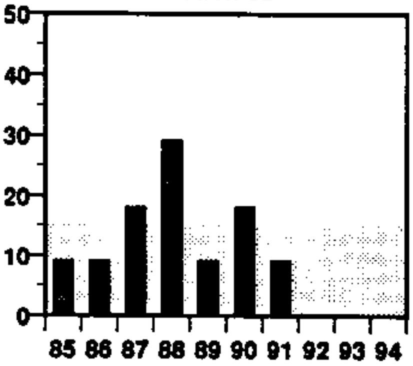
Station 30



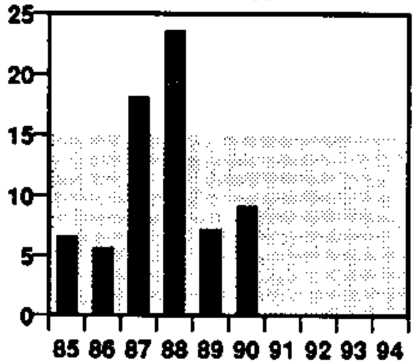
Station 31



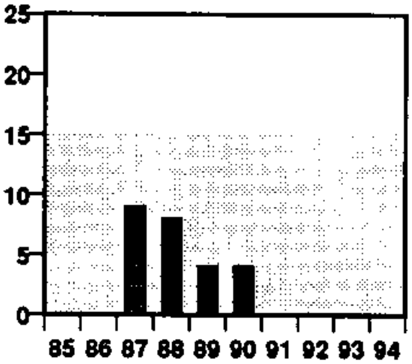
Station 32



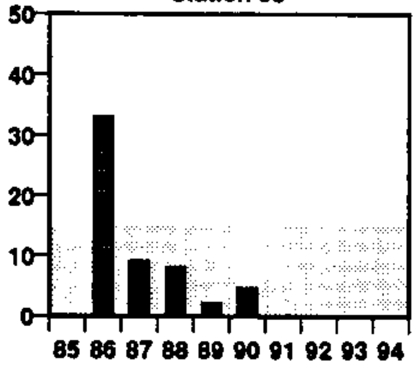
Station 33



Station 34



Station 35



Grey area indicates safe for shellfish consumption. No data indicates the station was not sampled. Bacteria values are median MPN/100 ml for May — November samples only.

WINNAPAUG POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
19	19	8-Jul-85	3	.	.
19	19	22-Jul-85	9	.	.
19	19	5-Aug-85	4	.	.
19	19	19-Aug-85	4	.	.
19	19	3-Sep-85	15	.	.
19	19	16-Sep-85	4	.	.
19	19	2-Jun-86	3	.	.
19	19	16-Jun-86	23	.	.
19	19	30-Jun-86	4	.	.
19	19	14-Jul-86	75	.	.
19	19	28-Jul-86	7	.	.
19	19	12-Aug-86	3	.	.
19	19	25-Aug-86	9	.	.
19	19	8-Sep-86	4	.	.
19	19	22-Sep-86	4	.	.
19	19	20-Oct-86	4	.	.
20A	20A	22-Jul-85	43	.	.
20A	20A	5-Aug-85	4	.	.
20A	20A	19-Aug-85	23	.	.
20A	20A	3-Sep-85	23	.	.
27	27	11-May-87	3	.	.
27	27	8-Jun-87	3	.	.
27	27	1-Jul-87	9	.	.
27	27	15-Jul-87	41	.	.
27	27	29-Jul-87	9	.	.
27	27	12-Aug-87	18	.	.
27	27	26-Aug-87	9	.	.
27	27	9-Sep-87	9	.	.
27	27	23-Sep-87	9	.	.
27	27	7-Oct-87	9	.	.
27	27	19-Oct-87	9	.	.
28	28	11-May-87	3	.	.
28	28	8-Jun-87	3	.	.
28	28	1-Jul-87	9	.	.
28	28	15-Jul-87	9	.	.
28	28	29-Jul-87	41	.	.
28	28	12-Aug-87	29	.	.
28	28	26-Aug-87	9	.	.
28	28	9-Sep-87	18	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
28	28	23-Sep-87	9	.	.
28	28	7-Oct-87	9	.	.
28	28	19-Oct-87	9	.	.
28	28	18-May-88	18	.	.
28	28	15-Jun-88	9	.	.
28	28	29-Jun-88	<9	.	.
28	28	13-Jul-88	<9	.	.
28	28	27-Jul-88	9	.	.
28	28	10-Aug-88	9	.	.
28	28	24-Aug-88	<9	.	.
28	28	7-Sep-88	<9	.	.
28	28	21-Sep-88	110	.	.
28	28	5-Oct-88	54	.	.
28	28	19-Oct-88	29	.	.
28	28	2-Nov-88	54	.	.
28	28	16-Nov-88	<9	.	.
28	28	22-May-89	43	43	(0)
28	28	5-Jun-89	43	93	(0)
28	28	19-Jun-89	9	23	(0)
28	28	17-Jul-89	75	150	(0)
28	28	31-Jul-89	<3	<3	(0)
28	28	28-Aug-89	<3	9	(0)
28	28	11-Sep-89	93	460	(0)
28	28	25-Sep-89	<3	4	(0)
28	28	11-Oct-89	93	240	(0)
28	28	23-Oct-89	43	43	50(MANY)
28	28	6-Nov-89	460	1100	(0)
28	28	22-May-90	<3	<3	(0)
28	28	5-Jun-90	<3	<3	(0)
28	28	19-Jun-90	93	240	(0)
28	28	3-Jul-90	9	43	(0)
28	28	17-Jul-90	9	23	(0)
28	28	31-Jul-90	93	93	(0)
28	28	14-Aug-90	93	93	(0)
28	28	28-Aug-90	24	24	(0)
28	28	11-Sep-90	9	9	(0)
28	28	25-Sep-90	43	43	(0)
28	28	9-Oct-90	15	43	(0)
28	28	23-Oct-90	23	43	(0)
28	28	27-Jun-91	<9	.	(0)
28	28	11-Jul-91	<9	.	(0)
28	28	25-Jul-91	41	.	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
28	28	8-Aug-91	<9	.	(0)
28	28	4-Sep-91	9	.	(0)
28	28	15-Sep-91	88	.	(0)
28	28	2-Oct-91	29	.	(0)
28	28	17-Oct-91	69	.	(0)
28	28	30-Oct-91	88	.	(0)
28	28	24-Jun-92	9	.	.
28	28	15-Jul-92	17	.	.
28	28	19-Aug-92	1601	.	.
28	28	2-Sep-92	13	.	.
28	28	25-May-93	170	.	.
28	28	4-Jun-93	1	.	.
28	28	16-Jun-93	50	.	.
28	28	7-Jul-93	4	.	.
28	28	14-Jul-93	14	.	.
28	28	28-Jul-93	300	.	.
28	28	11-Aug-93	8	.	.
28	28	25-Aug-93	30	.	.
28	28	8-Sep-93	1601	.	.
28	28	22-Sep-93	170	.	.
28	28	1-Jun-94	31	.	.
28	28	15-Jun-94	.	.	.
28	28	29-Jun-94	.	.	.
28	28	13-Jul-94	13	.	.
28	28	27-Jul-94	240	.	.
28	28	10-Aug-94	23	.	.
28	28	24-Aug-94	.	.	.
28	28	21-Sep-94	22	.	.
28A	28A	24-Jun-92	4	.	.
28A	28A	15-Jul-92	8	.	.
28A	28A	19-Aug-92	130	.	.
28A	28A	2-Sep-92	7	.	.
28B	28B	24-Jun-92	8	.	.
28B	28B	15-Jul-92	17	.	.
28B	28B	19-Aug-92	130	.	.
28B	28B	2-Sep-92	27	.	.
28C	28C	24-Jun-92	11	.	.
28C	28C	15-Jul-92	11	.	.
28C	28C	19-Aug-92	50	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
28C	28C	2-Sep-92	8	.	.
28D	28D	24-Jun-92	7	.	.
28D	28D	15-Jul-92	4	.	.
28D	28D	19-Aug-92	170	.	.
28D	28D	2-Sep-92	8	.	.
28z	28z	1-Jun-94	.	.	.
28z	28z	15-Jun-94	.	.	.
28z	28z	29-Jun-94	.	.	.
28z	28z	13-Jul-94	23	.	.
28z	28z	27-Jul-94	1601	.	.
28z	28z	10-Aug-94	1601	.	.
28z	28z	24-Aug-94	500	.	.
28z	28z	21-Sep-94	17	.	.
29	29	11-May-87	3	.	.
29	29	8-Jun-87	43	.	.
29	29	1-Jul-87	9	.	.
29	29	15-Jul-87	9	.	.
29	29	29-Jul-87	9	.	.
29	29	12-Aug-87	9	.	.
29	29	26-Aug-87	29	.	.
29	29	9-Sep-87	29	.	.
29	29	23-Sep-87	18	.	.
29	29	7-Oct-87	54	.	.
29	29	19-Oct-87	9	.	.
29	29	18-May-88	9	.	.
29	29	15-Jun-88	9	.	.
29	29	29-Jun-88	<9	.	.
29	29	13-Jul-88	18	.	.
29	29	27-Jul-88	29	.	.
29	29	10-Aug-88	<9	.	.
29	29	24-Aug-88	9	.	.
29	29	7-Sep-88	<9	.	.
29	29	21-Sep-88	54	.	.
29	29	5-Oct-88	88	.	.
29	29	19-Oct-88	88	.	.
29	29	2-Nov-88	179	.	.
29	29	16-Nov-88	<9	.	.
29	29	22-May-89	9	23	(0)
29	29	5-Jun-89	9	23	0(?)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
29	29	19-Jun-89	23	23	(0)
29	29	17-Jul-89	93	280	(0)
29	29	31-Jul-89	<3	43	(0)
29	29	28-Aug-89	<3	9	(0)
29	29	11-Sep-89	<3	23	(0)
29	29	25-Sep-89	4	15	(0)
29	29	11-Oct-89	15	93	(0)
29	29	23-Oct-89	7	7	(0)
29	29	6-Nov-89	43	93	(0)
29	29	22-May-90	9	15	(0)
29	29	5-Jun-90	<3	9	(0)
29	29	19-Jun-90	460	460	(0)
29	29	3-Jul-90	9	23	(0)
29	29	17-Jul-90	9	9	(0)
29	29	31-Jul-90	4	9	(0)
29	29	14-Aug-90	75	75	(0)
29	29	28-Aug-90	23	43	(0)
29	29	11-Sep-90	7	21	(0)
29	29	25-Sep-90	11	11	(0)
29	29	9-Oct-90	15	21	(0)
29	29	23-Oct-90	7	21	(0)
29	29	27-Jun-91	<9	.	(0)
29	29	11-Jul-91	<9	.	(0)
29	29	25-Jul-91	41	.	(0)
29	29	8-Aug-91	9	.	(0)
29	29	4-Sep-91	18	.	(0)
29	29	15-Sep-91	<9	.	(0)
29	29	2-Oct-91	29	.	(0)
29	29	17-Oct-91	248	.	(0)
29	29	30-Oct-91	54	.	(0)
29	29	24-Jun-92	30	.	.
29	29	15-Jul-92	2	.	.
29	29	19-Aug-92	240	.	.
29	29	2-Sep-92	4	.	.
30	30	11-May-87	4	.	.
30	30	8-Jun-87	15	.	.
30	30	1-Jul-87	18	.	.
30	30	15-Jul-87	9	.	.
30	30	29-Jul-87	18	.	.
30	30	12-Aug-87	18	.	.
30	30	26-Aug-87	18	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
30	30	9-Sep-87	29	.	.
30	30	23-Sep-87	9	.	.
30	30	7-Oct-87	29	.	.
30	30	19-Oct-87	9	.	.
30	30	18-May-88	9	.	.
30	30	15-Jun-88	29	.	.
30	30	29-Jun-88	110	.	.
30	30	13-Jul-88	69	.	.
30	30	27-Jul-88	9	.	.
30	30	10-Aug-88	18	.	.
30	30	24-Aug-88	18	.	.
30	30	7-Sep-88	<9	.	.
30	30	21-Sep-88	179	.	.
30	30	5-Oct-88	88	.	.
30	30	19-Oct-88	41	.	.
30	30	2-Nov-88	54	.	.
30	30	16-Nov-89	9	.	.
30	30	22-May-89	7	93	(0)
30	30	5-Jun-89	9	23	(0)
30	30	19-Jun-89	210	210	(0)
30	30	17-Jul-89	1100	>2400	(0)
30	30	31-Jul-89	9	23	(0)
30	30	28-Aug-89	43	43	(0)
30	30	11-Sep-89	4	23	(0)
30	30	25-Sep-89	23	23	(0)
30	30	11-Oct-89	93	93	(0)
30	30	23-Oct-89	9	9	(0)
30	30	6-Nov-89	7	240	(0)
30	30	22-May-90	43	93	(0)
30	30	5-Jun-90	9	9	(0)
30	30	19-Jun-90	>2400	>2400	(0)
30	30	3-Jul-90	4	23	(0)
30	30	17-Jul-90	15	240	(0)
30	30	31-Jul-90	4	9	(0)
30	30	14-Aug-90	23	43	(0)
30	30	28-Aug-90	9	23	(0)
30	30	11-Sep-90	9	15	(0)
30	30	25-Sep-90	23	23	(0)
30	30	9-Oct-90	9	23	(0)
30	30	23-Oct-90	15	43	(0)
31	31	11-May-87	9	.	.
31	31	8-Jun-87	15	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
31	31	1-Jul-87	9	.	.
31	31	15-Jul-87	41	.	.
31	31	29-Jul-87	18	.	.
31	31	12-Aug-87	18	.	.
31	31	26-Aug-87	18	.	.
31	31	9-Sep-87	18	.	.
31	31	23-Sep-87	54	.	.
31	31	7-Oct-87	9	.	.
31	31	19-Oct-87	9	.	.
31	31	18-May-88	29	.	.
31	31	15-Jun-88	<9	.	.
31	31	29-Jun-88	<9	.	.
31	31	13-Jul-88	<9	.	.
31	31	27-Jul-88	18	.	.
31	31	10-Aug-88	<9	.	.
31	31	24-Aug-88	<9	.	.
31	31	7-Sep-88	<9	.	.
31	31	21-Sep-88	41	.	.
31	31	5-Oct-88	69	.	.
31	31	19-Oct-88	29	.	.
31	31	2-Nov-88	88	.	.
31	31	16-Nov-88	9	.	.
31	31	22-May-89	7	7	(0)
31	31	5-Jun-89	3	7	(0)
31	31	19-Jun-89	<3	4	(0)
31	31	17-Jul-89	93	210	(0)
31	31	31-Jul-89	9	460	(0)
31	31	28-Aug-89	9	23	(0)
31	31	11-Sep-89	4	43	(0)
31	31	25-Sep-89	43	150	(0)
31	31	11-Oct-89	4	4	(0)
31	31	23-Oct-89	4	9	(0)
31	31	6-Nov-89	<3	9	(0)
31	31	22-May-90	9	43	(0)
31	31	5-Jun-90	15	15	(0)
31	31	19-Jun-90	43	43	(0)
31	31	3-Jul-90	23	23	(0)
31	31	17-Jul-90	9	75	(0)
31	31	31-Jul-90	15	43	(0)
31	31	14-Aug-90	9	15	(0)
31	31	28-Aug-90	<3	9	(0)
31	31	11-Sep-90	4	15	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
31	31	25-Sep-90	7	15	(0)
31	31	9-Oct-90	<3	43	(0)
31	31	23-Oct-90	<3	43	(0)
21	32	8-Jul-85	7	.	.
21	32	22-Jul-85	930	.	.
21	32	5-Aug-85	9	.	.
21	32	19-Aug-85	23	.	.
21	32	3-Sep-85	7	.	.
21	32	2-Jun-86	3	.	.
21	32	16-Jun-86	23	.	.
21	32	30-Jun-86	9	.	.
21	32	14-Jul-86	23	.	.
21	32	28-Jul-86	9	.	.
21	32	12-Aug-86	93	.	.
21	32	25-Aug-86	9	.	.
21	32	8-Sep-86	15	.	.
21	32	22-Sep-86	9	.	.
21	32	20-Oct-86	4	.	.
32	32	11-May-87	93	.	.
32	32	8-Jun-87	15	.	.
32	32	1-Jul-87	9	.	.
32	32	15-Jul-87	18	.	.
32	32	29-Jul-87	9	.	.
32	32	12-Aug-87	9	.	.
32	32	26-Aug-87	18	.	.
32	32	9-Sep-87	88	.	.
32	32	23-Sep-87	9	.	.
32	32	7-Oct-87	41	.	.
32	32	19-Oct-87	29	.	.
32	32	18-May-88	9	.	.
32	32	15-Jun-88	<9	.	.
32	32	29-Jun-88	29	.	.
32	32	13-Jul-88	110	.	.
32	32	27-Jul-88	18	.	.
32	32	10-Aug-88	29	.	.
32	32	24-Aug-88	9	.	.
32	32	7-Sep-88	<9	.	.
32	32	21-Sep-88	248	.	.
32	32	5-Oct-88	69	.	.
32	32	19-Oct-88	54	.	.
32	32	2-Nov-88	29	.	.

WINNAPAUG POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
32	32	16-Nov-89	9	.	.
32	32	22-May-89	23	43	(0)
32	32	5-Jun-89	43	240	(0)
32	32	19-Jun-89	7	43	(0)
32	32	17-Jul-89	240	460	(0)
32	32	31-Jul-89	23	23	(0)
32	32	28-Aug-89	4	93	(0)
32	32	11-Sep-89	9	93	(0)
32	32	25-Sep-89	9	23	(0)
32	32	11-Oct-89	460	460	(0)
32	32	23-Oct-89	<3	<3	(0)
32	32	6-Nov-89	4	9	(0)
32	32	22-May-90	93	240	(0)
32	32	5-Jun-90	23	23	(0)
32	32	19-Jun-90	460	>2400	(0)
32	32	3-Jul-90	15	43	(0)
32	32	17-Jul-90	9	43	(0)
32	32	31-Jul-90	21	93	(0)
32	32	14-Aug-90	43	93	(0)
32	32	28-Aug-90	23	43	(0)
32	32	11-Sep-90	4	9	(0)
32	32	25-Sep-90	4	7	(0)
32	32	9-Oct-90	<3	43	(0)
32	32	23-Oct-90	15	15	(0)
32	32	27-Jun-91	9	.	(0)
32	32	11-Jul-91	9	.	(0)
32	32	25-Jul-91	29	.	(0)
32	32	8-Aug-91	18	.	(0)
32	32	4-Sep-91	9	.	(0)
32	32	15-Sep-91	9	.	(0)
32	32	2-Oct-91	41	.	(0)
32	32	17-Oct-91	<9	.	(0)
32	32	30-Oct-91	54	.	(0)
20	33	8-Jul-85	3	.	.
20	33	22-Jul-85	9	.	.
20	33	5-Aug-85	4	.	.
20	33	19-Aug-85	15	.	.
20	33	3-Sep-85	9	.	.
20	33	16-Sep-85	4	.	.
20	33	2-Jun-86	7	.	.
20	33	16-Jun-86	23	.	.

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
20	33	30-Jun-86	4	.	.
20	33	14-Jul-86	4	.	.
20	33	28-Jul-86	9	.	.
20	33	12-Aug-86	3	.	.
20	33	25-Aug-86	43	.	.
20	33	8-Sep-86	9	.	.
20	33	22-Sep-86	4	.	.
20	33	20-Oct-86	4	.	.
33	33	11-May-87	9	.	.
33	33	8-Jun-87	23	.	.
33	33	1-Jul-87	9	.	.
33	33	15-Jul-87	29	.	.
33	33	29-Jul-87	18	.	.
33	33	12-Aug-87	9	.	.
33	33	26-Aug-87	18	.	.
33	33	9-Sep-87	29	.	.
33	33	23-Sep-87	29	.	.
33	33	7-Oct-87	9	.	.
33	33	19-Oct-87	9	.	.
33	33	18-May-88	18	.	.
33	33	29-Jun-88	29	.	.
33	33	13-Jul-88	<9	.	.
33	33	27-Jul-88	29	.	.
33	33	10-Aug-88	29	.	.
33	33	24-Aug-88	<9	.	.
33	33	7-Sep-88	<9	.	.
33	33	21-Sep-88	88	.	.
33	33	5-Oct-88	69	.	.
33	33	19-Oct-88	18	.	.
33	33	2-Nov-88	69	.	.
33	33	16-Nov-88	<9	.	.
33	33	22-May-89	<3	<3	(0)
33	33	5-Jun-89	<3	<3	(0)
33	33	19-Jun-89	<3	<3	(0)
33	33	17-Jul-89	460	1100	(0)
33	33	31-Jul-89	7	7	(0)
33	33	28-Aug-89	9	43	(0)
33	33	11-Sep-89	15	150	(0)
33	33	25-Sep-89	4	93	(0)
33	33	11-Oct-89	43	43	(0)
33	33	23-Oct-89	93	93	(0)
33	33	6-Nov-89	4	4	(0)

WINNAPAUG POND BACTERIA DATA 1985-1994

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
33	33	22-May-90	43	93	(0)
33	33	5-Jun-90	9	43	(0)
33	33	19-Jun-90	240	240	(0)
33	33	3-Jul-90	23	23	(0)
33	33	17-Jul-90	4	43	(0)
33	33	31-Jul-90	9	43	(0)
33	33	14-Aug-90	9	9	(0)
33	33	28-Aug-90	4	23	(0)
33	33	11-Sep-90	<3	<3	(0)
33	33	25-Sep-90	<3	<3	(0)
33	33	9-Oct-90	4	4	(0)
33	33	23-Oct-90	9	23	(0)
34	34	11-May-87	3	.	.
34	34	8-Jun-87	93	.	.
34	34	1-Jul-87	9	.	.
34	34	15-Jul-87	9	.	.
34	34	29-Jul-87	9	.	.
34	34	12-Aug-87	9	.	.
34	34	26-Aug-87	69	.	.
34	34	9-Sep-87	41	.	.
34	34	23-Sep-87	18	.	.
34	34	7-Oct-87	9	.	.
34	34	19-Oct-87	9	.	.
34	34	18-May-88	29	.	.
34	34	15-Jun-88	<9	.	.
34	34	29-Jun-88	<9	.	.
34	34	13-Jul-88	<9	.	.
34	34	27-Jul-88	18	.	.
34	34	10-Aug-88	9	.	.
34	34	24-Aug-88	<9	.	.
34	34	7-Sep-88	<9	.	.
34	34	21-Sep-88	<9	.	.
34	34	5-Oct-88	29	.	.
34	34	19-Oct-88	<9	.	.
34	34	2-Nov-88	29	.	.
34	34	16-Nov-88	9	.	.
34	34	22-May-89	4	9	(0)
34	34	5-Jun-89	<3	<3	(0)
34	34	19-Jun-89	4	4	(0)
34	34	17-Jul-89	1100	>2400	(0)
34	34	31-Jul-89	<3	<3	(0)

OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
34	34	28-Aug-89	4	9	(0)
34	34	11-Sep-89	21	240	(0)
34	34	25-Sep-89	4	15	(0)
34	34	11-Oct-89	93	150	(0)
34	34	23-Oct-89	7	43	50(MANY)
34	34	6-Nov-89	<3	<3	(0)
34	34	22-May-90	<3	9	(0)
34	34	5-Jun-90	4	23	(0)
34	34	19-Jun-90	43	93	(0)
34	34	3-Jul-90	7	43	(0)
34	34	17-Jul-90	4	93	(0)
34	34	31-Jul-90	43	43	(0)
34	34	14-Aug-90	<3	4	(0)
34	34	28-Aug-90	4	9	(0)
34	34	11-Sep-90	<3	<3	(0)
34	34	25-Sep-90	<3	4	(0)
34	34	9-Oct-90	9	23	(0)
34	34	23-Oct-90	9	23	(0)
19A	35	30-Jun-86	23	.	.
19A	35	14-Jul-86	930	.	.
19A	35	28-Jul-86	430	.	.
19A	35	12-Aug-86	21	.	.
19A	35	25-Aug-86	9	.	.
19A	35	8-Sep-86	4	.	.
19A	35	22-Sep-86	210	.	.
19A	35	20-Oct-86	43	.	.
35	35	11-May-87	4	.	.
35	35	8-Jun-87	93	.	.
35	35	1-Jul-87	9	.	.
35	35	15-Jul-87	9	.	.
35	35	29-Jul-87	9	.	.
35	35	12-Aug-87	9	.	.
35	35	26-Aug-87	9	.	.
35	35	9-Sep-87	9	.	.
35	35	23-Sep-87	9	.	.
35	35	7-Oct-87	9	.	.
35	35	19-Oct-87	9	.	.
35	35	18-May-88	29	.	.
35	35	15-Jun-88	<9	.	.
35	35	29-Jun-88	<9	.	.
35	35	13-Jul-88	<9	.	.

WINNAPAUG POND BACTERIA DATA 1985-1994

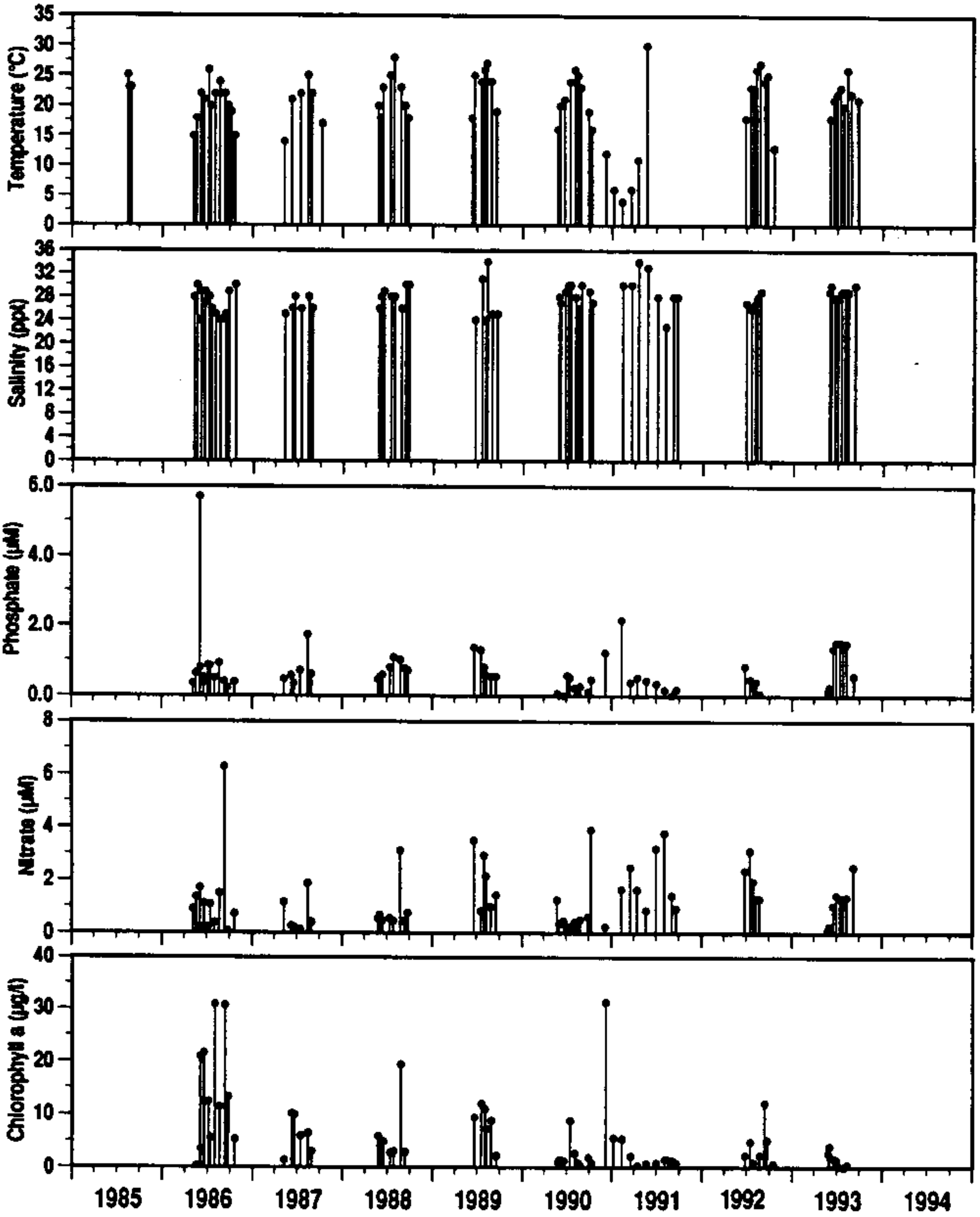
OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
35	35	27-Jul-88	<9	.	.
35	35	10-Aug-88	<9	.	.
35	35	24-Aug-88	9	.	.
35	35	7-Sep-88	<9	.	.
35	35	21-Sep-88	18	.	.
35	35	5-Oct-88	9	.	.
35	35	19-Oct-88	<9	.	.
35	35	2-Nov-88	18	.	.
35	35	16-Nov-88	<9	.	.
35	35	5-Jun-89	<3	<3	(0)
35	35	19-Jun-89	<3	150	(0)
35	35	17-Jul-89	>2400	>2400	(0)
35	35	31-Jul-89	<3	23	(0)
35	35	28-Aug-89	<3	23	(0)
35	35	11-Sep-89	9	23	(0)
35	35	25-Sep-89	<3	9	(0)
35	35	11-Oct-89	<3	43	(0)
35	35	23-Oct-89	7	15	(0)
35	35	6-Nov-89	<3	4	(0)
35	35	22-May-90	150	1100	(0)
35	35	5-Jun-90	<3	9	(0)
35	35	19-Jun-90	7	43	(0)
35	35	3-Jul-90	7	43	(0)
35	35	17-Jul-90	9	43	(0)
35	35	31-Jul-90	7	240	(0)
35	35	14-Aug-90	<3	9	(0)
35	35	28-Aug-90	<3	4	(0)
35	35	11-Sep-90	9	9	(0)
35	35	25-Sep-90	<3	<3	(0)
35	35	9-Oct-90	<3	9	(0)
35	35	23-Oct-90	<3	9	(0)

Winnapaug Pond

Water Quality

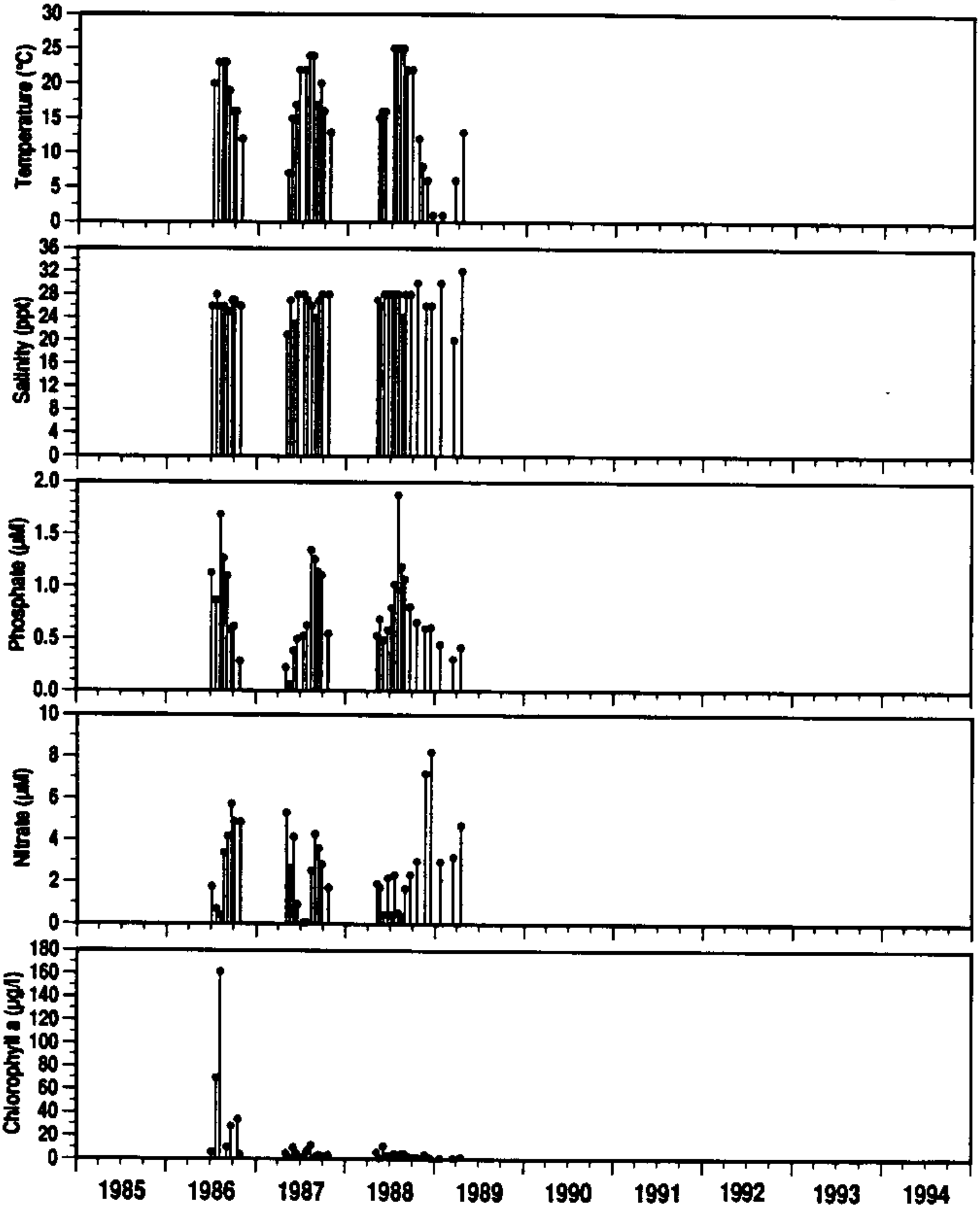
Winnapaug Pond

Station 19



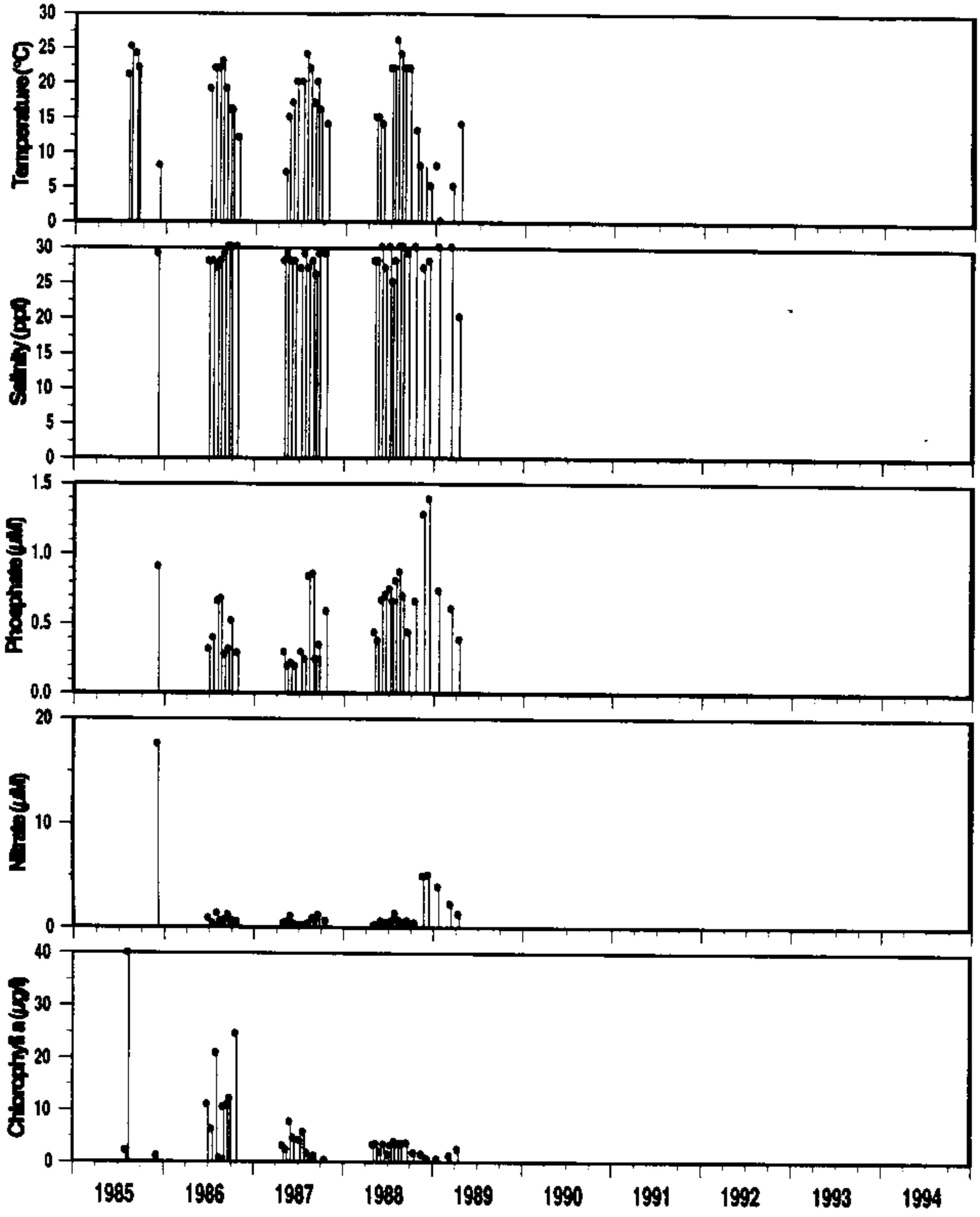
Winnapaug Pond

Station 19A



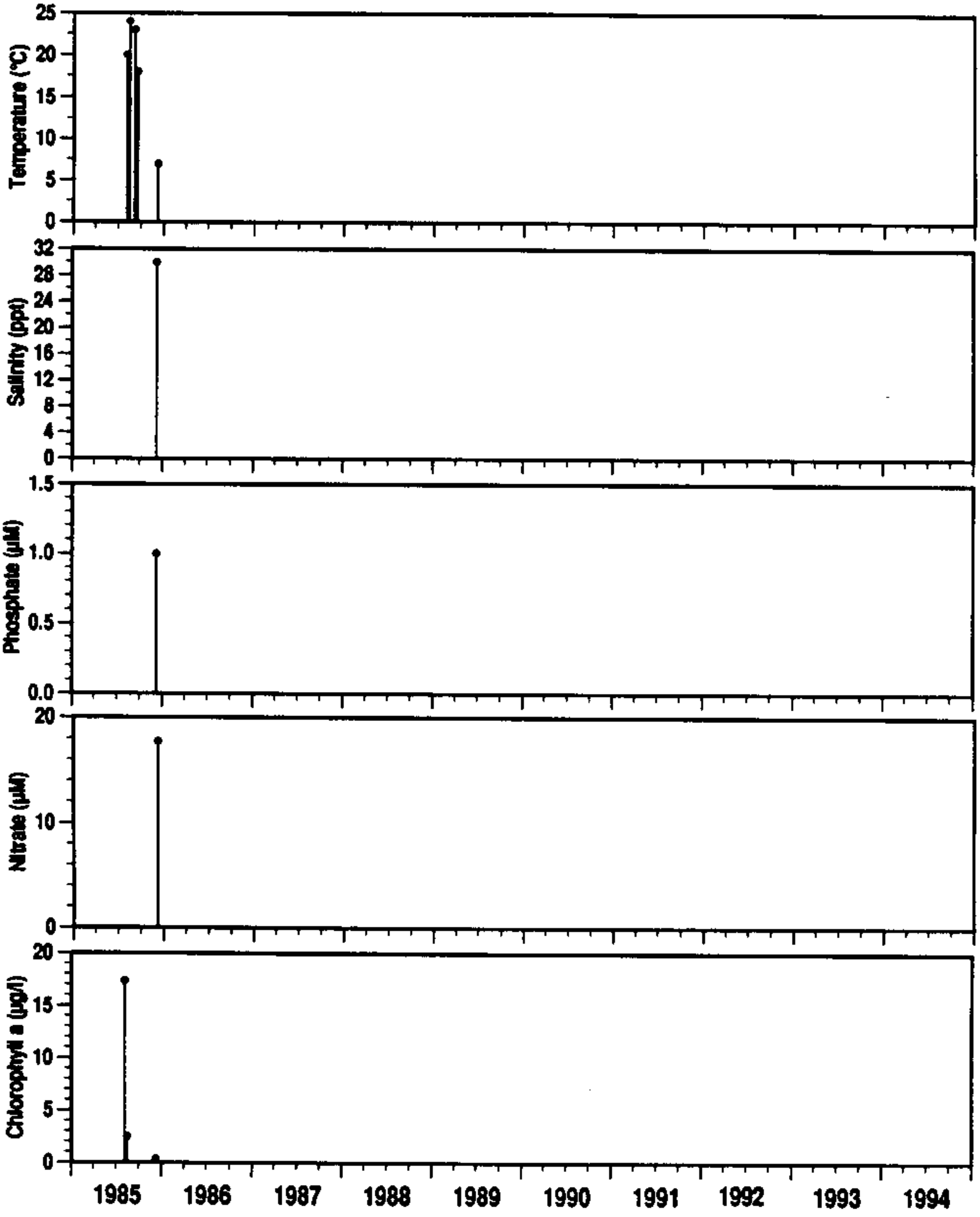
Winnapaug Pond

Station 20



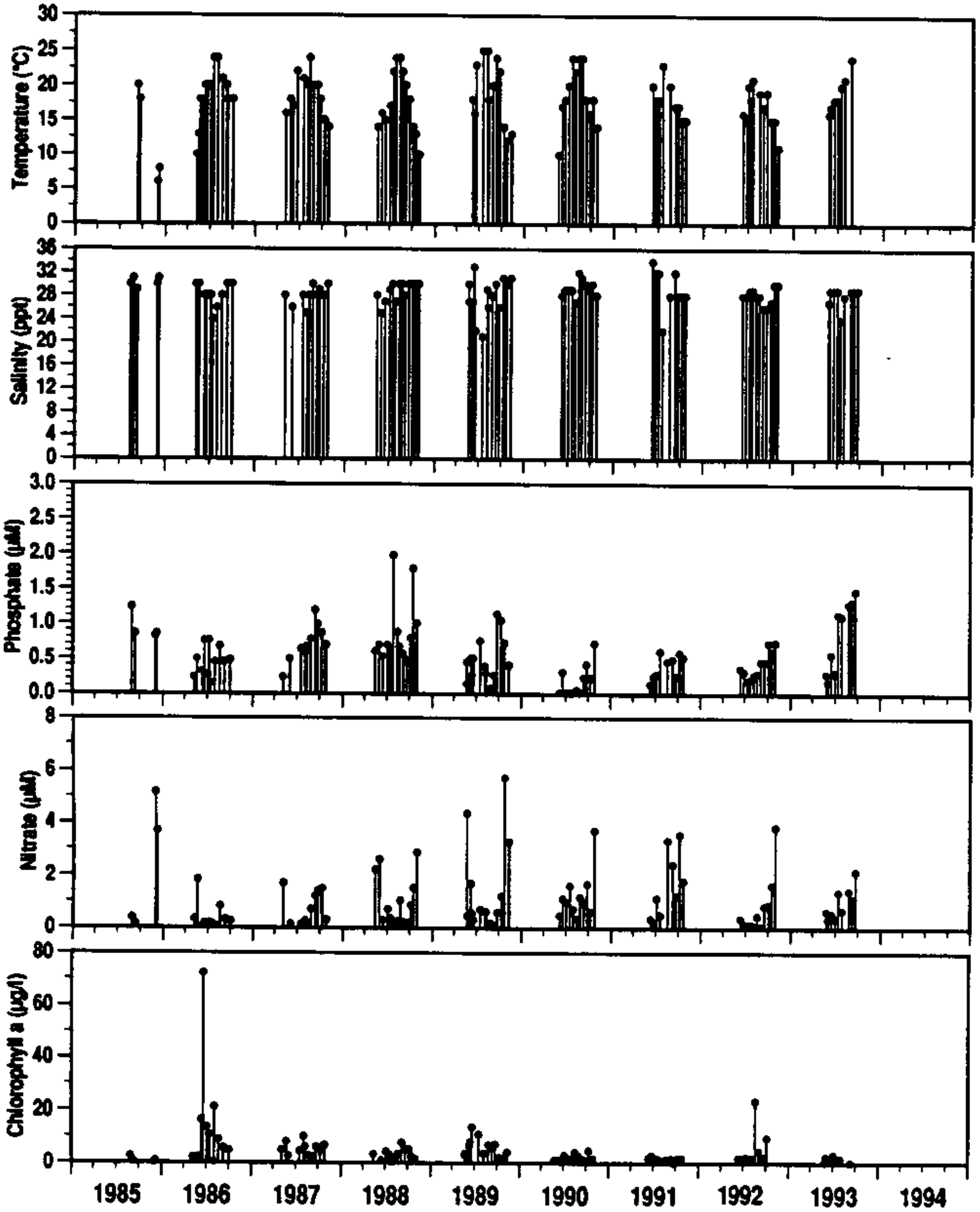
Winnapaug Pond

Station 20A



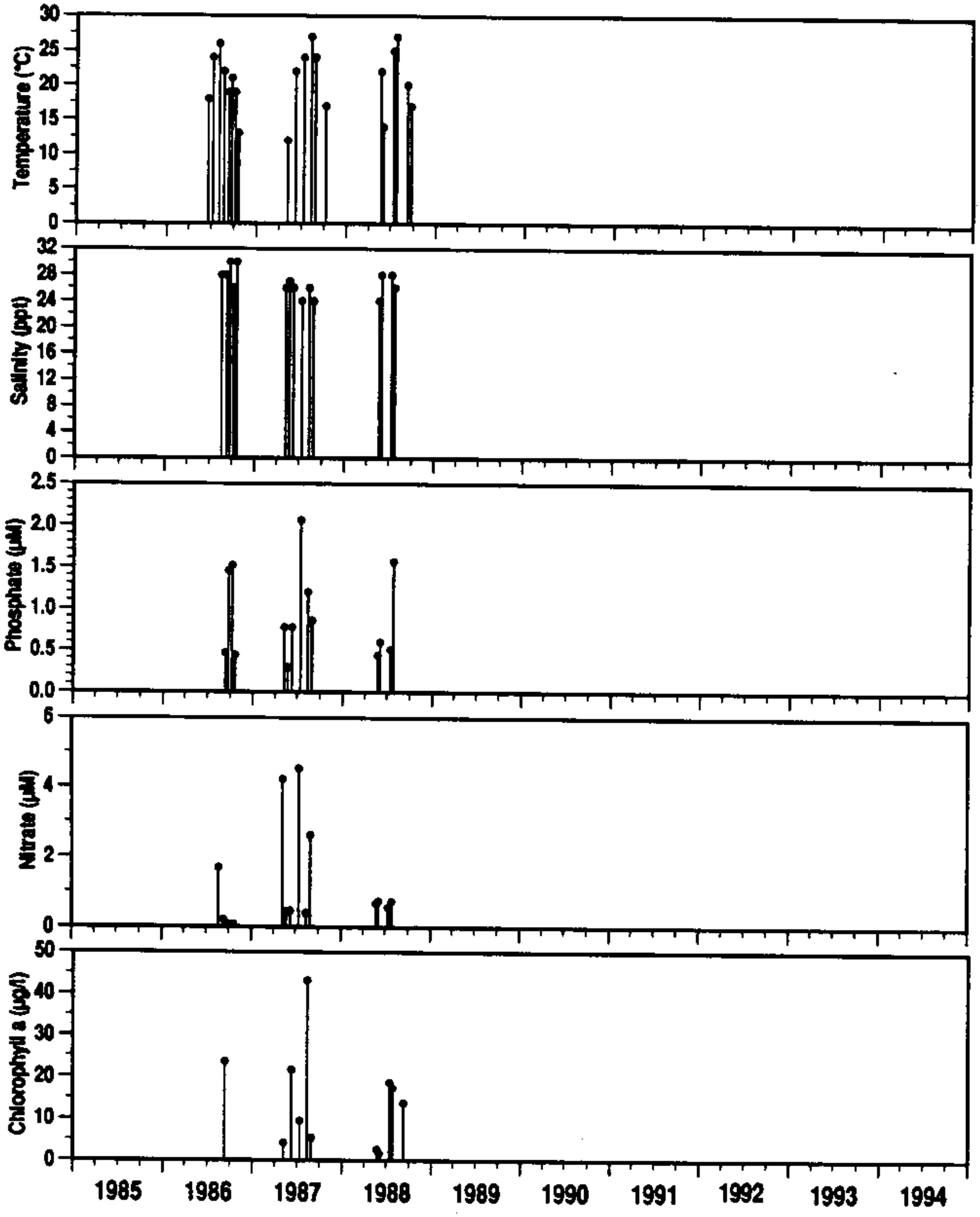
Winnapaug Pond

Station 21



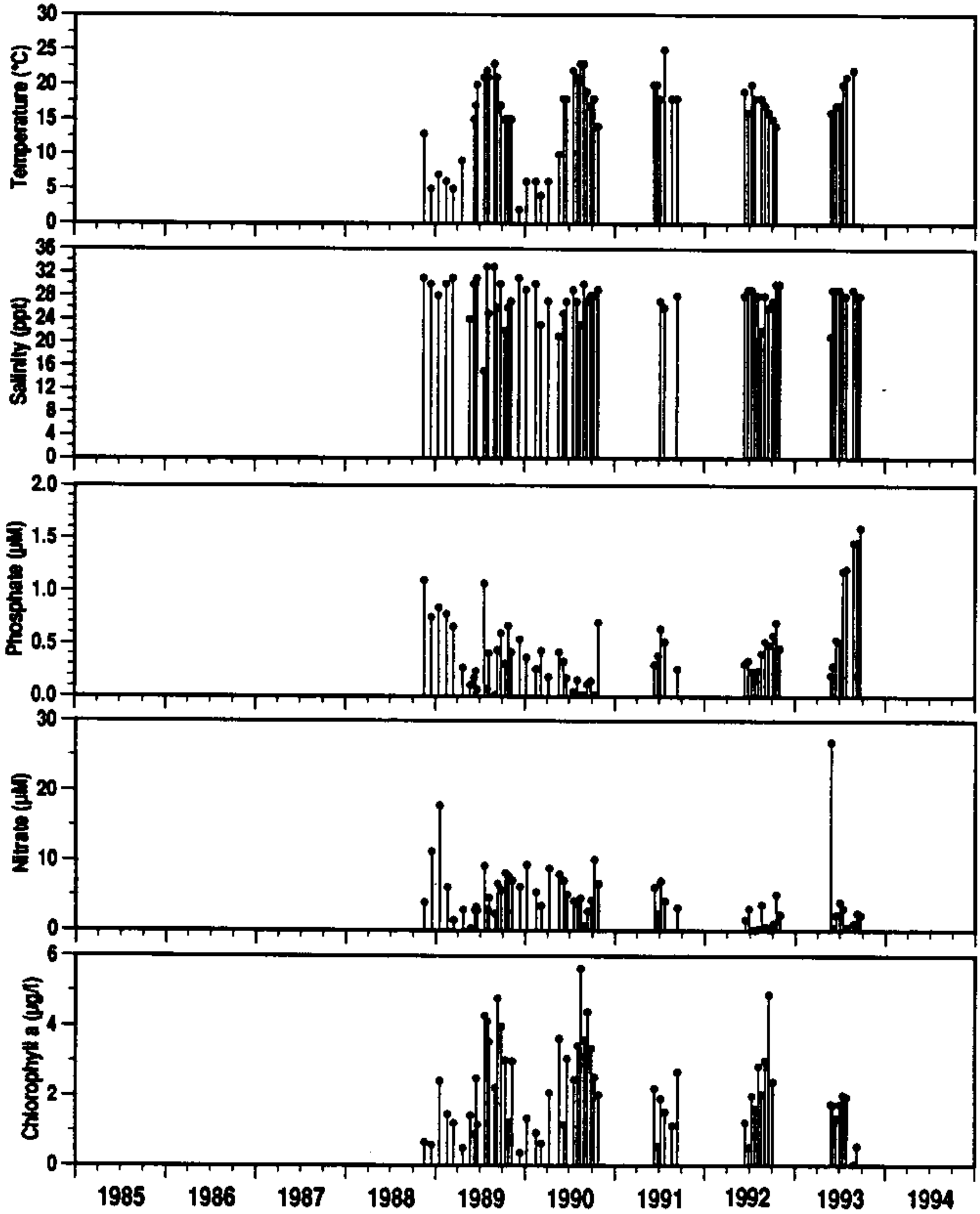
Winnapaug Pond

Station 21A



Winnapaug Pond

Station 22



WINNIPAUG POND WATER CHEMISTRY DATA 1985-1994

POND	SITE	STATION	DATE	TEMP (°C)	SDOX (mg/l)	BDOX (mg/l)	SALT (ppt)	N (µM/l)	P (µM/l)	CHLA (µg/l)	SECCHI (m)	DEPTH (m)
WP	ON	19	15-Aug-85	25	9.0	.	.	.	.	.	.	.
WP	ON	19	20-Aug-85	23	9.0	.	.	.	.	.	.	.
WP	ON	19	28-Aug-85	23	.	.	.	.	.	.	.	.
WP	ON	19	5-May-86	15	13.0	.	28	0.90	0.36	.	.	.
WP	ON	19	19-May-86	18	10.0	.	30	1.35	0.64	0.39	.	.
WP	ON	19	2-Jun-86	.	.	.	24	1.71	5.71	20.87	.	.
WP	ON	19	5-Jun-86	22	9.0	.	29	0.20	0.81	3.45	.	.
WP	ON	19	18-Jun-86	21	12.0	.	27	0.22	0.52	21.63	.	.
WP	ON	19	19-Jun-86	.	.	.	29	1.11	0.39	12.38	.	.
WP	ON	19	7-Jul-86	26	12.0	.	28	0.19	0.87	12.48	.	.
WP	ON	19	14-Jul-86	20	9.0	.	26	1.08	0.85	5.58	.	.
WP	ON	19	1-Aug-86	22	9.0	.	25	0.38	0.51	30.90	.	.
WP	ON	19	20-Aug-86	24	11.0	.	24	1.49	0.92	11.47	.	.
WP	ON	19	10-Sep-86	22	9.0	.	25	6.27	0.41	30.73	.	.
WP	ON	19	23-Sep-86	20	12.0	.	29	0.07	0.23	13.29	.	.
WP	ON	19	6-Oct-86	19	9.0	.	.	.	.	.	.	.
WP	ON	19	20-Oct-86	15	10.0	.	30	0.71	0.39	5.27	.	.
WP	ON	19	8-May-87	14	14.0	.	25	1.16	0.48	1.36	1.0	1.0
WP	ON	19	8-Jun-87	21	.	.	26	0.26	0.58	10.12	1.2	1.2
WP	ON	19	19-Jun-87	.	.	.	28	0.21	0.36	9.91	.	.
WP	ON	19	13-Jul-87	22	11.0	.	26	0.14	0.72	5.92	1.2	1.2
WP	ON	19	12-Aug-87	25	9.0	.	28	1.88	1.73	6.42	0.9	0.9
WP	ON	19	28-Aug-87	22	10.0	.	26	0.39	0.61	2.96	1.0	1.0
WP	ON	19	9-Oct-87	17	.	.	.	.	.	.	.	.
WP	ON	19	23-May-88	20	13.0	.	26	0.53	0.46	5.86	0.6	0.6
WP	ON	19	2-Jun-88	18	11.0	.	28	0.68	0.54	4.12	0.7	0.7
WP	ON	19	13-Jun-88	23	12.0	.	29	0.47	0.60	4.87	0.8	0.8
WP	ON	19	12-Jul-88	25	14.0	.	28	0.56	0.81	2.79	1.0	1.0
WP	ON	19	26-Jul-88	28	15.0	.	28	0.46	1.09	3.05	0.8	0.8
WP	ON	19	24-Aug-88	23	14.0	.	26	3.13	1.01	19.45	0.9	0.9
WP	ON	19	9-Sep-88	20	12.0	.	30	0.44	0.77	2.86	1.0	1.0
WP	ON	19	23-Sep-88	18	11.0	.	30	0.76	0.71	.	0.7	0.7
WP	ON	19	9-Jun-89	18	.	.		.			0.7	0.7
WP	ON	19	20-Jun-89	25	.	.	24	3.50	1.38	9.47	0.8	0.8
WP	ON	19	17-Jul-89	24	0.7	.	31	0.84	1.30	12	0.8	0.8
WP	ON	19	31-Jul-89	26	1.4	.	24	2.95	0.81	11.1	1.4	1.4
WP	ON	19	8-Aug-89	27	1.2	.	34	2.16	0.58	7.3	1.2	1.2
WP	ON	19	27-Aug-89	24	1.6	.	25	0.99	0.55	8.81	1.6	1.6
WP	ON	19	17-Sep-89	19	1.4	.	25	1.44	0.56	2.16	1.4	1.4
WP	ON	19	25-May-90	16	.	.	28	1.26	0.08	1.01	0.7	0.7
WP	ON	19	2-Jun-90	20	.	.	27	0.33	0.02	1.48	0.6	0.6
WP	ON	19	21-Jun-90	21	.	.	29	0.46	0.02	1.29	1.0	1.0
WP	ON	19	3-Jul-90		.	.	30	0.26	0.59	.	0.6	0.6
WP	ON	19	14-Jul-90	24	.	.	30	0.22	0.52	8.90	0.6	0.6
WP	ON	19	3-Aug-90	26	.	.	28	0.39	0.22	2.64	0.7	0.7
WP	ON	19	15-Aug-90	25	.	.	26	0.12	0.06	1.03	0.9	0.9
WP	ON	19	25-Aug-90	23	.	.	30	0.50	0.27	0.51	0.9	0.9
WP	ON	19	26-Sep-90	19	.	.	29	0.61	0.12	1.89	0.8	0.8
WP	ON	19	10-Oct-90	16	.	.	27	3.90	0.46	0.90	0.8	0.8
WP	ON	19	6-Dec-90	12	.	.	.	0.23	1.22	31.28	.	0.6
WP	ON	19	7-Jan-91	6	.	.	.	.	.	5.55	.	0.7
WP	ON	19	10-Feb-91	4	.	.	30	1.65	2.16	5.38	.	0.5
WP	ON	19	18-Mar-91	6	.	.	30	2.49	0.39	2.07	.	0.5

WP	ON	19	14-Apr-91	11	.	.	34	1.63	0.52	0.42	.	0.7
WP	ON	19	20-May-91	30	.	.	33	0.86	0.43	0.76	.	0.8
WP	ON	19	1-Jul-91	.	.	.	28	3.20	0.35	0.93	.	.
WP	ON	19	4-Aug-91	.	.	.	23	3.78	0.17	1.5	.	.
WP	ON	19	17-Aug-91	.	.	.	.	.	.	1.34	.	.
WP	ON	19	2-Sep-91	.	.	.	28	1.42	0.02	1.32	.	.
WP	ON	19	20-Sep-91	.	.	.	28	0.92	0.18	0.75	.	.
WP	ON	19	24-Jun-92	18	.	.	27	2.38	0.84	2.29	.	0.8
WP	ON	19	16-Jul-92	23	.	.	26	3.12	0.48	4.84	.	.
WP	ON	19	29-Jul-92	23	.	.	27	1.95	0.27	1.02	.	.
WP	ON	19	8-Aug-92	26	.	.	28	1.29	0.41	.	.	.
WP	ON	19	22-Aug-92	27	.	.	29	1.29	0.08	2.29	.	.
WP	ON	19	11-Sep-92	24	.	.	.	.	.	12.10	.	.
WP	ON	19	22-Sep-92	25	.	.	.	.	.	5.14	.	.
WP	ON	19	16-Oct-92	13	.	.	.	.	.	0.68	.	.
WP	ON	19	26-May-93	.	.	.	29	0.14	0.14	2.72	.	.
WP	ON	19	2-Jun-93	18	.	.	30	0.26	0.26	3.97	.	.
WP	ON	19	16-Jun-93	21	.	.	28	1.04	1.35	1.7	.	.
WP	ON	19	30-Jun-93	22	.	.	28	1.43	1.52	1.42	.	.
WP	ON	19	14-Jul-93	23	.	.	29	1.33	1.52	0.05	.	.
WP	ON	19	28-Jul-93	20	.	.	29	1.05	1.4	0.02	.	.
WP	ON	19	11-Aug-93	26	.	.	29	1.36	1.49	0.52	.	.
WP	ON	19	25-Aug-93	22	.	.	.	.	.	.	.	.
WP	ON	19	8-Sep-93	.	.	.	30	2.52	0.57	.	.	.
WP	ON	19	22-Sep-93	21	.	.	.	.	.	.	.	.
WP	ON	19A	2-Jul-86	20	8.0	.	26	1.78	1.13	6.06	.	.
WP	ON	19A	21-Jul-86	23	9.0	.	28	0.71	0.87	70.11	.	.
WP	ON	19A	8-Aug-86	23	6.0	.	26	0.39	1.69	161.62	.	.
WP	ON	19A	20-Aug-86	23	11.0	.	26	3.39	1.27	.	.	.
WP	ON	19A	5-Sep-86	19	10.0	.	25	4.18	1.10	10.18	.	.
WP	ON	19A	21-Sep-86	16	8.0	.	27	5.74	0.59	28.49	.	.
WP	ON	19A	2-Oct-86	16	11.0	.	27	4.89	0.62	.	.	.
WP	ON	19A	20-Oct-86	.	.	.	.	.	.	34.00	.	.
WP	ON	19A	27-Oct-86	12	9.0	.	26	4.85	0.29	4.07	.	.
WP	ON	19A	4-May-87	7	13.0	.	21	5.30	0.23	4.75	0.9	0.9
WP	ON	19A	18-May-87	15	.	.	27	2.67	0.06	1.58	0.5	0.5
WP	ON	19A	2-Jun-87	17	.	.	23	4.17	0.39	10.11	0.8	0.8
WP	ON	19A	17-Jun-87	22	.	.	28	0.91	0.50	4.56	0.8	0.8
WP	ON	19A	13-Jul-87	22	3.0	.	28	0.07	0.53	2.02	0.9	0.9
WP	ON	19A	28-Jul-87	24	4.0	.	27	0.07	0.63	6.54	0.8	0.8
WP	ON	19A	13-Aug-87	24	5.0	.	26	2.55	1.35	11.76	0.8	0.8
WP	ON	19A	29-Aug-87	17	9.0	.	24	4.28	1.26	1.22	0.8	0.8
WP	ON	19A	11-Sep-87	20	8.0	.	27	3.61	1.14	3.43	0.8	0.8
WP	ON	19A	24-Sep-87	16	11.0	.	28	2.83	1.11	2.57	0.8	0.8
WP	ON	19A	23-Oct-87	13	11.0	.	28	1.72	0.55	3.43	0.8	0.8
WP	ON	19A	7-May-88	15	12.0	.	27	1.92	0.53	5.68	0.8	0.8
WP	ON	19A	20-May-88	16	12.0	.	26	1.75	0.69	1.02	0.8	0.8
WP	ON	19A	4-Jun-88	16	12.0	.	28	0.45	0.49	11.12	0.8	0.8
WP	ON	19A	21-Jun-88	.	.	.	28	2.19	0.59	3.38	0.8	0.8
WP	ON	19A	7-Jul-88	25	16.0	.	28	0.43	0.80	.	0.8	0.8
WP	ON	19A	19-Jul-88	25	8.0	.	28	2.33	1.02	4.87	0.8	0.8
WP	ON	19A	2-Aug-88	25	13.0	.	28	0.56	1.88	2.50	0.8	0.8
WP	ON	19A	17-Aug-88	25	13.0	.	24	0.32	1.19	4.77	0.8	0.8

WP	ON	19A	30-Aug-88	22	14.0	.	28	1.69	1.07	4.56	0.8	0.8
WP	ON	19A	21-Sep-88	22	14.0	.	28	2.34	0.81	1.76	0.8	0.8
WP	ON	19A	19-Oct-88	12	12.0	.	30	3.00	0.66	1.99	0.8	0.8
WP	ON	19A	2-Nov-88	8	10.0	.	.	.	.	.	0.8	0.8
WP	ON	19A	22-Nov-88	6	.	.	26	7.18	0.60	3.92	.	.
WP	OFF	19A	14-Dec-88	1	.	.	26	8.21	0.61	0.98	.	.
WP	OFF	19A	23-Jan-89	1	.	.	30	2.96	0.45	0.98	.	.
WP	OFF	19A	16-Mar-89	6	.	.	20	3.18	0.31	0.94	.	.
WP	OFF	19A	18-Apr-89	13	.	.	32	4.72	0.42	1.97	.	.
WP	ON	20	4-Aug-85	21	15.0	.	.	.	.	1.98	.	.
WP	ON	20	15-Aug-85	25	12.0	.	.	.	.	39.78	.	.
WP	ON	20	6-Sep-85	24	11.0	.	.	.	.	.	.	.
WP	ON	20	15-Sep-85	22	10.0	.	.	.	.	.	.	.
WP	ON	20	8-Dec-85	8	17.0	.	29	17.48	0.90	1.02	.	.
WP	ON	20	2-Jul-86	19	8.0	.	28	0.81	0.31	10.81	.	.
WP	ON	20	21-Jul-86	22	9.0	.	28	0.29	0.39	6.06	.	.
WP	ON	20	8-Aug-86	22	7.0	.	27	1.26	0.65	20.68	.	.
WP	ON	20	20-Aug-86	23	11.0	.	28	0.49	0.67	0.60	.	.
WP	ON	20	5-Sep-86	19	10.0	.	29	0.59	0.27	10.30	.	.
WP	ON	20	21-Sep-86	16	9.0	.	30	1.10	0.31	10.65	.	.
WP	ON	20	2-Oct-86	16	11.0	.	30	0.58	0.51	11.97	.	.
WP	ON	20	27-Oct-86	12	9.0	.	30	0.43	0.28	24.30	.	.
WP	ON	20	4-May-87	7	12.0	.	28	0.33	0.29	2.97	0.9	0.9
WP	ON	20	18-May-87	15	.	.	29	0.42	0.19	2.18	0.5	0.5
WP	ON	20	2-Jun-87	17	.	.	28	1.03	0.21	7.53	0.8	0.8
WP	ON	20	17-Jun-87	20	.	.	28	0.21	0.19	4.36	0.8	0.8
WP	ON	20	13-Jul-87	20	9.0	.	27	0.07	0.29	3.96	.	.
WP	ON	20	28-Jul-87	24	7.0	.	29	0.07	0.24	5.55	0.8	0.8
WP	ON	20	13-Aug-87	22	7.0	.	27	0.28	0.83	1.47	0.8	0.8
WP	ON	20	29-Aug-87	17	12.0	.	28	0.82	0.85	0.49	0.8	0.8
WP	ON	20	11-Sep-87	20	10.0	.	26	0.71	0.24	0.98	0.8	0.8
WP	ON	20	24-Sep-87	16	11.0	.	29	1.10	0.34	.	0.8	0.8
WP	ON	20	23-Oct-87	14	12.0	.	29	0.55	0.58	0.24	0.8	0.8
WP	ON	20	7-May-88	15	13.0	.	28	0.13	0.43	3.14	0.8	0.8
WP	ON	20	20-May-88	15	14.0	.	28	0.17	0.37	3.36	0.8	0.8
WP	ON	20	4-Jun-88	14	14.0	.	30	0.56	0.66	1.76	0.8	0.8
WP	ON	20	21-Jun-88	.	.	.	27	0.32	0.70	3.29	0.8	0.8
WP	ON	20	7-Jul-88	22	15.0	.	30	0.40	0.74	1.27	0.8	0.8
WP	ON	20	19-Jul-88	22	11.0	.	25	0.56	0.65	3.05	0.8	0.8
WP	ON	20	2-Aug-88	26	16.0	.	28	1.26	0.80	3.82	0.8	0.8
WP	ON	20	17-Aug-88	24	15.0	.	30	0.61	0.86	3.31	0.8	0.8
WP	ON	20	30-Aug-88	22	11.0	.	30	0.33	0.69	3.39	0.8	0.8
WP	ON	20	21-Sep-88	22	14.0	.	29	0.55	0.43	3.43	0.8	0.8
WP	ON	20	19-Oct-88	13	11.0	.	30	0.33	0.65	1.62	0.8	0.8
WP	ON	20	2-Nov-88	8	12.0	.	.	.	.	.	0.8	0.8
WP	ON	20	22-Nov-88	8	.	.	27	4.86	1.27	1.26	.	.
WP	ON	20	14-Dec-88	5	.	.	28	4.95	1.38	0.43	.	.
WP	ON	20	23-Jan-89	0	.	.	30	3.80	0.73	0.43	.	.
WP	ON	20	16-Mar-89	5	.	.	30	2.14	0.60	1.07	.	.
WP	ON	20	18-Apr-89	14	.	.	20	1.20	0.38	2.32	.	.
WP	ON	20A	4-Aug-85	20	13.0	.	.	.	.	17.34	.	.
WP	ON	20A	15-Aug-85	24	11.0	.	.	.	.	2.50	.	.
WP	ON	20A	6-Sep-85	23	13.0	.	.	.	.	.	.	.

WP	ON	20A	15-Sep-85	18	10.0	.	.	.	.	.	.	.
WP	ON	20A	8-Dec-85	7	18.0	.	30	17.73	1.00	0.38	.	.
WP	ON	21	15-Aug-85	.	.	.	30	.	..	.	.	.
WP	ON	21	28-Aug-85	.	.	.	31	0.37	1.24	2.55	.	.
WP	ON	21	11-Sep-85	20	10.0	.	29	0.14	0.86	0.39	.	.
WP	ON	21	19-Sep-85	18	11.0	.	.	.	.	.	.	.
WP	ON	21	30-Nov-85	6	.	.	30	5.18	0.82	0.09	.	.
WP	ON	21	8-Dec-85	8	.	.	31	3.69	0.86	0.69	.	.
WP	ON	21	8-May-86	10	11.0	.	30	0.33	0.24	2.18	.	.
WP	ON	21	13-May-86	13	12.0	.	.	.	.	2.01	.	.
WP	ON	21	20-May-86	18	12.0	.	30	1.85	0.50	.	.	.
WP	ON	21	28-May-86	18	8.0	.	.	.	.	2.21	.	.
WP	ON	21	2-Jun-86	18	12.0	.	.	.	.	.	.	.
WP	ON	21	11-Jun-86	20	12.0	.	28	0.07	0.32	16.28	.	.
WP	ON	21	19-Jun-86	20	12.0	.	28	0.19	0.76	72.25	.	.
WP	ON	21	3-Jul-86	20	8.0	.	28	0.09	0.27	13.65	.	.
WP	ON	21	8-Jul-86	.	.	.	28	0.20	0.76	.	.	.
WP	ON	21	15-Jul-86	24	9.0	.	24	0.17	0.15	10.77	.	.
WP	ON	21	1-Aug-86	24	12.0	.	26	0.10	0.45	0.24	.	.
WP	ON	21	2-Aug-86	.	.	.	.	.	.	21.15	.	.
WP	ON	21	20-Aug-86	21	10.0	.	28	0.82	0.68	8.98	.	.
WP	ON	21	6-Sep-86	20	9.0	.	.	.	.	.	.	.
WP	ON	21	9-Sep-86	18	12.0	.	30	0.31	0.46	5.79	.	.
WP	ON	21	1-Oct-86	18	10.0	.	30	0.25	0.48	4.79	.	.
WP	ON	21	5-May-87	16	15.0	.	28	1.70	0.24	4.95	0.8	1.3
WP	ON	21	23-May-87	18	14.0	.	.	.	.	8.13	0.7	1.2
WP	ON	21	2-Jun-87	17	12.0	.	26	0.15	0.50	2.77	1.4	1.5
WP	ON	21	19-Jun-87	22	.	.	.	.	.	.	1.5	1.8
WP	ON	21	16-Jul-87	21	13.0	.	28	0.15	0.64	4.41	1.8	1.8
WP	ON	21	1-Aug-87	20	11.0	.	25	0.28	0.59	10.03	1.5	1.5
WP	ON	21	9-Aug-87	24	9.0	.	28	0.12	0.68	6.12	1.8	1.8
WP	ON	21	26-Aug-87	20	8.0	.	30	0.72	0.78	2.69	1.7	1.7
WP	ON	21	12-Sep-87	20	9.0	.	28	1.22	1.19	2.45	1.6	1.6
WP	ON	21	22-Sep-87	18	9.0	.	29	1.42	0.99	6.00	1.7	1.7
WP	ON	21	9-Oct-87	15	9.0	.	28	1.51	0.87	5.14	1.4	1.4
WP	ON	21	25-Oct-87	14	11.0	.	30	0.32	0.70	6.61	1.5	1.5
WP	ON	21	12-May-88	14	13.0	.	28	2.25	0.61	3.35	1.5	1.5
WP	ON	21	30-May-88	16	14.0	.	25	2.62	0.70	.	1.7	1.7
WP	ON	21	13-Jun-88	15	15.0	.	27	0.32	0.54	1.18	1.5	1.5
WP	ON	21	2-Jul-88	17	11.0	.	29	0.72	0.70	4.23	1.7	1.7
WP	ON	21	15-Jul-88	22	12.0	.	30	0.37	0.62	3.22	1.8	1.8
WP	ON	21	26-Jul-88	24	11.0	.	27	0.24	1.98	0.22	1.1	1.5
WP	ON	21	12-Aug-88	24	8.0	.	30	0.27	0.89	1.93	1.7	1.8
WP	ON	21	22-Aug-88	22	10.0	.	30	1.05	0.68	3.50	1.3	1.5
WP	ON	21	5-Sep-88	20	10.0	.	28	0.23	0.57	7.67	1.7	1.9
WP	ON	21	19-Sep-88	18	10.0	.	30	0.22	0.48	5.17	1.4	1.8
WP	ON	21	5-Oct-88	14	10.0	.	30	0.88	0.80	5.05	1.4	1.4
WP	ON	21	16-Oct-88	13	11.0	.	30	1.54	1.79	2.23	1.6	1.6
WP	ON	21	30-Oct-88	10	11.0	.	30	2.89	1.01	1.48	1.7	1.7
WP	ON	21	22-May-89	.	.	.	30	0.46	0.15	2.89	.	.
WP	ON	21	23-May-89	.	.	.	27	4.37	0.45	3.68	.	.
WP	ON	21	5-Jun-89	18	.	.	26	0.58	0.17	3.14	1.5	1.5
WP	ON	21	9-Jun-89	.	.	.	27	1.70	0.51	6.53	1.5	1.5
WP	ON	21	12-Jun-89	16	.	.	33	0.56	0.27	8.01	.	.

WP	ON	21	19-Jun-89	23	.	.	22	0.31	0.51	13.65	1.0	1.2
WP	ON	21	16-Jul-89	25	.	.	21	0.73	0.76	10.92	1.6	1.6
WP	ON	21	4-Aug-89	25	.	.	29	0.63	0.39	3.77	1.5	1.5
WP	ON	21	9-Aug-89	18	.	.	26	0.62	0.30	3.71	1.6	1.6
WP	ON	21	27-Aug-89	20	.	.	28	0.22	0.08	6.82	1.2	1.2
WP	ON	21	10-Sep-89	24	.	.	30	0.12	0.27	5.88	1.8	1.9
WP	ON	21	22-Sep-89	22	.	.	26	0.61	1.14	7.19	1.5	1.8
WP	ON	21	9-Oct-89	14	.	.	31	1.22	1.05	2.01	1.6	1.6
WP	ON	21	22-Oct-89	12	.	.	30	5.71	0.73	1.5	1.5	1.5
WP	ON	21	10-Nov-89	13	.	.	31	3.27	0.41	4.02	1.5	1.5
WP	ON	21	22-May-90	10	.	.	.	.	.	1.07	1.9	1.9
WP	ON	21	6-Jun-90	17	.	.	28	0.49	0.02	1.41	1.5	1.5
WP	ON	21	19-Jun-90	18	.	.	29	1.13	0.31	0.61	1.5	1.5
WP	ON	21	3-Jul-90	20	.	.	29	0.99	0.02	3.12	1.8	1.8
WP	ON	21	17-Jul-90	24	.	.	29	1.63	0.02	1.61	1.3	1.3
WP	ON	21	31-Jul-90	22	.	.	27	0.75	0.02	1.51	1.7	1.7
WP	ON	21	14-Aug-90	24	.	.	32	0.38	0.06	4.06	1.7	1.7
WP	ON	21	28-Aug-90	24	.	.	31	1.18	0.02	2.85	1.6	1.6
WP	ON	21	11-Sep-90	18	.	.	30	0.98	0.24	1.78	2.2	2.2
WP	ON	21	25-Sep-90	16	.	.	29	1.68	0.42	1.11	1.4	1.4
WP	ON	21	9-Oct-90	18	.	.	30	0.64	0.23	4.67	1.5	1.5
WP	ON	21	25-Oct-90	14	.	.	28	3.71	0.72	1.66	1.7	1.7
WP	ON	21	10-Jun-91	20	.	.	34	0.37	0.14	1.94	.	1.5
WP	ON	21	24-Jun-91	18	.	.	32	0.22	0.25	2.89	.	.
WP	ON	21	6-Jul-91	18	.	.	32	1.14	0.28	1.79	.	.
WP	ON	21	22-Jul-91	23	.	.	22	0.50	0.61	1.47	.	.
WP	ON	21	20-Aug-91	20	.	.	28	3.33	0.47	1.27	.	.
WP	ON	21	10-Sep-91	17	.	.	32	2.44	0.50	1.68	.	.
WP	ON	21	23-Sep-91	17	.	.	28	1.24	0.26	0.04	.	.
WP	ON	21	7-Oct-91	15	.	.	28	3.55	0.59	1.70	.	.
WP	ON	21	23-Oct-91	15	.	.	28	1.80	0.53	1.63	.	.
WP	ON	21	11-Jun-92	16	.	.	28	0.37	0.36	1.92	1.7	1.7
WP	ON	21	26-Jun-92	15	.	.	28	0.18	0.32	1.75	1.7	1.7
WP	ON	21	5-Jul-92	20	.	.	.	.	.	.	2.0	2.0
WP	ON	21	10-Jul-92	18	.	.	29	0.07	0.20	2.34	1.8	1.8
WP	ON	21	22-Jul-92	21	.	.	29	0.16	0.21	1.88	.	.
WP	ON	21	5-Aug-92	.	.	.	28	0.12	0.27	1.96		
WP	ON	21	18-Aug-92	19	.	.	28	0.46	0.30	23.64	1.5	1.5
WP	ON	21	1-Sep-92	17	.	.	26	0.07	0.46	4.58	1.6	1.6
WP	ON	21	16-Sep-92	19	.	.	26	0.85	0.46	2.39	1.6	1.6
WP	ON	21	3-Oct-92	15	.	.	27	0.91	0.73	9.65	1.0	1.5
WP	ON	21	16-Oct-92	15	.	.	30	1.64	0.61	.	1.4	2.0
WP	ON	21	31-Oct-92	11	.	.	30	3.86	0.74	.	2.1	2.1
WP	ON	21	26-May-93	16	.	.	27	0.64	0.29	0.26	0.74	0.74
WP	ON	21	2-Jun-93	17	.	.	29	0.36	0.18	2.43	2.43	2.43
WP	ON	21	16-Jun-93	18	.	.	29	0.57	0.57	1.02	0.72	0.72
WP	ON	21	30-Jun-93	18	.	.	29	0.40	0.31	3.2	.	.
WP	ON	21	14-Jul-93	20	.	.	24	1.38	1.14	1.56	0.69	0.69
WP	ON	21	28-Jul-93	21	.	.	28	0.71	1.12	1.79	0.65	0.65
WP	ON	21	11-Aug-93	.	.	.	.	.	.			
WP	ON	21	25-Aug-93	24	.	.	29	1.44	1.29		0.72	0.3
WP	ON	21	8-Sep-93	.	.	.	29	1.13	1.32	0.17		
WP	ON	21	22-Sep-93	.	.	.	29	2.19	1.48			
WP	ON	21A	18-Jun-86	18	12.0	.	.	.	.	.	.	.

WP	ON	21A	8-Jul-86	24	14.0	.	.	.	.	.	.	.
WP	ON	21A	18-Jun-86	18	12.0	.	.	.	.	.	.	.
WP	ON	21A	8-Jul-86	24	14.0	.	.	.	.	.	.	.
WP	ON	21A	2-Aug-86	26	11.0	.	.	.	.	.	.	.
WP	ON	21A	20-Aug-86	22	9.0	.	28	1.69	.	.	.	.
WP	ON	21A	9-Sep-86	19	15.0	.	28	0.21	0.47	23.63	.	.
WP	ON	21A	23-Sep-86	21	14.0	.	30	0.07	1.46	.	.	.
WP	ON	21A	6-Oct-86	19	13.0	.	26	0.07	1.52	.	.	.
WP	ON	21A	20-Oct-86	13	16.0	.	30	0.07	0.44	.	.	.
WP	ON	21A	8-May-87	12	14.0	.	26	4.23	0.78	4.19	0.9	0.9
WP	ON	21A	23-May-87	.	.	.	27	0.44	0.30	.	0.9	0.9
WP	ON	21A	8-Jun-87	22	.	.	26	0.47	0.78	21.73	1.6	1.6
WP	ON	21A	13-Jul-87	24	9.0	.	24	4.53	2.06	9.63	1.1	1.1
WP	ON	21A	12-Aug-87	27	14.0	.	26	0.40	1.20	43.21	1.4	1.4
WP	ON	21A	28-Aug-87	24	11.0	.	24	2.62	0.86	5.43	.	.
WP	ON	21A	9-Oct-87	17	.	.	.	.	.	.	.	.
WP	ON	21A	23-May-88	22	13.0	.	24	0.68	0.44	2.72	0.7	0.7
WP	ON	21A	2-Jun-88	14	12.0	.	28	0.75	0.60	1.69	1.2	1.2
WP	ON	21A	12-Jul-88	25	13.0	.	28	0.57	0.51	18.74	0.5	1.2
WP	ON	21A	26-Jul-88	27	14.0	.	26	0.74	1.57	17.45	0.6	0.6
WP	ON	21A	9-Sep-88	20	12.0	.	.	.	.	13.77	0.8	0.8
WP	ON	21A	23-Sep-88	17	10.0	.	.	.	.	.	1.0	1.0
WP	ON	22	15-Nov-88	13	.	.	31	3.97	1.10	0.67	.	.
WP	ON	22	15-Dec-88	5	.	.	30	11.23	0.75	0.59	.	.
WP	ON	22	15-Jan-89	7	.	.	28	17.84	0.84	2.43	.	.
WP	ON	22	16-Feb-89	6	.	.	30	6.18	0.78	1.48	.	.
WP	ON	22	15-Mar-89	5	.	.	31	1.48	0.66	1.22	.	.
WP	ON	22	21-Apr-89	9	.	.	.	2.94	0.27	0.50	.	.
WP	ON	22	21-May-89		.	.	24	0.34	0.11	1.44	.	.
WP	ON	22	7-Jun-89	15	.	.	30	2.86	0.18	0.91	.	KNEE DEEP
WP	ON	22	14-Jun-89	17	.	.	30	3.42	0.24	2.5	.	0.3
WP	ON	22	20-Jun-89	20	.	.	31	2.85	0.07	1.18	.	KNEE DEEP
WP	ON	22	19-Jul-89	21	.	.	15	9.27	1.07	4.3	.	KNEE DEEP
WP	ON	22	31-Jul-89	22	.	.	33	3.00	0.08	4.13	.	KNEE DEEP
WP	ON	22	7-Aug-89	21	9.9	.	25	4.65	0.41	3.55	.	KNEE DEEP
WP	ON	22	30-Aug-89	23	8.3	.	33	2.42	0.02	2.24	.	0.5
WP	ON	22	9-Sep-89	21	9.2	.	26	6.69	0.44	4.79	.	0.5
WP	ON	22	25-Sep-89	17	9.8	.	30	5.83	0.60	3.99	.	0.5
WP	ON	22	11-Oct-89	15	10.4	.	22	8.16	0.31	3.03	.	0.5
WP	ON	22	24-Oct-89	15	9.5	.	26	7.72	0.67	1.24	.	0.5
WP	ON	22	7-Nov-89	15	11.4	.	27	7.13	0.42	3	.	0.5
WP	ON	22	9-Dec-89	2	3.1	.	31	6.26	0.54	0.36	.	.
WP	ON	22	6-Jan-90	6	2.7	.	29	9.37	0.37	1.36	.	.
WP	ON	22	14-Feb-90	6	10.4	.	30	5.48	0.26	0.93	.	.
WP	ON	22	8-Mar-90	4	10.9	.	23	3.58	0.43	0.64	.	.
WP	ON	22	7-Apr-90	6	11.0	.	27	8.89	0.19	2.08	.	.
WP	ON	22	19-May-90	10	8.6	.	21	8.06	0.42	3.64	.	0.6
WP	ON	22	7-Jun-90	18	9.5	.	25	7.17	0.33	1.17	.	0.6
WP	ON	22	19-Jun-90	18	8.6	.	27	5.09	0.18	3.07	.	0.6
WP	ON	22	17-Jul-90	22	8.9	.	29	4.26	0.05	2.47	.	0.6
WP	ON	22	2-Aug-90	21	7.5	.	27	3.82	0.16	3.45	.	KNEE DEEP
WP	ON	22	14-Aug-90	23	8.8	.	23	4.57	0.02	5.65	.	.
WP	ON	22	28-Aug-90	23	8.3	.	30	0.74	0.02	3.59	.	.
WP	ON	22	11-Sep-90	19	8.0	.	27	2.71	0.12	4.40	.	.

WP	ON	22	25-Sep-90	17	9.4	.	28	4.30	0.15	3.35	.	.
WP	ON	22	9-Oct-90	18	.	.	28	10.11	0.02	2.54	.	0.6
WP	ON	22	25-Oct-90	14	.	.	29	6.66	0.70	2.03	.	0.6
WP	ON	22	10-Jun-91	20	.	.	.	6.20	0.30	2.21	.	0.4
WP	ON	22	24-Jun-91	20	.	.	.	2.37	0.39	0.54	.	.
WP	ON	22	6-Jul-91	18	.	.	27	7.04	0.64	1.92	.	.
WP	ON	22	22-Jul-91	25	.	.	26	4.21	0.52	1.53	.	.
WP	ON	22	21-Aug-91	18	.	.	.	.	.	1.15	.	.
WP	ON	22	11-Sep-91	18	.	.	28	3.23	0.26	2.68	.	.
WP	ON	22	11-Jun-92	19	.	.	28	1.51	0.31	1.23	1.8	1.8
WP	ON	22	26-Jun-92	16	.	.	29	3.10	0.34	0.52	1.4	1.4
WP	ON	22	10-Jul-92	20	.	.	29	0.15	0.24	1.99	1.5	1.5
WP	ON	22	22-Jul-92	18	.	.	28	0.07	0.19	1.64	1.5	1.5
WP	ON	22	5-Aug-92	.	.	.	28	0.25	0.25	2.85	.	.
WP	ON	22	18-Aug-92	18	.	.	22	3.67	0.41	2.04	17.0	1.7
WP	ON	22	1-Sep-92	17	.	.	28	0.55	0.52	3.01	1.3	1.3
WP	ON	22	16-Sep-92	16	.	.	26	0.11	0.49	4.89	1.5	1.5
WP	ON	22	3-Oct-92	15	.	.	27	1.05	0.58	2.40	1.1	1.1
WP	ON	22	16-Oct-92	14	.	.	30	5.15	0.70	.	1.3	1.3
WP	ON	22	31-Oct-92	.	.	.	30	2.22	0.46	.	.	.
WP	ON	22	26-May-93	16	.	.	21	26.92	0.21	1.76	0.7	0.7
WP	ON	22	2-Jun-93	16	.	.	29	0.44	0.29	1.72	1.65	1.65
WP	ON	22	16-Jun-93	17	.	.	29	2.22	0.54	1.36	0.6	0.6
WP	ON	22	30-Jun-93	17	.	.	29	4.05	0.52	1.75	.	.
WP	ON	22	14-Jul-93	20	.	.	28	3.17	1.19	2.01	0.54	0.54
WP	ON	22	28-Jul-93	21	.	.	28	0.43	1.21	1.95	0.56	0.56
WP	ON	22	11-Aug-93		.	.						
WP	ON	22	25-Aug-93	22	.	.	29	1.04	1.46	0.03	0.54	0.6
WP	ON	22	8-Sep-93		.	.	28	2.43	1.46	0.55		
WP	ON	22	22-Sep-93		.	.	28	2.15	1.6			

Appendix A

SALT POND WATCHERS
LAB PROTOCOL MANUAL
for the
URI GRADUATE ASSISTANT

Virginia Lee
Joseph J. Schultz Tokos
Nancy Craig
Julia McMahon
Elena Martin
and
David Avery

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Narragansett, RI
December 1991

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This manual is the result of years of testing sampling methods by Salt Pond Watchers, some of whom have volunteered their time to sample Rhode Island's salt ponds since 1979. Their careful work and dedication to improve the environmental quality of the salt ponds has provided and unprecedented data set on the salt ponds and valuable information for state and town decision makers. We found the Citizens Monitoring Manual developed by Kathy Ellett of the Alliance for the Chesapeake Bay to be very useful and have adopted their format and some of their text.

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CONTENTS

PREFACE

Welcome to the Salt Pond Watchers graduate assistantship. The manual is designed as guidelines for the graduate assistant. It is an introduction to the Salt Pond Watchers program, as well as a quick reference guide for duties and lab procedures. The manual is divided into three basic lab procedures: 1) bacteria analysis; 2) water chemistry analysis; and chlorophyll analysis. There is an additional section on data management. This manual does not contain field protocols for bacteria and nutrient sampling which the graduate student assistant should also become familiar with. Field sampling protocols are all contained in the Protocol Manual for Salt Pond Watchers, CRC Technical Report #12.

INTRODUCTION

Rhode Island's coastal salt ponds have several characteristics which make them prime candidates for ecological monitoring. These characteristics are related to their physical and biological properties as well as to the fact that they are an attractive location for coastal development.

The salt ponds are shallow lagoons along Rhode Island's ocean shore. They receive water from groundwater and overland runoff and from tidal flushing from Rhode Island Sound. Daily flushing only exchanges a small percentage (about 10%) of each ponds' volume. Restricted flushing combined with nutrients draining from the surrounding watershed are the basis for the high productivity of the salt ponds.

The salt ponds are an attractive site for vacationers and local residents. People come to the ponds for fishing, quahogging, oystering, boating, swimming, birdwatching, and picnicking. Coastal development along the ponds has accelerated over the past several decades[1] and all indications suggest that it will continue to do so. Increased development along the ponds means higher nutrient loadings in the ponds from leaky septic systems, runoff from stormwater drains, fertilizer runoff from lawns, and animal feces. Nuisance algae blooms, eelgrass wasting disease and other signs of eutrophication have been associated with high nutrient inflow into coastal waters and contamination of shellfish beds has been associated with high sewage levels. Monitoring bacteria and nutrients in the ponds give an indication of changes in water quality. Measuring other parameters such as chlorophyll and eelgrass wasting disease gives evidence of how life in the ponds is reacting to changes in water quality. Evidence of serious eutrophication and bacterial contamination are signs that the type and magnitude of development around the ponds must be managed to keep the ponds healthy and safe for the activities for which they are so highly valued.

The Salt Ponds also have a long tradition of important field sites for research. They have been the subject of many graduate research theses, undergraduate class projects and major research projects. Basic ecology has been described in Ecology by Conover in 1961 and

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[1]Olsen, S. and Lee, V. 1984. Special Area Management Plan for the Salt Pond Region. RICRMP. Coastal Resources Management Council.

by Nixon, Harlin, Spaulding, Crawford, Lee and others in Estuaries in 1985. Geological processes are discussed by Boothroyd et al in 1988.

The Salt Pond Watchers program recruited its first volunteer monitors in 1979 as part of the URI Salt Pond Study with the institution of routine sampling in 1985 it became one of the first marine water quality programs to involve citizens in environmental monitoring of coastal marine systems. Each year, in Rhode Island's program, about 40 citizens donate their time to monitoring water quality in the salt ponds to assess whether conditions are getting better or worse. The information that is generated is used by state agencies for management decisions, by local municipalities for planning and zoning decisions, and by researchers at URI and local high schools. The role of the graduate student assistant in the Pond Watcher program ranges from organizing of volunteers to laboratory analysis of samples. More important, however, is the invaluable input the graduate student contributes to the final analysis and presentation of the data collected by the volunteer force.

PART 1: BACTERIA LAB ANALYSIS

BRIEF PROJECT OVERVIEW

Bacterial contamination is a major concern. It is important that shellfish harvested from the salt ponds are safe to eat and that it is safe to swim, wind surf or water ski without danger of pollution by disease causing organisms. On-site sewage disposal from rapid expansion of residential development has intensified the problem over the last few years. As a part of a long term monitoring effort to quantify the impact of the increased demand on pond resources, volunteers collect bacterial samples every two weeks from May to October. In accordance with national guidelines, bacterial contamination is assessed according to the concentration of coliform bacteria in the water. Two labs have offered their services free of charge in support of the Salt Pond Watcher Program in the east: Rhode Island Department of Health (DOH) on Orms St. in Providence and the Federal Food and Drug Administration, (FDA) at Quonset-Davisville in North Kingstown. Bacteria samples are collected in the morning on the assigned day of the sampling week from Salt Pond Watcher coordinators and taken to the appropriate lab for inoculation and analysis. Bacteria samples must be kept cold until processing (ice packs in a cooler is sufficient). Samples must be processed within 6 hours of collection to assure sample integrity. Directions to these labs are in the Appendix.

Every other Wednesday, samples are picked up from each pond coordinator by the graduate student and taken to the FDA lab in Quonset. All sample preparation and processing is done by the graduate student picking up the samples. Media is made up the Friday before (refer to appendix for recipe). People at the FDA: Bob Wetherell, Director, Diane Reitz, and Linda Chandler (lab personnel).

Before 1991 the RI DOH was used. Specific DOH procedures are described in the appendix.

BACTERIA ANALYSIS AT THE FEDERAL FOOD AND DRUG ADMINISTRATION LAB (294-2561)

1. Prepare Medium

Medium is made before samples are collected. It must be done at least one day and less than six days in advance of using it. Directions for making the A-1 medium are in the appendix, as well as in the pond watcher data notebook (to be left at FDA for the duration of the sampling season). Allow three hours to make the media (including travel time to and from the lab, media preparation and cleanup). Reserve a car with GSO maintenance.

- Be neat.
- Be sure to rinse all the counter-tops in 70% ethanol, (ETOH) an effective disinfectant.
- After you make the media up--check the pH. It should be around 6.9 ± 0.2. There is a meter and the necessary acids/bases in the lab. It is usually best not to adjust the pH with acids or bases unless absolutely necessary.

2. Set Up Test Tubes with Medium

It will take a couple of hours to make the medium. There are usually 23 samples for the Wednesday sampling so you will need about 264 tubes (21 samples x 12 tubes/sample = 252), plus a few extras for screw ups (one row of 12 is sufficient). The test tubes you will use are 16x150mm and 6x50mm (Durham) culture tubes. Use the racks which hold 6 rows of tubes. This is about 3 2/3 racks of tubes (six row racks, twelve tubes per row). Before you make up the media, check your schedule to verify the number of samples you will be running. Conflicts with holidays will cause some shifting in the schedule. When you set-up the racks of test tubes, place a Durham tube (small glass tube used to trap CO_2 emitted by the bacteria) into each test tube, open end down. Use the automatic pipet to fill each test tube with medium. Every tube should contain 10 mls of medium. Once filled, the test tubes get capped and autoclaved. All the tubes with medium must be autoclaved for 10 minutes at 121°C. Someone in the lab will run the autoclave. It is a good idea to learn how to operate it because you will need it all summer, but it is a tricky instrument. They usually like to do it themselves.

3. Process Samples

Processing of water samples for fecal coliforms should be done within 6 hours of collection. Starting at 8:30 am you will collect samples from salt pond watchers in the morning, take the big cooler and freezer packs. You will arrive at FDA around 11:00 am on Wednesday with the samples.

- Get data sheets from black "Pond-watcher's" binder stored at FDA. Sample sheets are numbered sequentially starting with 1 at the start. For each sample fill out a sheet with:

Lab #: Date:
Pond:
Sampler:
Station #:
"A1" media used

- Get media tubes from the storage cabinet--make sure the white tape says "sterilized" (the special tape shows visible black stripes when autoclaved). Each rack holds 6 samples (12 tubes/sample), have 12 extra for slip-ups, catastrophes. Label tubes with FDA sample number.
- Shake sample (violently) 25X
- Pipet 1 ml of sample into each of 12 tubes for a total of 12 tubes per sample. Don't touch tips of pipettes with hands.
- Take samples and put into air incubator at 35°C for 3 hours.
- Note time and ask Linda or Diane to put them in the 44°C water bath after 3 hours. If the lab people are not to busy they can usually switch the samples for you.
- Clean up:
  1) Put pipettes in the "discard" box.
  2) Mark extra tubes with blank white sterilizing tape and put in other room to be autoclaved and discarded.
  3) Pour remaining pond water samples down the sink and throw away sample bottles.
  4) Clean off counters with 70% ethanol.

4. Read the samples Thursday afternoon

- Bring a notebook to record results. The black binder with the data sheets stays at FDA lab. The samples must be incubated for at least 24 hours (time starts when the samples go into the air incubator at 35°C).
- Remove samples from water bath and look for gas bubbles in the Durham tubes inside test tube. If sample is cloudy and bubbles are present, that indicates a positive result. Fill in a "+" in the space on the data sheet for that sample. If there are no bubbles present it indicates a negative response. Fill in a "-" in the appropriate space on the data sheet to indicate a negative response.
- Determine the most probable number of fecal bacteria. The number of positive results recorded from the dilution series for one sample indicates that there is a 95% chance that there are "X" number of bacteria present in that particular sample. To determine

the most probable number (MPN) of fecal coliform bacterial colonies per 100ml sample, count up the "+'s" and use them to find the MPN value in the chart in back of the black binder. The MPN chart is also located in the appendix of this manual.

- Fill in data sheet with the MPN value. The FDA method gives us fecal coliform estimations only. The DOH media and method gives us both total and fecal counts.
- Be careful with the live tubes; they are active cultures of potentially toxic organisms. Mark these racks with a piece of white sterilizing tape. Put on trolley in other room. You may be asked to autoclave and dispose of your used tubes.
- Clean up: Wipe down all counters with 70% ethanol.
- Copy data sheets to bring back to CRC. Originals stay in the FDA lab.

DATA PROTOCOL APPENDIX

You can enter the data into the Salt Pond Watchers computer data file or mail a xerox copy of your lab results to Sue Nardone, Volunteer Data Manager, for her to enter into the computer file. At the end of the season she'll send a work disk of all the bacteria data. File the lab sheet at CRC Salt Pond Watchers file.

Waterfowl. Note on the "bacteria tables" tabulations whether the pond watcher reported presence of waterfowl at his/her station. You will find this info on the "field data sheet" for that station. Note the distance and number of birds.

PART 2: WATER CHEMISTRY LAB ANALYSIS

Brief Project Overview

The Water Chemistry protocols for Pond Watchers involves several steps: 1) organizing equipment and keeping volunteers supplied with sampling equipment and nutrient bottles throughout the active season, 2) periodic pick-ups of frozen samples and chlorophyll filters, 3) analyzing for nutrients, salinity, and chlorophyll, 4) quality control of volunteers, 5) entering and analyzing data, and 6) restocking supplies for next season.

Water chemistry samples are taken every other week at several stations each on the major salt ponds and at one station on Maschaug pond. (See Water Chemistry Station Maps in Pond Watchers Field Manual.) In the "water" months, November to April, each pond is sampled once a month at only one station. All pond watchers who sample for water chemistry test for temperature, chlorophyll, salinity, and nutrients as well as take down information on tide, cloud cover, and boating and waterfowl activity (See Field Data Sheet). Volunteers who sample deeper stations also take Secchi depth readings and dissolved oxygen (DO) tests with a LaMotte field kit.

The summer sampling season is usually begun with a spring kick-off meeting where supplies and sampling schedules are distributed to the Pond Watchers and spirits raised for the upcoming season. This meeting takes careful preparation, establishing the year's sampling schedule and counting out the exact number of supplies to be distributed to the Pond Watchers. A wise rule to remember is that people hoard, so keep track of every single gasket and sample bottle that is handed out. Nancy Wetherell, the volunteer pond watcher coordinator, is invaluable in preparing for the kick-off meeting.

In the first few weeks of the season, Nancy Wetherell and the graduate assistant go out on station with each Pond Watcher to verify the station location and to do a Quality Assurance/Quality Control check on the Pond Watcher. Nancy or the graduate assistant filters 3 chlorophyll samples and takes one nutrient sample right beside the Pond Watcher; both sets of samples are analyzed and comparisons done to determine the range of accuracy.

NUTRIENT ANALYSIS LAB PROTOCOL

Introduction

Nutrients are analyzed in Scott Nixon's lab using the Lachat FIA autoanalyzer. This is a complicated procedure which will take at least one training session, depending on your chemistry background, before you attempt a run yourself. For training session and for scheduling to use the autoanalyzer, speak with Betty Buckley, the technician in that lab. Betty is usually in the lab on Mondays and Tuesdays and part-time Wednesdays and can be reached at X6619.

Some helpful bits of advice. Make up artificial seawater and reagents in advance and have clean sample tubes in the oven ready to go. It is a psychological boost to have everything ready to go when you come in to start-up the machine in the morning.

The majority of the samples are run with artificial seawater (29ppt) as the carrier and standards. When running rain gauge samples or nearly fresh pond samples (Maschaug Pond, for example) substitute deionized water (DI) for ASW.

The background method is programmed in the machine as no. 19 for nitrate plus nitrite and phosphate.

Recipes for standards and reagents are included in this manual to guide you. However, these are occasionally revised by Betty, so it is best to follow the protocols on hand in the lab.

Start-Up Procedure for the Autoanalyzer

1. Check levels of artificial seawater (ASW) and reagents. Reagent receipts are on Table 1. (These are best prepared in advance so that you are ready to run when you arrive in the morning.)
2. Pull samples to be run that day out of the freezer to thaw. If you get an early start and everything is running smoothly, it is possible to run 50-60 samples in a day.
3. Switch on computer master switch.
4. Switch on machine master switch and allow to warm up.
5. Turn heater power up to 100% to warm up. Make sure water level is high. When machine is warmed up, turn heater back to 40% to save heating coil.
6. Make up standards. (Table 1) Pond Watchers background method only uses one set of standards. Nitrate, nitrite, and phosphate all go in the same standard. See standard serial dilution in the lab manual.
6. Load background method on computer by going to Load Background Method on the main menu. Hit Return. Key down to method no. 19 and hit Return again.
7. Set pump on minimum and snap modules onto pump rollers. Take pump off minimum.
8. Run D.I. H2O through all lines. Check for leaks.
9. Degas ASW and phosphate reagents with helium. Helium tank is in room 114.
10. Add 3 mls of laurel sulfate per liter to phosphate carrier and reagents.
11. Check that green valve light is on, then place reagent and carrier lines in proper bottles. Cover openings with parafilm.
12. When all air bubbles have passed through the lines, put pump on minimum and hook up cadmium column. (Make sure valve lights are on green.) Take pump off minimum.
13. Set baselines on NO2 + NO3 and PO4 channels using baseline adjustment controls.
14. Set fine gain. Manually put sampler needle into culture tube of high standard. Gently press valve lights to red on channels 1 and 3, wait 30 seconds and switch lights back to green. Adjust fine gain control up or down so that high standard peak fills window without going off the screen.

Calculating standard curve

15. You are ready to calculate your standard curve. Fill culture tubes with standards A through E and place in properly labeled holders in the sample tray. Fill a tube with ASW and place it in the sample holder marked "F". Fill another tube of ASW and place it in sample holder no. 1.
16. On main menu, move cursor to Load Sample Tray Information. Return. Return again. There is no need to label tray--the tray is automatically assigned a sequence number. Enter ASW next to no. 1 on the screen and hit [Esc]ape.
17. Move cursor to Start analysis. Return. Place cursor next to option for SAMPLES and STANDARDS. Check that holders A through F and 1 are full of samples and that the sample needle is set on the automatic arm. Hit Return.
18. Hit [Ctrl] and [Esc]ape together to display peaks. Watch screen for any irregular peaks which you might want to remove later.
19. When curve is complete, you will be given the option to [R]ecalibrate or [G]o on. First hit [Ctrl] and [Esc] keys together and move cursor to Display Calibration Data.
20. Check Nitrate and Phosphate channel curves for outliers. Delete any points which should be removed and print curve information.
21. Return to screen ([Ctrl] and [Esc]) and hit [G] to go ahead.

Running samples

22. Enter sample tray ID.'s and fill sample tray with a batch of samples. The 20th sample is a Check Standard (Stnd). Fill cup with stnd. B and place in holder 20. Make sure tray I.D.'s match up with samples in the tray.
23. Move to Start Analysis and select option for SAMPLES ONLY. Hit Return. You are running!
24. Press [Ctrl] and [Esc] to display peaks.

Recording results

25. The data printout will be in the form of two columns, one for NO2+NO3 and one for POx concentration readings; with three entries for each sample cup, reading 1, reading 2, and an average ("*2*").

26. While running, keep your eye on the peaks and periodically check the data printout. If an air spike is visible on the screen, or the read out for a particular sample is marked with an "A" and the sample should be rerun.
27. If the replicate runs of a particular sample vary more than 0.1 uM, fill another tube with fresh sample and include it on the next tray of samples.
28. Barring the event of an air spike or a large variance in replicates, the average reading, marked by a "*2*" on the data printout, is used as the raw nutrient concentration.
29. In the case of very low POx concentrations, the peak will often read as negative. This is corrected by comparing to Sargasso Seawater (SSW) which tends to have lower phosphate concentrations than ASW made up with DI in the lab. Run a sample of SSW at the beginning or end of a day of running samples. Calculate the correction factor necessary to bring the SSW sample up to a 0.00 reading. Use that correction factor to correct all readings for that channel for that day. The correction factor for the POx channel is usually between +0.12 and +0.20.

    Note: SSW from Kester's lab is the most trustworthy, but it is in short supply. Ask Betty Buckley before using it. The NO2+NO3 channel is usually within 0.02 of the SSW sample and does not need correcting.

30. Enter the corrected readings for nitrates and phosphates for each sample next to its pond, station, and date on a data sheet; include salinity for each sample; and give a copy of the completed sheets to Suzanne Nardone for entering into Excel.
31. Put the printout from the autoanalyzer and your original completed data sheets in the "Nutrients" black ring archive binder at CRC.

Table 1. Nutrient Standards and Reagents

I. Standards

A (5 umol) - add one ml of NO_2, NO_3, and PO_4 standards and fill to 200 mls with ASW. Stopper and invert several times to mix.

B (2 umol) - fill graduated cylinder to 80 mls with Standard A and pour into flask. Fill to 200 mls with ASW and mix well.

C (0.5 umol) - Add 25 mls of B and fill to 100 ml mark with ASW. Mix

D (0.2 umol) - Add 40 mls of C and fill to 100 ml mark with ASW. Mix

E (0.1 umol) - Add 50 mls D and fill to 100 ml mark with ASW. Mix.

II. Reagents

Artificial Seawater (ASW)

In a 4 L volumetric flask, dissolve 109.6g NaCl, 35.0g $MgSO_4$+7H_2O, and 0.75g $NaHCO_3$. Fill to the 4 L mark with DI H_2O.

NO_2 +NO_3 Reagents

Ammonium chloride buffer, pH = 8.5

To a 1 L volumetric flask in a fume hood, add 500 ml DI H_2O, 105 ml concentrated HCl, 95 ml ammonium hydroxide (NH_4OH), and 1.0g disodium EDTA. Dissolve and dilute to the mark.

Note. Do not make up NH_4Cl buffer in Room 112.

Sulfanilamide color reagent

To a 1 L volumetric flask add about 600 ml of DI H_2O. Then add 100 ml of 85% phosphoric acid (H_3PO_4), 40.0g sulfanilamide, and 1.0g N-(1-naphthyl)ethylenediamine dihydrochloride (NED). Shake to wet, and stir to dissolve for 20 minutes. Dilute to the mark, and invert 3 times. Store in a dark bottle. This solution is stable for one month.

PO_4 Reagents:

Stock ammonium molybdate solution

By Volume: In a 1 L volumetric flask, dissolve 40.0 g of ammonium molybdate tetrahydrate [$(NH_4)_6Mo_7O_{24}$-4H_2)] in approximately 800 ml of DI H_2O. Dilute to the mark. Store in plastic and refrigerate.

Stock antimony potassium tartrate solution

By Volume: In a 1 L volumetric flask, dissolve 3.0 g of anitimony potassium tartrate [potassium antimonyl tartrate hemihydrate K(SbO)C4H4O5-1/2H2O] in approximately 800 ml of DI H2O. Dilute to the mark. Store in a dark bottle and refrigerate.

Molybdate color reagent

By Volume: To a 1 L volumetric flask add about 500 ml DI H2). Add 35.0 ml of concentrated sulfuric acid (CAUTION: The solution will get very hot!). Swirl to mix. When it can be comfortably handled, add 72.0 ml of the Stock antimony Potassium Tartrate Solution (PO4 reagent #3 above) and 213 ml of the Stock Ammonium Molybdate Solution (PO4 reagent #2 above). Dilute to the mark. Degas with helium.

Ascorbic Acid reducing solution

By Volume: In a 1 L volumetric flask, dissolve 18.0 g ascorbic acied in about 700 ml of DI H2O. Dilute to the mark. Mix. Prepare fresh. Degas.

SALINITY LAB PROTOCOL

Salinities are analyzed in the lab using an optical refractometer. Salinities are run at the same time that samples are thawed for nutrient analysis on the autoanalyzer.

There is a refractometer available in Scott Nixon's lab. This instrument is calibrated 1 ppt below the actual level. When using it, add 1 ppt to each reading before recording it.

Place a drop of sample on the refractometer, cover with plastic "lid," aim towards the light and read the salinity value where the refracted line meets the scale. Rinse with deionized water from squeeze bottles, dry and repeat with next sample. Take care not to dilute the reading with rinse water. Record the results on the nutrient data sheet.

Part 3: CHLOROPHYLL LAB ANALYSIS PROTOCOL

Introduction

The amount of chlorophyll on a filter is measured by extracting the pigment with acetone and measuring the fluorescence emitted when the acetone solution is struck by a beam of ultraviolet light using a fluorometer. Not all of the pigment measured initially is chlorophyll *a*, the extracted sample is read in the fluorometer first, then a few drops of acid are added to destroy the chlorophyll; chlorophyll concentration is estimated from the decrease in fluorescence: the remaining fluorescence is due to non-photosynthetically active pigment called phaeophytin. The fluorometer we are currently using is a Turner Designs fluorometer in Ann and Ed Durbin's lab (Aquarium building) and the procedure described below are specific to this machine.

In many laboratories, chlorophyll is extracted by grinding the fibers with a pestle, in acetone. We have recently adopted a procedure used by the Durbin's, in which the filters are soaked in cold acetone for 12-24 hours in order to extract the pigments. Tests done by the Durbin's with bay water samples, and by former Pond Watcher assistant Sharon Larimer with salt pond samples indicate that soaking is as effective as grinding. The new procedure has the added advantages of being much less time consuming than grinding and reduces the worker's exposure to acetone.

Sample preparation (Day One)

Before you start, make sure that no one in the Durbin's lab is planning to use the fluorometer at the same time you are planning to read your samples on the next day.

You will need:

1. 1 or more plastic test tube racks
2. adhesive dots for marking test tube rack
3. disposable glass test tubes VWR
4. test tube caps
5. blunt filter forceps
6. a spatula
7. 1N HCl (in bottle with droppers near fluorometer,)
8. Check to be sure there is 90% acetone in the dispenser bottle in the hood.

NOTE: Frozen filters, individually wrapped in tinfoil, are kept in S. Nixon's freezer in the basement of Horn once they have been collected from the Pond Watchers. It is helpful to put them in some kind of a logical order before analyzing them rather than spend time unscrambling the data afterward.

Take Pond Watcher samples out of the freezer and arrange them in order by station, and by date; Each sampling station and date normally has three replicates. Make a row of three tubes in the test tube rack. On a data sheet assign a number to each tube, and write in pond, station, date, and filter number (1,2) for each corresponding sample. Using adhesive dots, mark every other row of the rack with the number of the first tube of that row, e.g.. row 1 starts with tube 1, row 2 (not marked) with tube 4, row 3 with tube 7, etc. Do this carefully, otherwise you may read a sample and not be able to tell where or when it was taken!

Now turn off the lights, and lower the blinds (chlorophyll is light sensitive.) Open the chlorophyll packets, being careful not to tear the filters, and using blunt forceps place each filter in the bottom of the appropriate tube. Using the dispensing bottle in the hood, add 5 ml of 90% acetone to each tube, and cap the tubes tightly. Cover the rack completely with aluminum foil and leave it overnight in the refrigerator (not the freezer!) in the Durbin's laboratory. Turn on the fluorometer (or else wait 3 hours for it to warm up the next day).

Measurement (Day Two)

The fluorometer should have warmed up for at least 3 hours before reading samples. The first step is to calibrate the machine: fill one test tube with 5 ml of 90% acetone as a blank. Two other standards: an HCl blank and a copo reagent blank are run for calibration. These solutions are generally kept prepared in beakers in a cabinet below the fluorometer (the COPO solution is in a beaker labelled "0.005." Keep this in the dark when not using it.)

The fluorometer has two sensitivity settings, 1x or 100x. Scale can be set at 1, 3.16, 10, or 31.6 using the switch marked "STEP". To read a tube, lift the cap for the sample port, insert the tube, and replace the cap. Wipe tubes with a ChemWipe to remove fingerprints and condensation before inserting.

To calibrate the machine insert the HCl blank, set the controls to 100x at the 31.6 scale and adjust the needle to zero with the "BLANK" knob. Next, read the "COPO" tube at 100x, 1 scale. This should be about 2.85: Record this reading; this is the "U" in the chlorophyll calculations. Finally, read the 90% acetone blank at 100x, 31.6 scale; adjust the needle to zero with the "BLANK" knob. Now you are ready to read samples!

With the lights off, remove the sample tubes from the refrigerator. Insert a tube. Adjust the scale settings so that the needle is between 2 and 8 (most salt pond samples will read at 1, 10, or 31.6 scales). Record the settings (1,10, etc.) and the needle reading (fo). Then add 5 drops HCl and record the new needle reading (fa). Repeat this for the other samples. when you are done, clean up the area and turn off the fluorometer, unless you need it the next day.

Calculations

Copies of an Excel worksheet for chlorophyll calculations are available on the "Chlorophyll determinator" disk in the "Da Bases" notebook. This contains all the formulas needed to calculate chlorophyll a. Note that these are specific to the calibration proceedings used in the Durbin's lab and may not be applicable to another fluorometer or another method of calibration. Enter the pond, station and filter number in columns A-C. In columns D-F enter the volume filtered (50 ml for pond watcher samples), sensitivity (1x or 100x), and scale. In G-H enter fo , fa, and U. Chlorophyll *a* will be calculated in column J for each sample, and the average chlorophyll for each set of replicates, in column M. If one value is extremely divergent from the other two replicates, or a mistake was made in sample collection or preparation, delete that value. Phytoplankton abundance can frequently vary by a factor of 2 or more due to patchiness, but variables of 3 fold or more, especially on the low side, may be due to defective filtration. Samples which receive less than 5 ml of 90% acetone may read high, and should not be recorded.

Enter the chlorophyll data for each pond, in order from Point Judith to Winnapaug, by station and date, i.e. for each station leave spaces for all 12 or 13 sampling dates for the year, and arrange stations by number. Insertions and deletions in the worksheet are time-consuming, so its best to have the data organized from the start. If organized properly, the chlorophyll data can be pasted directly in to the master water chemistry file. Put raw data sheets and chlorophyll printouts in the black ring binder notebook labelled "Chlorophyll *a*" at CRC.

Part 4: DATA MANAGEMENT

Brief Overview

Separate databases are kept for bacteria and water chemistry results. Currently both databases are entered and kept as Microsoft Excel files with a separate file for each Salt Pond. The data is manipulated in this format and tables and charts made either directly from Excel or converted into Cricket Graph or one of the drawing programs, whatever is most appropriate for the job. Copies of these files are kept on the Mac hard drive in the CRC office and on 2 sets of floppies as backups.

Bacteria Data

Bacteria results are either read directly by the student assistant (at FDA) or lab sheets containing results are sent to us by the lab (from DOH). In each case it is the student assistant who interprets the raw data and assigns MPN values to each. (See Bacteria data analysis section.) These calculations can be hand written as long as all the necessary data is included such as Pond, Station, Date, Fecal coliform, and Total coliform (where appropriate). These completed sheets are sent to the volunteer Data Manager to be entered into Excel and incorporated into the larger database. Be sure to include < "less than", and > "greater than" symbols where they are called for in the data. Data Manager data entry must be checked for quality control before final entry into the Salt Ponds data base.

Cross reference between final MPN values and the Pond Watcher field data sheets is necessary to pick out such information as waterfowl and boating activity observations and any notes of exceptionally turbid water or other signs of a prominent algae bloom.

Water Chemistry Data

The water "chemistry" database includes a wide range of physical, biological, and chemical parameters that are measured biweekly on the salt ponds. Some of these parameters (temp and DO) are entered directly off the Pond Watcher field data sheets. Salinity and nutrients and chlorophyll are analyzed separately. The water chemistry data base thus comes from several sources and requires some orchestrating to make all of the different pieces match up into one complete file. To pull this off, the student assistant and volunteer Data Manager work closely.

POND, STATION, DATE, TEMPERATURE, and DO (if measured at that station) are all entered directly from the field data sheets. The Pond Coordinator makes copies of these sheets at the time of a periodic sample collection. One set of copies is put in a large ring binder at CRC, and one set is sent to the volunteer Data Manager. The Data Manager creates the "skeleton" of the file by entering the information off the field sheets and setting up the file format.

SALINITY, NITRATES, and PHOSPHATES are read by the graduate assistant. The student transposes this information into a legible and complete table for each batch of samples run (can be hand written or entered onto floppy) and sends the tables to the Data Manager. The standard format for this data is for no decimal places for salinity, one place for nutrients (µM) and one place for chlorophyll a (0.1µgl).

CHLOROPHYLL values are calculated by a computer worksheet program (See Chlorophyll calculations section) and are thus already in floppy format. A printout of the appropriate worksheet columns containing POND, STATION, DATE, and TOTAL CHLA ug/liter as well as a floppy of these same columns are sent to the Data Manager.

A quality assurance check is done on all data entry. When these files are returned by the volunteer Data Manager, the graduate assistant must cross reference the data (both bacteria and water chemistry) with the original field and lab sheets.

Rainfall

Monthly rainfall records for Kingston, Rhode Island are mailed to us by the National Weather Service Station manager at URI in Kingston. These are put in the graduate assistant mail box at CRC for entry into the computer data file. Rainfall gauges are also kept by some of the Salt Pond Watchers. Samples are collected at each rainfall and frozen in a liter bottle, cumulatively. Rainwater samples are collected at the end of the summer and analyzed for nutrient concentrations (using a deionized water standard). Results are entered into the data file. Rainfall patterns are important for interpreting high bacteria or nutrient concentrations. Nitrogen in rain water may be an important input to the Salt Ponds.

Dissolved Oxygen

Dissolved oxygen is measured by the pond watchers at the decper stations using LaMotte modified Winkler titration field kits. The results are logged on the field sheets and need to be entered into the data base.

Eelgrass Wasting Disease

Once a summer, pond watchers take a sample of eelgrass to record evidence of wasting disease (see field protocol manual). The data sheets are left with the nutrient samples for pick up or are mailed to us. The grad assistant collects the data sheets, puts copies in the CRC pond watcher file, and mails the originals to Dr. Fred Short, University of New Hampshire, Jackson Marine Laboratory to contribute to the national data base he is compiling.

DATA MANAGER

This role has been expanding with the growing proficiency of its operator, Suzanne Nardone. The data Manager has full use of a Macintosh SE computer, purchased by the Pond Watcher Program and kept at the home of the Data Manager. The general duties are to enter and manipulate data for both bacteria and water chemistry sampling and to produce summary graphics in coordination with the Program Head and graduate assistants.

Part 5: FIELD SAMPLING

A. Field Sampling Protocols are described in handbook Tech Report #13.

B. Pond Watcher Coordinator

This role has been filled since the inception of the program by Nancy Wetherell. The following description only represents the nuts and bolts of the function she has played. The innumerable tasks that she performs "in the line of duty" are myriad.

1) Coordinate the activities, sampling, supplies of the Salt Pond Watchers and assist the professional and graduate student staff of CRC in the day to day running of the Pond Watchers Program.

2) Help with planning for each year's activities and ordering of supplies.

3) Help to assemble sampling kits at the beginning of each season.

4) Be the liaison between volunteer Pond Watchers and Pond Watcher staff: Make sure that they always have adequate supplies for sampling. Coordinate for substitutes to cover sampling when a regular Pond Watcher is laid up or out of town.

5) Quality Assurance/Quality Control - visit each station at least once in every season. Verify station positions on the pond maps. Run duplicate tests at water chemistry stations. Grad. student assistants help in this task.

6) Pick up frozen samples and data sheets from pond coordinators and deliver to the Bay Campus at specified intervals in the sampling season. Check data sheets and samples for accuracy in labeling. Deliver copies of data sheets to the Data Manager.

7) Involvement in the community - Speak as a volunteer Pond Watcher to small interested groups. Help new groups who are setting up similar programs and would like input from a nonprofessional.

8) Attend meetings and conferences where possible. Network with other coordinators and monitors. Pass on new ideas to Head of Pond Watcher Program.

C. Bacteria Sampling Supplies

EACH POND WATCHER RECEIVES:

ENOUGH STERILE BACTERIA JARS TO LAST FOR 3 SAMPLES SCHEDULE OF SAMPLING DATES (drop off additional jars as needed. This takes some planning).

NEW LIST OF POND WATCHERS & SAMPLE STATIONS

MAPS OF SAMPLE LOCATIONS - ALL PONDS

CURRENT PROTOCOLS FOR BACTERIA SAMPLING

NEW DATA SHEETS

DOH FORMS (If needed).

DOH supplies the sterile bacteria sampling jars for all of the bacteria sampling, whether the samples are analyzed at DOH or FDA. The person dropping samples off at DOH must remember to bring back a new box of jars each trip he/she makes to the State lab. These jars are then allocated between the Pond Watchers so that they are always stocked for their next sampling date.

D. Water Chemistry Supplies

EACH POND WATCHER RECEIVES:

1 SYRINGE

3 NUCLEPORE FILTER ASSEMBLIES

APPROXIMATELY 45 GLASS FIBER FILTERS (in a plastic baggie)

1 SHARPIE WATERPROOF PEN

2 PAIR OF PLASTIC FORCEPS

1 PIECE (10 INCHES LONG) TYGON TUBING

15 NUTRIENT BOTTLES

1 ROLL OF LABEL TAPE (if needed)
A NEW SCHEDULE OF SAMPLE DATES
A NEW LIST OF POND WATCHERS & SAMPLE STATIONS
MAPS OF SAMPLE LOCATIONS-ALL PONDS
NEW PROTOCOLS
NEW DATA SHEETS
LAMOTTE DO TITRATION KIT with new refill (for those volunteers who measure DO)

A full complement of syringes, filter heads, nutrient bottles, forceps, and tubing belong to the program. The syringes, filter heads, and tubing are collected once a year at the end of the season and acid washed and rinsed to prepare them for the next season. Nutrient bottles are recycled after nutrient and salinity analysis by rinsing 3 times and filling with deionized water (DI). The O-rings and gaskets from the filter heads are removed before acid washing and are rinsed only in DI to prevent hardening and breakdown of the rubber.

Below are listed for those items which commonly need to be replaced or refilled each year to some or all of the Pond Watchers.

1) glass fiber filters
2) filter head gaskets
3) LaMotte kit refills
4) Sharpie pens
5) labelling tape

APPENDIX

DIRECTIONS FOR BACTERIA SAMPLE PICK-UP AND DELIVERY

NOTE: Bacteria samples are collected every other week

On the Friday before--make media at FDA, Quonset (see previous section).

(Winnapaug and Point Judith)

Don't forget the ice packs and cooler, the bacteria samples have to be kept cold.

1. Take Rte 1 S to Rte 1A in Westerly. Left exit sort of, the turn is just before the sign "Mary's Restaurant" on right. Continue on this road 4.8 miles. After a sharp curve make a right into Misquamicut Hills (stone pillars at entrance). Cy Morgan's House is 129 Misquamicut--grey house. If no one is home, just go in--the samples are in the refrigerator.

2. Get back onto Rt 1 N. Take the "East Matunuck State Beach" exit. Turn left onto Island View, a development, about 1.5 miles from Rt. 1. It's the corner house, first on the left (#4)--Lars Larson, Succotash Road. The samples are usually in a cooler outside by the garage.

3. Get back onto Rt 1N. Take the Pond St. exit. Turn right. Make the first left onto Quagnut St. Phil Carpenter's house is on the left #83 Quagnut (it has solar panels).

4. Get back onto Rt 1 N. Head to Providence.

(Ninigret and Green Hill)

1. Rt. 1 S to the "Cross Mills, Charlestown Beach, (Breachway)" exit.
   Go straight to intersection. Go straight thru the intersection onto Town Dock Rd.
   Ocean House Marina is at the end of the road.
   Take last left into parking lot. The store is on the left. Pick up samples from Van Ackerman. If the samples are not outside, check inside the Marine Store.

If you should take the "Charlestown Beach, Breachway" exit (the first Charlestown exit, but not Cross Mills):

Take a right at the stop sign on Scenic 1A--follow a few miles until you reach "Realty Connection" a business on the intersection of 1A and Town Dock Rd. Turn left onto Town Dock Road. Ocean House Marina is at the end of the road.

2. From Town Dock Road, go right (North) on Rt. 1A and continue north (1-2 miles) until you see Green Hill Beach Rd. on the right. Turn left onto Green Hill Beach Rd. There is a distinct median at this intersection. Turn left at the end of the road onto Schoolhouse Rd, then immediately right onto the continuation of G. H. Beach Road, south. Go about 1 mile, past Carpenter Dr. (on L) and Maple Dr. (on R). Turn right onto Twin Peninsula. Third road on the left is Wild Goose. Turn left on Wild Goose, then immediately bear right onto Kingfisher. About 20 yards later, take a left onto Cormorant (bear left towards the fireplug). Al Hale is #20, on the left, two houses down Cormorant. Once you have picked up the samples head to Providence.

(Potter and Quonochontaug)

1. Head south on Rte 1--look for the "Matunuck Beach Road" exit. Exit onto Matunuck Beach Road. Take left onto Sycamore Lane--it's right after the school sign, about 1 mile from Rt. 1. Ross Toney's is on the left--550 Sycamore, about 0.8 miles in. Look for the mailbox with his name on it. Cooler is usually on the front porch.

2. Take Rt. 1S until you see the sign for "Mary's Restaurant" on right. Turn around so you are heading north on Rt. 1. Turn right into Shelter Harbor Inn (A big white sign and some stonework marks the entrance).

   Alternatively, you may turn into Shelter Harbor directly from Rt. 1 S. There is a turn-around thru the median on Rt. 1 S right in front of the stonework and sign marking Shelter Harbor.

   Go down the drive 0.35 miles off Rt. 1 S. It is the light grey house on the left (stones in driveway). Jack Tobin's house is #36 (its the house right after mailbox that has Andrew's on it). The cooler is on the front porch.

FDA LAB - Quonset

Take Rt. 1N to the Wickford-Quonset exit that bears right (where Rt. 4 begins). Continue north on what is now Rt. 1, thru North Kingstown to the Quonset Air Base exit. Bear right after exiting Rt.1 and go to the signal light. Turn left at the signal in the Quonset Point/Davisville Industrial Park, then turn right over the tracks onto Callahan Rd. Bear right, follow signs to the O-Club. About 1 mile on this road (on the left) is a set of buildings of N. Kingstown Community Health, etc. Turn left on School Street, just before "Little Bee" baseball field. Turn left. FDA is the low white building on the left, about 25 yards in.

Recipe for Medium (A-1 Modified):

This is an edition of the formula given in "Laboratory Procedures for Seawater and Shellfish". The exact reference for this recipe is available from the FDA (Linda or Diane):

The need for uniformity dictates the use of dehydrated medium. Maintain written quality control records on preparation of medium and reagents including results of productivity and inhibition tests, pH. sterilization time and temperature, and other pertinent data.

Recipe for A-1 broth:	**1 L**	**3 L**
Lactose	5.0 g	15.0 g
Tryptone	20.0 g	60.0 g
Sodium chloride, NaCl	5.0 g	15.0 g
Salicin	0.5 g	1.5 g
Triton-100	1.0 ml	3.0 ml
(Polyethylene glycol *p* isooctylphenyl ether)		
Deionized water	1.0 L*	3.0 L

***Note** that this is for 1.0 liter of medium. You must make 3 liters so triple all ingredients. With the present number of stations, 3 liters leaves little to spare; if more stations are added you will need 3.5 to 4 liters of broth.

Place a magnetic teflon-coated stirring-bar into the deionized water in a stainless steel bucket and start stirring vigorously. Add all dry ingredients and mix until all ingredients are dissolved. Add Triton ether and allow to mix well. Take the bucket into the main lab and record the pH. The pH should be 6.9 ± 0.2. The meter is in the lab at the other end of the building. Adjust with acid or base only if absolutely necessary. Dispense into test tubes using pipetting machine. Check to be sure that it is set for 10ml and run it for 20 cycles before filling tubes to clear machine. After use, run hot, deionized water through the machine to clean. Sterilize the medium by autoclaving at 121 C for 10 minutes. Store labelled medium in a cabinet provided until inoculation with sample the following day.

DOH APPENDIX

BACTERIA ANALYSIS AT THE RHODE ISLAND DEPARTMENT OF HEALTH - pre 1991

Preliminaries

Notify DOH lab (274-1011) ahead of time as to how many samples you will bring in the up coming week and on what day. (Note that holidays may affect the schedule.) Reserve a car from GSO Maintenance for the required number of days. If it is easier for you, you may have a car for a continuous period (all the days you collect samples). Take the big cooler with you with the frozen ice packs from the freezer in the Marine Resources Building. It is important to keep samples cool in transit to the labs.

Processing Samples at DOH

Enter door at the loading dock on the right side of the building. Bring with you 1) samples in cooler, and 2) lab submission forms filled out by pond watchers. You should check that there is one sheet for each sample when you pick them up and fill them out if pond watchers forget. The lab submission forms (filled out in triplicate) should be given to the person in receiving (at counter on right as you enter the building.) The forms should be arranged in order of station. The receiving person numbers each submission form. Separate the triplicates and leave one copy with the receiving person, give one to the lab, and keep the third for our files at CRC.

Arrange the samples, in order of pond and station, on the counter and write on their caps the assigned DOH number (last two digits) which was punched onto the lab submission forms. Repack samples on ice and take to the Microbiology Lab, 4th floor. You will be expected to help in sample processing. Ask for Ted Pliakas or Pat McNulty. Once you have finished inoculating and processing Salt Pond Watcher Samples, please offer to help with any other general assistance to the lab the rest of the afternoon, including media preparation or clean up. The deal is that the lab offers free analysis in return for your assistance if needed.

Things to watch out for: (1) The person operating the numbering meter will often get confused and misnumber the lab submission forms, most commonly by duplicating a number. Watch closely for this. (2) The Pressure Differential Phenomenon: watch out when someone opens the door to the outside. This results in a big gust of wind and your tidy pile of data sheets ending up in the other room!

BACTERIA DATA ENTRY AND ANALYSIS

Data from DOH

Data Tabulation. Coliform data sheets are mailed from DOH about one to two weeks following sampling dates and will usually be placed in your mailbox at CRC. These data must be entered into "Bacteria tables" notebook. When the data set is updated, a photo copy of the tabulations should be sent to Suzanne Nardone, Volunteer Data Manager, for data entry onto floppy disks.

Reading MPN Index. The total coliform and fecal coliform data from DOH are reported in a rather cryptic fashion. The tabulated results are in the center column of the DOH data sheets and consist of a series of 1 to 4 numbers followed by a letter. The meaning of these numbers and letters are as follows:

(a) Numbers: Usually three numbers are reported, such as, 3-1-1. If a zero follows this sequence, it is ignored for our purposes. If only one or two numbers are reported, we assume the remaining one or two are zeroes. For example, the reported number 3-2 should be assumed to be 3-2-0. These three numbers are converted to number of bacteria (total coliform or fecal coliform; see (b) below) per 100 ml simply by reading from the MPN index table which will be found in the sleeve of the "Bacteria tables" notebook. For example the combination of positives, 3-1-2 reported by DOH, corresponds to 120 coliform bacteria per 100 ml of water. Ignore, for purposes of reporting your data, the column for 95% confidence intervals.

(b) Letters: (P,C and F). These letters will follow the sequence of numbers and will identify the data as total or fecal data. Often more than one letter will follow a series of numbers, such as 3-2-1-F,C. This means that 3-2-1 is the number for <u>both</u> fecal <u>and</u> total coliforms.

P=preemptive - ignore this

C=total coliform
F=fecal coliform

Saving data sheets. Save the DOH data sheets and the field data sheets in the large red three ring notebooks. Order them chronologically as well as by pond and station.

Save the third copy of the lab submission form in a folder at CRC. These are to be given to Virginia at the end of the sampling season. They will be used to obtain matching funds from GSO.

Note: DOH lab sheets are carefully collected over the sampling season as they are sent by the lab. Each sheet is proof of a substantial contribution to the Salt Pond Watcher program by the State. At the end of each year they are turned into the GSO Budget Office for matching funds from the University.

Directions to DOH:

DOH Providence, Orms Street-- Take 95 N to 146 (exit 23) "State Offices" Exit. Get into left lane of exit ramp and turn left on to Orms Street. Get into right lane immediately. The DOH building is the first building on your right. Pull into the driveway. There are usually vacant 15min. parking slots on the right. You can park here without fear of being towed for your visit to DOH.

PROCEDURES FOR THE FIA NUTRIENT ANALYZER, JUNE, 1989

START-UP PROCEDURE

1. check levels of artificial seawater (ASW) and reagents, waste
2. switch on computer master switch (includes printer, monitor=screen, drive)
3. then, switch on machine master switch (includes sampler, pump, manifolds, colorimeters) and allow to warm up. Green light on valve controller should come on, push button and check that red light comes on. Colorimeter controls should read "coarse gain =x10", "display select = V out", "chemistry = direct"
4. turn on heater (check water level)
5. make standards (all channels being run plus NO2 for column effiency check)
6. decide which nutrient channel(s) to hook up to the recorder, move and attach if necessary. (If running NO2+3, need to hook that channel up in order to do column efficiency).
7. snap modules onto pump rollers ~~(only those being used)~~
8. run deionized water (DI) through all lines, check for leaks
9. degas NH4 and PO4 reagents and carrier (ASW) with helium
10. check that green valve light is on, then place reagent and carrier lines in proper bottle, cover openings with parafilm
11. after bubbles from reagent line attachment has gone through, attach cadmium column, with pump on minimum
12. put pump back on regular ... check ... on computer
13. set baseline(s) as seen on computer screen; turn on recorder and check baseline(s), particularly for drift and noise
14. put through high mixed standard and high NO2 standard

    manually: with green light on valve, put sampler needle in beaker of high standard; press valve light to red on all four channels for about 20 seconds, this puts sample in the sample loop. Then press valve light to green on all four channels, this puts carrier in sample loop to push sample through to manifold. Repeat as needed to set fine gain(s) (see #15). With green light on valve, put sampler needle in beaker of high NO2 standard. Proceed as above and watch NO2 peak come out on NO2+3 and NO2 (if run) channels (see #16).

    automatically: ?fill three standard cups (A,B,C) with the high mixed standard, and fill the next three (D,E,F) with the high NO2 standard, and fill the next three (G,H,I) with high mixed standard. Then, starting with green light on valve, run program "column efficiency" which puts through the nine aliquots of the chosen standard.
15. with high standard coming through, set "fine gain" to put high standard on scale for each channel
16. If running NO2 channel then with high NO2 standard coming through, set "fine gain" on NO2 channel to put standard on scale. If running NO2+3 channel, watch NO2 peak coming through on NO3+2 channel on screen and on recorder for cadmium column efficiency. Measure peak heights and calculate column efficiency. ?Enter efficiency in pseudo-channel. , check paper feed; recorders on, check paper feed
17. If all set, fill standard cups and run standard curve. Then put pump on minimum, check calibration and adjust, if needed
18. Put pump back on regular, leave standard cups filled and in place, run samples and the "check" standards!!!

THINGS TO WATCH FOR WHEN RUNNING

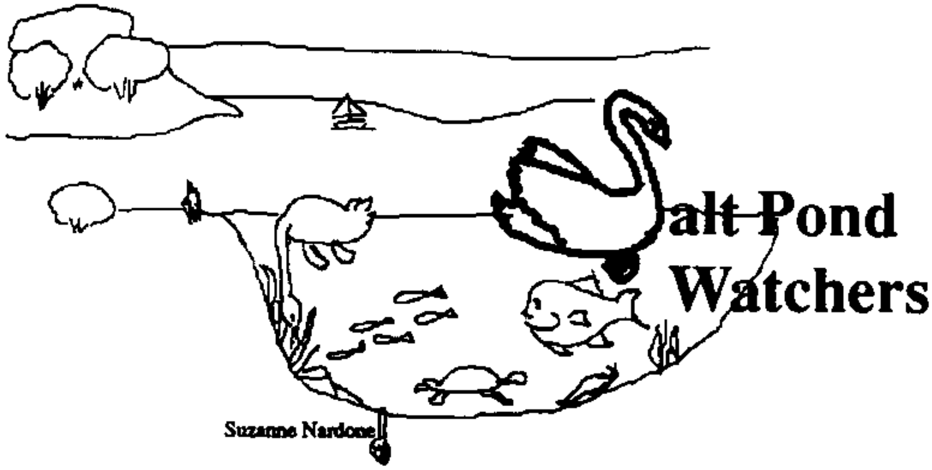
1. reagents going dry, particularly NO2+3 reagents
2. wash water overflowing, or going dry from feed container
3. air in cadmium column
4. pump on appropriate speed

WHEN BREAKING FOR LUNCH OR OTHER EXTENDED PERIODS

1. pump on minimum
2. cadmium column unhooked
3. reagents in DI
4. heater off

SHUT DOWN PROCEDURE

1. with pump on minimum (optional), unhook cadmium column
2. heater off
3. with pump on regular (or maximum), put carrier lines, NO2+3/NO2 lines, and NH4 lines in DI, PO4 lines in EDTA
4. after 2-5 minutes put NH4 lines in 1N HCl and put PO4 lines in DI
5. after another 5 minutes put NH4 lines in DI
6. after another 5 minutes put all lines in air and pump dry
7. shut off machine master switch
8. pop up pump modules
9. shut off computer master switch
10. shut off recorder



Data Management Protocol

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SALT POND WATCHERS
Data Management Protocol

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April 1992

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PROTOCOL FOR DATA PROOFREADING, ENTRY, AND DATABASE MANAGEMENT FOR THE SALT POND WATCHERS DATABASES

I. INTRODUCTION

This protocol is intended to make data proofreading, entry, and database management more systematic, and to define responsibilites more clearly for the volunteer Data Manager. Pond watcher data files are kept in Microsoft "Excel"™ files on Apple "Macintosh"™ computers at the URI Coastal Resources Center and by the volunteer Data Manager. Data comes from several sources: from the pond watcher's own field data sheets (temperature, depth, Secchi disk depth), from different laboratory analyses (done by the student assistant,) and in the case of rainfall, from the weather station in Kingston. The laboratory data should be proofread by the students before it is sent to the data manager, and it should be entered in a standardized fashion.

Currently, we have three types of databases: Bacteria, Water Chemistry, and Rainfall. Separate data files for Bacteria and Water Chemistry are kept for each pond. Additional databases, for eelgrass wasting disease, rainwater nutrient content, and well water nutrient levels may be set up in the future. Copies of data files are kept on the hard drive of the CRC computer and the Data Manager's computer, and on backup disks at CRC and the Data Manager's "office." Printouts of current data files are kept in notebooks at CRC and should also be kept by the Data Manager.

We will discuss each of the major types of data and guidelines for entering and proofreading them, and then present formats of databases for bacteria, water chemistry, and rainfall. Finally, we will describe how to update annual data summaries for bacteria and water chemistry Where information is specifically directed to the student, volunteer proofreader, or data manager, it will be noted in *italics*, many of the procedures, however, need to be understood by all of the people involved in the "data chain". Sections VI through VIII contain detailed instructions for updating databases, data summaries, and graphing for the volunteer data manager, and is available to others on request.

II. FIELD DATA

(*These notes mostly pertain to the pond coordinators, data manager, and volunteer proofreader. The student assistant should take note of potential problems with station numbers and dates.*) Pond watchers record date, temperature, depth, secchi disk depth, and the numbers and proximity of waterfowl on their field sheets. The first three variables are entered into the water chemistry data bases; waterfowl observations are entered in the bacteria data bases. In addition, other observations noted on the sheets, such as time of day, state or direction of the tide, presence of ice cover, major storms, unusual water color, etc., are not entered into the databases but may be needed for future analysis.

The *All-Ponds Coordinator* collects the field data sheets from the pond watchers and checks them for legibility and corrects inconsistent units or dates (eg. temperature in Fahrenheit, depth in feet, etc.) and then brings them to the Data Manager, who enters the data onto "Excel" spreadsheets together with the laboratory results. The data manager should proofread his or her own data entries. After the annual fall meeting, the data sheets are sent to CRC and stored in a notebook there. When the complete database is sent to CRC by the data manager, the field data in the completed databases will be proofed by a volunteer using the field data sheets.

A. **Station:** There have been some cases where people have confused bacteria and water chemistry stations. For example Bacteria Station 4 in Ninigret Pond is in the same location as Water Chemistry Station 14. At DEM's request we have used their station numbers and locations. In some cases the locations overlap with water chemistry stations and in some cases they do not. *Pond Coordinators* and the *All-Pond Coordinator* should check station numbers to be sure that they are correct.

   1. *Data Manager:* Except for Point Judith Pond, Bacteria and Water Chemistry have completely different numbers in each pond, eg. Quonochontaug has Bacteria Stations 19 - 28 and Water Chemistry Stations 16 - 18, so erroneous station numbers can be resolved by checking the station map or the list of samplers and stations for that year.

B. **Date:** This should be simple but the vagaries of handwriting and memory can complicate things. Frequently dates on data sheets and nutrient and chlorophyll samples differ. The pond coordinator for each pond should check the samples and the data sheets to make sure that the dates correspond, and contact the pond watcher in case of a discrepancy. Pond watchers should be encouraged to check the dates before they give samples and data sheets to the *pond coordinators*. Sometimes a pond watcher will take some measurements, but may have a problem with filtration and will take another sample the next day. When this happens, it should be noted on the data sheet.

   1. *Data Manager:* In the event of discrepancies, the data manager should use the date on the data sheet, if it is the most plausible. Enter dates as "dd-mmm-yy", using the option "Number" under "Format" in Excel. In cases where there are successive samples less than week apart, especially 1-3 days apart, the Data Manager should call the pond watcher to see if something was wrong with the first sampling.

   2. *Student Assistant:* Dates on nutrient samples and chlorophylls should correspond. If there is confusion, check with the data manager to see what the date was on the field data sheet and use that date for the laboratory data sheet.

C. **Temperature (Water Chemistry):** Temperature is recorded in degrees Celsius. In the event someone uses a Fahrenheit thermometer and does not convert the data, data must be converted by the All-Ponds Coordinator. The data manager should also be on the alert for unconverted numbers. The formula for conversion is: $°C = (°F - 32) \times 0.555$.

   1. Round off temperature to the nearest degree, eg. 23. Seawater (35 ppt) freezes at -1.9°C so negative numbers are possible in winter, particularly when the ponds are partly or entirely frozen. The minimum (freezing) temperature increases as the salinity goes down and is -1°C at 17 ppt and 0°C in fresh water. Maximum summer temperatures are around 22 - 24°C in the deeper, saltier ponds (eg. lower Point Judith, Quonnnie), and 25-28°C in shallow, more enclosed ponds and coves. A temperature over 30°C has yet to be recorded.

2. *Volunteer Proofreader and Data Manager*: Keep an eye out for unseasonable temperatures—they may be typos! Check them against the original data sheets.

D. **Dissolved Oxygen (Water Chemistry)**: Units are ml/l. Lamotte Kit results are good to one-tenth, eg. 9.7. Oxygen was not measured in 1991. Previous dissolved oxygen measurements were done in surface waters. In the summer of 1992, we will begin measurements in bottom waters. Bottom measurements need to be kept in a separate column from surface measurements, because they are not comparable and will usually be lower. The two columns should be called SDOX for surface and BDOX for bottom. in the 1985 - 1992 and later updates of the data base (See Formats, V, p. 6).

E. **Depth (Water Chemistry)**: Depth is recorded to nearest tenth of a meter (eg. 2.1 m). Pond coordinators and all-pond coordinators should check to see that results are given in meters. Pond watchers have sometimes used feet or inches. Coordinators should check for this, and convert results (1 inch = 2.54cm, 1 foot = 0.305m). Pond watchers have reported results as "units" or "knots" (0.1m). The coordinators need to remind pond watchers to record results in meters, to the nearest tenth of a meter. The data manager should also check the units before entering the data. Most pond watcher stations are 0.5 - 2.0m depth. Only Ninigret 12 and Quonnie 18 and some Great Salt Pond stations exceeed 3m, so numbers like 7.5 on a data sheet are probably tenths, or 0.75m.

1. *Data Manager:* Often only one of the two blanks is filled out for "Depth" and "Secchi". If only the "Secchi" blank is filled in, that number should be taken as "Depth", since most of the time, one can see to the bottom of the ponds.

F. **Secchi (Water Chemistry)**: Secchi disk depth is also recorded to the nearest tenth of a meter. The secchi depth is always less than or equal to the pond depth. The notes for "Depth" apply to "Secchi" also. For much of the year, one can see the Secchi disk on the bottom at all stations, so that the two depths are equal, but during phytoplankton blooms, especially in summer, Secchi disk depth may fall to 1 m or less.

G. **Waterfowl (Bacteria)** Pond watchers should note numbers and proximity of waterfowl (geese, swans, cormorants, gulls, etc.) within 100 feet of sampling stations . All samplers should record waterfowl, but only the bacteria database is annotated for waterfowl.

1. *Data Manager and Student Assistant:* Waterfowl observations are preferably recorded by distance, in feet, and number of birds in parentheses, eg for 4 birds between 10 and 50 feet away: 10-50(4). If birds have been noted only verbally, eg. "hundreds of cormorants everywhere", those notations should be entered also. If no birds are seen, type (0); "Excel" will not type a "zero" in parentheses.

III. LABORATORY MEASUREMENTS

Salinity, nitrate, phosphate, and chlorophyll will be analyzed monthly by the graduate student assistant. The assistant will copy the salinity and nutrient data by hand from printouts and lab notes onto a standard data form, and send it to the data manager. Chlorophyll data is calculated on an "Excel" worksheet and is copied onto a new "Excel" worksheet and sent with the nutrient data. (See updated "Salt Pond Watchers Lab Protocol Manual For The URI Graduate Assistant".) Student assistants must proofread their own work carefully before mailing the data.

Estimates of precison for nutrient and chlorophyll measurements come from a quality control session on November 2, 1991 during the annual Fall Pond watcher meeting. Sixteen pond watchers filtered water samples from a single container of sea water.

Volunteer Proofreader: The proofreader will compare data entered by the data manager with the form sent by the student.

A. **Salinity (Water Chemistry)**: Units are parts per thousand (ppt). The measurement is accurate to about 1 ppt, so results should be given as whole numbers, eg. 24. Normal ranges for ponds are given below:

Point Judith 1	0 - 27
Point Judith 4 and 3A (and earlier mid and lower pond stations)	24 - 32
Potter	20- 30 (rarely to 14)
Trustom, not yet sampled, but earlier data, 1975 -80	~5 - 25
Green Hill	0 - 24
Ninigret 13 and 15	20 - 30
Ninigret 12 and 14	4 - 28
Quonochontaug	22 - 32 usually 28-32
Winnapaug	15 - 32 usually 25-32
Maschaug	4- 14
Great Salt Pond	17 - 33

1. Stations located near streams or springs such as PJ1, GH10, and NN12 and NN14 may have readings near 0 in spring or after heavy rains. In lower Point Judith Pond, Potter, Quonnie, and Winnapaug Ponds salinities below 20 should be double-checked. Readings above 34 are probably erroneous.

2. *Student Assistant*: Keep these ranges in mind when doing salinities; double-check when a result is anomalous, and remember to shake those bottles!

B. **Nitrate (Water Chemistry)**: Units are µM (micromolar). The measurement is made using an autoanalyzer. The precison is ~± 1% and the lower limit of detection is 0.07 µM. This measurement does not have to be corrected for salinity.

1. *Student Assistant:* The autoanalyzer printouts are kept in the "Nutrients" notebook, together with the salinity readings. When each month's data for salinity, nitrate, and phosphate are completed, they should be copied, neatly and legibly, proofread, and sent to the data manager.

2. *Data Manager and Volunteer Proofreader:* The data should be entered to two decimal places, eg. 1.23, using "0.00" under. "Number" in "Format."

3. Typical ranges are 0 - 5 µM in June - September, and 5 to 20 µM in October - April.

a. Nitrate levels are lowest at high salinity stations such as PJ3A, PT5, QN16A, and QN18, usually less than 1 µM in summer, and less than 6 µM in winter. In confined coves (PT6), areas with heavy freshwater inflow (PJ1, all of Green Hill, and NN14) and areas with possible sewage seepage (NN13, WP22), nitrate may exceed 5 µM in summer and 15-20 µM/l in winter. In the winter of 1986-87, when the breachway of Green Hill Pond was blocked, nitrate exceeded 100 µM/l at one station.

C. **Phosphate (Water Chemistry):** Units are µM. The measurement is made using an autoanalyzer. The precison is ± 10% and the lower limit of detection is 0.0.

1. *Student Assistant:* This measurement has to be corrected for salinity (refractive index). At low salinities (below 25 ppt), the raw readings may be negative. The correction which we use was determined by David Avery, who measured phosphate standards made up in water of different salinities. (See updated "Salt Pond Watchers Lab Protocol Manual For The URI Graduate Assistant.")

2. *Data Manager and Volunteer Proofreader:* The data should be entered to two decimal places, eg. 1.23, using "0.00" under. "Number" in "Format."

3. Typical ranges are 0.00 to 2.00 µM/l. Phosphate frequently reaches a peak in midsummer.

D. **Chlorophyll a (Water chemistry):** Units are µg/l (micrograms per liter or milligrams per cubic meter). Measurements are made using a fluorometer. The precison is ±3% and the lower limit of detection is 0.30 µg/l (Lowest reading in our records).

1. Chlorophyll readings in the ponds are usually below 10 µg/l but occasional readings, especially in the summer months have exceeded 50 µg/l. Readings above 10 are most likely at PJ1, at PT6, 7, and 8, at NN13 and 14, and WN19 and 21, stations with high nutrient inputs, located in fairly confined coves or basins.

2. *Student assistant:* (See updated "Salt Pond Watchers Lab Protocol Manual for the URI Graduate Assistant.") The raw fluorometer readings are entered into an "Excel" spreadsheet in which the calculation formula is pre-programmed. The assistant looks at the chlorophyll results for the replicates, and deletes any samples which were improperly processed or badly handled eg., not folded, etc., as well as any single readings which are extremely divergent from the other two in a set. The student should check the "mean chl a" column "Column M" to make sure that the "average" formula refers to the right row numbers. When the worksheet has been proofread and corrected, the student should make a new worksheet, pasting the dates and station numbers, together with the corresponding mean chlorophyll readings. This sheet should be sent to the data manager, either as a hard copy or on disk.

3. *Data Manager:* The chlorophyll data should be entered or pasted onto the data sheet, taking care that the dates match those for the nutrients and temperatures, as already noted.

E. **Fecal Coliforms (Bacteria):** Units are Most Probable Number per 100 milliliters (MPN/100 ml). Two methods have been used for estimating fecal coliforms. From 1985 through 1990, samples were run at the Rhode Island Department of Health (DOH) laboratory in Providence, using a multiple dilution method with a lower limit of 3 MPN/100ml and an upper limit of 2400 MPN/100ml (or 4800 in some cases). Negative results (no bacteria detected) were given as <3, while results above the limit (growth in all tubes) were given as >2400. From 1989 through 1990, some of the samples were done at the Food and Drug Administration (FDA) laboratory at Quonset Point, North Kingstown, using a single dilution test with a lower limit of 9 and an upper limit of 248. Results outside the these limits are given as <9 and >248. In 1991 all of the bacteria samples for the mainland ponds were run at the FDA lab.

1. Great Salt Pond, (Block Island) bacteria samples are run at the Block Island Sewage Treatment Plant. These data are not yet incorporated and the upper and lower limits of their measurements are not known, but a Great Salt Pond bacteria data file should be created and organized in the same way as those for the other ponds.

2. *Student assistant:* Results from each sampling date are entered in worksheets in a notebook kept at FDA, and copied onto a sheet of paper to be brought back to CRC. These results are copied onto data sheets which are organized by station and date and kept in a notebook. Copies of these sheets are sent to the data manager monthly, together with the field sheets. The lab bacteria data sheets should be proofread from the raw data before mailing.

3. *Data manager:* The coliform data should be entered as written, including the "<" and ">" signs in the annual data file and the permanent database file. For graphing and data summaries, (See VI A., p.8) these files should be copied to separate worksheets, and data with"<" and ">" signs replaced with:

   < n : use 1/2 n, rounded to nearest digit: eg. for < 9, use 5.

   > n: use n + 1: eg. for >248 use 249.

4. *Volunteer Proofreader:* Use original datasheets at CRC to check the annual file.

F. **Total Coliforms (Bacteria):** Units are Most Probable Number per 100 milliliters (MPN/100ml). Total coliforms were measured in samples processed at DOH from 1988 through 1990. The numbers are treated the same way as fecal coliforms. Currently, we are not measuring total coliforms in the mainland ponds, but some of the Block Island bacteria data may include total coliforms.

IV. RAINFALL

There are several sources of these data. One is the URI weather station at Kingston, run by the Department of Plant and Soil Science, and reporting to the National Weather Service. The others are rain gauges monitored by the pond watchers themselves. So far, only the Kingston rain data has been systematically entered. The pond watcher data tends to be more spotty because of vacations and other activities, but the more complete data sets should be entered into a standardized format similar to that used for the Kingston data. (We have compared one of the more complete sets from Quonochontaug Pond and found agreement with the Kingston rainfall in monthly and overall totals. Further comparisons of this kind are desirable.)

Rainfall is measured in inches and recorded to two decimal places, eg. 1.23. Dates marked "T" for "trace" should be recorded as "0."

A. **Kingston Data:** Currently, copies of the Kingston monthly weather report are sent to the student assistant's mailbox and to Virginia Lee. Rainfall data are entered by the student assistant several times during the year, and the files sent on disk to the data manager at the end of the year. In the future, Kingston weather data could be sent directly to the data manager for entering. Copies of the finished data sheets would then be returned to CRC.

B. **Pond Watcher Data:** Rain gauge sheets are picked up by the Pond Coordinators with other data sheets and samples. Currently, they are brought to CRC and stored in a notebook, but they could be taken directly to the Data Manager, entered, and sent back to CRC.

V. DATA MANAGER AND VOLUNTEER PROOFREADER: DATABASE FORMATS

Two types of files are maintained for bacteria and water chemistry, an annual file for each year covering all ponds (eg. 1992 Bacteria, 1992 Water Chemistry) and permanent databases which contain all the data from 1985 onward for one pond (eg. PJ Bacteria 1985-1992). Only annual files are maintained for rainfall (eg. Rainfall 1992). Examples of formats are included in "Appendix A". Summaries of bacteria and water chemistry data by year for each pond have also been prepared and need to be updated yearly. Examples of these summaries are also included in "Appendix A."

A. **Timetable:** Printouts of the partially completed annual data set, up to August or September, should prepared for distribution at the annual meeting. The annual files and updated 1985-9n databases should be completed by early January and sent to CRC so that they can be proofread and sent to state agencies. (Updating the databases takes about five to ten hours of work, updating the summaries is about 15-20 hours of work).

B. **Data Storage:** Three sets of six disks containing the permanent data bases and data summaries for each pond are kept at CRC—a working copy, an archive copy, and a backup copy. The archive and backup disks should be updated every year but not used routinely. **Only the working disks should be used in the GSO Computer Center or elsewhere outside the CRC building!** The backup disks should be stored in a separate room or building from the other disks (in case of fire, viruses, or other accidents).

   1. The data manager must keep working copies of each permanent database file and at least one backup copy of each file.

C. ***Data Manager:*** **Technical hints ("Excel"):** *(Students new to "Excel" should look at these also.)*

   1. Headings can be enclosed in a box by selecting the desired area and using "Border" under "Format", and then picking "Outline." Use "Insert" to put

page headings at the top of each page, and "Page Preview," in the "Print" box, to check that headings are in the right place.

2. After you have used "Page Preview" once and "Cancelled" (2.2) or "Closed" (3.0), page breaks will be marked by dashed lines. You can use "Page Preview" and "% Reduction" in "Page Setup" to insure that all of the columns are on the same page. Use "Page Preview" also to check alignment, "Center" alignment is preferred; note that you can select a whole column or file to make the alignment uniform or select the upper left-hand cell to make the whole document uniform.

3. Early versions of the annual data files can be printed "the long way", with the columns across the length on the paper so that they are larger and more legible for proofreading.

4. The permanent data bases are so big that they should be printed with the colums across the top, "the normal way" (vertical).

5. Currently we use 70% reduction for permanent Bacteria data bases and 55% for permanent Water Chemistry, so that all the columns fit across the top of one page.

6. Numbers of decimal places (0,0.0,0.00) can be adjusted by choosing "Number" under "Format". This also controls the form of dates—we use dd-mmm-yy, eg. 12-jun-92. By selecting whole columns after data entry is complete, you can ensure that all the data are in the same format.

D. **Water Chemistry Format:** Note that the 1992 annual water chemistry format will contain a column BDOX for "bottom dissolved oxygen", and the 1985-1992 format will contain two dissolved oxygen columns, SDOX and BDOX, for surface and bottom dissolved oxygen. If any surface dissolved oxygens are done in 1992, this data set will have to have an SDOX column also. (See II D, p. 2).

E. **Rainfall formats:** Two types of files are prepared; the first is called "Rainfall yr (eg.92)" and consists of four columns: Date, Rainfall, Monthly Averages and Monthly totals. This file is awkward to print and read but is useful for analyses. A second file, called "Rainfall yr (eg. 92) Kingston" is printed with dates and rainfall for several months from May through October on one page. The data are copied and pasted from the first file and arranged in parallel columns. The example given is "Rainfall 90 Kingston".

1. Examples of formats are given in "Appendix A".

VI. DATA MANAGER

Updating the permanent database files: eg. "PJ H20 Chem 1985-91"; save as, call new file eg.,"PJ H20 Chem 1985-92".

A. Open annual file, eg. "1992 Water Chemistry."

B. Eg. for PJ 3A, last record is 2-Nov- 91; select about 12-15 complete rows (enough space for the 1992 PJ3A data) and "Insert." Go to the "1992 Water chemistry file, "Copy" the 1992 PJ3A data, and "Paste" it in the new space.

C. Delete any excess empty rows. Remember to leave a row between data from different stations.

D. Repeat until all the 1992 PJ water chemistry data are entered.

E. Now go to "Print Preview" under "Print." Notice that the headings are no longer at the tops of the pages, because they are offset by the inserted data.

   1. Find the first page break with a displaced heading underneath it, and "Insert " two complete rows under the page break.

   2. Scroll down to the heading, select it, and "Cut" it.

   3. Now "Paste" it in the two rows just below the page break.

   4. Go down to the two blank rows where the heading was and "Delete" them.

   5. Use "Print Preview" to check that the headings are now at the top of the page.

   6. Repeat until all the headings are at the tops of the pages.

F. Check alignment, numbers of decimal places, etc. Make sure all columns fit on one page and then "Print."

VII. DATA MANAGER

Updating Data summaries: These tables contain summary statistics of each year's data for each pond to permit easy comparisons among stations and years. Copies of these files are kept on archive and backup disks at CRC and by the data manager. Examples of data summaries are given in "Appendix A." Examples of files used in making the summaries are given in "Appendix B."

A. **Bacteria data** are summarized using medians, geometric means, the percent of samples exceeding a cutoff point over the sampling season.

   1. Start with the annual file, eg. "1992 Bacteria." Save as, eg. "1992 Median Bacteria."

   2. Select the whole "Fecal" column. Go to the "Formula" menu and select "Replace." In the "Find What" box, type "<9", and in the "Replace With" box type "5". This replaces all "<9's" with "5's." In the same fashion, replace all ">248's" with "249's."

   3. Now, in what was the head of the "Total" column, eg. column D, type "LN Fecal." Next to the first "Fecal" number, eg. in column D, enter the formula =LN("Fecal Cell "), eg. =LN(C3). You can type in this formula or obtain it from the "Paste Function" menu, under "Formula." This calculates the natural logarithm of the "Fecal" number. "Copy" this cell and paste it next to each "Fecal" number.

a. If you paste the formula next to a dot or a blank, the cell will say "NUMBER!" Delete any rows with missing data, and clear any blanks which say "NUMBER!"

4. At the end of the first station's data, insert 4 complete rows. See the example, NN MED FEC 91.

   a. In the first cell two rows below your data, put the pond and station number, eg. NN4, cell A13. (You can put labels above each variable to help keep track of them.)

   b. The second cell to the right, eg. B13, is Water Quality Classification. All of our recent salt pond stations except for PJ20 and PJ21A are "SA"; the latter two stations, near the Port of Galilee are "SB."

   c. The third, eg. C13, is the year.

   d. The fourth cell, eg. D13 is labelled "#FEC" and is the number of samples. Enter the formula =COUNT ("Fecal Cells"), eg. =Count (C3:C10). (For a large number of cells, this is time-saver.)

   e. The fifth cell, eg. E13, is labelled "G MEAN FEC, and is the geometric mean of the "fecal numbers." This is the antilogarithm of the average of the logarithms. Enter the formula =EXP(AVERAGE ("LNFecal cells")), eg. =EXP(AVERAGE(D3:D10)).

   f. The sixth cell, eg. F13, is labelled "Med FEC" and is the median of fecal numbers. An easy way to determine the median is to use "Sort", under "Data". Select all the rows and columns containing data for this station, eg. rows 3:10, columns A:D. Sort by the "Fecal Column", eg. "C3", ascending. The fecal data will now be sorted from smallest to largest. If the number of cells is odd, the median is the number in the middle; if the number is even, the median is halfway between the two middle numbers, eg. =5+ 1/2(5-18) equals 12.5, rounded off to 13. These calculations can be done on a calculator, or on a blank "Excel" cell.

      (1) **Very Important!** Remember to select **all** the columns containing data for the station you are working on; otherwise the dates and logarithms will no longer correspond to the fecal numbers and the geometric means will change as data is sorted. After sorting data, it's a good idea to check to make sure that the dates and logarithms correspond to the fecal numbers, and that the geometric mean is the same as before sorting. Once the data is mis-sorted it is hard to unscramble, and in that case it's best to clear it and and "Paste" in unsorted data from the original file, eg. from "1992 Bacteria," and then sort again.

   g. The seventh cell, eg. G13, is labelled %>50 FEC, and is the percentage of readings greater than 50. This applies to "SA" waters. Count the number of fecal readings over 50, eg. one, C10, and divide by "#Fec," and multiply by 100 for percent, eg =(1/8)*100, which equals 13.

(1) It simplifies things to do this formula in a blank cell elsewhere on the sheet, delete it when done, and type the answer in the desired cell. (Otherwise there can be complications when pasting data onto another worksheet if the formulas are still active.)

(2) Point Judith Pond has an extra column for "%>500 FEC," to the left of %>50 FEC, which applies only to "SB" waters, at Stations 1, and 1A, (no longer sampled) and 20A and 21A. If there are any readings greater than 500, calculate the percentage as before, otherwise enter 0.

4. We won't have any more Total Coliform data, except perhaps from Block Island. If we did, it would be summarized in the same way, except that the cutoff points are 2300 for "SB" waters, and 330 for "SA" waters.

5. Now repeat these steps for the other stations in this pond.

6. The data summary also has cumulative statistics for the whole period since 1985, eg. 1985-1992. In order to update this:

   a. Open the updated permanent database file for this pond, eg. PJ Bacteria Data 1985-92. "Save as," eg. PJ Cum Bacteria 1985-92.

   b. For stations which have this year's (eg. 1992) data, insert 4 complete rows below the station. Go back to, eg., "PJ Median Bacteria" and select a block of cells with the summary statistics. Copy it and paste it into the space below the 1985 -1992 data.

   c. Make an "LN Fecal" column as before and paste the "=LN" formula into it, as before, being sure to delete any rows with dots or missing data.

   d. Adjust the row numbers and column numbers in the "#FEC" and "G Mean" formulas to cover the all "Fecal" data for that station, eg. from 1985 to 1992.

   e. Select the whole block of data, including dates and station numbers, and sort it as before to determine the median and % > 50.

   f. Repeat for each of the stations in this pond which have new data.

7. Now open the bacteria summary file for your pond. "Save as" eg. "Point Judith Bacteria 1985-92" and insert complete rows for this year's data.

8. Now go back to the "Median files", eg. "PJ MED FEC 92," select the cells with summary statistics from the year, eg. 1992, right through %>50, and "Copy" them.

9. Go to the bacteria summary file, and select the cell for the new year. Select "Paste Special" under the "Edit" menu and choose "Values." Then hit "OK", and the statistics will be pasted in. **Remember to use "Paste Special" and not simply "Paste."**

10. Go to the "Cum Bacteria" file and paste the statistics for the cumulative data, for, eg. 1985-92, into the corresponding place in the summary, again using "Paste Special."

11. Repeat for the other stations. When the summary is updated, move the headings so that they are under the page breaks. If necessary, insert rows to keep all of the data for one station on a page. Use "Print Preview" to check the position of the headings, alignment of the rows, etc.

    a. Cumulative data are distingished by underlining.

B. **Water chemistry data** is summarized for each year using averages for the "normal" sampling season, May or June through October or early November, for the winter period of peak nutrient levels, December-February, and for March-April. The "Dec-Feb" and "Mar-Apr" rows are shaded to distinguish them from the summer data. In order to add a new year's data:

1. To add a new years data: first open the annual file, eg. "1992 water chemistry" and "Save as" eg."1992 av "May-Nov water chem."

    a. Delete the columns with "Depth" and "Secchi."

2. Make a new worksheet; call it "1992 winter water chem", and "Cut" and "Paste" all the Dec.-Apr. data onto it, leaving only the May-November data on "1992 av May-Nov water chem."

    a. If November data is later than the first week of November, it should be deleted from the "May-November" average files, since our sampling season usually ends in the last week of October or the first week of November.

3. Now, on the "1992 av May-Nov" water chem, "Insert" four full rows at the end of the data for the first station, eg. "PJ1."

    a. Two rows below the end of the data, put the station number, eg, Sta. 1, in row A, eg. in cell A11.

    b. In the cell to the left, eg. B11, put the year, eg. 1992.

    c. In the next cell to the left (eg. C11), put the months sampled, eg. "May-Aug", or more usually "May-Oct" or "May-Nov."

    d. The next cell to the left (eg. D11), is average July-August temperature. (To avoid confusion, it's a good idea to label the cells above the means for this and the other averages.) Pull down the "Paste Function" menu under "Formula," and select "AVERAGE." Enter the cell numbers for temperatures on dates in July and August, eg. "=AVERAGE(D6:D8), and press "Enter" or "Return."

    e. The next cell to the left (eg. E11) is average May-November temperature. Enter the "AVERAGE" formula again, this time with the cell numbers for all the May-November temperatures, eg. =AVERAGE(D3:D8).

f. For the remaining variables, BDOX, SALT, N, P, CHL A, copy the cell with the May-November average temperature (eg. E11), and paste it in the 5 cells to the left (eg. E12:E16). This gives you May-November averages for these data.

4. Repeat this for the other stations.

5. You should also calculate an average for all of the stations in each pond for each variable.

   a. In Point Judith Pond, if Sta. 1 is sampled, this station is so different from the others that two all-pond averages should be calculated, one with and one without PJ1.

6. The procedure for the winter data is the same, except that you calculate two sets of averages, one for the December-February data, and one for March-April.

7. For the summary, you will also need to calculate cumulative averages, with standard deviations, from 1985 through the new year for each station with new data. To do this, open the updated pond database files (eg. PJ H2O Chem 1985-92), and save as, eg. "PJ cum av H2O Chem85-92."

   a. "Cut" out all the December-April data and paste them in a separate file (eg. PJ Winter Chem 85-92).

   b. For the first station with new data, "Insert" five full rows , and label as before, except that the date is now, eg. 1985-92. After the date, "Insert" two cells one above the other ("shift left") and label these "Mean" and "S.D."

   c. Now "Paste" in "Average" under "July-August" temperature and enter cell numbers for all dates in July and August, eg. =AVERAGE(D3:D6,D25:D29, etc.

   d. May-November temperature is easier, just an average of the whole row, eg. =AVERAGE(D3:D93).

   e. Paste this average to cells for the remaining variables, SDOX, BDOX, SALT, N, P, CHLA, moving across the columns.

   f. Now, for the row underneath, labelled S.D., you go to "Paste Function" under "Formula" and select "STDEV" and enter the same cell numbers as for the mean above it. Check to see that both formulas refer to identical cell numbers, eg. for May-November temperature, =STDEV(D3:D93).

8. Repeat for each station.

9. For each pond do a whole pond average for 1985 to the new year.

   a. On July/August temperatures for "All stations," we simply used averages of the averages, to save time and avoid entering 25-30 pairs of cell numbers.

b. For Point Judith Pond, calculate two averages, one with and one without PJ 1.

c. For each station and the whole pond there are two cumulative chlorophyll averages and standard deviations, one including all the data form 1985 through 1986, the other, "Chl a exc. 1986" excludes the anomalous "bloom" year of 1986.

8. Once all averages are complete for one pond, open the water chemistry summary file for that pond (eg."PJ Water Chem Summ 1985-91") and "Save as", eg. "PJ Water Chemm Summ 1985-92."

   a. Insert rows for the new year's summer (May-Nov), winter (Dec-Feb), and spring (Mar-Apr) data, and paste the data from the corresponding data sheets using "Paste Special" and selecting "Values." **Again, remember to use "Paste Special" and not simply "Paste."**

   b. Use "Insert" and "Cut" to align data in their proper rows. Insert whole rows, not just single cells.

   c. Missing data, such as "Jul-Aug Temperature" in a Dec-Feb. row are marked with periods (.). Mar-Apr temperature is not entered.

   d. Temperature, salinity, and oxygen in the summaries are given to one decimal place, (eg. 10.1), N, P, and Chl a are given to two decimal places. (Averages can be given to one more decimal place than the original data).

   e. When the summary is updated, move the headings so that they are under the page breaks. If necessary, insert rows to keep all of the data for one station on a page. Use "Print Preview" to check the position of the headings, alignment of the rows, etc.

   f. Shade the winter and spring data using "Border" under the "Format" menu.

   g. For "all stations" averages, note at the right the stations sampled in each sampling season that year—use shading to distinguish winter and spring stations from summer ones.

VIII. DATA MANAGER

Graphing. Examples of files used in making graphs and examples of finished graphs are given in "Appendix C." We use column graphs for annual presentations of all types of data except Secchi Disk depths.

A. Setup

1. In order to make graphs of the data on a worksheet first set up a copy of the data in a new worksheet.

2. Save it under the name of the main unit to be graphed. eg.: ghp h2o ew 91(for Green hill pond, Water chemistry, "Excel" worksheet in 1991).

B. Rows and Columns

1. Set up the graphing area with **row** headings: eg.: temp/station 9/station 10/station 11.

2. Copy one set of dates from a **column** to be graphed (one that seems to be complete) and paste it onto a new worksheet in the following fashion.

   a. Highlight date column/then copy it/then move the cursor to a new cell with several rows and columns of clear space

   b. Paste it in. (Only a single cell need be designated when pasting, being careful not to overide other information.)

C. Data transfer

1. On the worksheet, column by column, cut and paste the data into each station column as it matches its heading. Do the same for salinity, nitrate, phosphate, chlorophyll and dissolved oxygen, if there is any.

   a. Put dates in m/d format.

2. To create a graph: Select group, such as temp and stations, go to file in menu bar/new/chart/ok (or "Enter"). A chart,with columns, will appear. (If you don't want a column format, see gallery below.)

3. Dressing up the graph.

   a. Title
      (1) In menu bar, select Chart/attach text/chart title/ok. ("title" appears with squares around it, showing that it is selected.)
      (2) Type in the title, eg. Green Hill Pond, 1991/ok.
      (3) While title is still selected: in the menu. bar/format/font/type/size/Bookman/18/bold/ok

   b. Legend
      (1) Chart/add legend/(select legend if font/size needs changing)/ok.

   c. Value axis: (y axis)
      (1) Select left axis/format/scale/maximum 30/major unit 5 (basically the only set of numbers needed)/ok/font/bookman 10/chart/attach text/value axis/ok/type C (for Celsius, and pressing "shift option 8"

for the degree sign, or "option m" for µ)/ format/ font: Bookman/size, 14/bold/ok.

d. Category axis: (x axis)
   (1) Select bottom axis (Category axis)/format/scale/between tick labels/1/ok/chart/attach text/category/ok/type in "Week of/ok." (If the "series" appears in the data line, you have selected the columns instead of the "category" line, reselect category.)
   (2) The date line should be uniform in appearance (use largest font that gives you a single line with horizontal dates; Times 10 or 9 may be used if necessary). If you have trouble getting dates in a single line, try using "page setup" to print the graph horizontally.

e. Set preferred.
   (1) Gallery/select "set preferred."
   (The "set preferred" need only be done once for the remaining graphs; adjustments may still be made for each graph, but the font/size/style will be set.)

   SAVE/label/ghp temp eg92: (Green Hill Pond, Water Temperature, Excel graph, 92)

f. Gallery: to change the bar graph to another format.
   (1) Select Gallery/scatter (or whatever)/ok.

g. Not quite done.
   (1) Select Green Hill Pond, 1991/in data line insert "Water Temperature" between "," and "1991." **Do not** go back to Set Preferred.

Save/close graph/proceed to next graph, repeating procedures.

h. Scale adjustments for each field:

Title	**Scale**	**y axis**
Temperature	30	C°
Salinity	35	ppt
Chorophyll a	30	µg/l
Nitrate	10	µM
Phosphate	2	µM
Bacteria	50	MPN/100ml

D. Re-opening and modifying Graphs in "Excel." When you open an "Excel" file after closing it, remember to open the corresponding worksheet also. Otherwise the dates come out as numbers (the number of days since Jan-1-1904!).
   1. When opening the file, a box will ask "Update references to unopened documents". Click "no." The results from "yes" can be unpredictable.

   2. Minor changes in the graph (filling in missing values, changing format of dates, changing the legend etc.) may be made by making changes in the worksheet. If the x-axis needs to be extended, a new graph will have to be plotted.

E. General rules for column graphs.

1. Avoid solid white or black bars; they xerox poorly.

   a. In Excel 3.0, sometimes white bars can't be changed; they may have to be modified in MacDraw II. (See Below).

2. Bars going offscale, eg. 250 MPN/100ml bacteria should be labelled with the value in brackets, eg. [250]. "Excel" will not type parentheses.

3. For Water Chemistry graphs keep bar patterns consistent for each station.

4. For Bacteria graphs, copy into MacDraw II.1, and add dash lines at 15 MPN/100ml for the median limit for shellfishing. Add an arrow and appropriate labels ("median safety limit for shellfishing").

F. Secchi disk data should be plotted only for those stations at which Secchi depth is frequently less than station depth; eg. PJ1, QN18, but reduced Secchi disk visibility has occurred even at shallow stations (GH10, PT6) during phytoplankton blooms. Line plots with Secchi and pond depths as negative numbers are a good way to show when visibility is reduced in the ponds; i.e. when Secchi depth is less than bottom depth. Make one plot for each station with significantly reduced visibility.

1. Cut and paste in adjacent columns: Date, Secchi and Depth data, with headings.

   a. In the next blank column to the right, in the row containing the first data, enter "=(row number, column number of Secchi data)*-1. Press "Enter" or "Return." (This multiplies Secchi data by -1.)

   b. "Copy"—select this column, and the next one to right, making a selected space of two columns with same number of rows as original data and "paste." You now have Secchi and Depth as negative numbers.

   c. Copy the negative Secchi and Depth numbers and "**Paste Special**/values/ok" back over the original data. You now have three columns: "Date," "Secchi" (negative numbers), and Depth (negative numbers).

2. Now create a chart: new/chart/ok; gallery/line/(pick first option at top left of box, squares connected by line with no grid). Go back to worksheet, select data/copy. Go to chart and "Paste."

3. You now have a line graph with the scale at the top, and Secchi and Depth lines underneath. Chart/addlegend. Format/legend/bottom.

   a. Select a symbol on the "Depth" line. Format/patterns/line/weight; make the depth line heavy and black. In the same fashion, make the "Secchi" line thin and dashed.

4. Note that "Date" labels are under x axis, overlapping with y axis labels. This can be changed by copying into "MacDraw II.1". (See instructions below).

5. For the finished version of the graph, a line plot of chlorophyll a concentration (as positive numbers) for the same data will be pasted over the Secchi plot using MacDraw II.1. (See Appendix C,6.)

a. Go to the data work sheet, copy data and chlorophyll data, and paste them side by side. Make a new line chart (copy/gallery/line, {first option, boxes connected by squares}, go to worksheet, copy, go to chart, paste. Click on a chart symbol, choose a symbol and line type different from those in Secchi graph.

F. Modifying "Excel" graphs with Claris "MacDraw II.1.TM" "Excel" graphs can be copied into "Draw" and "Paint" programs in order to put more than one graph on a page and in order to make modifications which are not possible within the "Excel" program. We have used "MacDraw II.1" for this purpose, but other "Draw " and "Paint" programs could be used.

1. It is preferable to have enough memory on your computer to open "MacDraw II.1" and "Excel" simultaneously using "Multifinder."

a. Open "MacDraw II.1," Layout/turn autogrid off. ("Autogrid" permits motion only in discrete jumps.)
b. Layout/drawing size width 15, height 20. File/Page Setup/50%.

2. Open "Excel" chart and corresponding worksheet. With the chart window on the screen, select "Edit/Copy." The graph will be surrounded by a dotted line. Pull down the menu under the apple, click on "MacDraw II.1." Click on the worksheet and "Paste." The graph will be pasted onto the "MacDraw" worksheet." Save the file under a new name.

a. In order to position and manipulate the size and shape of the whole graph, press the mouse button and drag the cursor diagonally. By doing this a dash-line box will appear around the graph and the graph will be selected. Arrange/Group to manipulate the graph as a unit. Drag graph by clicking and holding down mouse on any element near graph's center to move it. Once graph is selected, drag any corner in or out to change the shape.

b. In order to change particular elements, click on the graph and Arrange/Ungroup. **Before selecting the individual elements to work with, click somewhere else on the screen to deselect the whole graph. This is very important. If delete is chosen while the the whole graph is selected, the whole graph will be deleted! Edit/Undo is handy for correcting this and other mistakes, but this can only be used <u>immediately</u> after the mistake is made and before any other edit has been chosen.**

(1) Elements of a graph are grouped hierarchically. For example, when a graph is "ungrouped," and an axis is selected, the tick marks are grouped with the line. To change the tick marks indvidually, select the axis again and "ungroup."

(2) Change text by clicking "A" on the block of text to select it, clicking on the tool bar, and clicking on the text again. The text will now be in a box with a blinking cursor. An element containing text must be ungrouped, such as a legend box, in order to select the text block and change the text.

(3) Add lines, or other figures by clicking the appropriate icons in the toolbox. Line thickness, dashes, arrows, etc. can be changed using the "Pen" menu. Extend or straighten a line by dragging on the end. Move the whole line by dragging near the middle. Boxes can be filled or the pattern in bars changed by selecting the element and clicking on the apprpriate box in the "Pattern" bar at the top of the screen.

3. Bars in "Excel" charts which extend offscale will be shown in their full length in "MacDraw." Pull them back down back to scale by dragging on the tops of the bars.

4. When the graph is ready, copy the next graph and paste it in. Save after bringing in each new graph. Draw temporary lines to use as measuring rods to keep graphs a uniform size and to align them on the page. Change the magnification of graph by using the two buttons in the lower left corner of the screen.

5. For the Secchi plot example, (Appendix C,6) a second graph of chlorophyll a concentration was copied into MacDraw II.1 and stretched to match the original plot in length and height.

   a. The scale was "Grouped" and "Cut" and moved to the right side of the graph.
   b. The chlorophyll graph was then moved onto the Secchi graph, taking care to align dates.
   c. The legend was stretched and a portion of the chlorophyll line and symbol was copied.

G. *Student Assistant and Data Manager* :Specialized Graphs for Data Analysis: The preceding discussion has concerned graphing annual time series data for routine presentation of one year's data, for pond watcher annual reports, and for submission to state agencies. More specialized graphic analysis of data may be needed to answer specific questions about the interrelations of environmental factors. This work has usually been done by the student assistants, although much of this could be done by the data manager if clear instructions are given. The suggestions given below come from experiences in preparing figures for a report "Water Quality in Rhode Island Salt Ponds, 1985-1990." Several graphics programs are mentioned below, but for detailed instructions on graphing, see the manuals for each program.

1. Seasonal Change: Graphs showing generalized patterns of seasonal change can be prepared by showing monthly averages over a number of years. One way to do this is to copy a block of data for one or several stations over several years in "Excel" and "Paste" it into a worksheet. Change the years in dates so that all of the dates belong to one year. Select the whole block of data and sort by date, averaging the data by month. Plot the data using "Gallery/Scatter." Use "Scale" to adjust the length of the axes and the

number of tick marks. Monthly averages are assigned a date of the 15th of each month. Individual data points were plotted together with monthly averages in order to show the degree of annual variation around the mean for such variables as temperature, salinity, nitrate, phosphate, and chlorophyll. Similar graphs can be done for fecal coliforms; though column graphs were used rather than scatter plots. Monthly medians or geometric means are preferable to averages for plots of fecal coliforms.

2. Long-term Time Series: The "Excel" "Column " and "Line" graph options treat dates as categories, so that gaps with missing data are not shown. The "Scatter" (under Gallery) option does treat time as a number and shows missing values and varying intervals between samples. A sub-option connects the dots between points, provided non-numerical symbols (the periods{.} which we use as fillers) are removed from spaces with missing data. Up to six years of data was plotted by this method, but this leaves room for only two date tickmarks per year and provides limited resolution for summer data, since data points may overlap when sampling is frequent. Deltagraph™ (Deltapoint Inc.) also treats dates numerically, but graphing long time-series with this program has not yet been tried. Cricket Graph™ (Cricket Software) does not treat dates numerically, so if monthly or weekly data are unevenly spaced, it must be plotted by month or week numbers, and month or date letters pasted over tthe numbers. However, this can be done once and then the format can be saved for later graphs.

   a. Long-term data has been treated more frequently by calculating seasonal (Jun-Sep, Dec-Feb) averages for each year and plotting them as column graphs using "Excel," "Cricket Graph 1.32," or "Delta Graph."

3. Spatial variation: One way to show spatial variation is to use column graphs of mean values (or median values for bacteria), for each station, and arrange them geographically or in relation to an environmental gradient. For the salt ponds report, stations were arranged according to approximate distance from the breachway.

   a. It is sometimes useful to plot data on maps using special symbols to mark "trouble spots," eg. stations with coliform concentrations exceeding regulatory limits. Nutrient concentrations could be shown by using symbols of different sizes. We have maps of each of the salt ponds which have been scanned into MacDraw II.1 files. These maps are updated each year to indicate which stations are being sampled.

4. Interrelation of variables: Scatter plots are one of the easiest ways to investigate correlation among environmental variables. For example, winter nitrate and summer concentrations were plotted against salinity of the different ponds and strong linear correlations were found. Nitrate was also found to be correlated with housing density in five of the six ponds. Most scatter plots were done using Cricket Graph 1.32, and using "Simple " (Linear regression) under "Curve fit".

   a. **A word of caution: Earlier versions of "Cricket Graph" did not move the regression line as the axes were altered, and in the present version errors have been noted in exponential and polynomial curve equations. In version 1.3.2, linear**

regressions appear to be correct. Equations should be checked with a calculator to make sure that they fit the line shown on the graph. "DeltaGraph" seems to give correct curve fits, but if equations are to be used for extrapolation or interpolation, they should be checked with a calculator or a specialized statistics program first.

b. "Cricket Graph" gives the option of printing several graphs on a page simply by opening the files before selecting "Print." Graphs made in "Cricket Graph" can be moved into "MacDraw II.1" by "Saving as" a "Pict" file. "Pict" files cannot be reopened in "Cricket" and take up a lot of disk space, so it is better to discard them after using them in "MacDraw" and save the original Cricket file in case further changes are needed.

c. "DeltaGraph" files can also be copied and pasted into MacDraw II.1 in order to print several graphs on a page or to make changes.

Detection limits and Precision in pondwatcher measurements

	Method	Limits of detection	Precision	Significant Figures	Notes
Temperature	Field thermometer, 1 degree markings	.	± 5 ° C	0	1
Depth and Secchi depth	Marked line, knotted at 0.1 m intervals	.	± 0.10 m	0	1
Dissolved Oxygen	Azide modification of Winkler titration La Motte Co. Kit	0.3ml/L	± 0.9ml/L	0.0	
Salinity	Hand- held refractometer	~ 1 ppt	± 1 ppt	0	1
Nitrate	Autoanalyzer	0.07μM	± 1%	0.00	2
Phosphate	Autoanalyzer	0.07 μM	~ ± 10%	0.00	2
Chlorophyll a	Fluorometer after acetone extraction	0.31 μg	~+ 3%	0.00	2,3
Fecal and Total coliforms RIDOH	Most Probable number, Multiple dilution method LST medium	3 MPN / 100 ml, lower limit 2400 or 4800 MPN / 100 ml	.	0	4
Fecal coliforms FDA	Most Probable number, Single dilution method Modified A-1 medium	9 MPN / 100 ml, lower limit 248 / 100 ml upper limit	.	0	4

Notes:

1. Based on instrument scale

2. Based on quality control session, 11-2-1991. 16 pondwatchers filtered samples from the same bucket of water.

3. Lowest reading in our database

4. Method used at Rhode Island Department of Health. Table of confidence intervals for each combination of positive and and negative tubes, p. 924, "Standard Methods for the Examination of Water and Wastewater ".American Public Health Association, 1989

5. Method used at Food and Drug Administration Lab, Quonset. Table of confidence intervals., p. 125 in Springer, J. , 1974, "Statistical considerations in using the twelve-tube MPN test for routine monitoring of shellfish waters." Proceedings, 8th National Shellfish Sanitation Workshop, D. S. Wiet, ed. U.S. Department of Health, Education, and Welfare, Public Health Service, Food and Drug Administration

Notes on units:

Measurement	Unit	Abbreviation	Explanation:
Temperature	Degrees Celsius	°C	0 is freezing point of water (32°F); 100 is boiling point of water. 20 is "room temperature" (68°F)
Dissolved Oxygen	Millliliters per liter	ml/l	Mililiters of gas (at 20°C, 1 atmosphere pressure) dissolved in liter of water (1 ml/1 = 10 parts per million, ppm)
Salinity	Parts per thousand	ppt	Equivalent to one-tenth of one percent salt by weight, or one gram per kilogram (or approximately one liter) of water Ocean seawater is about 35 ppt; fresh water is 0 - 0.5 ppt.
Nitrate and Phosphate	Micromolar	µM	Millionths of a mole per kilogram (approximately one liter) of solution One mole is equivalent to the weight of 6.02 times ten ,raised to the twenty-third power, of molecules or ions of a given compound. 1 µM of Nitrate =14.00 µg/l, or parts per million, ppm 1 µM of Phosphate = 30.97 µg/l
Chlorophyll a	Micrograms per liter	µg/l	Millionths of a gram per liter
Total and Fecal Coliforms	Most Probable Number per 100 milliliters	MPN/100 ml	The most probable concentration of bacteria colonies associated with a given frequency of positive results (visible bacterial growth) in a set of test tubes innoculated with a specific dilution of a sample

Salt Pond Watchers' Data Management Protocol

Appendix A.

Formats for Databases and Data Summaries

Salt Pond Watchers' Data Management Protocol

Appendix A.

Formats for Databases and Data Summaries

1. Annotated format for annual bacteria database, eg. "1992 Bacteria Data"
2. Annotated format for annual water chemistry database, eg. "1992 Water Chemistry"
3. Annotated format for long-term bacteria database, eg. "1985-1992 "Bacteria Data"
4. Annotated format for long-term water chemistry database, eg. "1985-1992" Water Chemistry
5. Rainfall format—Example of format for initial entry of rainfall data
6. Rainfall 90 Kingston—Example of compact format for easier reading
7. Pt. Judith Bacteria, 1985-91—Example of data summary for bacteria
8. Point Judith Water Chemistry Summary, 1985-1991—Example of data summary for water chemistry

1. Annotated format for annual bacteria database, eg. "1992 Bacteria Data"

Annual Bacteria Data Format

POND	STATION	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
PJ	1	13-May-92	9	.	40(10)
PJ	1	27-May-92	<9	.	(O)
PJ	1	10-Jun-92	41	.	"Hundreds of cormorants everyhwere"
PJ	1	29-Jun-92	>248	.	(O)
Note break between stations.					
GSP	2	29-Jun-92	.	2400	

Pond Names:		dd-mmm-yr	0	.	Normal notations are bird distance and numbers in parentheses.
PJ					
PT					If the notes are only words, type these also.
CR (Cards)			Type < and > signs		
TR (Trustom)					If no birds in 1988 to present date, use (O).
GH					(Excel will not type a "zero" in parentheses).
NN					
QN					
WP					
MS					
GSP					

Print "long way" for proofreading and for pondwatchers;
final version should be printed the "normal" way with the narrow side of the paper at the top.

2. Annotated format for annual water chemistry database, eg. "1992 Water Chemistry".

Annual Water Chemistry File Format

POND	SITE	STATION	DATE	TEMP	BDOX	SALT	N	P	CHLA	SECCHI	DEPTH
PJ	ON	1	5-Aug-92	23	.	21	1.23	1.23	22.56	1.2	2.1
PJ	ON	1	12-Aug-92	25	7	32	23.14	0.12	.	2.1	2.1
PJ	ON	1	19-Aug-92	22	9	18	0.12	0.03	18.97	1.2	2.1
Note break between stations.											
PJ	ON	2	12-Aug-92	23	5	32	23.14	0.12	.	2.1	2.1
PJ	ON	2	19-Aug-92	24	8	18	0.12	0.03	1.23	1.2	2.1
Pond Names:			Number(Format)								
PJ	On: On station using boat		dd-mmm-yr	0	0	0	0.00	0.00	0.00	0.0	0.0
PT											
CR (Cards)					Bottom dissolved oxygen						
TR (Trustom)	Off; From dock or shore										
GH											
NN											
ON					(If any are taken at surface, make a new column: SDOX)					Note: Secchi is always equal to or less than depth. If only "Secchi" is marked on data sheet, enter number as "Depth"	
WP											
MS											
GSP											

Print "long way" for proofreading and for pondwatchers; final version should be printed the "normal" way with the narrow side of the paper at

3. Annotated format for long-term bacteria database, eg. "1985 - 1992 "Bacteria Data."

1985-199n Bacteria File Format

(One file per pond, but combine Cards and Trustom, Winnapaug and Maschaug)

POND	AREA	OLDST	NEWST	DATE	FECAL	TOTAL	WATERFOWL DISTANCE, FT (NUMBER)
PJ	NB	1	1	13-Jul-87	93	.	.
PJ	NB	1	1	27-Jul-87	9	.	.
PJ	NB	1	1	24-Aug-87	9	.	.
PJ	NB	1	1	21-Sep-87	93	.	.
PJ	NB	1	1	5-Oct-88	43	84	(O)
PJ	NB	1	1	19-Oct-88	7	>2400	50(8)
Note break between stations.							
PJ	NB	1	1A	8-Jul-85	4	.	.
PJ	NB	1	1A	22-Jul-85	43	.	.

Pond Names:	Area:	OLDST	NEWST		Number(Format)		
PJ							
PT	use regions	use table	use current	dd-mmm-yr	0	0	Normal notations are bird distance
CR (Cards)	in 1985-88	in 1985-88	station number				and numbers in parentheses
TR (Trustom)	database	database			Type < and > signs		If the notes are only words, type these also.
GH	notes	notes					Bird notations were not recorded before 1988:
NN	(M. Castro)	(M. Castro)					use " ."
CN							If no birds in 1988 to present date, use (O).
WP							(Excel will not type a "zero" in parentheses).
MS							
GSP							

Final version should be printed the "normal" way with the narrow side of the paper at the top.

4. Annotated format for long-term water chemistry database, eg. "1985-1992" Water Chemistry.

1985-199n Chemistry File Format

(One file per pond, but combine Cards and Trustom, Winnapaug and Maschaug)

POND	SITE	STATION	DATE	TEMP	SDOX	BDOX	SALT	N	P	CHLA	SECCHI	DEPTH
PJ	ON	1	5-Aug-85	23	8.6	.	21	1.23	1.23	22.56	1.2	2.1
PJ	ON	1	12-Aug-85	25	6.7	.	32	23.14	0.12	.	2.1	2.1
PJ	ON	1	19-Aug-85	22	8.3	.	18	0.12	0.03	18.97	1.2	2.1
Note break between stations.												
PJ	ON	4	12-Aug-92	23	.	5.0	32	23.14	0.12	.	2.1	2.1
PJ	ON	4	19-Aug-92	24	.	8.4	18	0.12	0.03	1.23	1.2	2.1
Pond Names:			Number(Format)									
PJ	On: On station		dd-mmm-yr	0	0.0	0.0	0	0.00	0.00	0.00	0.0	0.0
PT	using boat											
CR (Cards)					Surface	Bottom						
TR (Trustom)	Off; From dock or				dissolved	dissolved						
GH	shore				oxygen	oxygen						
NN												
ON												
WP												
MS												
GSP												

Note: Secchi is always equal to or less than depth
If only "Secchi" is marked on data sheet, enter number as "Depth"

Final version should be printed the "normal" way with the narrow side of the paper at the top.

5. Rainfall format: Example of format for initial entry of rainfall data.

Rainfall Format			
	KINGSTON		
	WEATHER		
	STATION		
		MONTHLY	MONTHLY
DATE	RAIN (inches)	AVERAGE	TOTAL
1-Jan-92	0.00		
2-Jan-92	0.00		
3-Jan-92	0.00		
4-Jan-92	1.48		
5-Jan-92	0.11		
6-Jan-92	0.00		
7-Jan-92	0.00		
8-Jan-92	0.00		
9-Jan-92	0.10		
10-Jan-92	0.07		
11-Jan-92	0.00		
12-Jan-92	0.00		
13-Jan-92	0.00		
14-Jan-92	0.66		
15-Jan-92	0.00		
16-Jan-92	0.04		
17-Jan-92	0.00		
18-Jan-92	0.00		
19-Jan-92	0.00		
20-Jan-92	0.03		
21-Jan-92	0.00		
22-Jan-92	0.04		
23-Jan-92	0.00		
24-Jan-92	0.00		
25-Jan-92	1.28		
26-Jan-92	0.60		
27-Jan-92	0.00		
28-Jan-92	0.00		
29-Jan-92	0.00		
30-Jan-92	0.00		
31-Jan-92	0.00	0.14	4.41

6. Rainfall 90 Kingston: Example of compact format for easier reading.

	A	B	C	D	E	F	G	H
1			RAINFALL 1990 KINGSTON STATION					
2	DAY/MONTH	RAINFALL	DAY/MONTH	RAINFALL	DAY/MONTH	RAINFALL	DAY/MONTH	RAINFALL
3	MAY	IN.	JUNE	IN.	JULY	IN.	AUGUST	IN.
4	1-May-90	1.11	1-Jun-90	0	1-Jul-90	0.17	1-Aug-90	0
5	2-May-90	0	2-Jun-90	0	2-Jul-90	0.48	2-Aug-90	0
6	3-May-90	0	3-Jun-90	0	3-Jul-90	0	3-Aug-90	0
7	4-May-90	0	4-Jun-90	0.07	4-Jul-90	0	4-Aug-90	0
8	5-May-90	0.98	5-Jun-90	0	5-Jul-90	0	5-Aug-90	0
9	6-May-90	0.01	6-Jun-90	0	6-Jul-90	0	6-Aug-90	0
10	7-May-90	0.03	7-Jun-90	0.34	7-Jul-90	0	7-Aug-90	0.2
11	8-May-90	0.36	8-Jun-90	0	8-Jul-90	0	8-Aug-90	0.27
12	9-May-90	0	9-Jun-90	0.06	9-Jul-90	0	9-Aug-90	0
13	10-May-90	0	10-Jun-90	0.04	10-Jul-90	0	10-Aug-90	0.12
14	11-May-90	0.92	11-Jun-90	0.03	11-Jul-90	0	11-Aug-90	0.09
15	12-May-90	0	12-Jun-90	0	12-Jul-90	0.14	12-Aug-90	0.02
16	13-May-90	0.03	13-Jun-90	0	13-Jul-90	1.09	13-Aug-90	0
17	14-May-90	0.69	14-Jun-90	0	14-Jul-90	0	14-Aug-90	0
18	15-May-90	0	15-Jun-90	0	15-Jul-90	0	15-Aug-90	0
19	16-May-90	0.11	16-Jun-90	0	16-Jul-90	0	16-Aug-90	0
20	17-May-90	0.51	17-Jun-90	0	17-Jul-90	0	17-Aug-90	0
21	18-May-90	0.17	18-Jun-90	0	18-Jul-90	0	18-Aug-90	0
22	19-May-90	0	19-Jun-90	0	19-Jul-90	0	19-Aug-90	0
23	20-May-90	0	20-Jun-90	0	20-Jul-90	0	20-Aug-90	0.12
24	21-May-90	0.45	21-Jun-90	0	21-Jul-90	0	21-Aug-90	0
25	22-May-90	0.08	22-Jun-90	0	22-Jul-90	0.17	22-Aug-90	0
26	23-May-90	0	23-Jun-90	0.02	23-Jul-90	0.16	23-Aug-90	0
27	24-May-90	0.02	24-Jun-90	0	24-Jul-90	0.9	24-Aug-90	1.17
28	25-May-90	0	25-Jun-90	0	25-Jul-90	2.42	25-Aug-90	0.3
29	26-May-90	0.01	26-Jun-90	0	26-Jul-90	0.01	26-Aug-90	0
30	27-May-90	0	27-Jun-90	0	27-Jul-90	0.52	27-Aug-90	0
31	28-May-90	0	28-Jun-90	0	28-Jul-90	0.39	28-Aug-90	0
32	29-May-90	0.32	29-Jun-90	0	29-Jul-90	0	29-Aug-90	0
33	30-May-90	0.58	30-Jun-90	0.48	30-Jul-90	0	30-Aug-90	0
34	31-May-90	0			31-Jul-90	0	31-Aug-90	0
35	TOTALS	6.38		1.04		6.45		2.29
36								

RAINFALL 90 KINGSTON

	A	B	C	D	E	F	G	H
37			RAINFALL 1990 KINGSTON STATION					
38	DAY/MONTH	RAINFALL	DAY/MONTH	RAINFALL				
39	SEPTEMBER	IN.	OCTOBER	IN.				
40	1-Sep-90	0	1-Oct-90	0				
41	2-Sep-90	0	2-Oct-90	0				
42	3-Sep-90	0	3-Oct-90	0				
43	4-Sep-90	0	4-Oct-90	0				
44	5-Sep-90	0	5-Oct-90	0.18				
45	6-Sep-90	0	6-Oct-90	0				
46	7-Sep-90	0.01	7-Oct-90	0				
47	8-Sep-90	0	8-Oct-90	0				
48	9-Sep-90	0	9-Oct-90	0.11				
49	10-Sep-90	0.19	10-Oct-90	0				
50	11-Sep-90	0	11-Oct-90	0.03				
51	12-Sep-90	0	12-Oct-90	0.1				
52	13-Sep-90	0	13-Oct-90	0.75				
53	14-Sep-90	0	14-Oct-90	0.31				
54	15-Sep-90	1.2	15-Oct-90	0				
55	16-Sep-90	0	16-Oct-90	0				
56	17-Sep-90	0.19	17-Oct-90	0				
57	18-Sep-90	0	18-Oct-90	0				
58	19-Sep-90	0	19-Oct-90	0.52				
59	20-Sep-90	0.33	20-Oct-90	0				
60	21-Sep-90	0	21-Oct-90	0				
61	22-Sep-90	0.06	22-Oct-90	0				
62	23-Sep-90	1.07	23-Oct-90	0.12				
63	24-Sep-90	0	24-Oct-90	0.85				
64	25-Sep-90	0	25-Oct-90	0				
65	26-Sep-90	0	26-Oct-90	0.15				
66	27-Sep-90	0.19	27-Oct-90	0.15				
67	28-Sep-90	0	28-Oct-90	0.19				
68	29-Sep-90	0	29-Oct-90	0.03				
69	30-Sep-90	0	30-Oct-90	0				
70			31-Oct-90	0				
71	TOTALS	3.24	TOTALS	3.49				

7. Pt. Judith Bacteria, 1985-91. Example of data summary for bacteria.

PT JUDITH BACTERIA 1985-91, BY YEARS AND CUMULATIVE (UNDERLINED)

STATION	CLASS	YEAR	# FEC	GEO MEAN FEC	MED FEC	%>500 FEC SB	% >50 FEC SA	# TOT	GEO MEAN TOT	MED TOT	% > 2300 TOT SB	% > 330 TOT SA
1	SB	1987	10	20	24	0	17	0	.	.	.	.
1	SB	1988	12	98	221	25	58	12	330	496	8	25
1	SB	1987-88	22	57	42	14	41	12	330	496	8	17
1A	SB	1985	9	30	39	11	88	0	.	.	.	.
1A	SB	1986	13	89	93	0	20	0	.	.	.	.
1A	SB	1985-86	22	69	43	5	41	0				
2	SA	1987	10	23	21	0	64	10	.	.	.	.
2	SA	1988	12	72	146	0	22	12	390	460	8	75
2	SA	1989	11	50	75	0	45	7	577	460	14	86
2	SA	1990	12	55	60	0	50	12	300	460	0	58
2	SA	1987-90	25	62	75	0	56	24	388	460	4	67
3	SA	1987	10	14	17	0	10	.	.	.	.	.
3	SA	1988	12	61	93	0	7	12	253	240	8	83
3	SA	1987-88	22	31	23	0	36	13	253	240	8	67
4	SA	1987	10	9	8	0	10	0	.	.	.	.
4	SA	1988	12	28	34	8	25	12	138	97	8	42
4	SA	1987-88	22	16	9	5	18	12	138	97	8	42
5	SA	1987	10	8	8	0	10	0	.	.	.	.
5	SA	1988	12	10	7	0	8	12	37	34	0	8
5	SA	1989	9	15	23	0	11	8	200	240	0	25
5	SA	1990	11	27	43	0	18	11	104	93	0	9
5	SA	1991	9	9	9	0	0	.	.	.	.	.
5	SA	1987-91	51	13	9	0	10	31	82	93	0	13
5A	SA	1986	9	17	11	11	11	0	.	.	.	.
6	SA	1987	10	9	7	0	10	0	.	.	.	.
6	SA	1988	12	7	4	0	8	12	31	23	0	8
6	SA	1987-88	22	8	4	0	9	12	31	23	0	8
7	SA	1987	10	9	9	0	0	0	.	.	.	.
7	SA	1988	12	7	7	0	8	12	17	18	0	0
7	SA	1989	8	12	15	0	13	7	77	122	0	0
7	SA	1990	11	10	9	0	0	11	33	43	0	0
7		1987-90	41	9	4	0	5	30	31	23	0	0

PT JUDITH BACTERIA 1985-91, BY YEARS AND CUMULATIVE (UNDERLINED)

STATION	CLASS	YEAR	# FEC	GEO MEAN FEC	MED FEC	%>500 FEC SB	% >50 FEC SA	# TOT	GEO MEAN TOT	MED TOT	% > 2300 TOT SB	% > 330 TOT SA
8	SA	1987	10	8	8	0	10	0	.	.	.	.
8	SA	1988	12	8	6	0	8	12	28	19	0	8
8	SA	1989	8	11	12	0	0	7	38	43	0	13
8	SA	1990	11	7	9	0	0	11	21	23	0	0
8	SA	1987-90	41	8	9	0	5	30	27	23	0	7
9	SA	1987	10	7	6	0	0	0	.	.	.	.
9	SA	1988	12	6	4	0	0	12	15	23	0	0
9	SA	1987-88	21	6	4	0	0	12	15	23	0	0
10	SA	1987	10	9	9	0	10	0	.	.	.	.
10	SA	1988	11	5	4	0	0	11	9	7	0	0
10	SA	1989	9	9	15	0	11	9	39	43	0	11
10	SA	1990	12	6	4	0	0	12	20	23	0	0
10	SA	1987-90	41	7	4	0	5	32	18	22	0	3
12	SA	1987	10	8	7	0	0	0	.	.	.	.
12	SA	1988	11	5	4	0	0	11	9	9	0	0
12	SA	1989	9	6	4	0	11	9	33	23	0	11
12	SA	1990	12	3	3	0	0	12	20	9	0	8
12	SA	1987-90	41	5	4	0	2	32	18	15	0	6
15	SA	1987	8	8	4	0	0	0	.	.	.	.
15	SA	1988	7	3	2	0	0	7	6	4	0	14
15	SA	1989	10	6	3	0	10	10	36	93	0	10
15	SA	1990	9	4	4	0	0	9	9	9	0	0
15	SA	1987-90	43	5	4	0	2	24	16	8	0	8
15A	SA	1988	10	5	4	0	0	10	10	4	0	0
15A	SA	1989	9	4	3	0	0	9	7	4	0	0
15A	SA	1990	10	4	4	0	0	10	15	23	0	0
15A	SA	1987-90	28	5	4	0	0	28	9	9	0	0
15B	SA	1986	8	8	9	0	0	8	34	43	0	0
15C	SA	1986	10	5	4	0	0	0	.	.	.	.
16	SA	1987	8	6	6	0	0	0	.	.	.	.
16	SA	1988	7	3	2	0	0	7	4	3	0	0
16	SA	1987-88	15	4	3	0	0	7	4	2	0	0

PT JUDITH BACTERIA 1985-91, BY YEARS AND CUMULATIVE (UNDERLINED)

STATION	CLASS	YEAR	# FEC	GEO MEAN FEC	MED FEC	%>500 FEC SB	% >88 FEC SA	# TOT	GEO MEAN TOT	MED TOT	% > 2300 TOT SB	% > 330 TOT SA
16A	SA	1985	7	26	23	0	28	0	.	.	.	.
16A	SA	1986	9	26	23	0	22	0	.	.	.	.
16A	SA	1987	9	8	9	0	22	0	.	.	.	.
16A	SA	1988	7	22	15	0	0	7	44	23	0	14
16A	SA	1989	9	5	3	0	22	8	49	93	0	13
16A	SA	1990	8	4	4	0	0	8	14	13	0	0
16A	SA	1991	5	6	5	0	0	.	.	.	.	.
16A	SA	1985-91	52	12	8	0	13	23	34	23	0	9
16B	SA	1987	5	19	21	0	20	0	.	.	.	.
16B	SA	1988	7	4	7	0	28	7	49	43	0	14
16B	SA	1989	6	6	5	0	0	5	74	93	0	0
16B	SA	1990	4	13	16	0	0	4	42	60	0	0
16B	SA	1985-90	22	12	8	0	14	16	53	85	0	6
17	SA	1987	10	8	9	0	0	0	.	.	.	.
17	SA	1988	11	6	4	0	0	11	13	9	0	0
17	SA	1989	8	10	9	0	0	8	37	34	0	12
17	SA	1990	12	4	4	0	0	12	15	12	0	0
17	SA	1987-90	41	6	4	0	0	31	18	15	0	3
19	SA	1987	9	14	9	0	11	0	.	.	.	.
19	SA	1988	11	14	23	0	18	11	28	43	0	0
19	SA	1989	8	8	9	0	0	8	60	43	0	13
19	SA	1990	12	14	15	0	0	12	52	43	0	8
19	SA	1987-90	40	13	14	0	8	31	43	43	0	10
20	SB	1986	10	23	13	0	20	0	.	.	.	.
20	SB	1987	10	7	6	0	0	0	.	.	.	.
20	SB	1988	12	6	6	0	0	12	15	22	0	0
20	SB	1987-90	32	10	9	0	6	12	15	22	0	0
20A	SB	1989	10	5	4	0	0	10	28	22	0	10
20A	SB	1990	10	8	9	0	0	10	29	31	0	10
20	SB	1989-90	20	8	6	0	0	20	29	23	0	10
21	SB	1987	10	7	9	0	0	0	.	.	.	.
21	SB	1988	12	5	4	0	0	12	9	9	0	0
21	SB	1987-88	22	6	6	0	0	12	9	9	0	0

PT JUDITH BACTERIA 1985-91, BY YEARS AND CUMULATIVE (UNDERLINED)

STATION	CLASS	YEAR	# FEC	GEO MEAN FEC	MED FEC	%>500 FEC SB	% >50 FEC SA	# TOT	GEO MEAN TOT	MED TOT	% > 2300 TOT SB	% > 330 TOT SA
21A	SA	1989	10	12	13	0	0	10	43	43	0	0
21A	SA	1990	10	21	23	0	20	10	39	34	0	0
21A	SA	1991	6	33	41	17	.	0	.	.	.	.
21A	SA	1989-91	26	19	23	0	8	20	41	43	0	0

8. Point Judith Water Chemistry Summary, 1985-1991. Example of data summary for water chemistry.

Station		Year	Months sampled	Temperature July-Aug	May-Nov	Dec-Feb	Dissolved O2 Mean	Salinity Mean	N Mean	P Mean	Chl a Mean	Chl a excluding 1986
Sta 1		1985	Aug - Nov	23.0	16.2		9.6	22.2	7.84	0.60	7.74	
		1986	May - Oct	18.8	17.9		9.8	24.0	3.96	0.52	34.69	
		1987	May - Oct	22.0	16.1		9.0	23.4	5.32	0.85	7.01	
		1988	May -Nov	23.3	17.6		8.8	24.6	4.10	0.78	5.87	
		1988-89	Dec-Feb					24.7	8.08	0.60	4.81	
		1989	Mar-Apr					19.0	4.39	0.53	1.48	
		1989	May -Nov	22.5	18.4		7.8	18.3	2.75	0.42	11.05	
		1989-90	Dec-Feb			2.3	8.7	11.7	7.44	0.52	8.25	
		1990	Mar-Apr				11.1	18.0	8.75	0.88	2.10	
		1990	May - Oct	22.0	18.6		7.9	22.9	3.14	0.28	7.49	
		1990-91	Dec-Jan			3.8		28.6	10.71	0.65	3.20	
		1991	Mar-Apr					8.0	23.00	0.29	4.06	
		1991	May -Aug	23.3	20.6			24.0	3.66	0.42	8.62	
	MEAN	1985 - 90	May -Nov	21.6	17.9		8.9	22.8	4.05	0.56	9.95	7.83
	S.D.			2.8	4.64		1.6	6.1	3.89	0.41	10.63	6.31
	MEAN	1988-90	Dec-Feb			2.8	8.7	18.3	7.66	0.62	4.38	
	S.D.					2.4	4.8	10.3	2.20	0.18	4.24	
	MEAN	1989-90	Mar-Apr				11.1	15.3	11.37	0.38	2.53	
	S.D.						0.8	7.0	9.20	0.12	2.22	
Sta 2		1985	Jul - Nov	22.2	20.7		12.3	28.7	0.87	0.53	4.84	
		1986	May - Oct	20.3	18.9		8.9	29.4	0.35	0.76	17.92	
		1987	May - Oct	20.0	17.7		8.6	29.7	0.30	0.67	2.03	
		1988	May - Oct	20.0	17.7		8.9	30.3	0.28	0.96	1.05	
	MEAN	1985 - 90		20.6	18.6		9.8	29.7	0.35	0.77	3.99	2.20
	S.D.			2.0	3.1		2.2	1.5	0.38	0.27	7.27	1.69
Sta. 2A		1987	May - Oct	21.4	19.5		7.8	28.8	0.18	0.75	2.96	
		1988	May - Oct	22.4	19.8		7.7	29.1	0.33	1.30	1.36	
		1990	May - Oct	24.3	22.9		6.2	28.6	0.37	0.34	1.74	
	MEAN	1987 - 90		22.8	20.2		7.3	28.9	0.30	0.82	2.13	
	S.D.			2.7	3.8		1.5	2.0	0.22	0.70	1.59	
Sta. 2B		1987	May - Oct					26.7	1.18	0.82	6.44	
		1988	Jun - Nov	22.6	17.3		8.0	26.9	1.72	0.94	5.88	
		1988-89	Dec-Feb			1.5		24.3	2.02	0.48	6.54	
		1989	Mar-Apr					27.9	0.16	0.31	6.13	
		1989	Jun - Nov	20.0	16.3		8.7	20.8	1.82	0.33	8.48	
	MEAN	1985 - 90	May-Nov	21.9	16.7		8.3	25.4	1.52	0.74	6.92	
	S.D.			2.3	5.4		1.0	4.6	1.29	0.52	5.38	
Sta. 2C		1987	Jul - Oct	20.2	18.2		8.3	29.9	0.37	0.86	1.44	
		1988	Jul - Oct	21.2	19.3		7.0	29.9	0.39	1.26	0.97	
	MEAN	1985 - 90		20.7	18.8		7.7	29.9	0.38	1.07	1.21	
	S.D.			2.3	3.2		1.5	0.9	0.30	0.34	0.87	

Station		Year	Months sampled	Temperature July-Aug	May-Nov	Dec-Feb	Dissolved O2 Mean	Salinity Mean	N Mean	P Mean	Chl a Mean	Chl a excluding 1986	STATIONS SAMPLED:
Sta. 3		1985	Aug - Nov	23.0	16.7		11.6	30.8	1.35	0.89	1.77		
		1986	May - Oct	19.4	16.6		12.0	30.4	0.24	0.81	4.90		
		1987	May - Oct	20.0	15.8		12.0	30.4	0.43	0.91	1.64		
		1988	May - Oct	19.0	15.8		12.0	30.4	0.43	0.91	1.64		
		1988-89	Dec-Feb			4.0		31.3	[illegible]	[illegible]	[illegible]		
		1989	[illegible]					30.0	[illegible]	[illegible]	[illegible]		
		1989-90	[illegible]			4.7		30.4	2.79	[illegible]	0.73		
		1990	[illegible]					31.0	0.94	[illegible]	[illegible]		
	MEANS	1985 - 89	May-Nov	20.1	16.4		11.4	30.3	0.51	0.74	2.36	1.65	
	S.D.			2.0	3.8		1.5	1.3	0.94	0.28	2.96	1.24	
	MEANS	1988-90	Dec-Feb			4.5		30.8	3.53	0.63	0.97		
	S.D.					1.3		1.2	1.38	0.27	[illegible]		
	MEANS	1989-90	Mar-Apr					31.4	0.59	0.47	0.78		
	S.D.							1.2	[illegible]	0.43	0.67		
Sta. 3 A		1990	May - Oct	21.6	19.4			30.1	0.27	0.34	2.28		
		1990-91	Dec-Feb			7.3		28.3	5.12	0.82	1.84		
		1991	Mar-Apr					28.5	2.01	0.28	1.51		
		1991	May-Nov	21.0	18.6			28.4	0.91	0.82	1.68		
	MEANS	1990-91	May-Nov	21.3	19.0			29.3	0.59	0.46	1.98		
	S.D.			0.9	11.9			2.8	0.69	0.22	1.26		
Sta. 4		1987	May - Oct	21.0	18.8		8.8	28.6	0.20	0.71	2.05		
		1988	May - Oct	20.4	17.5		9.0	27.8	0.51	0.85	5.03		
		1989	May - Oct	21.8	19.0			28.5	0.38	0.12	2.96		
		1991	Jul-Oct	19.5	17.9			29.2	0.63	0.66	1.52		
	MEAN	1987 - 1991		20.7	18.3		8.9	28.4	0.41	0.59	3.09		
	S.D.			1.7	3.2		1.2	2.2	0.40	0.39	5.79		
ALL STATIONS		1985	Jul-Nov	22.7	17.5		11.0	27.7	2.99	0.74	5.02		1,2,3
		1986	May-Nov	19.4	17.6		10.4	28.1	1.47	0.82	17.05		1,2,3
		1987	May-Nov	20.8	18.1		8.7	28.0	1.20	0.75	3.44		1,2,2A,2B,2C,3,4
		1988	May-Nov	21.2	17.8		8.8	28.2	1.23	0.98	3.27		1,2,2A,2B,2C,3,4
		1988-89	Dec-Feb			3.3		27.1	5.15	[illegible]	2.03		1,2B,3
		1989	Mar-Apr					24.3	[illegible]	[illegible]	6.11		1,2B,3
		1989	May-Nov	21.7	17.8		8.1	22.1	1.75	0.29	7.72		1,2B,4
		1989-90	Dec-Feb			3.5	9.7	21.9	5.07	0.44	[illegible]		1,3
		1990	Mar-Apr				11.3	24.3	[illegible]	[illegible]	1.54		1,3
		1990	May-Oct	22.4	19.7		7.3	28.9	1.38	0.32	4.60		1,2A,3
		1990-91	Dec-Feb			5.8		26.4	0.55	[illegible]	2.36		1,3A
		1991	Mar-Apr					26.4	[illegible]	[illegible]	1.27		1,3A
		1991	May-Nov	21.1	18.9			27.4	1.58	0.57	3.53		1,3A,4
	MEAN	1988-91	Dec-Feb			4.1	9.7	25.4	[illegible]	[illegible]	2.46		
	S.D.					2.5	4.0	5.1	[illegible]	[illegible]	[illegible]		
	MEAN	1989-91	Mar-Apr				11.1	21.9	7.15	[illegible]	1.81		
	S.D.						9.9	8.8	[illegible]	[illegible]	[illegible]		
	MEAN	1985-91	May-Nov	21.3	18.1		9.2	27.3	1.44	0.69	5.06	3.86	
	S.D.			1.5	4.1		2.0	4.8	2.54	0.44	7.40	5.01	

Point Judith Water Chemistry Summary, 1985 - 1991

Station		Year	Months sampled	Temperature July-Aug	May-Nov	Dec-Feb	Dissolved O2 Mean	Salinity Mean	N Mean	P Mean	Chl a Mean	Chl a excluding 1986	
ALL STATIONS		1985	Jul-Nov	22.6	18.4		11.9	30.2	1.22	0.79	3.09		2,3
EXC PJ1		1986	May-Nov	19.4	17.5		10.7	30.0	0.28	0.87	8.91		2,3
		1987	May-Nov	20.8	18.2		8.6	28.9	0.42	0.73	2.76		2,2A,2B,2C,3,4
		1988	May-Nov	21.3	17.8		8.8	29.0	0.62	1.02	2.71		2,2A,2B,2C,3,4
		1988-89	Dec-Feb	.	.	3.9	.	30.3	3.09	0.56	1.07		2B,3
		1989	Mar-Apr	.	.	.	.	29.8	0.40	0.60	8.92		2B,3
		1989	May-Nov	21.7	17.4	.	8.8	25.2	0.99	0.21	5.42		2B,4
		1989-90	Dec-Feb	.	.	4.7	.	30.8	2.70	0.35	0.73		3
		1990	Mar-Apr	.	.	.	.	31.0	0.64	0.28	0.90		3
		1990	May-Oct	22.5	20.5		6.3	29.4	0.34	0.34	2.13		2A,3
		1990-91	Dec-Feb	.	.	7.3	.	28.3	4.84	0.82	1.84		3A
		1991	Mar-Apr	.	.	.	.	28.5	2.01	0.29	1.51		3A
		1991	May-Nov	20.3	17.3	.		26.9	0.76	0.60	1.53		3A,4
	MEAN	1985-1991	May-Oct	21.0	18.15	.	9.38	28.82	0.58	0.73	3.33	2.67	
	S.D.			1.4	3.84	.	2.20	2.86	0.82	0.45	4.94	3.83	
	MEAN	1988-1991	Dec-Feb		.	4.9	.	29.0	3.68	0.65	1.80		
	S.D.				.	2.5	.	3.3	1.30	0.32	2.12		
	MEAN	1989-91	Mar-Apr		.	7.5	.	31.5	0.83	0.56	0.72		
	S.D.				.	0.7	.	1.0	0.54	0.29	0.58		

Salt Pond Watchers' Data Management Protocol Volume 3

Appendix B.

Working files for generating and updating data summaries

1. Ninigret Med FEC 91: Example of file used in calculating medians and geometric means for fecal coliform data for one year's data.
2. POINT JUDITH Cum BACT 85-91 EX: Example of file used in calculating medians and geometric means for the whole time-span of the data set.
3. 1991 Av May-Nov Water Chem Example: Example of a file used in calculating average water chemistry values for one year's data during the normal sampling season, May through November. Note that average temperature is calculated both for the whole May-November period and July-August alone.
4. 1991 av Winter Water Chem ex: Example of a file used for calculating average water chemistry values for one year's data during winter. Averages for Dec-Feb and Mar-Apr are calculated separately.
5. PJ Mean H2O Chem 85-91 ex: Example of a file used for calculating average water chemistry values for the May-November period over the whole time-span of the data set. Note that on page 6, two sets of average values for the whole pond are calculated, including and excluding Sta. PJ1.

1. Ninigret Med FEC 91: Example of file used in calculating medians and geometric means for fecal coliform data for one year's data.

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3	4	11-Jul-91	5	1.61							
4	4	8-Aug-91	5	1.61							
5	4	4-Sep-91	5	1.61							
6	4	2-Oct-91	5	1.61							
7	4	13-Jun-91	18	2.89							
8	4	25-Jul-91	18	2.89							
9	4	15-Sep-91	18	2.89							
10	4	30-Oct-91	110	4.70							
11											
12	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
13	4	SA	1991	8	11.90	12	13				
14											
15	5	27-Jun-91	5	1.61							
16	5	8-Aug-91	5	1.61							
17	5	4-Sep-91	5	1.61							
18	5	2-Oct-91	5	1.61							
19	5	25-Jul-91	18	2.89							
20	5	30-Oct-91	41	3.71							
21	5	17-Nov-91	68	4.23							
22											
23	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
24	5	SA	1991	7	11.80	5	13	0	.	.	.
25											
26	7	25-Jul-91	5	1.61							
27	7	7-Aug-91	5	1.61							
28	7	4-Sep-91	5	1.61							
29	7	15-Sep-91	5	1.61							
30	7	2-Oct-91	5	1.61							
31	7	17-Oct-91	5	1.61							
32											
33	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
34	7	SA	1991	6	5.00	5	0	0	.	.	.
35											
36	10	13-Jun-91	5	1.61							
37	10	27-Jun-91	5	1.61							
38	10	8-Aug-91	5	1.61							
39	10	4-Sep-91	5	1.61							
40	10	15-Sep-91	5	1.61							
41	10	2-Oct-91	5	1.61							
42	10	11-Jul-91	18	2.89							
43	10	17-Oct-91	29	3.37							
44	10	30-Oct-91	88	4.48							
45	10	25-Jul-91	110	4.70							
46											
47	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
48	10	SA	1991	10	12.30	5	20	0	.	.	.
49											
50	11	8-Aug-91	5	1.61							
51	11	13-Jun-91	9	2.20							
52	11	4-Sep-91	9	2.20							
53	11	17-Oct-91	9	2.20							
54	11	11-Jul-91	18	2.89							
55	11	25-Jul-91	41	3.71							
56	11	27-Jun-91	54	3.99							
57	11	15-Sep-91	54	3.99							
58	11	2-Oct-91	110	4.70							
59	11	30-Oct-91	248	5.51							
60											
61	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
62	11	SA	1991	10	27.10	30	40	0	.	.	.
63											
64	12	27-Jun-91	5	1.61							
65	12	8-Aug-91	5	1.61							
66	12	13-Jun-91	9	2.20							
67	12	11-Jul-91	18	2.89							
68	12	4-Sep-91	29	3.37							
69	12	25-Jul-91	41	3.71							
70	12	17-Oct-91	54	3.99							
71	12	30-Oct-91	110	4.70							
72	12	15-Sep-91	139	4.93							
73	12	2-Oct-91	249	5.52							
74											
75	Sta		Years	# FEC	G Mean FEC	Med FEC	%>50 FEC	# TOT	G Mean TOT	Med TOT	%>330 TOT
76	12	SA	1991	10	31.59	35	40	0	.	.	.

2. POINT JUDITH Cum BACT 85-91 EX: Example of file used in calculating medians and geometric means for the whole time-span of the data set.

POND	AREA	OLDST	NEWST	DATE	FECAL	LN FEC	TOTAL	LN FEC
PJ	NB	1	1	17-Oct-88	4	1.39	23	3.14
PJ	NB	1	1	31-Oct-88	4	1.39	75	4.32
PJ	NB	1	1	13-Jun-88	23	3.14	75	4.32
PJ	NB	1	1	16-May-88	43	3.76	93	4.53
PJ	NB	1	1	10-Aug-88	23	3.14	120	4.79
PJ	NB	1	1	3-Oct-88	240	5.48	240	5.48
PJ	NB	1	1	19-Sep-88	200	5.30	750	6.62
PJ	NB	1	1	27-Jun-88	240	5.48	1100	7.00
PJ	NB	1	1	25-Jul-88	240	5.48	1100	7.00
PJ	NB	1	1	14-Nov-88	750	6.62	1500	7.31
PJ	NB	1	1	22-Aug-88	930	6.84	1500	7.31
PJ	NB	1	1	11-Jul-88	1100	7.00	2400	7.78
PJ	NB	1	1	13-May-87	3	1.10	.	.
PJ	NB	1	1	19-Oct-87	7	1.95	.	.
PJ	NB	1	1	27-May-87	9	2.20	.	.
PJ	NB	1	1	27-Jul-87	9	2.20	.	.
PJ	NB	1	1	24-Aug-87	9	2.20	.	.
PJ	NB	1	1	29-Jun-87	39	3.66	.	.
PJ	NB	1	1	10-Jun-87	41	3.71	.	.
PJ	NB	1	1	5-Oct-87	43	3.76	.	.
PJ	NB	1	1	13-Jul-87	93	4.53	.	.
PJ	NB	1	1	21-Sep-87	93	4.53	.	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 1	1987-88	22	56.83	42	14	41	12	330.49

PJ	NB	1	1A	8-Jul-85	4	1.39	.
PJ	NB	1	1A	21-Oct-85	7	1.95	.
PJ	NB	1	1A	5-May-86	9	2.20	.
PJ	NB	1	1A	16-Sep-85	15	2.71	.
PJ	NB	1	1A	19-May-86	15	2.71	.
PJ	NB	1	1A	5-Aug-85	23	3.14	.
PJ	NB	1	1A	22-Sep-86	28	3.33	.
PJ	NB	1	1A	30-Sep-85	39	3.66	.
PJ	NB	1	1A	22-Jul-85	43	3.76	.
PJ	NB	1	1A	19-Aug-85	43	3.76	.
PJ	NB	1	1A	28-Oct-85	43	3.76	.
PJ	NB	1	1A	16-Jun-86	43	3.76	.
PJ	NB	1	1A	8-Sep-86	43	3.76	.
PJ	NB	1	1A	25-Aug-86	93	4.53	.
PJ	NB	1	1A	6-Oct-86	93	4.53	.
PJ	NB	1	1A	2-Jun-86	150	5.01	.
PJ	NB	1	1A	20-Oct-86	150	5.01	.
PJ	NB	1	1A	12-Aug-86	240	5.48	.
PJ	NB	1	1A	30-Jun-86	390	5.97	.
PJ	NB	1	1A	28-Jul-86	390	5.97	.
PJ	NB	1	1A	14-Jul-86	430	6.06	.
PJ	NB	1	1A	3-Sep-85	750	6.62	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 1A	1987-88	22	69.49	43	5	41	0	.

PJ	NB	2	2	13-May-87	23	.
PJ	NB	2	2	27-May-87	16	.
PJ	NB	2	2	10-Jun-87	88	.
PJ	NB	2	2	29-Jun-87	4	.
PJ	NB	2	2	13-Jul-87	15	.
PJ	NB	2	2	27-Jul-87	21	.
PJ	NB	2	2	24-Aug-87	9	.
PJ	NB	2	2	21-Sep-87	43	.
PJ	NB	2	2	5-Oct-87	93	.
PJ	NB	2	2	19-Oct-87	21	.
PJ	NB	2	2	16-May-88	150	460
PJ	NB	2	2	13-Jun-88	460	460

POND	AREA	OLDST	NEWST	DATE	FECAL	LN FEC	TOTAL	LN FEC
PJ	NB	1	1	17-Oct-88	4	1.39	23	3.14
PJ	NB	1	1	31-Oct-88	4	1.39	75	4.32
PJ	NB	1	1	13-Jun-88	23	3.14	75	4.32
PJ	NB	1	1	16-May-88	43	3.76	93	4.53
PJ	NB	1	1	10-Aug-88	23	3.14	120	4.79
PJ	NB	1	1	3-Oct-88	240	5.48	240	5.48
PJ	NB	1	1	19-Sep-88	200	5.30	750	6.62
PJ	NB	1	1	27-Jun-88	240	5.48	1100	7.00
PJ	NB	1	1	25-Jul-88	240	5.48	1100	7.00
PJ	NB	1	1	14-Nov-88	750	6.62	1500	7.31
PJ	NB	1	1	22-Aug-88	930	6.84	1500	7.31
PJ	NB	1	1	11-Jul-88	1100	7.00	2400	7.78
PJ	NB	1	1	13-May-87	3	1.10	.	.
PJ	NB	1	1	19-Oct-87	7	1.95	.	.
PJ	NB	1	1	27-May-87	9	2.20	.	.
PJ	NB	1	1	27-Jul-87	9	2.20	.	.
PJ	NB	1	1	24-Aug-87	9	2.20	.	.
PJ	NB	1	1	29-Jun-87	39	3.66	.	.
PJ	NB	1	1	10-Jun-87	41	3.71	.	.
PJ	NB	1	1	5-Oct-87	43	3.76	.	.
PJ	NB	1	1	13-Jul-87	93	4.53	.	.
PJ	NB	1	1	21-Sep-87	93	4.53	.	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 1	1987-88	22	56.83	42	14	41	12	330.49

POND	AREA	OLDST	NEWST	DATE	FECAL	LN FEC	TOTAL	LN FEC
PJ	NB	1	1A	8-Jul-85	4	1.39	.	
PJ	NB	1	1A	21-Oct-85	7	1.95	.	
PJ	NB	1	1A	5-May-86	9	2.20	.	
PJ	NB	1	1A	16-Sep-85	15	2.71	.	
PJ	NB	1	1A	19-May-86	15	2.71	.	
PJ	NB	1	1A	5-Aug-85	23	3.14	.	
PJ	NB	1	1A	22-Sep-86	28	3.33	.	
PJ	NB	1	1A	30-Sep-85	39	3.66	.	
PJ	NB	1	1A	22-Jul-85	43	3.76	.	
PJ	NB	1	1A	19-Aug-85	43	3.76	.	
PJ	NB	1	1A	28-Oct-85	43	3.76	.	
PJ	NB	1	1A	16-Jun-86	43	3.76	.	
PJ	NB	1	1A	8-Sep-86	43	3.76	.	
PJ	NB	1	1A	25-Aug-86	93	4.53	.	
PJ	NB	1	1A	6-Oct-86	93	4.53	.	
PJ	NB	1	1A	2-Jun-86	150	5.01	.	
PJ	NB	1	1A	20-Oct-86	150	5.01	.	
PJ	NB	1	1A	12-Aug-86	240	5.48	.	
PJ	NB	1	1A	30-Jun-86	390	5.97	.	
PJ	NB	1	1A	28-Jul-86	390	5.97	.	
PJ	NB	1	1A	14-Jul-86	430	6.06	.	
PJ	NB	1	1A	3-Sep-85	750	6.62	.	

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 1A	1987-88	22	69.49	43	5	41	0	.

POND	AREA	OLDST	NEWST	DATE	FECAL	LN FEC	TOTAL	LN FEC
PJ	NB	2	2	13-May-87	23		.	
PJ	NB	2	2	27-May-87	18		.	
PJ	NB	2	2	10-Jun-87	88		.	
PJ	NB	2	2	29-Jun-87	4		.	
PJ	NB	2	2	13-Jul-87	15		.	
PJ	NB	2	2	27-Jul-87	21		.	
PJ	NB	2	2	24-Aug-87	9		.	
PJ	NB	2	2	21-Sep-87	43		.	
PJ	NB	2	2	5-Oct-87	93		.	
PJ	NB	2	2	19-Oct-87	21		.	
PJ	NB	2	2	16-May-88	150		460	
PJ	NB	2	2	13-Jun-88	460		460	

PJ	NB	2	2	27-Jun-88	240		460	
PJ	NB	2	2	11-Jul-88	43		11000	
PJ	NB	2	2	25-Jul-88	460		1100	
PJ	NB	2	2	10-Aug-88	9		23	
PJ	NB	2	2	22-Aug-88	140		390	
PJ	NB	2	2	19-Sep-88	150		1500	
PJ	NB	2	2	3-Oct-88	93		460	
PJ	NB	2	2	17-Oct-88	7		43	
PJ	NB	2	2	19-Jun-90	43	3.76	43	3.76
PJ	NB	2	2	22-May-89	23	3.14	75	4.32
PJ	NB	2	2	31-Oct-88	2	0.69	93	4.53
PJ	NB	2	2	9-Oct-90	23	3.14	93	4.53
PJ	NB	2	2	3-Jul-90 *	93	4.53	93	4.53
PJ	NB	2	2	10-Oct-89	7	1.95	240	5.48
PJ	NB	2	2	17-Jul-90	43	3.76	240	5.48
PJ	NB	2	2	14-Aug-90	240	5.48	240	5.48
PJ	NB	2	2	14-Nov-88	230	5.44	430	6.06
PJ	NB	2	2	11-Sep-89	2	0.69	460	6.13
PJ	NB	2	2	25-Sep-90	9	2.20	460	6.13
PJ	NB	2	2	23-Oct-90	43	3.76	460	6.13
PJ	NB	2	2	11-Sep-90	75	4.32	460	6.13
PJ	NB	2	2	25-Sep-89	93	4.53	460	6.13
PJ	NB	2	2	31-Jul-90	93	4.53	460	6.13
PJ	NB	2	2	28-Aug-90	93	4.53	460	6.13
PJ	NB	2	2	19-Jun-89	150	5.01	460	6.13
PJ	NB	2	2	5-Jun-90	23	3.14	1100	7.00
PJ	NB	2	2	31-Jul-89	43	3.76	1100	7.00
PJ	NB	2	2	28-Aug-89	75	4.32	1100	7.00
PJ	NB	2	2	22-May-90	150	5.01	1100	7.00
PJ	NB	2	2	23-Oct-89	240	5.48	1100	7.00
PJ	NB	2	2	6-Nov-89	240	5.48	1100	7.00
PJ	NB	2	2	7-Aug-89	75	4.32	2400	7.78
PJ	NB	2	2	17-Jul-89	248	5.51	.	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>80 FEC	# TOT	G Mean TOT
PJ 2	1988-90	25	62.26	75	0	56	24	387.51

PJ	NB	3	3	13-Jun-88	3	1.10	21	3.04
PJ	NB	3	3	10-Aug-88	23	3.14	23	3.14
PJ	NB	3	3	16-May-88	93	4.53	93	4.53
PJ	NB	3	3	14-Nov-88	93	4.53	150	5.01
PJ	NB	3	3	11-Jul-88	23	3.14	240	5.48
PJ	NB	3	3	31-Oct-88	23	3.14	240	5.48
PJ	NB	3	3	19-Sep-88	240	5.48	240	5.48
PJ	NB	3	3	22-Aug-88	93	4.53	430	6.06
PJ	NB	3	3	3-Oct-88	240	5.48	460	6.13
PJ	NB	3	3	17-Oct-88	15	2.71	750	6.62
PJ	NB	3	3	27-Jun-88	460	6.13	1100	7.00
PJ	NB	3	3	25-Jul-88	240	5.48	4600	8.43
PJ	NB	3	3	29-Jun-87	4	1.39	.	.
PJ	NB	3	3	13-Jul-87	4	1.39	.	.
PJ	NB	3	3	27-Jul-87	4	1.39	.	.
PJ	NB	3	3	24-Aug-87	4	1.39	.	.
PJ	NB	3	3	19-Oct-87	9	2.20	.	.
PJ	NB	3	3	13-May-87	23	3.14	.	.
PJ	NB	3	3	5-Oct-87	23	3.14	.	.
PJ	NB	3	3	27-May-87	41	3.71	.	.
PJ	NB	3	3	21-Sep-87	43	3.76	.	.
PJ	NB	3	3	10-Jun-87	139	4.93	.	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>80 FEC	# TOT	G Mean TOT
PJ 3	1987-88	22	31.37	23	0	36	13	253.35

PJ	UP	4	4	10-Aug-88	4	1.39	9	2.20
PJ	UP	4	4	11-Jul-88	4	1.39	15	2.71
PJ	UP	4	4	17-Oct-88	4	1.39	23	3.14

PJ	UP	4	4	16-May-88	9	2.20	23	3.14
PJ	UP	4	4	13-Jun-88	23	3.14	43	3.76
PJ	UP	4	4	14-Nov-88	43	3.76	43	3.76
PJ	UP	4	4	31-Oct-88	9	2.20	150	5.01
PJ	UP	4	4	3-Oct-88	93	4.53	460	6.13
PJ	UP	4	4	22-Aug-88	43	3.76	930	6.84
PJ	UP	4	4	19-Sep-88	43	3.76	1100	7.00
PJ	UP	4	4	25-Jul-88	1100	7.00	1100	7.00
PJ	UP	4	4	27-Jun-88	240	5.48	4600	8.43
PJ	UP	4	4	13-May-87	3.6	1.28	.	.
PJ	UP	4	4	13-Jul-87	4	1.39	.	.
PJ	UP	4	4	27-Jul-87	4	1.39	.	.
PJ	UP	4	4	24-Aug-87	4	1.39	.	.
PJ	UP	4	4	29-Jun-87	7	1.95	.	.
PJ	UP	4	4	27-May-87	9	2.20	.	.
PJ	UP	4	4	21-Sep-87	9	2.20	.	.
PJ	UP	4	4	19-Oct-87	9	2.20	.	.
PJ	UP	4	4	5-Oct-87	23	3.14	.	.
PJ	UP	4	4	10-Jun-87	54	3.99	.	.

Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 4	1987-88	22	16.07	9	5	18	12	226.11

PJ	UP	5	5	13-Jun-88	4	1.39	4	1.39
PJ	UP	5	5	10-Aug-88	2	0.69	9	2.20
PJ	UP	5	5	3-Oct-88	4	1.39	9	2.20
PJ	UP	5	5	25-Sep-90	2	0.69	23	3.14
PJ	UP	5	5	11-Jul-88	4	1.39	23	3.14
PJ	UP	5	5	19-Sep-88	4	1.39	23	3.14
PJ	UP	5	5	31-Oct-88	9	2.20	23	3.14
PJ	UP	5	5	23-Oct-90	15	2.71	28	3.33
PJ	UP	5	5	17-Oct-88	4	1.39	43	3.76
PJ	UP	5	5	22-Aug-88	23	3.14	43	3.76
PJ	UP	5	5	5-Jun-89	23	3.14	43	3.76
PJ	UP	5	5	25-Sep-89	23	3.14	43	3.76
PJ	UP	5	5	3-Jul-90	43	3.76	43	3.76
PJ	UP	5	5	17-Jul-90	43	3.76	43	3.76
PJ	UP	5	5	5-Jun-90	4	1.39	93	4.53
PJ	UP	5	5	16-May-88	23	3.14	93	4.53
PJ	UP	5	5	27-Jun-88	43	3.76	93	4.53
PJ	UP	5	5	14-Nov-88	43	3.76	93	4.53
PJ	UP	5	5	28-Aug-90	43	3.76	93	4.53
PJ	UP	5	5	19-Jun-89	43	3.76	150	5.01
PJ	UP	5	5	22-May-89	2	0.69	240	5.48
PJ	UP	5	5	6-Nov-89	23	3.14	240	5.48
PJ	UP	5	5	22-May-90	43	3.76	240	5.48
PJ	UP	5	5	9-Oct-90	43	3.76	240	5.48
PJ	UP	5	5	23-Oct-89	93	4.53	240	5.48
PJ	UP	5	5	19-Jun-90	93	4.53	240	5.48
PJ	UP	5	5	31-Jul-90	93	4.53	240	5.48
PJ	UP	5	5	28-Aug-89	2	0.69	460	6.13
PJ	UP	5	5	14-Aug-90	43	3.76	460	6.13
PJ	UP	5	5	17-Jul-89	46	3.83	1100	7.00
PJ	UP	5	5	25-Jul-88	93	4.53	1100	7.00
PJ	UP	5	5	10-Oct-89	5	1.61	.	.
PJ	UP	5	5	19-Oct-87	3	1.10	.	
PJ	UP	5	5	13-Jul-87	4	1.39	.	
PJ	UP	5	5	24-Aug-87	4	1.39	.	
PJ	UP	5	5	5-Oct-87	4	1.39	.	
PJ	UP	5	5	27-Jun-91	5	1.61	.	
PJ	UP	5	5	4-Sep-91	5	1.61	.	
PJ	UP	5	5	2-Oct-91	5	1.61	.	
PJ	UP	5	5	16-Oct-91	5	1.61	.	
PJ	UP	5	5	27-Jul-87	7	1.95	.	
PJ	UP	5	5	27-May-87	9	2.20	.	
PJ	UP	5	5	29-Jun-87	9	2.20	.	

PJ	UP	5	5	21-Sep-87	9	2.20	.	
PJ	UP	5	5	11-Jul-91	9	2.20	.	
PJ	UP	5	5	15-Sep-91	9	2.20	.	
PJ	UP	5	5	13-Jun-91	18	2.89	.	
PJ	UP	5	5	25-Jul-91	18	2.89	.	
PJ	UP	5	5	8-Aug-91	18	2.89	.	
PJ	UP	5	5	13-May-87	23	3.14	.	
PJ	UP	5	5	10-Jun-87	69	4.23	.	
Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 5	1987-91	51	12.73	9	0	10	31	81.79
PJ	UP	2B	5A	30-Jun-86	3		.	
PJ	UP	2B	5A	14-Jul-86	930		.	
PJ	UP	2B	5A	28-Jul-86	23		.	
PJ	UP	2B	5A	12-Aug-86	23		.	
PJ	UP	2B	5A	25-Aug-86	9		.	
PJ	UP	2B	5A	8-Sep-86	4		.	
PJ	UP	2B	5A	22-Sep-86	23		.	
PJ	UP	2B	5A	6-Oct-86	9		.	
PJ	UP	2B	5A	20-Oct-86	11		.	
PJ	UP	6	6	3-Oct-88	2	0.69	4	1.39
PJ	UP	6	6	16-May-88	2	0.69	9	2.20
PJ	UP	6	6	10-Aug-88	4	1.39	9	2.20
PJ	UP	6	6	31-Oct-88	4	1.39	21	3.04
PJ	UP	6	6	13-Jun-88	4	1.39	23	3.14
PJ	UP	6	6	11-Jul-88	4	1.39	23	3.14
PJ	UP	6	6	19-Sep-88	4	1.39	23	3.14
PJ	UP	6	6	14-Nov-88	23	3.14	23	3.14
PJ	UP	6	6	22-Aug-88	9	2.20	43	3.76
PJ	UP	6	6	17-Oct-88	4	1.39	93	4.53
PJ	UP	6	6	25-Jul-88	23	3.14	240	5.48
PJ	UP	6	6	27-Jun-88	93	4.53	460	6.13
PJ	UP	6	6	13-May-87	3	1.10	.	
PJ	UP	6	6	24-Aug-87	3	1.10	.	
PJ	UP	6	6	19-Oct-87	3	1.10	.	
PJ	UP	6	6	29-Jun-87	4	1.39	.	
PJ	UP	6	6	27-Jul-87	4	1.39	.	
PJ	UP	6	6	5-Oct-87	9	2.20	.	
PJ	UP	6	6	13-Jul-87	23	3.14	.	
PJ	UP	6	6	21-Sep-87	23	3.14	.	
PJ	UP	6	6	27-May-87	41	3.71	.	
PJ	UP	6	6	10-Jun-87	69	4.23	.	
Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 6	1987-88	22	7.80	4	0	9	12	31.17
PJ	UP	7	7	16-May-88	2	0.69	3	1.10
PJ	UP	7	7	3-Oct-88	2	0.69	4	1.39
PJ	UP	7	7	10-Aug-88	4	1.39	4	1.39
PJ	UP	7	7	23-Oct-90	4	1.39	4	1.39
PJ	UP	7	7	13-Jun-88	2	0.69	9	2.20
PJ	UP	7	7	19-Sep-88	2	0.69	9	2.20
PJ	UP	7	7	22-May-89	2	0.69	9	2.20
PJ	UP	7	7	19-Jun-90	9	2.20	9	2.20
PJ	UP	7	7	31-Oct-89	9	2.20	15	2.71
PJ	UP	7	7	14-Nov-88	15	2.71	20	3.00
PJ	UP	7	7	28-Aug-89	2	0.69	23	3.14
PJ	UP	7	7	25-Sep-90	4	1.39	23	3.14
PJ	UP	7	7	11-Jul-88	9	2.20	23	3.14
PJ	UP	7	7	22-Aug-88	9	2.20	23	3.14
PJ	UP	7	7	3-Jul-90	23	3.14	23	3.14
PJ	UP	7	7	14-Aug-90	23	3.14	23	3.14
PJ	UP	7	7	17-Oct-88	4	1.39	43	3.76
PJ	UP	7	7	17-Jul-90	9	2.20	43	3.76

PJ	UP	7	7	9-Oct-90	23	3.14	43	3.76
PJ	UP	7	7	22-May-90	4	1.39	75	4.32
PJ	UP	7	7	6-Nov-89	4	1.39	93	4.53
PJ	UP	7	7	5-Jun-90	4	1.39	93	4.53
PJ	UP	7	7	27-Jun-88	43	3.76	93	4.53
PJ	UP	7	7	25-Sep-89	43	3.76	93	4.53
PJ	UP	7	7	31-Jul-90	43	3.76	93	4.53
PJ	UP	7	7	28-Aug-90	7	1.95	98	4.58
PJ	UP	7	7	5-Jun-89	23	3.14	150	5.01
PJ	UP	7	7	23-Oct-89	43	3.76	240	5.48
PJ	UP	7	7	25-Jul-88	93	4.53	240	5.48
PJ	UP	7	7	19-Jun-89	93	4.53	240	5.48
PJ	UP	7	7	24-Aug-87	3	1.10	.	
PJ	UP	7	7	19-Oct-87	3	1.10	.	
PJ	UP	7	7	13-Jul-87	4	1.39	.	
PJ	UP	7	7	5-Oct-87	4	1.39	.	
PJ	UP	7	7	10-Oct-89	5	1.61	.	.
PJ	UP	7	7	27-May-87	9	2.20	.	
PJ	UP	7	7	29-Jun-87	9	2.20	.	
PJ	UP	7	7	27-Jul-87	15	2.71	.	
PJ	UP	7	7	21-Sep-87	15	2.71	.	
PJ	UP	7	7	13-May-87	21	3.04	.	
PJ	UP	7	7	10-Jun-87	41	3.71	.	
Sta	Years	# FEC	G Mean FEC	Med FEC	%>500 FEC	%>50 FEC	# TOT	G Mean TOT
PJ 7	1987-90	41	8.83	4	0	5	30	30.84
PJ	UP	8	8	3-Oct-88	2	0.69	2	0.69
PJ	UP	8	8	28-Aug-89	2	0.69	4	1.39
PJ	UP	8	8	17-Jul-90	2	0.69	4	1.39
PJ	UP	8	8	23-Oct-90	2	0.69	4	1.39
PJ	UP	8	8	31-Oct-88	4	1.39	4	1.39
PJ	UP	8	8	17-Oct-88	9	2.20	9	2.20
PJ	UP	8	8	3-Jul-90	9	2.20	9	2.20
PJ	UP	8	8	25-Sep-90	7	1.95	11	2.40
PJ	UP	8	8	13-Jun-88	2	0.69	15	2.71
PJ	UP	8	8	10-Aug-88	4	1.39	15	2.71
PJ	UP	8	8	19-Sep-88	7	1.95	15	2.71
PJ	UP	8	8	19-Jun-90	9	2.20	15	2.71
PJ	UP	8	8	5-Jun-89	15	2.71	20	3.00
PJ	UP	8	8	11-Jul-88	9	2.20	23	3.14
PJ	UP	8	8	14-Aug-90	9	2.20	23	3.14
PJ	UP	8	8	22-May-89	23	3.14	23	3.14
PJ	UP	8	8	31-Jul-90	4	1.39	39	3.66
PJ	UP	8	8	5-Jun-90	2	0.69	43	3.76
PJ	UP	8	8	16-May-88	3	1.10	43	3.76
PJ	UP	8	8	19-Jun-89	9	2.20	43	3.76
PJ	UP	8	8	14-Nov-88	43	3.76	43	3.76
PJ	UP	8	8	25-Sep-89	43	3.76	43	3.76
PJ	UP	8	8	28-Aug-90	43	3.76	43	3.76
PJ	UP	8	8	6-Nov-89	4	1.39	75	4.32
PJ	UP	8	8	22-May-90	23	3.14	93	4.53
PJ	UP	8	8	9-Oct-90	9	2.20	120	4.79
PJ	UP	8	8	25-Jul-88	20	3.00	120	4.79
PJ	UP	8	8	22-Aug-88	4	1.39	210	5.35
PJ	UP	8	8	23-Oct-89	43	3.76	460	6.13
PJ	UP	8	8	27-Jun-88	93	4.53	1100	7.00
PJ	UP	8	8	24-Aug-87	3	1.10	.	
PJ	UP	8	8	19-Oct-87	3	1.10	.	
PJ	UP	8	8	13-May-87	3.6	1.28	.	
PJ	UP	8	8	27-Jul-87	4	1.39	.	
PJ	UP	8	8	11-Oct-89	5	1.61	.	.
PJ	UP	8	8	21-Sep-87	7	1.95	.	
PJ	UP	8	8	27-May-87	9	2.20	.	
PJ	UP	8	8	10-Jun-87	9	2.20	.	
PJ	UP	8	8	29-Jun-87	9	2.20	.	

3. 1991 Av May-Nov Water Chem Example: Example of a file used in calculating average water chemistry values for one year's data during the normal sampling season, May through November. Note that average temperature is calculated both for the whole May-November period and July-August alone.

	A	B	C	D	E	F	G	H	I	J
1										
2	POND	STATION	DATE	TEMP	DOX	SALT	N	P	CHLA	
3	PJ	1	9-May-91	13.5	.	15	7.05	0.32	4.43	
4	PJ	1	10-Jun-91	20.5	.	29	1.15	0.09	13.23	
5	PJ	1	24-Jun-91	19.5	.	34	2.56	0.30	8.17	
6	PJ	1	8-Jul-91	21	.	20	2.71	0.70	6.57	
7	PJ	1	22-Jul-91	27	.	22	2.20	0.86	8.43	
8	PJ	1	5-Aug-91	22	.	24	6.28	0.22	10.91	
9										
10			Months sample	- Aug Mean T	May-Nov Temp	D.O.	Salinity	N	P	Chl a
11	Sta. 1	1991	May-Aug	23.3	20.6	.	24.0	3.66	0.42	6.62
12										
13	PJ	3A	15-Jun-91	17	.	24	0.22	0.42	0.79	
14	PJ	3A	28-Jun-91	18	.	.	0.43	0.73	0.88	
15	PJ	3A	15-Jul-91	21		24	1.02	0.85	0.88	
16	PJ	3A	25-Jul-91	22		24	0.13	0.60	1.78	
17	PJ	3A	11-Aug-91	20	.	33	0.88	0.83	0.57	
18	PJ	3A	26-Aug-91	21		32	0.10	0.24	4.85	
19	PJ	3A	8-Sep-91	20		32	1.41	0.86	1.54	
20	PJ	3A	22-Sep-91	17		30	1.27	0.64	3.00	
21	PJ	3A	12-Oct-91	17	.	30	0.85	0.54	1.49	
22	PJ	3A	2-Nov-91	13		27	2.77	0.89	1.10	
23										
24			Months sample	- Aug Mean T	May-Nov Temp	D.O.	Salinity	N	P	Chl a
25	Sta. 3A	1991	May-Nov	21.0	18.6	.	28.4	0.91	0.62	1.68
26										
27										
28	PJ	4	10-Jul-91	19	.	32	0.27	0.47	1.54	
29	PJ	4	25-Jul-91	19	.	27	0.40	1.27	1.43	
30	PJ	4	7-Aug-91	22		.	.	.	.	
31	PJ	4	26-Aug-91	18		27	0.38	0.46	1.88	
32	PJ	4	7-Sep-91	18		31	1.14	0.64	2.30	
33	PJ	4	10-Oct-91	15.5		30	1.00	0.48	1.17	
34	PJ	4	28-Oct-91	14		28	0.61	0.65	0.83	
35										
36			Months sample	- Aug Mean T	May-Nov Temp	D.O.	Salinity	N	P	Chl a
37	Sta. 4	1991	Jul-Aug	19.2	17.9	.	29.2	0.35	0.73	1.62
38										

4. 1991 av Winter Water Chem ex: Example of a file used for calculating average water chemistry values for one year's data during winter. Averages for Dec-Feb and Mar-Apr are calculated separately.

	A	B	C	D	E	F	G	H	I
1	PJ	1	5-Dec-90	6.5	.	23	7.36	0.80	5.17
2	PJ	1	10-Jan-91	1	.	24	10.06	0.89	1.23
3	PJ	1	6-Mar-91	8	.	7	21.50	0.36	1.42
4	PJ	1	8-Apr-91	14	.	11	24.50	0.22	6.67
5									
6	PJ 1	1990-91	Dec-Feb	3.8		23.5	8.7	0.8	3.20
7		1991	Mar-Apr	11.0		9.0	23.0	0.3	4.05
8									
9	PJ	3A	9-Dec-90	8	.	31	5.39	1.02	0.58
10	PJ	3A	13-Jan-91	6	.	24	5.35	0.56	2.82
11	PJ	3A	9-Feb-91	8	.	30	4.61	0.88	2.12
12	PJ	3A	16-Mar-91	16	.	28	3.69	0.18	1.41
13	PJ	3A	7-Apr-91	10	.	29	0.32	0.39	1.60
14									
15	PJ 1	1990-91	Dec-Feb	7.3	.	28.3	5.12	0.82	1.84
16		1991	Mar-Apr	13.0	.	28.5	2.01	0.29	1.51

5. PJ Mean H2O Chem 85-91 ex: Example of a file used for calculating average water chemistry values for the May-November period over the whole time-span of the data set. Note that on page 6, two sets of average values for the whole pond are calculated, including and excluding Sta. PJ1.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Pond	Sta.	Date	Temp	D.O.	Salinity	N	P	Chl a			
2												
3	PJ	1	5-Aug-85	23	9.00	.	.	.	22.56			
4			12-Aug-85	25	7.00	.	.	.	.			
5			19-Aug-85	22	9.00	.	.	.	18.97			
6			26-Aug-85	22	10.00	.	.	.	.			
7			3-Sep-85	18	9.00	.	.	.	9.17			
8			9-Sep-85	22	11.00	.	.	.	.			
9			16-Sep-85	17	10.00	.	.	.	4.97			
10			23-Sep-85	20	8.00	.	.	.	.			
11			30-Sep-85	17	9.00	.	.	.	9.43			
12			7-Oct-85	14	10.00	.	.	.	.			
13			14-Oct-85	14	8.00	28	5.74	0.74	4.35			
14			21-Oct-85	12	10.00	28	5.83	*0.70	.			
15			28-Oct-85	13	10.00	25	5.36	0.37	4.96			
16			5-Nov-85	11	11.00	.	.	.	1.52			
17			11-Nov-85	12	9.00	20	.	.	.			
18			18-Nov-85	6	12.00	.	.	.	0.20			
19			25-Nov-85	6	12.00	14	14.46	0.57	1.28			
20			5-May-86	14	.	.	.	.	.			
21			19-May-86	19	.	.	.	.	.			
22			2-Jun-86	21	9.00	26	4.86	0.63	13.34			
23			16-Jun-86	20	10.00	12	16.16	0.27	.			
24			30-Jun-86	22	10.00	23	5.57	0.28	.			
25			14-Jul-86	18	9.00	25	0.38	0.43	.			
26			28-Jul-86	18	8.00	24	3.66	0.49	.			
27			11-Aug-86	18	11.00	20	1.21	0.74	.			
28			22-Aug-86	20	10.00	25	1.69	0.74	51.58			
29			25-Aug-86	20	.	.	.	.	.			
30			8-Sep-86	20	12.00	26	1.03	0.44	35.66			
31			22-Sep-86	15	8.00	27	3.86	0.62	23.29			
32			6-Oct-86	16	9.00	28	3.03	0.81	57.26			
33			20-Oct-86	10	11.00	28	2.16	0.32	26.98			
34			7-May-87	9	13.00	4	25.58	0.13	0.78			
35			18-May-87	15	11.00	20	8.56	0.19	2.93			
36			1-Jun-87	23	11.00	19	3.27	0.22	14.07			
37			15-Jun-87	20	10.00	23	5.73	0.46	4.69			
38			29-Jun-87	20	9.00	26	0.67	0.76	8.94			
39			13-Jul-87	22	8.00	24	7.86	0.97	17.84			
40			27-Jul-87	24	8.00	28	0.02	1.00	12.89			
41			10-Aug-87	22	7.00	28	2.09	1.56	6.37			
42			24-Aug-87	20	7.00	28	3.69	1.91	6.61			
43			7-Sep-87	20	8.00	26	1.99	0.84	7.35			
44			21-Sep-87	15	8.00	26	4.70	1.91	5.14			
45			5-Oct-87	12	9.00	26	3.80	0.72	2.08			
46			19-Oct-87	13	10.00	28	1.56	0.56	3.38			
47			4-May-88	9	12.00	21	2.71	0.52	0.90			
48			16-May-88	16	10.00	25	2.54	0.37	3.76			
49			30-May-88	18	10.00	21	2.87	0.28	3.86			
50			13-Jun-88	19	9.00	27	3.11	0.66	6.06			
51			27-Jun-88	18	7.00	24	6.36	1.07	3.53			
52			11-Jul-88	23	10.00	26	1.28	0.92	4.37			
53			25-Jul-88	21	7.00	13	10.66	1.98	8.88			
54			10-Aug-88	27	8.00	22	1.27	1.13	8.28			
55			22-Aug-88	22	7.00	27	1.74	1.19	9.96			
56			5-Sep-88	20	8.00	26	6.07	0.76	18.63			
57			19-Sep-88	18	9.00	27	2.05	0.56	7.97			
58			3-Oct-88	17	8.00	28	7.17	0.60	2.34			
59			17-Oct-88	11	.	28	4.24	0.52	2.74			
60			31-Oct-88	7	.	28	5.65	0.73	3.07			
61			14-Nov-88	.	.	26	3.71	0.40	3.69			
62			20-May-89	.	.	12	3.18	0.30	6.13			
63			5-Jun-89	16.5	10.05	23	0.27	0.31	14.3			
64			16-Jun-89	18	7.70	6	6.33	0.74	0.89			
65			19-Jun-89	19.5	7.40	13	4.58	0.58	12.38			
66			15-Jul-89	22	6.60	26	1.29	0.00	9.96			
67			29-Jul-89	23	5.50	18	3.64	0.65	36.6			
68			5-Aug-89	23	8.00	22	1.69	0.43	1.93			
69			26-Aug-89	22	5.90	27	1.49	0.29	6.24			
70			29-Aug-89	.	.	27	0.09	0.00	22.2			
71			9-Sep-89	20.5	8.55	24	1.11	0.00	6.8			
72			23-Sep-89	21.5	7.60	19	4.77	0.74	12.2			
73			7-Oct-89	15	9.00	18	3.03	0.54	17.6			
74			22-Oct-89	11	8.35	2	2.36	0.42	1.44			
75			5-Nov-89	9	9.10	13	5.15	0.70	1.05			
76			20-May-90	13.5	8.40	11	9.39	0.44	3.08			

	A	B	C	D	E	F	G	H	I	J	K	L
77			6-Jun-90	16.5	8.40	18	3.92	0.31	5.35			
78			19-Jun-90	19	8.10	20	4.40	0.69	10.13			
79			4-Jul-90	21	8.20	24	0.75	0.07	12			
80			17-Jul-90	21.5	7.60	26	1.72	0.16	3.96			
81			31-Jul-90	21	6.30	21	4.11	0.43	11.15			
82			14-Aug-90	24.5	6.40	23	1.07	0.22	12.65			
83			28-Aug-90	22	9.80	24	0.74	0.00	9.88			
84			11-Sep-90	18	6.75	29	2.32	0.48	7.38			
85			25-Sep-90	13	8.70	23	4.13	0.26	6.37			
86			8-Oct-90	18.5	7.80	28	2.86	0.06	5.15			
87			22-Oct-90	16	8.30	29	2.44	0.28	2.74			
88			9-May-91	13.5	.	15	7.06	0.32	4.43			
89			10-Jun-91	20.5	.	29	1.15	0.09	13.23			
90			24-Jun-91	19.5	.	34	2.56	0.3	8.17			
91			8-Jul-91	21	.	20	2.71	0.7	6.57			
92			22-Jul-91	27	.	22	2.2	0.86	6.43			
93			6-Aug-91	22	.	24	6.28	0.22	10.91			
94												
95				July- Aug	Mean Tem	D.O.	Salinity	N	P	Chl a	Chl a exc 1986	
96												
97	Sta.1	1985 - 91	MEAN	21.6	17.91	8.86	22.59	4.05	0.56	9.95	7.83	
98			S.D.	2.9	4.84	1.59	6.06	3.89	0.41	10.44	6.31	
99												
100												
101	Sta. 2											
102			28-Jul-85	20	11	.	.	.	3.73			
103			3-Aug-85	24	16	.	.	.	.			
104			11-Aug-85	24	16	.	.	.	3.89			
105			20-Aug-85	22	13	.	.	.	.			
106			28-Aug-85	21	11	.	.	.	5.79			
107			2-Sep-85	18	12	.	.	.	3.35			
108			6-Sep-85	26	16	26.00	0.21	0.26	5.50			
109			16-Sep-85	20	9	.	.	.	.			
110			23-Sep-85	21	10	30.00	0.77	0.56	6.78			
111			6-Nov-85	12	10	30.00	1.64	0.78	.			
112			19-May-86	17	10	31.00	0.19	0.48	.			
113			2-Jun-86	20	10	31.00	1.44	0.78	0.90			
114			10-Jul-86	21	7	30.00	0.24	0.91	.			
115			16-Jul-86	18	8	26.00	0.13	1.04	.			
116			7-Aug-86	22	9	29.00	0.05	0.69	.			
117			21-Aug-86	20	10	30.00	0.31	0.86	39.99			
118			6-Sep-86	18	9	30.00	0.09	0.66	.			
119			20-Sep-86	17	9	30.00	0.14	0.88	10.50			
120			5-Oct-86	17	8	29.00	0.63	0.74	20.29			
121			7-May-87	.	.	26.00	0.21	0.36	1.49			
122			20-May-87	13	.	28.00	0.29	0.40	1.27			
123			2-Jun-87	19	.	30.00	0.07	0.39	5.08			
124			18-Jun-87	17	.	30.00	0.18	0.29	0.97			
125			3-Jul-87	22	.	28.00	0.07	0.58	1.22			
126			16-Jul-87	18	10	30.00	0.04	0.78	1.82			
127			28-Jul-87	22	8	30.00	0.02	0.64	1.98			
128			11-Aug-87	20	9	32.00	0.47	1.11	1.71			
129			25-Aug-87	18	8	32.00	0.09	0.84	1.59			
130			10-Sep-87	19	8	30.00	0.36	0.77	3.92			
131			25-Sep-87	17	8	30.00	1.34	1.30	1.59			
132			9-Oct-87	14	9	30.00	0.66	0.67	1.61			
133			23-Oct-87	13	9	30.00	0.09	0.44	2.32			
134			17-May-88	14	10	30.00	0.17	0.76	0.73			
135			1-Jun-88	15	11	30.00	0.17	0.70	1.73			
136			16-Jun-88	17	10	30.00	0.35	0.78	1.15			
137			1-Jul-88	17	9	30.00	0.19	0.89	0.86			
138			15-Jul-88	20	9	30.00	0.27	0.87	0.72			
139			29-Jul-88	21	9	30.00	0.20	1.00	1.92			
140			12-Aug-88	23	7	30.00	0.17	1.12	1.13			
141			26-Aug-88	19	7	30.00	0.50	1.34	0.67			
142			14-Sep-88	17	9	31.00	0.28	1.02	1.32			
143			23-Sep-88	18	8	31.00	0.39	1.04	0.72			
144			2-Oct-88	17	.	30.00	0.37	1.09	1.14			
145			17-Oct-88	14	.	31.00	0.33	1.05	0.56			
146												
147				Jul - Aug	Mean Tem	Dissolve	Salinity	N	P	Chl a	CHL A, EXC 1986	
148	Sta. 2	1985 - 88	MEAN	20.8	18.63	9.76	29.73	0.35	0.77	3.99	2.20	
149			S.D.	2.0	3.1	2.22	1.5	0.4	0.3	7.3	1.7	
150												
151												
152	Sta. 2A		7-May-87	.	.	24.00	0.14	0.29	0.43			

	A	B	C	D	E	F	G	H	I	J	K	L
153			20-May-87	16	.	27.00	0.88	0.28	3.71			
154			2-Jun-87	26	.	27.00	0.10	0.17	5.08			
155			18-Jun-87	20	.	29.00	0.29	0.38	2.34			
156			3-Jul-87	20	.	29.00	0.07	0.30	1.18			
157			16-Jul-87	22	8	29.00	0.03	0.58	2.57			
158			28-Jul-87	26	8	29.00	0.01	1.54	3.96			
159			11-Aug-87	21	6	32.00	0.12	1.56	3.67			
160			25-Aug-87	19	7	32.00	0.18	1.24	7.59			
161			10-Sep-87	22	8	29.00	0.12	1.03	2.81			
162			25-Sep-87	18	9	28.00	0.41	1.14	1.22			
163			9-Oct-87	14	8	30.00	0.09	0.71	1.22			
164			23-Oct-87	12	9	30.00	0.09	0.57	2.69			
165			17-May-88	18	11	29.00	0.06	0.36	3.08			
166			1-Jun-88	19	10	28.00	0.11	-0.28	2.47			
167			16-Jun-88	22	9	30.00	0.50	0.76	1.17			
168			1-Jul-88	19	9	30.00	0.19	0.88	0.93			
169			15-Jul-88	23	7	30.00	0.86	2.03	0.56			
170			29-Jul-88	24	7	27.00	0.38	2.77	1.46			
171			12-Aug-88	28	6	27.00	0.21	2.69	0.77			
172			26-Aug-88	20	6	30.00	0.34	2.00	0.54			
173			14-Sep-88	19	6	26.00	0.42	1.11	1.54			
174			23-Sep-88	19	7	28.00	0.34	1.14	2.25			
175			2-Oct-88	18	.	31.00	0.17	0.90	0.86			
176			17-Oct-88	12	.	31.00	0.36	0.64	0.76			
177			6-Jun-90	17.2	.	26	0.23	0.15				
178			14-Jun-90	.	.	24	0.73	0.00	2.91			
179			19-Jun-90	.	6.8	31	0.46	0.13	0.91			
180			3-Jul-90	21.2	6.3	29	0.68	0.84	1.43			
181			17-Jul-90	26.1	.	30	0.14	0.58	1.71			
182			15-Aug-90	25	6	30	0.16	0.44	.			
183			28-Aug-90	25	5.75	31	0.17	0.21	.			
184			10-Sep-90	22	6	28	0.45	0.36	.			
185			25-Sep-90	17	5.75	27	0.46	0.45	.			
186			9-Oct-90	21	5.75	31	0.65	0.35	.			
187												
188				July-Aug	Mean Tem	Dissolve	Salinity	N	P	Chl a		
189	Sta. 2A	1987 - 90	MEAN	22.6	20.17	7.33	28.86	0.30	0.82	2.13		
190			S.D.	2.7	3.78	1.49	2.00	0.22	0.70	1.59		
191												
192	Sta. 2B											
193			5-Oct-86	19	9	26.00	2.04	0.93	23.64			
194			13-May-87	.	.	21.00	4.52	0.17	4.75			
195			27-May-87	.	.	25.00	0.62	0.19	4.75			
196			2-Jun-87	20	.	30.00	0.04	0.24	6.64			
197			5-Jun-87	.	.	24.00	0.29	0.28	10.31			
198			18-Jun-87	18	.	28.00	0.67	0.56	1.58			
199			29-Jun-87	.	.	26.00	1.37	1.06	10.29			
200			13-Jul-87	.	.	27.00	1.30	1.52	12.25			
201			27-Jul-87	.	.	27.00	0.57	1.56	9.80			
202			24-Aug-87	.	.	30.00	1.38	2.00	3.92			
203			5-Oct-87	.	.	29.00	1.46	0.91	1.71			
204			19-Oct-87	.	.	28.00	0.72	0.50	4.90			
205			10-Jun-88	14	9	28.00	1.18	0.78	3.91			
206			24-Jun-88	19	8	26.00	1.36	0.43	8.79			
207			1-Jul-88	20	9	24.00	0.36	1.09	4.76			
208			11-Jul-88	24	8	28.00	0.73	0.94	8.00			
209			25-Jul-88	22	6	22.00	5.35	2.10	17.28			
210			10-Aug-88	26	7	24.00	1.34	0.96	7.79			
211			26-Aug-88	21	8	28.00	0.66	1.18	4.50			
212			11-Sep-88	20	9	29.00	0.64	0.96	5.73			
213			3-Oct-88	17	.	30.00	0.81	1.10	5.27			
214			17-Oct-88	11	.	28.00	3.73	0.73	1.28			
215			30-Oct-88	6	.	28.00	2.88	0.60	2.34			
216			14-Nov-88	8	.	28.00	1.65	0.47	0.95			
217			16-Jun-89	20	6.2	21	3.04	0.36	11.4			
218			19-Jun-89	20	8.2	18	2.02	0.53	19.84			
219			19-Jul-89	20	8.6	14	2.70	0.49	12.7			
220			28-Aug-89	20	7.82	28	0.11	0.00	8.08			
221			25-Sep-89	15	8.3	25	1.08	0.78	9.83			
222			9-Oct-89	14	9.25	27	0.49	0.00	4.6			
223			23-Oct-89	6	9.8	10	2.82	0.29	0.76			
224			6-Nov-89	10	8.38	25	2.29	0.21	0.66			
225			23-May-90	11	9.15		.	.	5.49			
226			5-Jun-90	16	7.6		.	.	7.42			
227			14-Jun-90				.	.	1.66			
228			17-Jun-90				.	.	1.71			

	A	B	C	D	E	F	G	H	I	J	K	L
229			3-Jul-90	20	8.8	28.00	0.21	0.53	.			
230												
231	Sta. 2B		Jul-Aug Mean	Mean Tem	Dissolved	Salinity	N	P	Chl a			
232	1987 - 90	MEAN	21.9	16.50	8.22	25.42	1.52	0.74	6.92			
233		S. D.	2.3	5.40	0.93	4.80	1.29	0.52	5.38			
234												
235	Sta. 2C		3-Jul-87	21	.	26.00	0.06	0.42	0.59			
236			16-Jul-87	21	9	29.00	0.04	0.68	1.58			
237			28-Jul-87	22	8	30.00	0.02	0.80	1.82			
238			11-Aug-87	20	8	32.00	0.39	1.14	1.71			
239			25-Aug-87	17	7	30.00	0.16	0.90	1.47			
240			10-Sep-87	20	7	.	.	.	1.22			
241			25-Sep-87	17	9	30.00	1.23	1.32	1.29			
242			9-Oct-87	14	8	.	.	.	0.98			
243			19-Oct-87	.	.	30.00	0.90	0.92	.			
244			23-Oct-87	12	9	30.00	0.13	0.70	2.32			
245			1-Jul-88	18	9	30.00	0.30	0.90	2.81			
246			15-Jul-88	22	9	30.00	0.44	1.21	0.41			
247			29-Jul-88	22	5	28.00	0.37	1.58	1.18			
248			12-Aug-88	25	6	30.00	0.43	1.89	1.31			
249			28-Aug-88	19	6	30.00	0.40	1.55	0.58			
250			14-Sep-88	17	8	30.00	0.40	1.19	0.51			
251			23-Sep-88	17	8	29.00	0.31	0.96	0.64			
252			2-Oct-88	19	.	31.00	0.46	1.18	0.67			
253			17-Oct-88	15	.	30.00	0.42	1.07	0.85			
254												
255	Sta. 2C		July-Aug Mean	Mean Tem	Dissolved	Salinity	N	P	Chl a			
256	1987 - 88	MEAN	20.7	18.78	7.87	29.88	0.38	1.07	1.21			
257		S. D	2.3	3.25	1.54	0.88	0.30	0.34	0.67			
258												
259	Sta. 3		9-Aug-85	25	12	32.00	0.20	0.53	6.78			
260			16-Aug-85	22	10	.	.	.	.			
261			23-Aug-85	22	11	31.00	0.42	1.07	.			
262			1-Sep-85	18	11	.	.	.	.			
263			8-Sep-85	24	11	26.00	0.56	0.63	1.95			
264			15-Sep-85	18	12	.	.	.	.			
265			22-Sep-85	18	12	31.00	0.16	0.85	0.76			
266			5-Oct-85	16	10	.	.	.	.			
267			10-Oct-85	16	12	.	.	.	.			
268			14-Oct-85	16	10	32.00	1.58	0.92	1.52			
269			25-Oct-85	15	12	32.00	0.25	0.72	0.27			
270			9-Nov-85	13	13	31.00	1.72	0.95	1.52			
271			23-Nov-85	10	13	.	.	.	0.95			
272			30-Nov-85	7	13	31.00	5.91	1.44	0.40			
273			18-May-86	12	14	32.00	0.12	0.48	0.54			
274			25-May-86	14	12	32.00	0.12	0.43	0.94			
275			1-Jun-86	15	14	32.00	0.06	0.47	1.48			
276			15-Jun-86	17	13	30.00	0.13	0.49	1.07			
277			29-Jun-86	17	12	30.00	0.09	0.56	7.64			
278			13-Jul-86	17	12	30.00	0.27	0.79	.			
279			28-Jul-86	20	11	30.00	0.12	0.53	.			
280			7-Aug-86	21	9	30.00	0.04	0.41	.			
281			10-Aug-86	20	12	29.00	0.15	0.53	10.98			
282			24-Aug-86	19	12	30.00	0.18	0.81	.			
283			8-Sep-86	18	12	30.00	0.13	0.52	4.30			
284			28-Sep-86	15	11	30.00	0.33	0.88	.			
285			5-Oct-86	15	12	30.00	1.13	0.99	15.40			
286			19-Oct-86	12	.	30.00	0.45	0.88	1.79			
287			9-May-87	8	13	26.00	0.89	0.28	0.59			
288			24-May-87	12	.	30.00	0.05	0.28	1.38			
289			7-Jun-87	15	.	30.00	0.00	0.38	2.47			
290			28-Jun-87	18	10	30.00	0.02	0.41	0.15			
291			13-Jul-87	20	10	30.00	0.01	0.36	2.08			
292			24-Jul-87	22	10	30.00	0.03	0.54	0.99			
293			9-Aug-87	20	9	30.00	0.18	0.81	1.54			
294			23-Aug-87	18	8	30.00	0.20	0.88	1.19			
295			7-Sep-87	17	8	30.00	0.11	0.94	1.61			
296			3-Oct-87	16	9	30.00	0.60	0.89	2.50			
297			19-Oct-87	15	9	30.00	1.69	1.15	2.78			
298			9-May-88	10	11	30.00	0.31	0.84	0.83			
299			16-May-88	16	12	29.00	0.19	0.65	2.75			
300			29-May-88	18	13	28.00	0.05	0.40	3.50			
301			12-Jun-88	14	12	31.00	0.20	0.88	0.66			
302			26-Jun-88	17	12	31.00	0.26	0.81	2.14			
303			10-Jul-88	17	12	31.00	0.19	0.90	1.46			
304			28-Jul-88	20	12	30.00	0.55	0.90	2.99			

	A	B	C	D	E	F	G	H	I	J	K	L
305			14-Aug-88	19	13	31.00	0.49	0.84	1.33			
306			28-Aug-88	20	11	31.00	0.75	1.25	0.73			
307			17-Sep-88	16	.	31.00	0.29	1.20	0.90			
308			23-Sep-88	15	.	.	.	.	0.92			
309			8-Oct-88	12	.	31.00	0.48	1.02	0.90			
310			23-Oct-88	12	.	31.00	1.38	1.19	2.22			
311			26-May-90	15		28	0.14	0.29	0.95			
312			9-Jun-90	16		30	0.11	0.33	0.95			
313			17-Jun-90	18		31	0.13	0.26	1.35			
314			1-Jul-90	20	.	31	0.11	0.33	2.94			
315			17-Jul-90	22	.	31	0.18	0.42	2.57			
316			4-Aug-90	22	.	29	0.2	0.31	1.22			
317			17-Aug-90	22	.	29	0.15	0.14	3.05			
318			26-Aug-90	22	.	29	0.21	0.32	3.96			
319			29-Sep-90	20	.	32	0.19	0.31	4.01			
320			16-Oct-90	17	.	31	1.25	0.64	1.83			
321		3A	15-Jun-91	17	.	24	0.22	0.42	0.79			
322		3A	28-Jun-91	18	.	.	0.43	0.73	0.88			
323		3A	15-Jul-91	21		24	1.02	0.65	0.86			
324		3A	25-Jul-91	22		24	0.13	0.6	1.76			
325		3A	11-Aug-91	20	.	33	0.86	0.83	0.57			
326		3A	26-Aug-91	21		32	0.1	0.24	4.85			
327		3A	8-Sep-91	20		32	1.41	0.88	1.54			
328		3A	22-Sep-91	17		30	1.27	0.64	3.00			
329		3A	12-Oct-91	17		30	0.85	0.54	1.49			
330		3A	2-Nov-91	13		27	2.77	0.89	1.10			
331												
332	Sta. 3		July-Aug Mear	Mean Tem	Dissolved	Salinity	N	P	Chl a	CHLA EXC 1986		
333	1985 - 88	MEANS	20.1	16.37	11.38	30.27	0.51	0.74	2.38	1.65		
334		S.D.	2.0	3.78	1.48	1.27	0.94	0.28	2.98	1.24		
335	Sta. 3A											
336	Mean		22	21.33	19.00		29.32	0.59	0.48	1.98		
337	S.D.		0	0.90	2.68		2.79	0.69	0.22	1.26		
338												
339	STA. 4											
340			21-May-87	15	.	26.00	0.82	0.17	2.18			
341			8-Jun-87	19	.	27.00	0.08	0.21	3.17			
342			23-Jun-87	19	.	28.00	0.01	0.81	1.98			
343			2-Jul-87	21	9	29.00	0.01	0.68	2.77			
344			15-Jul-87	21	8	.	0.13	0.06	0.07			
345			28-Jul-87	23	10	30.00	0.02	0.94	1.78			
346			13-Aug-87	21	9	30.00	0.08	1.01	1.78			
347			31-Aug-87	19	8	30.00	0.42	1.01	1.90			
348			14-Sep-87	20	9	28.00	0.41	1.30	2.38			
349			28-Sep-87	18	8	29.00	0.10	0.91	3.45			
350			4-Oct-87	17	8	28.00	0.16	0.89	2.02			
351			22-Oct-87	13	10	30.00	0.14	0.77	1.16			
352			7-May-88	13	11	22.00	1.79	0.49	1.47			
353			20-May-88	13	10	26.00	0.25	0.52	1.69			
354			5-Jun-88	16	10	29.00	0.31	0.73	1.59			
355			15-Jun-88	20	10	30.00	0.19	0.82	1.20			
356			1-Jul-88	18	9	30.00	0.14	0.75	0.77			
357			15-Jul-88	21	9	27.00	0.22	0.98	2.09			
358			29-Jul-88	22	8	28.00	0.22	0.85	37.73			
359			12-Aug-88	22	7	26.00	0.21	1.06	0.88			
360			26-Aug-88	19	6	30.00	0.38	1.29	0.83			
361			10-Sep-88	22	10	26.00	0.35	0.78	8.28			
362			25-Sep-88	18	.	26.00	0.46	0.90	2.53			
363			21-Oct-88	14	.	30.00	0.95	0.92	.			
364			31-Oct-88	10	.	30.00	1.20	0.96	1.31			
365			23-May-89	.	.	25	0.15	0.00	1.44			
366			6-Jun-89	19	.	29	0.24	0.00	3.11			
367			16-Jun-89	18	.	24	0.91	0.37	3.73			
368			19-Jul-89	20	.	31	0.23	0.24	3.85			
369			31-Jul-89	24	.	25	0.12	0.13	3.19			
370			9-Aug-89	22	.	31	0.38	0.36	5.24			
371			28-Aug-89	21	.	31	0.16	0.00	3.3			
372			11-Sep-89	.	.	30	0.28	0.00				
373			25-Sep-89	17	.	27	0.17	0.11	1.16			
374			11-Oct-89	15	.	29	0.26	0.00	2.67			
375			25-Oct-89	15	.	31	1.33	0.12	1.93			
376			10-Jul-91	19	.	32	0.27	0.47	1.54			
377			25-Jul-91	19	.	27	0.4	1.27	1.43			
378			7-Aug-91	22	.	.	.	.	.			
379			26-Aug-91	18	.	27	0.38	0.45	1.88			
380			7-Sep-91	18	.	31	1.14	0.64	2.30			

	A	B	C	D	E	F	G	H	I	J	K	L
381			10-Oct-91	16.5	.	30	1	0.46	1.17			
382			28-Oct-91	14	.	28	0.81	0.66	0.83			
383												
384	Sta. 4		July-Aug tem	Mean Tem	Dissolved	Salinity	N	P	Chl a			
385	1987 - 19	MEAN	20.67	16.30	8.69	28.41	0.41	0.59	3.09			
386		S.D.	1.71	3.21	1.24	2.20	0.40	0.39	5.79			
387												
388	1988-89			21.00	18.14	9.00	28.13	0.45	0.62	4.09		
389												
390	All Station	1985	22.56	18.38	11.88	30.18	1.22	0.79	3.09			
391	exc 1	1986	19.44	17.46	10.73	30.00	0.28	0.67	8.91			
392		1987	20.75	18.16	8.62	28.88	0.42	0.73	2.76			
393		1988	21.27	17.82	8.63	29.01	0.62	1.02	2.71			
394		1989	21.70	17.38	8.58	25.21	0.86	~0.21	6.42			
395		1990	22.52	20.47	8.34	28.38	0.34	0.34	2.13			
396		1991	20.25	17.31	.	26.94	0.76	0.60	1.53			
397												
398			Jul-Aug Temp	May-Nov	DOX	SALT	N	P	CHL A			
399		1988-89		18.33	8.38	28.26	0.61	0.73	3.38			
400												
401												
402										Stations sampled		
403	All Station	1985	22.7	17.6	11.0	27.7	2.99	0.74	5.02	1,2,3		
404	Means	1986	19.4	17.6	10.4	28.1	1.47	0.62	17.06	1,2,3		
405		1987	20.8	18.1	8.7	28.0	1.20	0.75	3.44	1,2,2A,2B,2C,3,4		
406		1988	21.2	17.8	8.8	28.2	1.23	0.96	3.27	1,2,2A,2B,2C,3,4		
407		1989	21.7	17.8	8.1	22.1	1.75	0.29	7.72	1,2B,4		
408		1990	22.4	19.7	7.3	28.9	1.39	0.32	4.60	1,2A,3		
409		1991	21.1	16.9	.	27.4	1.56	0.57	3.53	1,3A,4		
410												
411	Mean	1985 - 19	21.3	18.1	9.2	27.3	1.44	0.69	6.06	4.45		
412	S.D.		0.8	4.1	2.0	4.8	2.54	0.44	7.40	6.88		

Salt Pond Watchers' Data Management Protocol

Appendix C.

Examples of graphs and working files for generating graphs

1. grph wkst bact 91: Example of "Excel" file used in graphing bacteria data. The raw data files were copied, "Pasted" and cut to make the block of cells (shaded area) which was copied to plot the chart "Bacteria plot example"

2. Bacteria Plot Example: An "Excel" column chart showing a year of bacteria data for one pond

3. Updated PJ H20 91: An "Excel" file containing water chemistry data. The shaded blocks of cells were used to plot "Nitrate Plot Example" and "PJ 1 Secchi Plt"

4. Nitrate Plot Example: An example of column graph of water chemistry data in "Excel"

5. PJ 1 Secchi Plt: An example of an "Excel" line chart of Secchi dish depth and pond depth at one station, using depth as negative numbers. Note that the scale numbers are on the wrong side of the x-axis. This could not be changed in "Excel" but was changed when graphs were copied into "MacDraw"

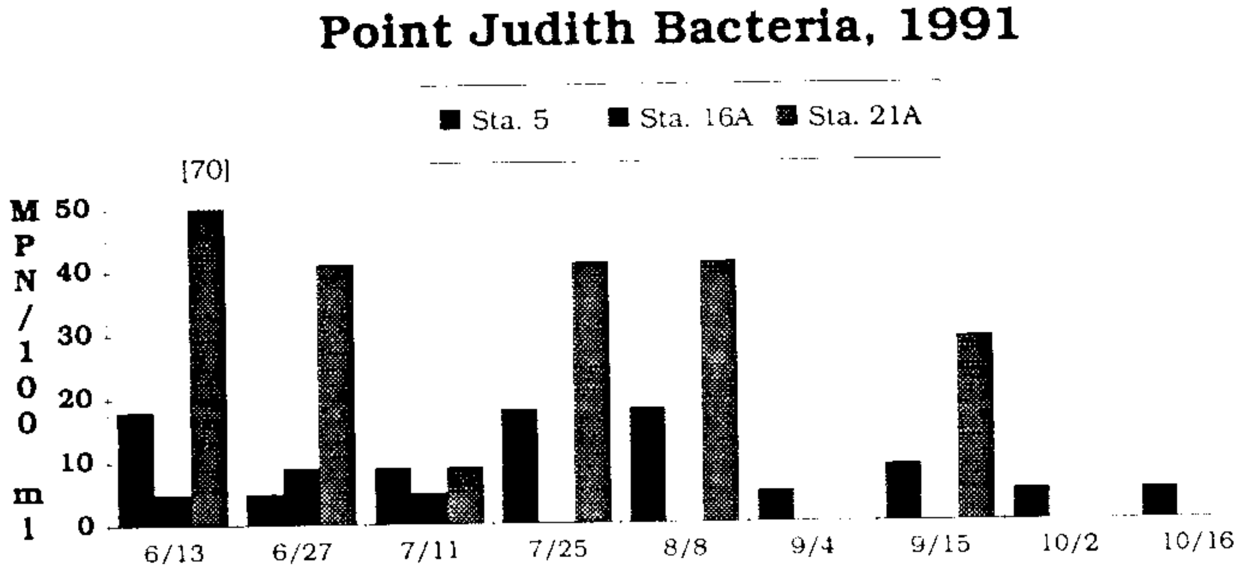
6. Chl a for Secchi Plt. This line chart was intended to be copied into MacDraw II.1 and added to "PJ 1 Secchi Plot." Note that the y-axis will be moved to the right end of the graph in "MacDraw."

7. Sample graphs, drawn in "Excel 3.0," modified with MacDraw 1.1. Numerous changes were made to improve the uniformity and clarity of the graphs:

1. grph wkst bact 91: Example of "Excel" file used in graphing bacteria data. The raw data files were copied, "Pasted" and cut to make the block of cells (shaded area) which was copied to plot the chart "Bacteria plot example"

	A	B	C	D	E	F	G	H
1	BACTERIA	PJ, PT, GH, NN, ON, WN						
2	POND	STATION	DATE	MPN/100ML				
3	PJ	5						
4	PJ	5						
5	PJ	5						
6	PJ	5						
7	PJ	5						
8	PJ	5			("BOB")			
9	PJ	16A	13-Jun					
10	PJ	16A	27-Jun					
11	PJ	16A	11-Jul					
12	PJ	16A	25-Jul					
13	PJ	16A	8-Aug					
14	PJ	16A	22-Aug		("BOB")			
15	PJ	21A	13-Jun					
16	PJ	21A	27-Jun					
17	PJ	21A	11-Jul					
18	PJ	21A	25-Jul					
19	PJ	21A	8-Aug					
20	PJ	21A	22-Aug		("BOB")			
21								
22	date	Sta. 5	Sta. 16A	Sta. 21A				
23	6/13	16	5	70				
24	6/27	9	9	41				
25	7/11	9	5	9				
26	7/25	16	.	41				
27	8/8	16	.	41				
28	9/4	5	.	.				
29	9/15	9	.	29				
30	10/2	5	.	.				
31	10/16	5	.	.				
32								
33	POND	STATION	DATE	MPN/100ML				
34	PT	23	13-Jun					
35	PT	23	27-Jun					
36	PT	23	11-Jul					
37	PT	23	25-Jul					
38	PT	23	8-Aug					
39	PT	23	22-Aug		("BOB")			
40	PT	24	13-Jun					
41	PT	24	27-Jun					
42	PT	24	11-Jul					
43	PT	24	25-Jul					
44	PT	24	8-Aug					
45	PT	24	22-Aug		("BOB")			
46	PT	26	13-Jun					
47	PT	26	27-Jun					
48	PT	26	11-Jul					
49	PT	26	25-Jul					
50	PT	26	8-Aug					
51	PT	26	22-Aug		("BOB")			
52	PT	28						
53	PT	28						
54	PT	28						
55	PT	28						
56	PT	28						
57	PT	28			("BOB")			
58								
59	date	STATION 23	STATION 24	STATION 26	STATION 28			
60	13-Jun	16	9	29	54			
61	27-Jun	4.5	9	4.5	.			
62	11-Jul	4.5	9	9	4.5			
63	25-Jul	69	.	179	16			
64	8-Aug	29	.	9	9			
65	22-Aug	.	.	.	.			
66								
67	POND	STATION	DATE	MPN/100ML				
68	GH	14C	13-Jun					
69	GH	14C	27-Jun					
70	GH	14C	11-Jul					
71	GH	14C	25-Jul					
72	GH	14C	8-Aug					
73	GH	14C	22-Aug		("BOB")			
74	GH	16	13-Jun					
75	GH	16	27-Jun					
76	GH	16	11-Jul					

2. Bacteria Plot Example: An “Excel” column chart showing a year of bacteria data for one pond


Point Judith Bacteria, 1991
Sta. 5
Sta. 16A
Sta. 21A
[70]
MPN/100 ml
0
10
20
30
40
50
6/13
6/27
7/11
7/25
8/8
9/4
9/15
10/2
10/16

3. Updated PJ H20 91: An "Excel" file containing water chemistry data. The shaded blocks of cells were used to plot "Nitrate Plot Example" and "PJ 1 Secchi Plt"

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	PONDWATCHERS: POINT JUDITH POND 91											GRAPHS							
2	POND	STATIC	DATE	TEMP C°	SECCHI	DEPTH (c	DOX	SALIN	NITR	PHOS	CHLA	pj temp	Sta. 1	Sta. 3	Sta. 4				
3	PJ	1	7-Nov-90	11		2.4		21	5.53	0.79	4.47	11/7	11	10	.	PHOS	station 1	station 3a	station 4
4	PJ	1	5-Dec-90	6.5	2.3	2.8		23	6.74	0.8	5.17	12/5	6.5	8	.	11/11	0.79	1.02	.
5	PJ	1	10-Jan	1	1.7	1.7		24	1.63	0.89	1.23	1/10	1	6	.	12/9	0.8	1.02	.
6	PJ	1	Feb-91									2/1		8	.	1/13	0.89	0.56	.
7	PJ	1	6-Mar	8	2.2	2.3		7	21.5	0.36	1.42	3/6	8	16	.	2/9		0.86	.
8	PJ	1	8-Apr	14	>1.75	1.75		11	24.5	0.22	6.67	4/8	14	10	.	3/16	0.36	0.18	.
9	PJ	1	9-May	13.5	1.6	2.4		15	7.05	0.32	4.43	5/9	13.5	.	.	4/7	0.22	0.39	.
10	PJ	1	10-Jun	20.5	1.25	2.3		29	1.15	0.09	13.23	6/15	20.5	17	.	6/15	0.32	0.42	.
11	PJ	1	24-Jun	19.5	1.9	2.8		34	2.56	0.3	8.17	6/28	19.5	18	19	6/28	0.09	0.73	.
12	PJ	1	8-Jul	21	1.7	2.2		20	2.71	0.7	6.57	7/15	21	21	19	7/15	0.3	0.65	
13	PJ	1	22-Jul	27	1.4	2.4		22	2.2	0.86	8.43	7/25	27	22	22	7/25	0.7	0.6	0.47
14	PJ	1	5-Aug	22	1.2	1.85		24	6.28	0.22	10.91	8/11	22	20	18	8/11	0.86	0.63	1.27
15	PJ	1	26-Aug					BOB		BOB	BOB	8/26		21	18	8/26	0.22	0.24	
16	PJ	1	8-Sep									9/8		20	18	9/8	BOB		
17	PJ	1	22-Sep									9/22		17		9/22		0.86	0.45
18	PJ	1	12-Oct									10/12		17	15.5	10/12		0.64	0.64
19	PJ	1	2-Nov									11/2		13	14	11/2		0.54	0.46
20																		0.89	0.85
21	PJ	3A	11-Nov-90	10		0.9			1.63	1.02	0.53								
22	PJ	3A	9-Dec-90	8		1.1			5.08	1.02	0.58	SALIN	Sta. 1	Sta. 3a	Sta. 4				
23	PJ	3A	13-Jan	6		10			5.05	0.56	2.82	11/11	21	26	.				
24	PJ	3A	9-Feb	8		10			4.4	0.88	2.12	12/9	23	31	.	CHLOR	Sta. 1	Sta. 3a	Sta. 4
25	PJ	3A	16-Mar	16		7			3.69	0.18	1.41	1/13	24	24	.	11/11	4.47	0.53	.
26	PJ	3A	7-Apr	10		9			0.32	0.39	1.6	2/9		30	.	12/9	5.17	0.58	.
27	PJ	3A	15-Jun	17		1.3			0.22	0.42	0.79	3/16	7	26	.	1/13	1.23	2.82	.
28	PJ	3A	28-Jun	18		1.3			0.43	0.73	0.88	4/7	11	29	.	2/9		2.12	.
29	PJ	3A	15-Jul	21		1.1		24	1.02	0.65	0.88	6/15	29	.	.	3/16	1.42	1.41	.
30	PJ	3A	25-Jul	22		1.1		24	0.13	0.6	1.76	6/28	34	.	.	4/7	6.67	1.6	.
31	PJ	3A	11-Aug	20		1.4		33	0.88	0.63	0.57	7/15	20	24	32	6/15	13.23	0.79	
32	PJ	3A	26-Aug	21		0.9		32	0.1	0.24	4.85	7/25	22	24	27	6/28	8.17	0.88	
33	PJ	3A	8-Sep	20		1.4		32	1.41	0.86	1.54	8/11	24	33		7/15	6.57	0.88	1.54
34	POND	STATIC	DATE	TEMP C°	SECCHI	DEPTH (c	DOX	SALIN	NITR	PHOS	CHLA	8/26	BOB	32	27	7/25	8.43	1.76	1.43
35	PJ	3A	22-Sep	17				30	1.22	0.64		9/8		32		8/11	10.91	0.57	1.88
36	PJ	3A	12-Oct	17				30	0.85	0.54		9/22		30	31	8/26		4.85	
37	PJ	3A	2-Nov	13				27	2.77	0.89		10/12		30	30	9/8		1.54	2.30
38												11/2		27	28	9/22		3.00	
39	PJ	4	10-Jul	19		1.4		32	0.27	0.47						10/12		1.49	1.17
40	PJ	4	25-Jul	19		2.2		27	0.4	1.27						11/2		1.10	0.83
41	PJ	4	7-Aug	22		1.5										PJ1			
42	PJ	4	26-Aug	18		2.4		27	0.38	0.45		NITR	Sta. 1	Sta. 3a	Sta. 4	Secchi Plot, Sta. 1		Secchi	Depth
43	PJ	4	7-Sep	18		1.5		31	1.14	0.64		11/11	5.53	1.63	.		11/7	-2	-2
44	PJ	4	22-Sep									12/9	6.74	5.08	.		12/5	-2	-3
45	PJ	4	10-Oct	15.5				30	1	0.46		1/13	1.63	5.05	.		1/10	-2	-2
46	PJ	4	28-Oct	14				28	0.61	0.65		2/9		4.4	.		3/6	-2	-2
47												3/16	21.5	3.69	.		4/8	-2	-2
48												4/7	24.5	0.32	.		5/9	-2	-2
49												6/15	1.15	0.22	.		6/10	-1	-2
50												7/15	2.71	1.02	0.27		6/24	-2	-3
51												7/25	2.2	0.13	0.4		7/8	-2	-2
52												8/11	6.28	0.88	.		7/22	-1	-2
53												8/26		0.1	0.38		8/5	-1	-2
54												9/8		1.41	0.38				
55												9/22		1.27	1.14				
56												10/12		0.85	1				
57												11/2		2.77	0.61				

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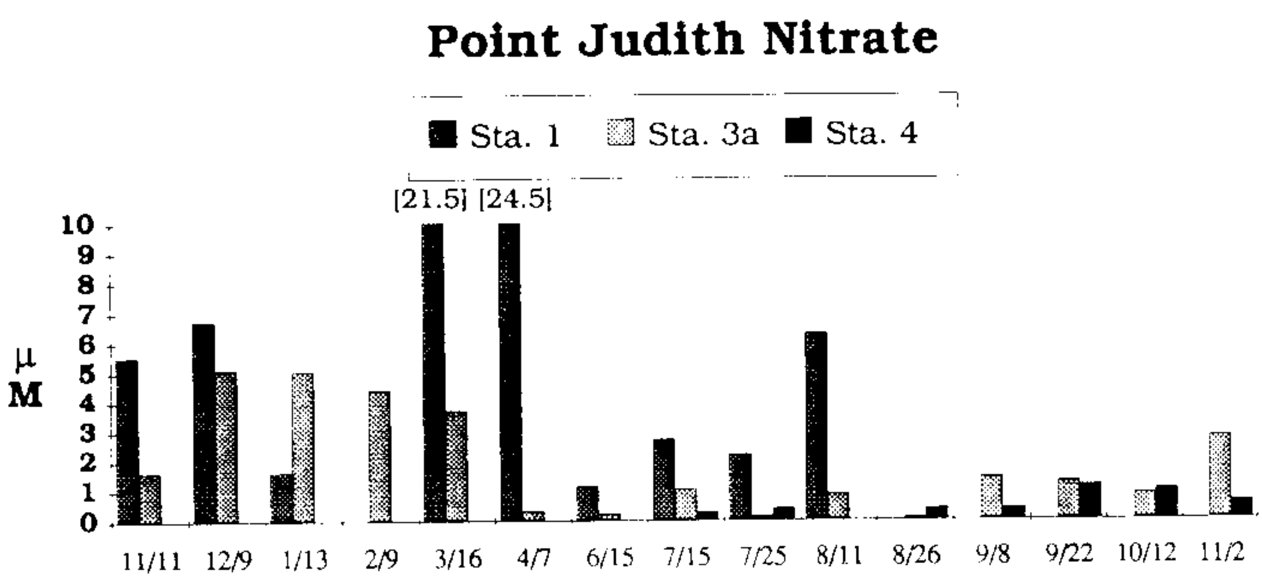
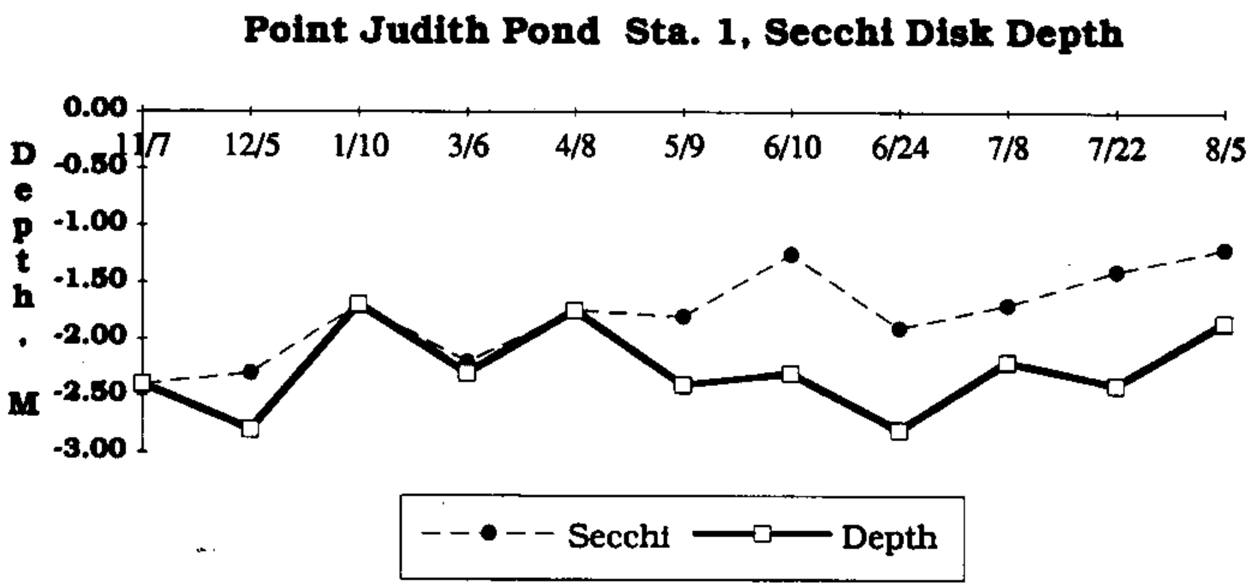
41			Chl a for Secchi Plot	
42				Chl a
43			11/7	4
44			12/5	5
45			1/10	1
46			2/8	
47			4/8	1
48			5/9	7
49			6/10	13
50			6/24	6
51			7/8	7
52			7/22	8
53			8/5	11
54				
55				
56				
57				

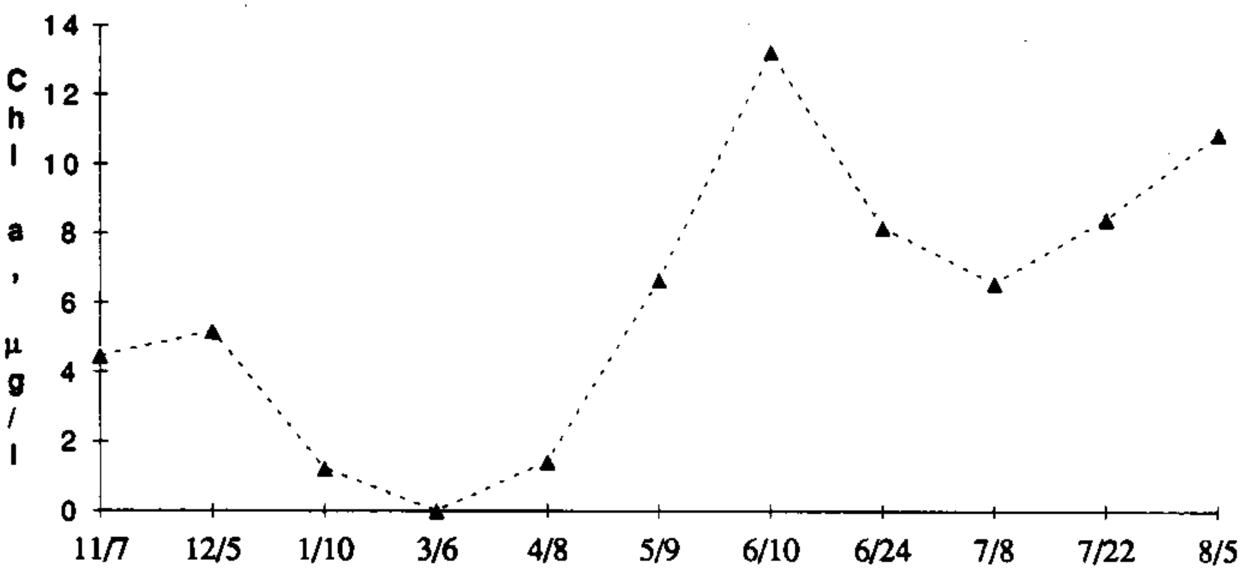
4. Nitrate Plot Example: An example of column graph of water chemistry data in "Excel"


Point Judith Nitrate
Sta. 1
Sta. 3a
Sta. 4
[21.5]
[24.5]
μM
0
1
2
3
4
5
6
7
8
9
10
11/11
12/9
1/13
2/9
3/16
4/7
6/15
7/15
7/25
8/11
8/26
9/8
9/22
10/12
11/2

5. PJ 1 Secchi Plt: An example of an "Excel" line chart of Secchi dish depth and pond depth at one station, using depth as negative numbers. Note that the scale numbers are on the wrong side of the x-axis. This could not be changed in "Excel" but was changed when graphs were copied into "MacDraw"


Point Judith Pond Sta. 1, Secchi Disk Depth
Depth, M
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
11/7
12/5
1/10
3/6
4/8
5/9
6/10
6/24
7/8
7/22
8/5
Secchi
Depth

6. Chl a for Secchi Plt. This line chart was intended to be copied into MacDraw II.1 and added to "PJ 1 Secchi Plot." Note that the y-axis will be moved to the right end of the graph in "MacDraw."


14
12
10
8
6
4
2
0
Chl a, µg/l
11/7
12/5
1/10
3/6
4/8
5/9
6/10
6/24
7/8
7/22
8/5

7. Sample graphs, drawn in "Excel 3.0," modified with MacDraw 1.1. Numerous changes were made to improve the uniformity and clarity of the graphs:

a. Graphs were stretched to cover more of the page. Temporary guidelines were used as measuring rods to make all the graphs a uniform length and height. A long guideline was used to align the axes. For the line "Secchi" graph, this stretched the symbols as well, so new circles and squares were drawn and used to replace the altered ones.

b. Bars which are above the upper limit of the scale show up to their full height when an "Excel" graph is copied into "MacDraw." The bars which were far offscale in the "Nitrate" graph were "pushed" down to the cutoff point of the scale, which was marked by a temporary guideline. The offscale bar in the "Bacteria' graph was left, since it was not far above the upper edge of the scale.

c. A dash line, arrow, and label was added to the "Bacteria" graph. Dashes and arrows are under the "Pen" menu in "MacDraw."

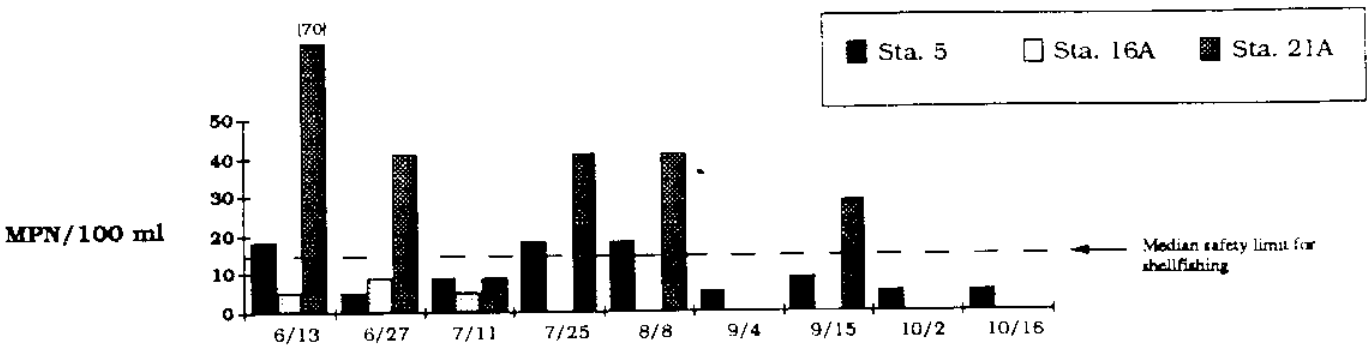
d. Legends at the tops of graphs were moved to the side to reduce clutter.

e. Graph titles and labels were altered, using the "Text" box in "MacDraw" in order to make the graphs more uniform.

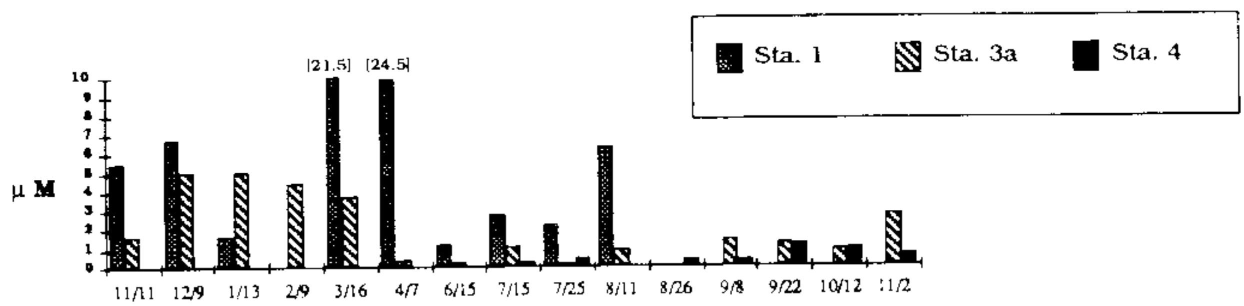
f. "Chl a for Secchi Plt" was added to the "Secchi" graph after stretching it to fit and moving the y-axis.

Sample graphs, drawn in "Excel 3.0", modified with "MacDraw II.1"

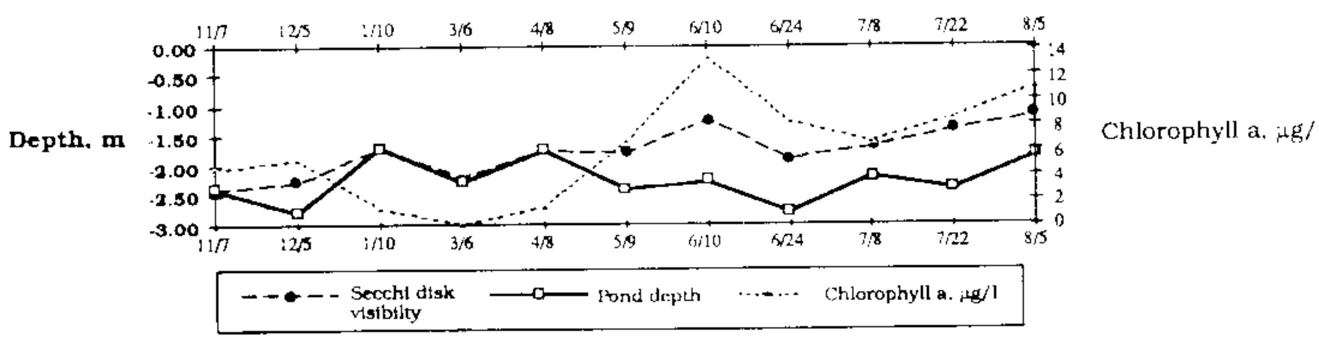
Point Judith Bacteria, 1991

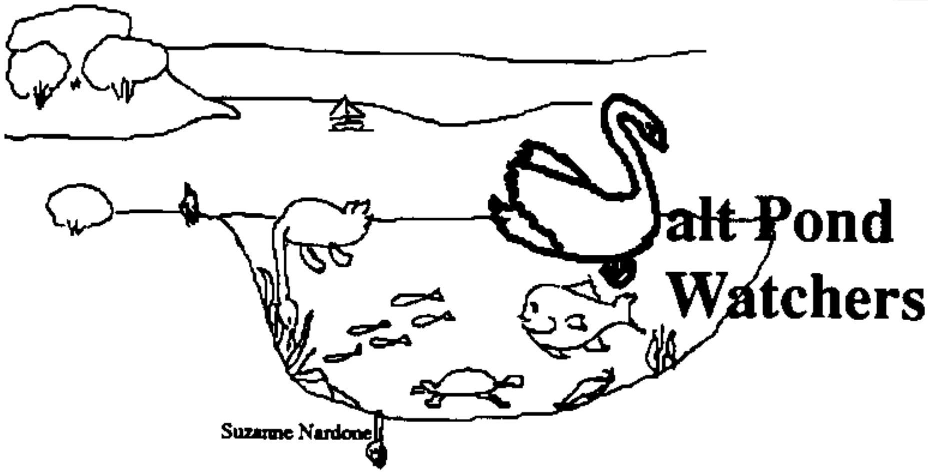


Point Judith Nitrate, 1991



Point Judith Pond Sta. 1, Secchi Disk Depth and Chlorophyll a concentration, 1991





Salt Pond Watchers

Field Sampling Manual

Coastal Resources Center
University of Rhode Island
Technical Report No. 14
April 1992

SALT POND WATCHERS PROTOCOL #1
Field Sampling Manual

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ACKNOWLEDGMENTS

This manual is the result of years of testing sampling methods by Salt Pond Watchers, some of whom have volunteered their time to sample Rhode Island's salt ponds since 1979. Their careful work and dedication to improve the environmental quality of the salt ponds has provided an unprecedented data set on the salt ponds and valuable information for state and town decision makers. We found the Citizens Monitoring Manual developed by Kathy Ellett of the Alliance for Chesapeake Bay to be very useful and have adopted their format and some of their text.

The Rhode Island Sea Grant College Program provided funding for this manual, and provided funding for the Salt Pond Watchers.

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Elena Martin
May 1991

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Additional copies of this publication are available from: Publications, Rhode Island Sea Grant, University of Rhode Island Bay Campus, Narragansett, RI 02882-1197, (401) 792-6842.

TABLE OF CONTENTS

SAFETY FIRST!

General Precautions

1. Volunteers must attend a training session before they can begin sampling.

2. Sample with a partner. This allows one person to do the titrations while the other person is collecting samples. Sampling with a buddy is a basic safety precaution and is more fun.

3. Observe boating safety rules and regulations.

4. Be familiar with your instructions and procedures before going out in the field.

5. Keep all equipment and reagent chemicals out of the way of small children. These chemicals are poison!

6. Call Poison Control if you have an accident or a suspected poisoning:

   In Rhode Island call 277-5727

   In Massachusetts call 1-800-682-9211

Use Proper Analytical Technique

1. Avoid contact between reagent chemicals and skin, eyes, nose and mouth. If you wish wear safety glasses or goggles for extra protection.

2. Use caps or stoppers, not your fingers while handling reagent chemicals.

3. Hold squeeze bottles upside down, not at an angle, when dispensing reagents.

4. Wipe up spills when they occur. In the field, wash spills with a bucket of water if they are on the ground.

5. Tightly close all reagent containers immediately after use.

6. Protect equipment and reagents from prolonged exposure to direct sunlight and extreme temperatures.

7. Be careful when handling water samples. In some cases the ponds may be polluted. Wear gloves if you wish, or wash your hands carefully (with full lather) after you are done.

INTRODUCTION

WHY MONITOR?

Monitoring can be defined as repetitive measurements or observations recorded over time for the purpose of determining a condition or change in conditions.

Citizens who undertake monitoring of a site along their local pond or river will become scientists carrying out an ecological study of that site. A number of scientific studies point to the necessity of doing long-term ecological monitoring before drawing conclusions as to cause and effect of observed changes, because:

1. Complex ecological systems require long-term observation and study for understanding;
2. a sequence of only 2 to 3 years of data can be very misleading about the direction environmental quality is taking;
3. environments have a "memory" or response time which varies greatly--it takes a certain amount of time to detect a change--perhaps a decade for lakes, a century for soil.

WHY MONITOR THE SALT PONDS?

Our ponds were formed after the last ice age. As the glaciers retreated, sand began to form, first in shoals, then eventually into barrier beaches. Gradually ponds and marshes evolved behind these barriers, with the rich plant and animal life that enabled them to become productive nursuries.

There is evidence that American Indians utilized the pond areas as sites for summer fishing camps, spradically from about 500 B.C., and probably continuously from about 1000 A.D. to the 1600s. With the arrival of European Colonists the areas near the ponds were divided into farms. Gradually, in the 1800s the areas became desirable for recreation, and resort communities began to grow.

After World War II, major changes occured around the ponds. Farm lands were sold to developers. Seasonal cabins gradually gave way to year round homes. Marinas, restaurants, and other businesses have grown to accommodate the increasing population.

Rhode Island's coastal salt ponds have several characteristics which make them prime candidates for ecological monitoring. These characteristics are related to their physical and biological properties as well as to the fact that they are an attractive location for coastal development.

The salt ponds are shallow lagoons along Rhode Island's ocean shore. They receive water from groundwater and overland runoff and from tidal flushing from Rhode Island Sound. Daily flushing only exchanges a small percentage (about 10%) of each ponds' volume. Nutrients draining from the surrounding watershed are the basis for the high productivity of the salt ponds.

The salt ponds are an attractive site for vacationers and local residents. People come to the ponds for fishing, quahogging, oystering, boating, swimming, bird watching and picnicking. Coastal development along the ponds has accelerated over the past several decades (Olsen and Lee, 1984) and all indications suggest that it will continue to do so. Increased development along the ponds means higher nutrient loadings in the ponds from leaky septic systems, runoff from stormwater drains, fertilizer runoff from lawns, and animal feces. Nuisance algae blooms, eelgrass wasting disease and other signs of eutrophication have been associated with high nutrient inflow into coastal waters and contamination of shellfish beds has been associated with high sewage levels. Monitoring bacteria and nutrients in the ponds give an indication of changes in water quality. Measuring other parameters such as chlorophyll and eelgrass wasting disease give evidence of how life in the ponds is reacting to changes in water quality. Evidence of serious eutrophication and bacterial contamination are signs that the type and magnitude of development around the ponds must be managed to keep the ponds healthy and safe for the activities for which they are so highly valued.

Each year about forty citizens donate their time to monitoring water quality in the salt ponds to assess whether conditions are getting better or worse. The information that is generated is used by state agencies for management decisions, by local municipalities for planning and zoning decisions and by researchers at URI and local high schools. This manual is intended to provide a clear picture of what we are monitoring and clear instructions as to how to take samples for a variety of water quality measurements.

WHY WE DO THESE TESTS

TEMPERATURE

Although temperature may be one of the easiest measurements to perform, it is probably one of the most important parameters to be considered. It dramatically affects the rates of chemical and biochemical reactions in the water. Many biological, physical, and chemical processes are temperature dependent. Among the most common of these are the solubility of compounds in sea water, cycles of reproduction and maturation and therefore distribution and abundance of organisms living in the ponds, and rates of chemical reactions.

Temperature is reported in degrees Celsius (centigrade). To convert Fahrenheit to Celsius: $°F = 1.8\ °C + 32$ or conversely, $°C = \frac{°F - 32}{1.8}$..

Typically, the temperature in the salt ponds ranges from near freezing in the winter (1°C) to 25°C or 77°F in summer.

WATER CLARITY

Water clarity in the ponds is affected by suspended particles in the water column. When there is a large amount of suspended material in the water, light penetration is reduced and it can be difficult to see the bottom.

Turbidity, or reduced water clarity, in the ponds is most likely caused by accumulations of plankton (single-celled algae and small animals) or of sediment in the water column. In the summer, warm temperatures, sunlight and nutrients promote the rapid growth of phytoplankton. Silt-laden runoff after a heavy rain, stirring up of the bottom by wind- or boat-generated waves, and shoreline erosion all contribute to turbidity by increasing the sediment load of the water.

Excessive turbidity can have a harmful effect on life in the ponds. Eelgrass and other aquatic plants depend on light reaching to the bottom for photosynthesis. Reduced light causes a "shading out" of these plants. In addition, large amounts of suspended matter can clog the gills of fish and shellfish and can make it difficult for fish who prey visually to find and capture food.

Water clarity is measured by a Secchi disk. The depth to which light penetrates is measured by the depth at which the white portion of the Secchi disk disappears from view.

SALINITY

Salinity is a measure of total dissolved salts in a volume of water and is commonly expressed in parts per thousand (ppt) or number of grams salt dissolved in 1000 grams (roughly one liter) of sea water. Under natural conditions, salinity ranges from 0 ppt for freshwater to an average of 35 ppt in ocean water. The salt ponds exhibit all ranges of this spectrum. The upper reaches of Point Judith pond can be entirely fresh when large volumes of freshwater after a heavy rain are discharged into the pond from the Saugatucket River. The areas of the ponds near the breachways are usually very salty (30-34ppt) because of regular tidal exchange with Rhode Island Sound.

Salinity can be measured by several different analytical techniques. The international standard is based on electrical conductivity in a water sample and requires the use of a specially designed volt meter in the lab. Less precise, but often sufficient measurements can be obtained from meters that can be used in the field. Pond watcher samples are read in the lab by analyzing a few milliliters of the filtered nutrient sample with an optical refractometer in whch salinity is determined by the degree of light refraction through a water sample.

Levels of salinity in the ponds vary according to the time of year, and proximity to influxes of fresh or sea water. Stations near the breachways are naturally more saline than stations located near stream outflows. Salinity decreases in the spring when rainfall, groundwater, and melting snow cause increases in freshwater inflows. When freshwater inputs are reduced, salinity levels rise.

NUTRIENTS

Both nitrogen and phosphorus are necessary for the growth of plants, seaweeds, and microscopic phytoplankton. Together with light and temperature, available nutrients control the productivity of ecosystems. Nitrogen and phosphorus are also present in sewage and so may be released in large volumes into coastal waters.

Productivity is important for fish, shellfish, and waterfowl. But if some productivity is good, is more better? Not necessarily. Too much growth of phytoplankton and algae can choke the system. Dying , decaying algae uses up oxygen that is needed by fish and benthic organisms. Turbidity caused by plankton in the water column diminishes light available to aquatic grasses which are an important food source and habitat for waterfowl and fishes.

Nutrients (nitrates and phosphates) flow into the ponds from the sea, from stream flow, from groundwater and stormwater runoff, and from rainfall. Nutrient concentrations in the ponds are generally low. It can be taken as a good sign that the ponds do not exhibit the high levels that are characteristic of extremely eutrophic systems. Even with low values there is a great deal of variability between stations and between samplings. For instance, nitrate ranged from 0.1 to 18 micromoles per liter in Winnapaug Pond, and from 0.1 to 15 micromoles per liter in Point Judith Pond, a 100-fold range.

CHLOROPHYLL

A host of single-celled algae inhabit the salt ponds. This rich source of phytoplankton is part of the reason that the salt ponds are such important nursery grounds for fishes, molluscs, and crustaceans. Phytoplankton respond to a number of environmental characteristics such as light, temperature, salinity, and nutrient loadings and can therefore serve as indicators of water conditions in the ponds. The relatively low rate of flushing in the salt ponds, their warmth in summer, and the influence of nutrients and freshwater from land enable the phytoplankton to grow more densely in the salt ponds than in the Sound.

The chlorophyll filtration test that the Pond Watchers perform provides an index to the amount (biomass) of phytoplankton that are present in a volume of water. Chlorophyll *a*, the chemical compound actually measured in the test, plays a crucial role in photosynthesis and is therefore present in some amount in all living phytoplankton. Chlorophyll *a* is measured by passing a known volume of water through a fine filter. The filter is wrapped in foil to protect it from light and frozen until it can be read. To be analyzed, each filter is placed in acetone to extract the chlorophyll, which is measured by using a fluorometer.

When chlorophyll is struck by a beam of ultraviolet light, it emits red light; the intensity varies with the chlorophyll concentration in the original water sample.

Phytoplankton occur in "patches" in the salt ponds. Abundance varies from station to station and from season to season. When two samples are taken only a meter apart, sometimes one may have twice as much phytoplankton as the other. The sources of this patchiness are not well understood; turbulence is known to be one factor, but patchiness is seen in calm water as well. Three replicate chlorophyll samples are collected from each station to reduce the influence of random variation due to patchiness.

Turbidity, salinity, and nutrients all contribute to phytoplankton distribution in the salt ponds. The highest abundance of phytoplankton tend to be in the upper (landward) reaches of the ponds and in poorly flushed coves. The concentration of phytoplankton tend to decrease as one approaches the breachways where water is exchanged more freely with the Sound.

DISSOLVED OXYGEN

Dissolved oxygen (DO) is a measure of the amount of oxygen molecules dissolved in water. Oxygen in its dissolved form is required by fishes, shellfish, and all other living organisms to survive. Water near the surface is usually saturated with DO and contains plenty for animals to survive. Water at the bottom, where many animals live, for a variety of reasons, can fall below a level adequate for organismal respiration. Under low oxygen conditions animals will vacate for shallower or more oxygenated water or may be killed as would be the case for shellfish and other sessile benthic dwellers.

The ability of water to dissolve oxygen is dependent on temperature. Colder water can hold more oxygen. Consequently oxygen tends to be more limiting to organisms during the hot summer months. Vertical stratifications in the summer and inhibition of mixing of bottom water with oxygen--saturated surface waters also leads to lower oxygen in deeper water during the summer.

Biological activity affects the amount of oxygen dissolved in water. Plants and algae which photosynthesize give off oxygen and can supersaturate shallow water with DO. On the other hand, when plants die, oxygen is used up by bacteria as they breakdown the dead plant matter. Bacterial decay usually takes place at the bottom, and so large blooms of algae in the spring and summer as typically occurs in the salt ponds, can also be responsible for consuming large amounts of oxygen from bottom waters at a time when vertical stratification can already be limiting replenishment of oxygen to the lower layers.

Because many areas of the salt ponds are very shallow, low dissolved oxygen is not a problem in these areas. DO is monitored at deeper stations on the ponds. A LaMotte kit is used to perform a variation of the standard Winkler titration analytical method which measures DO in parts per million (ppm) in terms of the amount of sodium thiosulfate reagent needed to neutralize a "fixed" water sample. Table 1 shows DO levels in ppm which you would expect in a sample at different temperatures under saturated conditions. In terms of marine life, levels of 5.0 ppm and above are believed to be protective of most organisms in Long Island Sound. Below this concentration the growth and survival of different organisms is affected to different degrees (Long Island Sound Study).

Solubility of Dissolved Oxygen in Water

Temperature Degrees C	Solubility Mg/L (ppm)	Temperature Degrees C	Solubility Mg/L (ppm)
0	14.6	16	10.0
1	14.2	17	9.8
2	13.8	18	9.6
3	13.5	19	9.4
4	13.1	20	9.2
5	12.8	21	9.0
6	12.5	22	8.9
7	12.2	23	8.7
8	11.9	24	8.6
9	11.6	25	8.4
10	11.3	26	8.2
11	11.1	27	8.1
12	10.9	28	7.9
13	10.6	29	7.8
14	10.4	30	7.7
15	10.2		

BACTERIA

Total and fecal coliform bacteria measured in water samples gives an indicator of sewage contamination of the salt ponds and is used by the state Department of Environmental Management (DEM) to determine safety of these waters for such activities as shellfishing and swimming.

Measurement of coliform bacteria have been adopted as a standard test of water contamination because they are indicators of human and animal waste reaching ground water or a water body; they are easy to monitor; they survive both in fresh and salt water; and they do not reproduce in the receiving waters. The principle potential sources of fecal coliform to ground water and surface waters include leachate from failed septic systems, direct discharges of untreated sewage, malfunctioning sewage treatment plants and leaking sewers, sanitary landfills, and pet, livestock, and waterfowl excrement. Bacterial contamination of coastal waters near suburban areas, as is the case surrounding the salt ponds, is associated with failing septic systems, broken sewer lines, large volumes of storm water runoff, and animal waste.

Coliform bacteria originate from a number of sources ranging from decaying vegetation in soils to feces of many kinds of organisms. Fecal coliform bacteria is the measure used by the Federal Food and Drug Administration as an indicator of sewage contamination of a water body. Because fecal coliform bacteria originate in the guts of warm-blooded animals, fecal coliform measurement is not a completely precise test for human fecal pollution. There is no way of differentiating that proportion due to human sewage from wstes from other warm-blooded animals like waterfowl, livestock, and family pets. Concentrations in the receiving water are influenced by light, temperature, salinity, nutrients, and predators.

Several different methods are used by state and federal agencies for analyzing coliform bacteria. The method used in Rhode Island both by D.O.H. and federal F.D.A. is based on the most probable number (MPN) of bacteria cells in 100 ml. water sample. Rhode Island DEM has the authority to close an area for shellfishing where the median total coliform levels consistently exceed acceptable levels (15mpn/100ml). DEM can only <u>recommend</u> to the towns that an area be closed to recreational water contact use.

Median bacterial concentrations should not exceed the following levels for safe shellfishing and swimming in Rhode Island tidal waters:

	TOTAL COLIFORM mean MPN/100 ml	FECAL COLIFORM mean MPN/100 ml
SHELLFISHING	70	15
RECREATION (water contact)	700	50

RAIN GAUGE

Rainfall is a source of nutrient addition to the salt ponds. Precipitation carries very little phosphate, too little to be measured. Contributions of nitrogen can be significant, however. By keeping track of the amount of precipitation falling on the ponds from your rain gauges, and then measuring nitrates in the rainwater, we can better narrow down the source of the nutrients that we see in the ponds.

You have all heard about the problems of acid rain. (We will be measuring pH levels in rainwater samples as well.) Precipitation which has a low pH level is not only acid, but also carries high levels of sulfur dioxide and nitrogen oxides. While both can affect the health of aquatic environments, nitrogen oxides can add to the nitrogen cycle. Where nutrient levels are already high such as in coastal waters near highly developed shorelines, this can contribute to eutrophication.

Rainfall is also a source of stormwater runoff the salt ponds and any pollutants that are carried by water funning off roads, roofs and parking lots. High concentrations of fecal coliform bacteria often occur after rainstorms in the upper reaches of the salt ponds.

EELGRASS WASTING DISEASE

Eelgrass wasting disease was responsible for virtually eliminating eelgrass from coastal waters throughout the North Atlantic in the 1930's. By the 1960's eelgrass populations had largely been restored, but in the past decade, the characteristic symptoms of eelgrass wasting disease have again developed and are spreading.

Infection of wasting disease is characterized by dark, decaying lesions on both young and old eelgrass blades. The infection of wasting disease takes place in two stages: 1) the initial infection and development of the lesions; and 2) mass mortality of eelgrass. The current infection has spread throughout New England, but dieoffs have been restricted to localized areas.

Eelgrass wasting disease has been traced to a slime mold-type pathogenic protist called *Labarinthula*. This microorganism evidently flourishes in high saline waters. Eelgrass growing in low salinity waters seems to be less susceptible to infection.

Mass mortality of eelgrass in the 1930's was associated with loss of productivity in estuarine and coastal waters. The eelgrass loss had a devastating effect on migratory waterfowl and commercial fisheries habitat. Some locations were permanently altered, and eelgrass never returned.

Not all eelgrass decline is due to wasting disease. Disappearance of eelgrass in estuaries in both North American and Europe has been attributed to pollution of coastal waters. Eelgrass can also be killed by shading of the bottom by dense surface plankton blooms associated with high eutrophic waters. If surface algae is dense enough, it can prevent light from reaching the eelgrass plants causing them to die back. The combined effects of wasting disease and pollution could devastate eelgrass populations.

HOW TO DO THESE TESTS

(Sampling Protocols and Preparation)

WATER TEMPERATURE PROTOCOL

Temperature of pond water is measured by

1. Keep the thermometer suspended about 6 inches (locm) below the water surface for at least two minutes. You may have the thermometer hung by a string while you go on to other sampling.

2. Read the thermometer while it is still suspended just below the surface or <u>immediately</u> after removing it from the water. Any wind or direct sunlight on the thermometer once it is in the air will change the reading rapidly and give you an incorrect measurement.

3. Record the value on your field data sheet.

WATER CLARITY

The Secchi disk is a convenient method for measuring light penetration below the water surface, or the limit of visibility of the water. The Secchi disk is an all-white or white and black disk made to specifications which is weighted and attached in the center of a measured and marked rope. (See Secchi disk protocol for making a Secchi disk.) The weighted disk is lowered slowly straight down into the water from a boat or dock. The disk is lowered until it disappears from view and then slowly raised until it just reappears. This depth is recorded and is known as the "Secchi disk transparency." The less algae and silt in the water, the deeper the Secchi disk will be visible. Alternately, shallow readings will occur in turbid water with large amounts of suspended algae and silt.

<u>To read the secchi disk</u>:

1. Take readings from a boat or off a dock.
2. Anchor the boat or have an assistant paddle to keep the boat in a fixed position to ensure that the Secchi disk is observed straight down, instead of at an angle.
3. Take readings on station and at roughly the same time of day each time. This is

important to ensure comparable data.

4. To measure the Secchi transparency, lower the Secchi disk on the shady side of the boat, until it just goes out of sight and note the depth. Lower the disk further and then bring it up, noting where it comes into view again.
5. Record the average of the two depths on your field data sheet.
6. If the disk is resting on the bottom and still visible, please make a note of it

<u>To make a secchi disk</u>:

1. Cut a disk 20 centimeters (8 inches) in diameter from a piece of plywood, metal, or plastic and paint it white with black quarter pie wedges.

2. Drill a hole in the center of the disk through which an eye bolt can be fitted.

3. Turn a nut onto the eye bolt.

4. Slip a lock washer and then a flat washer onto the bolt.

5. Slip the disk onto the bolt, white side toward the eye of the bolt.

6. Slip flat washer and weights onto the bolt. Weights need only be sufficient to counteract the buoyancy of the disk so that it will sink.

7. Slip a lock washer and nut onto the bolt and tighten it.

8. Attach one end of about 20 feet of cord to the eye bolt.

9. From the top surface of the Secchi disk, measure every 5 centimeters (2.5 inches)and mark the cord with waterproof ink.

10. Cut small niches on the edge of the disk to hold the rope when the disk is not in use. Wrap the rope around the disk at these cuts after each use to help protect the disk and to keep the cord clean and orderly.

This is a design that has been successfully reproduced by many pond watchers. It is not the only way to put together a Secchi disk. The most important criterion is that it is cut to an 8 inch diameter, painted white, and that the depth can be clearly and accurately read off the cord.

WATER CHEMISTRY

Water Chemistry Supplies

Each pond watcher kit contains the following for water chemistry sampling:

1 syringe
3 nucleopore filter assemblies
approximately 25 glass fiber filters
1 sharpie pen (waterproof ink)
2 pair of plastic forceps
1 piece (10 inches long) tygon tubing
13 nutrient bottles
1 roll of label tape
a schedule of sample dates
a list of pond watchers & sample stations
maps of sample locations-all ponds
protocols
data sheets

POND WATCHER WATER CHEMISTRY SAMPLING FIELD PROTOCOL

Preparation (at home)

Everyone will be taking 3 chlorophyll samples and 1 nutrient sample

1) Fill in field data sheet:
Include your name, date, time, pond, station.

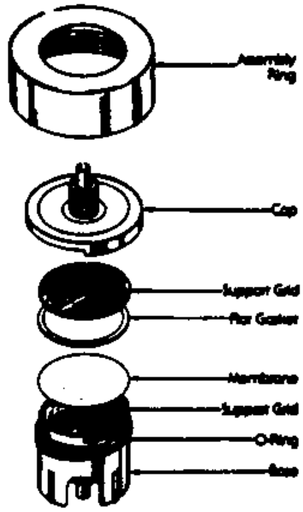
2) Make foil packets for chlorophyll filters (make 3). Take care not to touch the inside of the foil where the filter will be placed. Put one filter in each foil packet after filtering is completed

3) Make tape labels for each foil packet, and one nutrient bottle (4 labels all together)
Include your name, date, pond, station: i.e. Craig
3/3/89
Potter 23

Please **DO NOT** write directly on the foil packets. Ink from the pens has gotten onto some of the filters and the samples were ruined.

Label foil packet s #1, #2, and #3.

4) Load the chlorophyll filter heads:
Label filter heads #1, # 2 and #3 and use # 3 to collect the nutrient sample.



Expanded view of Swin-Lok Holder

a) unscrew assembly ring and remove cap

b) make sure the O-ring (black ring) is properly seated in the base by pressing O-ring into molded groove with fingers

c) to install O-ring, remove the base support grid (unbend a paper clip and insert the end through the base and gently push on the grid to pop it out of the base). Install O-ring around the outside of grid and place the grid-O ring assembly into base with smooth side of grid facing up.

d) nstall second support grid into position in cap. (there is no O ring here), with smooth side of grid facing up.

e) Using forceps, carefully place a filter on top of the base grid. **THE "GRIDDED", DISTINCTLY WAFFLED SIDE OF THE FILTER IS TO LIE FLAT AGAINST THE SUPPORTING GRID** -- be sure filter completely covers the O-ring.

f) Place flat gasket (gray ring) over filter. Be sure gasket covers filter and O-ring.

g) Mate the cap and base so the tabs interlock. Its important that the gasket does not get caught between the cap and base - the filter head will leak if it does.

h) Screw assembly ring tightly onto base.

i) Load three (3) filter heads. (Repeat steps a-h).

Field Sampling Procedure (on station)

1) Water temperature:

   a) Measure for at least 1 minute, 1 foot below the surface, and record immediately on data sheet. (NOTE: tie a string to the thermometer and tie a loop into string to suspend it, one foot below surface, from boat oarlock--this way you will always measure at same depth).

2) Turbidity (Secchi disk):

   a) On shady side of boat, lower Secchi disk until it just becomes invisible and note to nearest unit where rope breaks water surface;
   b) Slowly raise disk and note rope unit at surface where disk just reappears;
   c) Take the average of those two depths and record as Secchi disk depth on data sheet (one unit=1/10 meter). Record as rope units and convert to meters at home.

3) Water depth:

   a) Measure depth when Secchi disk or lead line hits bottom.
   b) Make sure line drops <u>straight</u> down and record depth on data sheet (one unit or knot = 1/10 meter). Record as rope units and convert to meters at home.

4) Chlorophyll and Nutrients:

   a) Empty distilled water from labelled nutrient bottle. Shake out excess water.
   b) Attach tubing to syringe and draw pond water from 10" below water surface.

NOTE: DO NOT draw water from pond through filter, it will rupture the filter.

   c) <u>Slowly</u> pull back plunger and completely fill syringe.

d) Remove tubing. Hold syringe upright (Pointed end up) tap large bubbles to top-- depress plunger slowly and force the bubbles out of the syringe.
e) Once bubbles are removed push plunger to the 50 ml mark, if you overshoot, re-do (Volume is very important).
f) Attach a filter head to syringe. Apply slow steady pressure to plunger to force sample water through the filter.
g) Fill nutrient bottle, cap it and rinse bottle, remove cap and shake out excess water.
h) Remove filter head. Draw back plunger of syringe and fill with approximately 50 mls of air. Reattach the filter head to the syringe and slowly depress the plunger, forcing air through the sample filter. This helps reduce excess water on the filter. Remove filter head, store upright and **protect from the light in field box**.
i) Replace tubing, repeat process two more times. Save the third filtered water sample as the nutrient sample. Total number of samples equals 3 chlorophyll filters and 1 nutrient sample bottle.

5) Record field observations on data sheet. **(Please note presence of nearby ducks, swans or other waterfowl)!**

SAMPLE PROCESSING AND STORAGE (at home)

1) Nutrients:

a) Freeze **labelled** nutrient bottle **upright**. Once frozen these bottles may be kept frozen in a plastic bag. Label with waterproof ink on label tape and be sure nutrient bottle is labelled to correspond to the filter it was filtered through (#3).

NOTE: These samples are sensitive to the light and should be transported on ice in a closed cooler until they can be stored in a freezer.

2) Chlorophyll:

a) Carefully unscrew the lid and remove the top from the base.
b) With forceps (use 2) grip the edges of the filter and fold it evenly in half so the green side of filter folds in and you get a neat semi-circle. Use the edge of the base to keep the filter from sliding.off the base. Remove filter from base and place in tin foil. Place filter from the filter assembly labelled "3" into the foil packet labelled "3".
c) Put chlorophyll packet labelled with tape and waterproof ink, in freezer in baggie.

NOTE: **DO NOT** write on the foil packet once the filter is in it. The foil can rip and the filters get contaminated, use label tape.

3) Data sheets:

Fill in final obs.rvations and check that they are complete.

4) Clean up:

a) Rinse all gear with distilled water or bottled water. **DO NOT USE SOAP.**
b) Disassemble filter holder. Rinse with distilled water and air dry.
c) Store disassembled holder in plastic bag or other clean container.

DISSOLVED OXYGEN PROTOCOL

Please read all the materials enclosed in your LaMotte kit before beginning!

Safety Note: Some of the chemicals used in this test are toxic and the final compound is an acid. Becareful with the procedure and observe warning labels on all chemical bottles.

SAMPLE COLLECTION (in field)

NOTE: All DO reagents will degrade when exposed to light. To ensure quality of the chemicals wrap the bottle in black electrical tape so that light does not enter bottle, leaving chemical identification and safety information label visible.

1) Rinse sample bottle two (2) times with pond water to be sampled.

2) Tightly cap the mouth of the bottle, submerge the bottle six (6) inches underwater, remove the cap, tilt the bottle slightly and allow it to fill slowly.

3) Tap the sides of the submerged bottle to dislodge any air bubbles clinging to the inside of the bottle. Replace the cap while the bottle is still submerged.

4) Retrieve the bottle and examine it carefully to make sure that no air bubbles are trapped inside. Redo if air bubbles are present.

5) Repeat sampling procedure so that two separate D.O. samples are taken.

   NOTE: Be careful not to introduce air into the sample while adding the reagents in Steps 6 and 7. Simply drop the reagents into the test sample, cap carefully, and mix thoroughly.

6) Add eight (8) drops of manganous sulfate solution (# 1) and then add eight (8) drops of alkaline potassium iodide solution (# 2) to the sample. Hold the reagent dropper bottles vertically when adding drops of reagents to sample. These reagents are added in excess so the precise number of drops is not critical, i.e. if you add 9 or 10 drops you do NOT have to start over. However, it is necessary to add the manganous sulfate first. Cap the bottle and mix by inverting gently several times. A precipitate will form. Allow the precipitate to settle below the shoulder of the bottle before proceeding.

7) Repeat procedure for second water sample.

   NOTE: The water samples will degrade in light so they must be kept in the dark.

Dissolved Oxygen (continued)

Test Procedure (at home)

The test must be completed within 8 hours of sampling

1) Invert the bottle again, to mix precipitate and allow it to settle. (Let settle until the precipitate settles below the shoulder of the bottle).

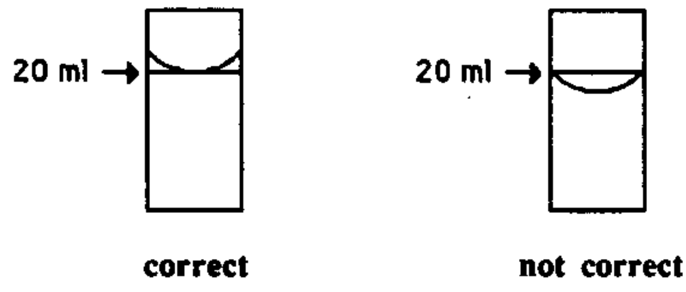
2) Using the 1 gram measuring spoon, add one (1) level measuring of sulfamic powder to the sampling bottle. The sulfamic acid crystals are added in excess so the amount is not critical. You can spill a few grains and do not have to start over.

3) Cap the bottle and invert the bottle several times to mix, until both the reagent and precipitate have dissolved. The sample is now fixed. A **clear** yellow to brownish-orange color will develop, depending on the oxygen content of the sample. (The more orange the sample, the higher the oxygen content). The addition of the acid will dissolve the flocculent. If a few grains of acid do not go into solution and all the floc is dissolved, you may continue the titration. You may at times find that organic material or sediment in the water do not dissolve either. This will not effect the tests results.

   NOTE: Samples should be kept out of direct light at all times.

TITRATION

4) Fill the titration bottle to the 20 ml etched line with the "fixed" sample and cap the titration bottle. The amount of sample (20 mls) to be titrated is CRITICAL. Measure carefully. The bottom of the meniscus should rest on top of the white line on the titration bottle. (A meniscus is a curved upper surface of a liquid column that is concave when the containing walls are wetted by the liquid). **MAKE SURE THE TITRATION BOTTLE IS COMPLETELY DRY BEFORE YOU RUN THE TEST.**



5) Depress plunger of titrator syringe to expel air. Insert titrator syringe into plastic fitting of the titrating solution bottle (#3). To fill the syringe invert the bottle and slowly withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale.

   NOTE: A small air bubble may appear in the syringe barrel. Expel the bubble by partially filling the barrel and pumping the titration solution (sodium thiosulfate), back into the inverted reagent container. Repeat this pumping

Dissolved Oxygen (continued)

action until the bubble disappears. Turn the bottle right-side up and remove the syringe.

6) Dry off the outside of the titrator syringe making sure no liquid is pulled out of the titrator tip when drying off the outside drops. Insert titrator into the center hole of the titration bottle cap. Add one drop at a time to sample. The plunger is very sensitive, so press gently--it is very easy to overshoot. Swirl sample between each addition to knock any partial drops off the titrator syringe tip and to mix sample. Continue to add thiosulfate until the color of the sample is a faint yellow.

NOTE: The titration is extremely **CRITICAL.** Be sure that all water is removed (shake the syringe and plunger) before filling with titrant, sodium thiosulfate solution. Make sure there are no air bubbles in the syringe. When the amount of D.O. is above 10 mg/l, you will have to refill the syringe. For accurate results, refill to 0 mark and continue titration. Read the test results from the second syringe and add it to the 10 mg from the first syringe.

7) When the color is a faint yellow, remove titrator along with the cap. Be careful not to disturb the titrator plunger, the sample is not completely titrated yet. Using the plastic eye dropper, add 4 drops (4) of starch solution (4170) to the sample, which will cause a color change (to blue). Replace the cap and titrator and continue titrating by adding drops of sodium thiosulfate (#3) very carefully until sample just turns <u>clear</u>.

If the color of the fixed sample (after the sulfamic powder has been added), is already a faint yellow, skip step 5, perform step 7 and begin titration at step 8. A faint yellow color means there is very little oxygen present in the sample. You will only need to add a small amount of titrating solution to determine the oxygen concentration.

After you have done a few DO tests you will know what we mean by a faint yellow. This is the point when the sample is still clearly discernible as having a yellow tint but when it is on the verge of turning clear. It is better to add the starch too early than too late, but don't jump the gun.

8) Continue titrating and swirling the sample until the blue color just disappears. The first complete disappearance of blue color is the endpoint. Do this against a pure white background so that you can see the color change from light blue to clear.

9) Where the plunger tip meets the titrator scale on the syringe, read the test result in mg/L (same as ppm {parts per million}) dissolved oxygen.

10) Complete two (2) titrations, one from each water sample, and write down the numbers. If the difference between the two titrations is greater than 0.6 mg/L then do a third titration of either of the sample bottles. Record all three values and average the two closer values. If replicates have a difference greater than 0.68 for two sample dates in a row, please notify the graduate student coordinator of the program to determine the cause of the problem. Equipment and procedures may need replacement and/or review.

11) Pour the sample down the sink drain with the tap water running to dilute it.

12) Rinse the sample bottle and titrator bottle in tap water and store for next sampling.

EVERYTHING YOU EVER WANTED TO KNOW ABOUT DISSOLVED OXYGEN TITRATION!

The following notes will hopefully enable everyone to do a dissolved oxygen titration efficiently and **ACCURATELY**.

* Be sure the sample bottle is clean and rinsed **TWICE** with water to be tested. Check carefully for bubbles.

* Hold dropper bottles vertically when adding drops of Manganese Sulfate and Alkaline Potassium Iodide solutions. These reagents are added in excess so the precise number of drops is not critical, i.e. if you add 9 or 10 drops you do **NOT** have to start over. However, it is necessary to add the Manganese Sulfate first.

* You may add these two solutions to the sample in the field and then go back home to complete the test. The test must be completed within 8 hours.

* The sulfamic acid crystals are added in excess so the amount is not critical. You can spill a few grains and do not have to start over. The addition of the acid will dissolve the flocculent. If a few grains of acid do not go into solution and all the floc is dissolved, you may continue the titration. You may at times find that organic material or sediment in the water do not dissolve either. This will not affect the test results.

* The amount of sample (20 mls) to be titrated is **CRITICAL.** Measure carefully. The bottom of the meniscus should rest on top of the white line on the titration tube. (A meniscus is a curved upper surface of a liquid column that is concave when the containing walls are wetted by the liquid).

* The titration is also extremely **CRITICAL.** Lubricate the syringe plunger with water. Be sure that all water is removed (shake syringe and plunger) before filling with titrant, sodium thiosulfate solution. Make sure there are no air bubbles in the syringe. When the amount of DO is above 10 mg/L you will have to refill the syringe. For accurate results, refill to 0 mark and continue titration. Read the test results from the second syringe and add it to the 10 mls from the first syringe.

* When and how much Starch solution is added is not critical. The important thing is that the sample turns blue. Simply add titrant until the sample is light yellow; add Starch solution and continue adding drops **"very carefully"** until solution just turns clear. The first complete disappearance of blue color is the endpoint. (If you see the solution turn blue again, ignore it!)

* You are required to run titrations on two samples. Record the results of the two tests in the margin on the data sheet. If the amount of D.O. recorded for the second test is more than 0.6 mg/L different than the first test, you must do a third test. Record all values on data sheet. Average the two closest values and record in the appropriate place.

FINALLY, if you have any further questions, please let us know. Testing for the amount of dissolved oxygen is very important and we want to know we are getting accurate numbers!

BACTERIA SAMPLING PROTOCOL

BACTERIA SUPPLIES

FIELD DATA SHEETS (one for each sampling time on each station)

LAB SUBMISSION FORMS (filled out in triplicate for each station)

SAMPLE JARS (distributed throughout the season)

DOWL OR STICK (taking water sample 2 feet below surface)

INITIAL PREPARATION--AT HOME

1. Label the sterile sample bottle with the waterproof pen. Include pond, station number, and date and mark 150 ml level (this can also be done in the boat).
2. Fill out the field data sheet with the pond, station number, your name, date, time, weather, etc.

FIELD PROCEDURES--ON STATION

1. Make sure the label on jar matches your station location. Then remove the lid.
2. Place bottle in sample holder (attached to sampling stick).
3. Sample 2 feet below the water surface by positioning the mouth of the bottle into the current (from the side of the boat).
4. If the water is static, a current can be created by moving the boat slowly through the water or moving the bottle horizontally under the surface.
5. Tip the bottle up slightly to allow air to escape and water to fill the bottle.
6. Bring the bottle to the surface and pour off excess sample to 150 ml mark.
7. Tightly cap the bottle.
8. Place the bottle in an ice chest. Bacteria samples must be iced or refrigerated at a temperature of 1 to 4°C during transit to the laboratory.
   Make sure the sample bottles are NOT totally immersed in water during transit or storage.
9. Samples must be analyzed within 6 hours of sampling. Therefore samples should be taken between 7 am and 9 am for pickup by 9:30 am and analysis by 12 am.
10. Note on field data sheets the presence of any water fowl, swans, geese and their distance from the station.
11. Note on field data sheets any rain fall within the last 48 hours prior to sampling.
12. THINGS TO AVOID:
    a) stirring up the bottom with oar, prop or sampling stick
    b) algae mats or debris on water surface
    c) oil slicks or scum
    d) water fowl or other bird droppings
    e) prop wash (move station location if necessary)

FINAL PREPARATION - AT HOME

1. Place samples in a cooler with ice or refrigerate until they are picked up. It is important that samples be kept cold but not frozen because the bacteria will die.
2. Fill out one laboratory sheet for each sample. Put your name, date, pond and time on the lines provided and put the station number in the upper right hand corner. This is in addition to the field data sheet.
3. Please leave both a **field data sheet** and a **laboratory sheet** for each sample with your samples for pick up by 9:30 am.

RAIN GAUGE PROTOCOL

SETTING UP A RAIN GAUGE

1. Rain gauges should be plastic. Metal gauges can react with the chemistry of acidic rainwater and alter its pH level.
2. You need a large open area away from trees, buildings, etc.
3. Place rain gauge approximately three times as far away as the height of the buildings or trees. This means if your house is 30 feet high, you should place the gauge 90 feet from the house.
4. Try to place gauge as close to the pond as you can while remembering to keep the right distance from trees and houses.
5. The gauge should be mounted on a post (a 4x4 is good) and it should be mounted so the top of the gauge is level and 6 feet higher than the top of the post.

USE OF THE RAIN GAUGE

6. The top funnel catches the rain and delivers it to the measuring tube. This tube has a capacity of one inch. Rainfalls of less than one inch can be read directly from the measuring tube. To do this, stand the measuring tube on a level surface and read the amount to the nearest 100th of an inch. Record the rainfall in your log for each day.
7. If rainfall exceeds one inch, the excess flows into the outer cylinder. To measure the excess, empty the measuring tube containing the first one inch. Place the funnel into the measuring tube and pour in the excess rainwater from the outer cylinder. Add this number to the first one inch to the total rainfall. Record final number on daily data log.
8. In cold weather only the outer cylinder is used. To measure amount, melt snow and measure volume of water in the measuring tube. Please do not let water freeze in gauge--it will crack it.

DAILY LOG

9. Measurements should be made daily. If you are away, please write down total rainfall over the days you were gone and note this under remarks.
10. Whenever possible, take readings at the same time each day. Record readings in daily log, noting the date and hour that the readings were taken.

SAVING RAINWATER SAMPLE

11. Keep a labeled one liter bottle of rainwater sample in your freezer. Label with your home address, phone number and pond.

12. Each day after recording measurement, pour the day's rainwater in the bottle containing frozen rainwater sample. Recap and return to freezer.
13. Accumulate rainwater over a month-long period or until it is filled. Carefully label the beginning and ending date of sample.
14. Rainwater collection bottles will be collected approximately every month during the summer with the water chemistry samples. Turn in a copy of your daily log with the collection bottle.

EELGRASS WASTING DISEASE PROTOCOL

Introduction: The purpose of the wasting index method is to have an easy and quick way to determine the amount of disease on an eelgrass shoot. This procedure should be followed in the area around each station (provided that there is eelgrass present) once each growing season. Eelgrass in the salt ponds is at its most vigorous state in June and July before the shallow waters warm past 25 degrees °C. These months are the best time to estimate wasting disease.

Steps

1. Collect 10 plants from an eelgrass bed at or near your regular sampling station. Each plant is called a shoot. As you collect each shoot, pull them up by the roots to make sure you have gotten the whole plant. If the eelgrass bed is large, take shoots randomly around the whole bed; if the bed is a very small clump with few shoots, scale down the number of shoots taken to minimize impact to the plant community. Make a note of how far off and in what direction the eelgrass bed is in relation to your regular sampling station.

2. Information from each shoot is entered in a new box on the data sheet for each sampling site and date.

3. Enter the date the plants were collected under "Date", the location and site the plants were collected under "Location/Site", and the person collecting and recording information under "Person".

4. Select and number a plant. Enter the number on the data sheet under "Shoot #".

5. Measure the width of the base of the shoot in millimeters and enter under "Width".

6. Measure the height of the sheath in centimeters and enter under "SH".

7. Number the leaves of each shoot from youngest to oldest. The number does not usually exceed 6.

8. Measure the length of each leaf in centimeters and enter under "Length".

9. Estimate the percentage of disease cover on each leaf. To estimate cover, look at the whole leaf from the top of the sheath to the leaf tip and refer to the "Wasting Index Key" on the next page. The Key shows wasting disease covering 0, 1, 10, 20, 50, and 100 percent of the leaf. Estimate where the leaf you are looking at stands on this scale. Interpolate coverage that falls between the percents illustrated on the scale. Enter the percentage of disease on each leaf under "Index".

10. Enter anything that seems abnormal, that has changed, or that seems to be worthy noting under "Comments".

Monitoring of eelgrass wasting disease involves harvesting leaves from several plants in an area and estimating the percent cover of dark, decaying tissue on each leaf. We will be collecting eelgrass leaves once during the high point of the eelgrass season (June and July) to analyze the leaves for wasting disease. Estimates of wasting disease cover should be made following the guidelines in the protocols below.

Index created by: Dr. Fred Short
Jackson Estuarine Lab.
Adams Point Rd.
Durham, N.H. 03824

APPENDIX

Sample Data Sheets

- Field observations
- Eelgrass
- Rain gauge

Maps of Bacteria Stations

Maps of Water Chemistry Stations

RHODE ISLAND POND WATCHER FIELD DATA SHEET, 1992

(Please fill out a data sheet for <u>each</u> station, fill it out on the pond, it is OK if it is messy).

NAME ______________ POND ______________ STATION __________

DATE ______________ TIME ______________

TYPE OF SAMPLE (Please check if sampled)

BACTERIA ____ CHLOROPHYLL A ____ NUTRIENTS ____ D.O.____

STATION AREA DESCRIPTION (Please fill in appropriate information)

I. PHYSICAL CHARACTERISTICS

1. Water Temperature (^{o}C) _______
2. Secchi Disc Depth a.________ (in rope units) b.________ meters
3. Depth to Bottom a.________ (in rope units) b.________ meters
4. Dissolved Oxygen: Test 1:______ Test 2:______ Average:_____mg/l (ppm)

II. WEATHER AND TIDE (within last 24 hours)

1. a. Raining b. Clear c. Overcast d. Fog/Haze e. Drizzle
2. Wind: calm light stormy
4. Tide or pond level: low medium high
5. Tide direction: Ebb Flood

III. POND CONDITIONS

1. Pond surface calm ripple waves white caps
2. Sea grass (condition): clean green fouled brownish
3. Water color if turbid
4. Macoroalgae

IV. POND & SHORELINE ACTIVITY

1. Swans, & other waterfowl at station prior to arrival

Distance	0-10 ft	10 - 50ft	50 - 100ft
Number	___	___	___

2. Fishing lots some none
3. Motor boating lots some none
4. Shoreline construction lots some none
5. Road runoff or discharges observed Yes No

V. OTHER: note effects of major storms in the last week. If signs of a severe algal bloom are seen, inform bacteria sample courier, pond coordinator, or Virginia Lee. Use back of sheet for comments if necessary.

Methods of Collecting Eelgrass for Wasting Disease Index Analysis

The wasting index is a quantitative method for determining the extent of the wasting disease in specific eelgrass populations. When collected regularly, this method provides a valuable assessment of the degree of disease activity within an eelgrass population.

1) Eelgrass should be collected from a predesignated eelgrass bed every two weeks throughout the duration of the growing season (April through October).

2) Plants are composed of one or more shoots that are connected by underground rhizomes. Shoots are collected from plants by gently uprooting the shoot from the bottom by hand or with the help of a rake or garden digger. To insure that shoots being indexed do not come from the same plant, shoots should be collected more than a foot apart.

3) Each shoot should be placed in a plastic bag or bucket taking care to avoid breaking off older leaves. After retrieving ten to twelve shoots from the designated site, take them to an area where they can be indexed conveniently.

4) Gently select and remove a shoot from your bucket and lay the shoot out on a flat surface. Before beginning the indexing process, it's necessary to determine the relative age of all the leaves. While examining the shoot laid on a flat surface, you will notice that all the leaves come together in a bundle a short distance up from where they are attached to the roots. This is called the bundle sheath. The youngest leaf is typically the smallest; it is often bright green and emerges from the center of the bundle sheath. The oldest leaf is the leaf that attaches to the outside of the bundle sheath or farther down on the stem. Progressively, leaves can be identified by alternating from one side of the shoot to the other side of the shoot beginning with the youngest leaf present as shown in the attached illustration. If you have trouble, you may begin with the oldest leaf (giving it the highest leaf #) and identify progressively younger leaves by alternating from side to side until the youngest (leaf #1) is reached.

5) When filling out the attached data forms, be sure that the leaves are indexed according to increasing age starting with the center then moving outward by alternating sides until you reach the oldest leaf. This is important because high disease activity on the younger leaves is indicative of rapidly spreading disease. If such a situation is noticed where the youngest and second youngest leaves are heavily diseased, please contact your monitoring supervisor as soon as possible or call Dr. Short at 603 862-2175.

We thank you for helping us to monitor the health of our coastal pond ecosystems.

Frederick T. Short

Fred

University of New Hampshire

WASTING INDEX METHOD

Introduction: The purpose of the new wasting index method is to have an easy and quick way to determine the amount of disease on an eelgrass shoot.

A. Enter the date the plants were collected under "Date", the location and site the plants were collected at under "Location/Site", and the person taking the information and the person collecting the eelgrass under "Person".

B. Select and number a plant. Enter the number on the data sheet under "Shoot #".

C. Measure width of shoot in millimeters (e.g.3.2) and enter under "Width".

D. Measure height of sheath from the youngest (highest) root node in centimeters (e.g. 14.7) and enter under "Sh".

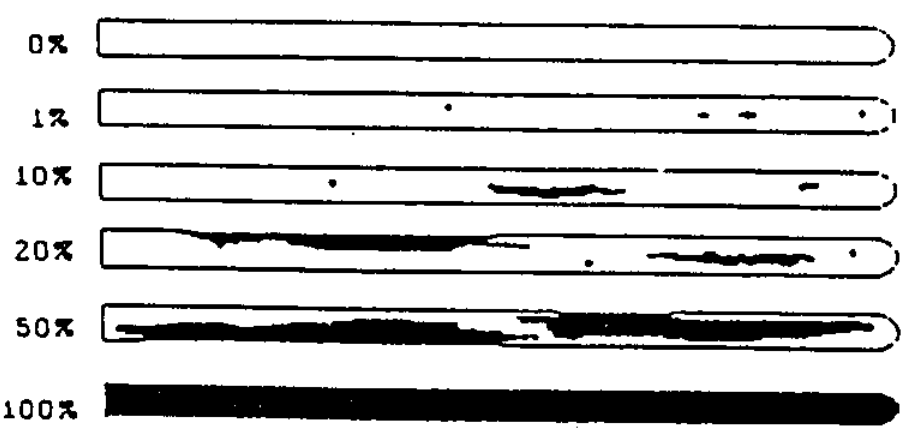
E. Number leaves of each shoot from youngest to oldest.

F. Measure length of each leaf from the youngest root node to the tip in centimeters (e.g. 54.9) and enter under "Length". If the tip is broken, measure to break and write "BT" next to measurement.

G. Enter percentage of disease on the leaf under "Index". To estimate the percentage of disease on a leaf look at the entire leaf from the top of the sheath to the tip, then refer to the "Wasting Index Key". On this key is drawn the amount of disease for 0, 1, 10, 20, 50, and 100 percent. Estimate where the leaf you are looking at stands on this sheet. You should interpolate if it appears to have a percentage of disease between the numbers on the key (e.g. 5% or 15% or 75%).

H. Enter anything thet seems abnormal, that has changed, or that seems to be worthy noting under "Comments".

INDEX KEY



EELGRASS WASTING INDEX DATA ANALYSIS															
Date=		Site=		Pond=			Person=								
	Width	Sheath	Leaf #1	Index	Leaf #2	Index	Leaf #3	Index	Leaf #4	Index	Leaf #5	Index	Leaf #6	Index	Comments
Shoot#	[mm]	[cm]	Length	%	Length	%	Length	%	Length	%	Length	%	Length	%	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
......															
......															
Date=		Site=		Pond=			Person=								
	Width	Sheath	Leaf #1	Index	Leaf #2	Index	Leaf #3	Index	Leaf #4	Index	Leaf #5	Index	Leaf #6	Index	Comments
Shoot#	[mm]	[cm]	Length	%	Length	%	Length	%	Length	%	Length	%	Length	%	
1															
2															
3															
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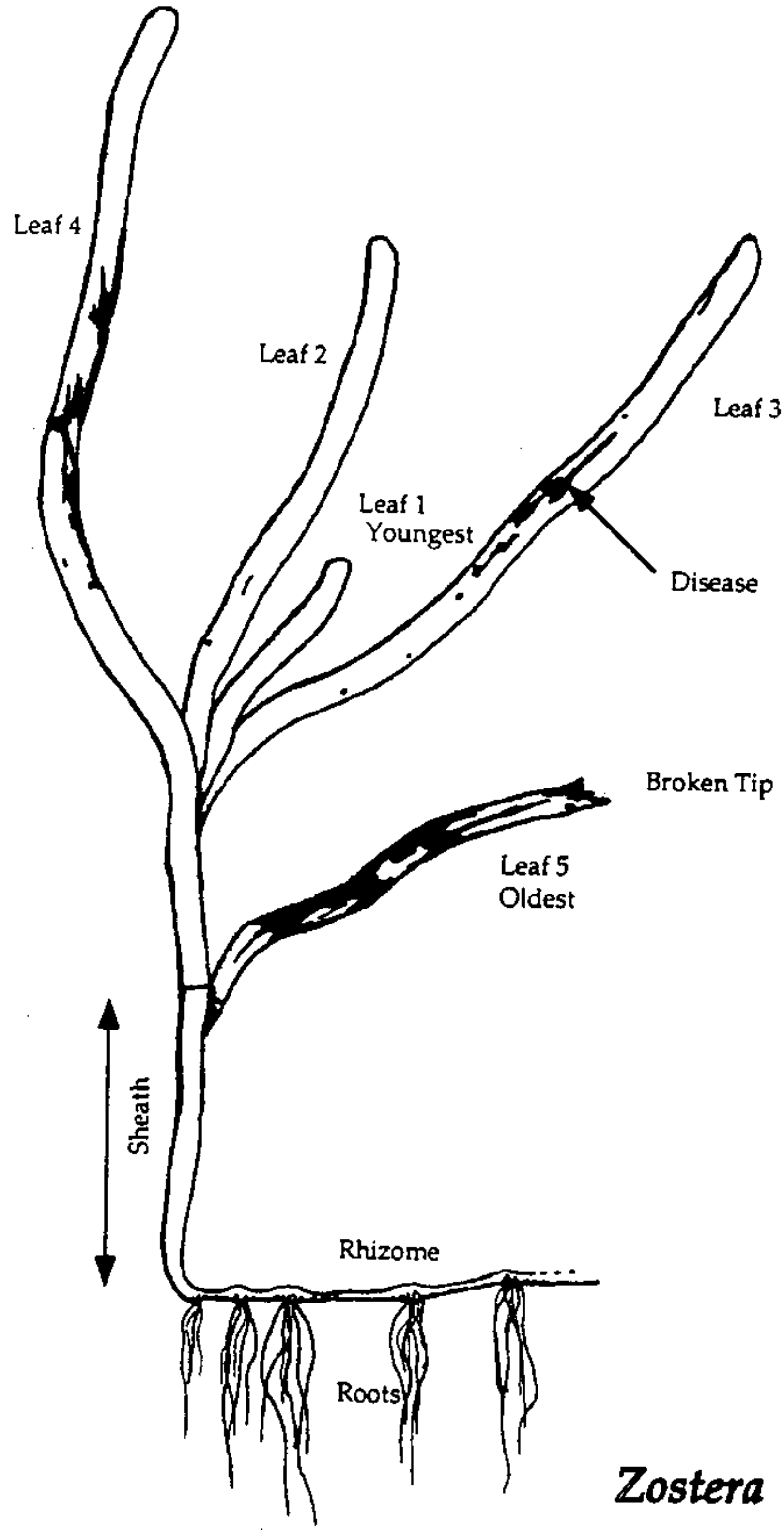


Zostera marina

All Weather Rain Gauge

CAN CAUSE THIS GAUGE TO C

1E ______ O.B.S. TIME ______ SECTION ______ RANGE ______ YEAR ______

ADDRESS ______ COUNTY ______ TOWNSHIP ______

	Jan.	Feb.	Mar.	Apr.	May	June	Remarks — Severe Weather — Storm Damage
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
tal							

Instructions:

1. Try to record precipitation each day at the same time
2. Record precipitation to the nearest 1/100 of an inch (.01, .31, 1.31 etc.)
3. If precipitation is less than .01", record "T" for trace.
4. Use the remarks column to list any unusual or severe weather. (e.g. Jan. 2 Blizzard, roads blocked for 2 days)

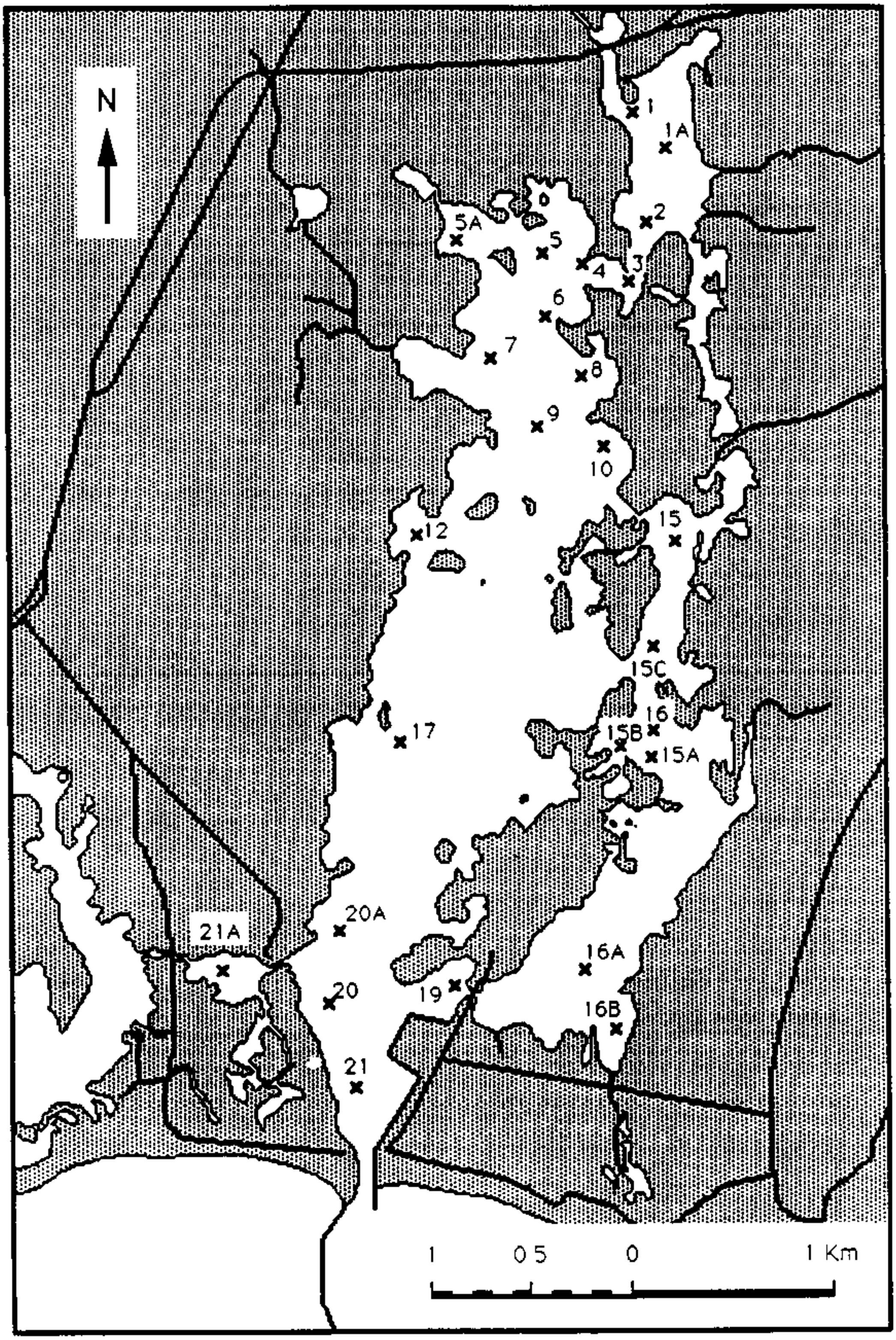
All Weather Rain Gauge

WARNING: FREEZING RAIN OR SUB-ZER
CAN CAUSE THIS GAUGE TO

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks — Severe Weather — Storm Damage
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
Total							

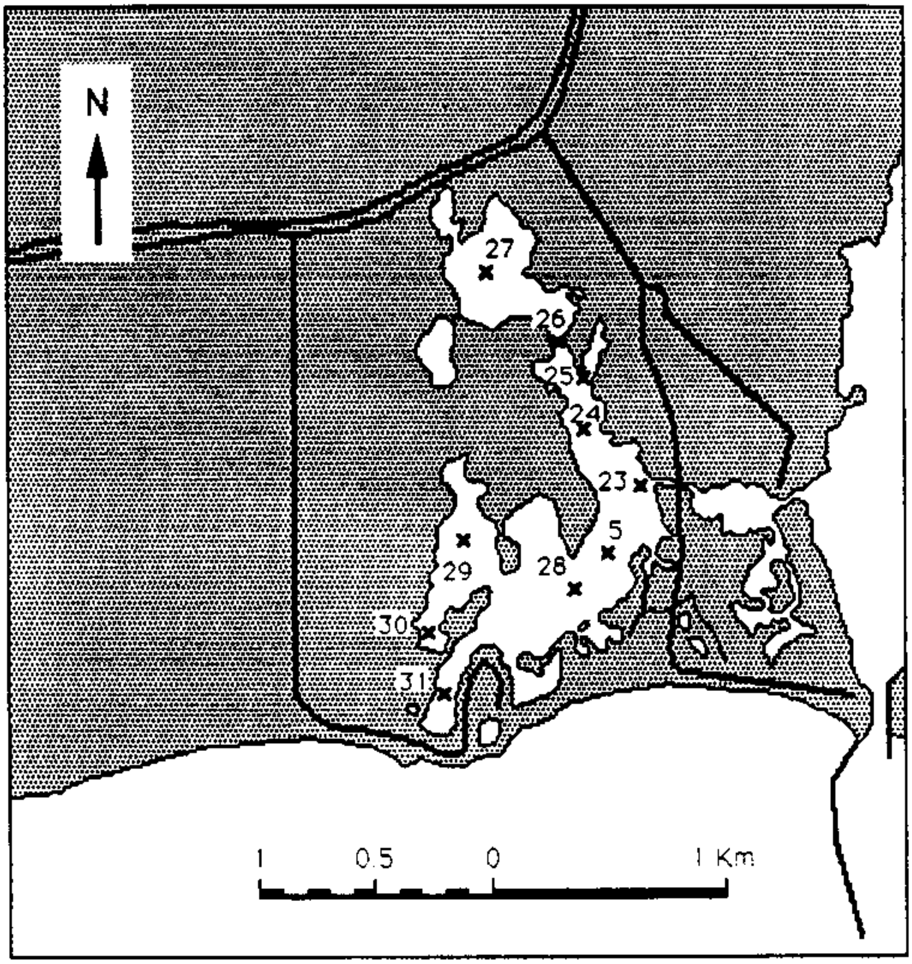
POINT JUDITH POND

BACTERIA STATIONS 1985-1991



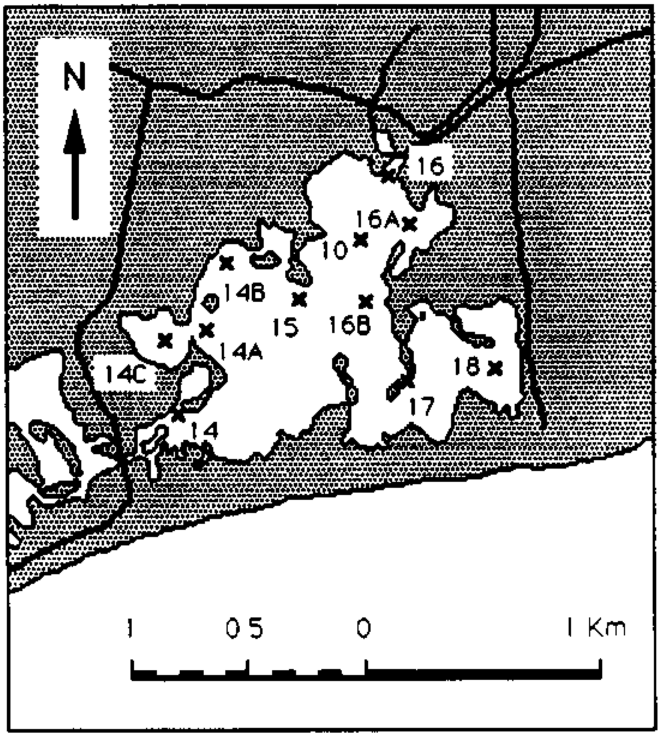
POTTER POND

BACTERIA STATIONS 1985-1991



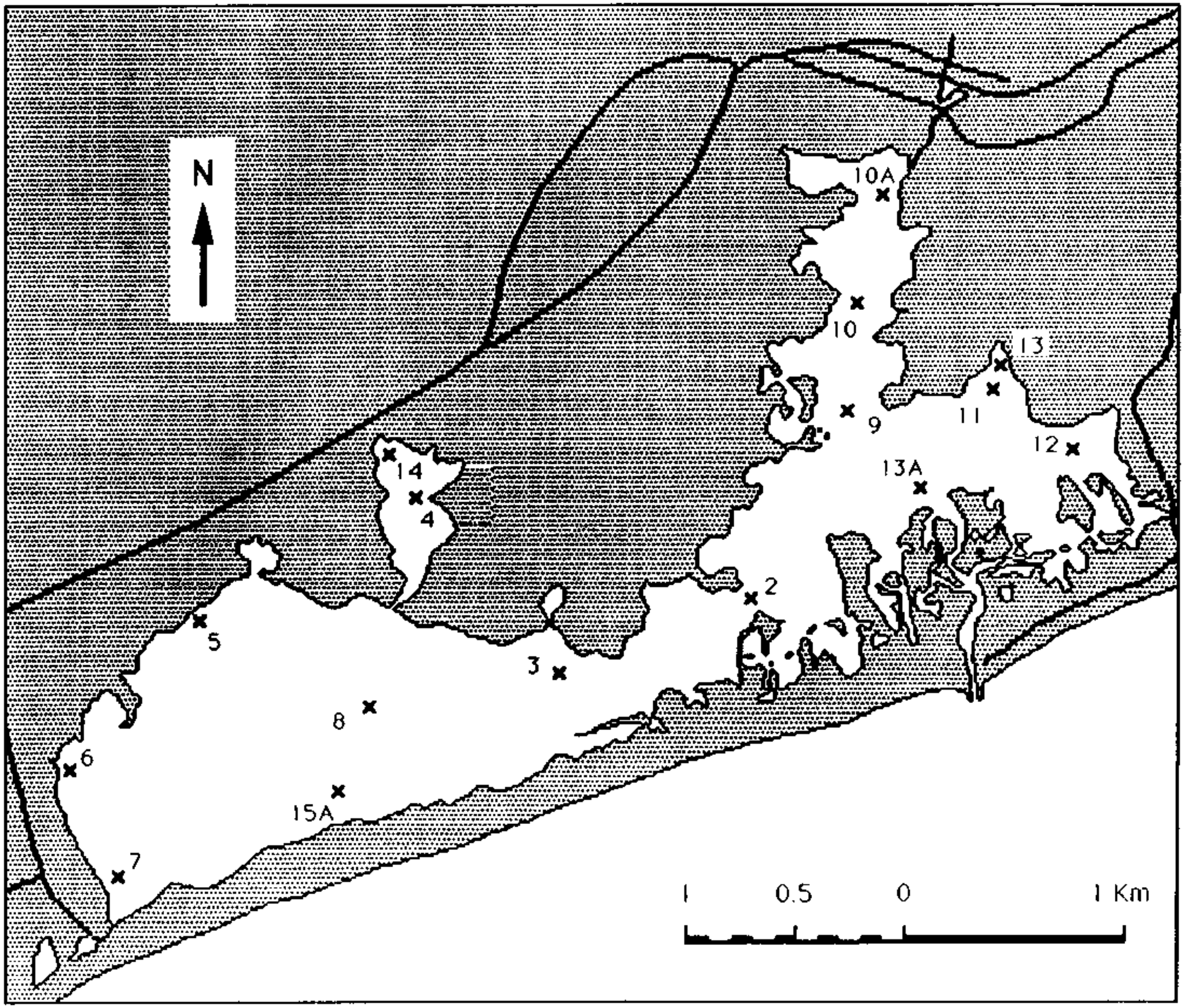
GREEN HILL POND

BACTERIA STATIONS 1985-1991



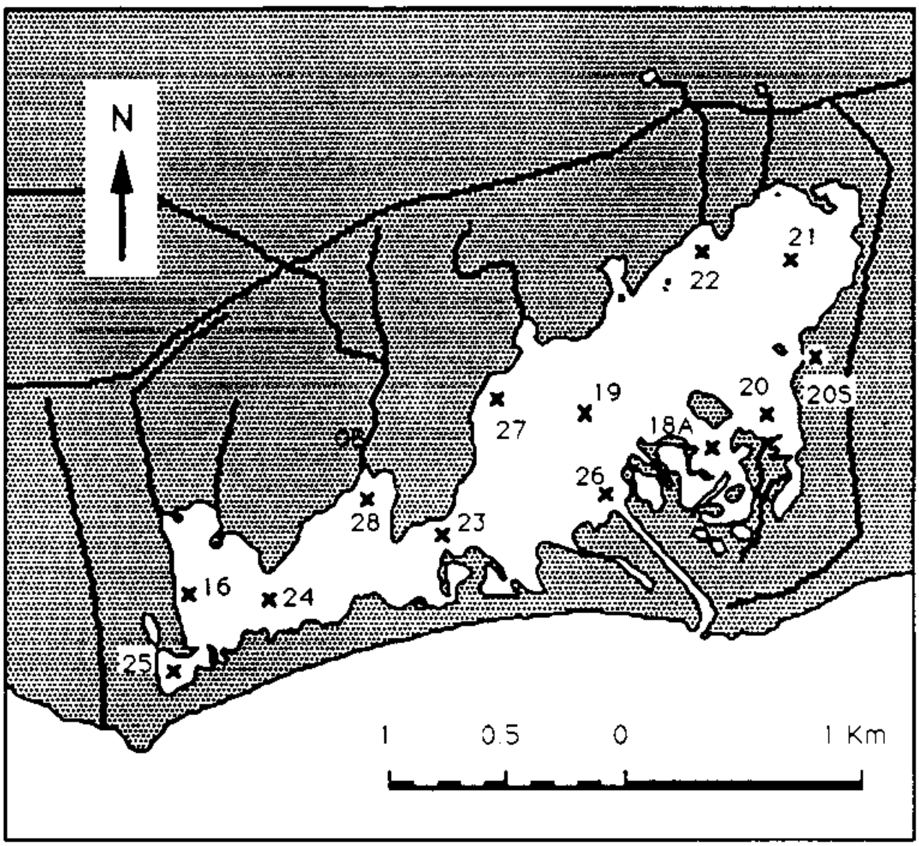
NINIGRET POND

BACTERIA STATIONS 1985-1991



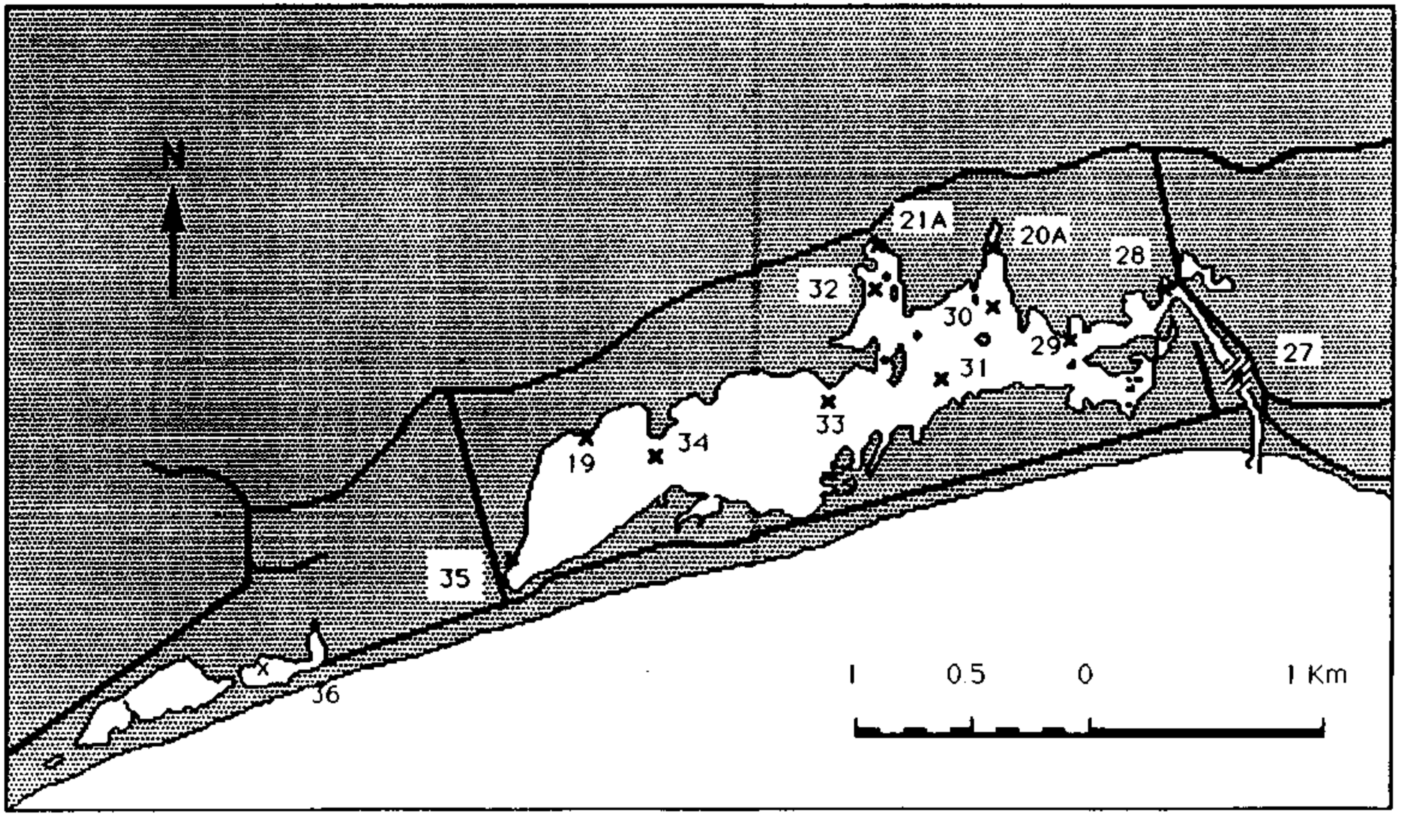
QUONOCHONTAUG POND

BACTERIA STATIONS 1985-1991

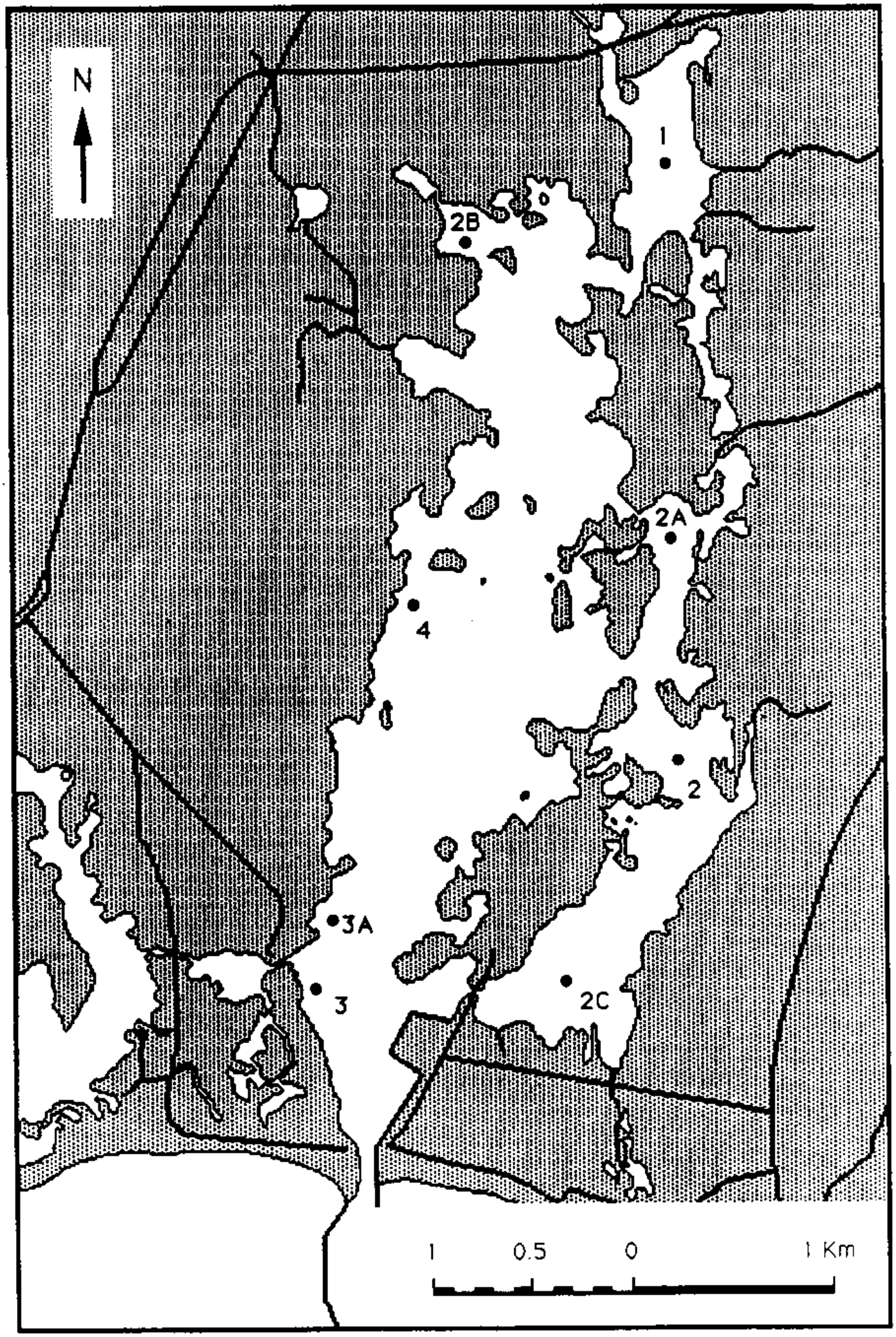


WINNAPAUG AND MASCHAUG PONDS

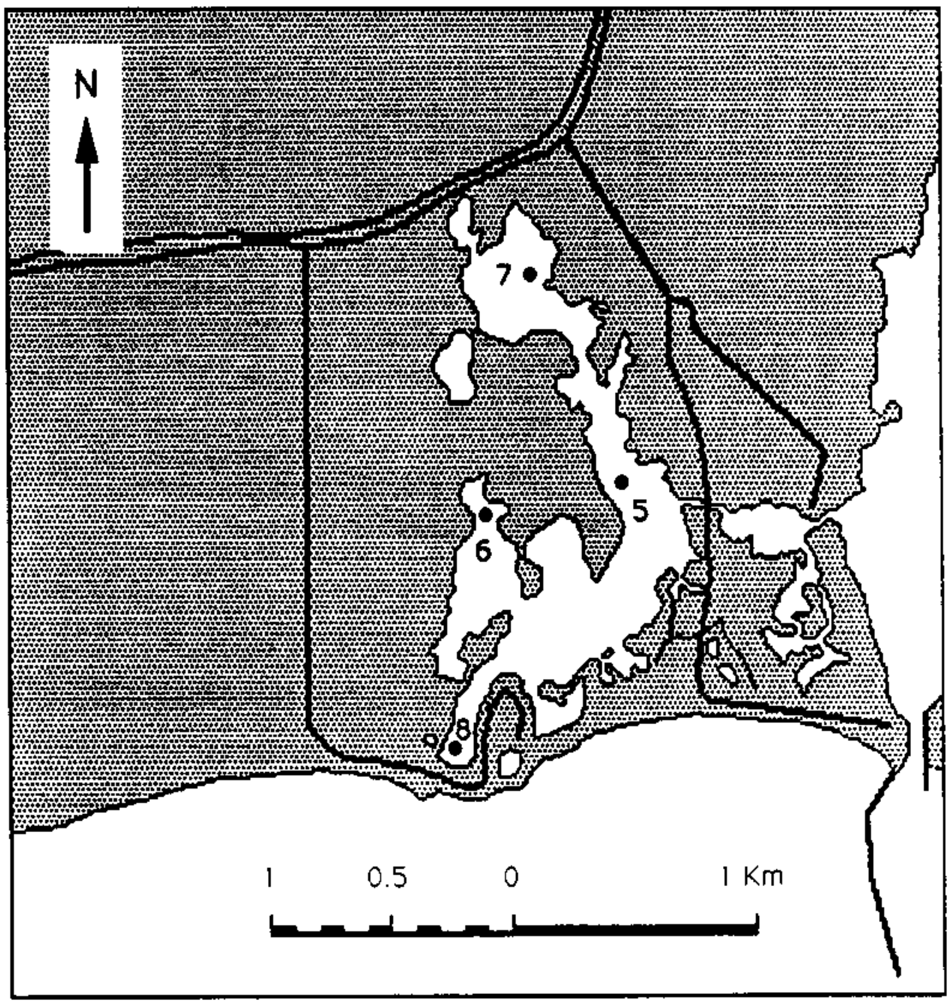
BACTERIA STATIONS 1985 - 1991



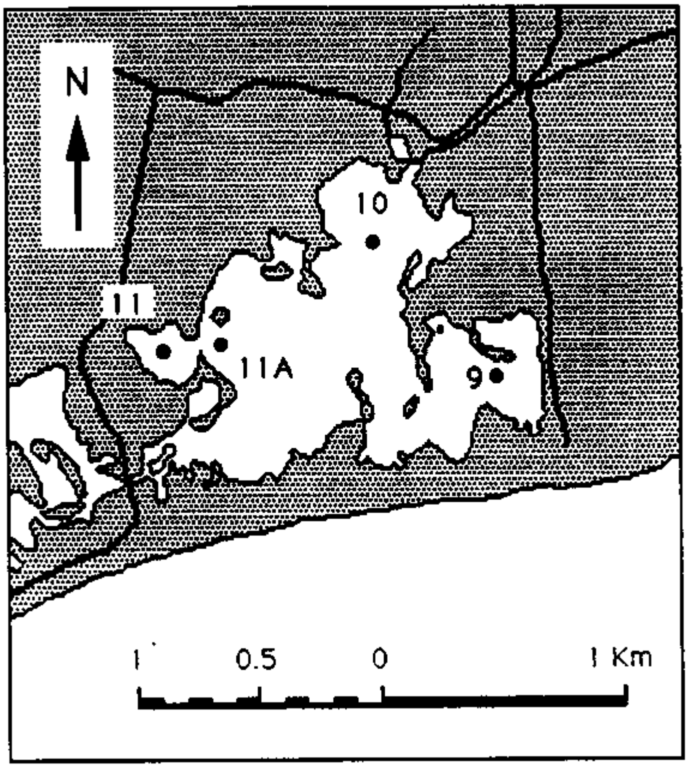
POINT JUDITH POND
Water Chemistry Stations 1985-1991



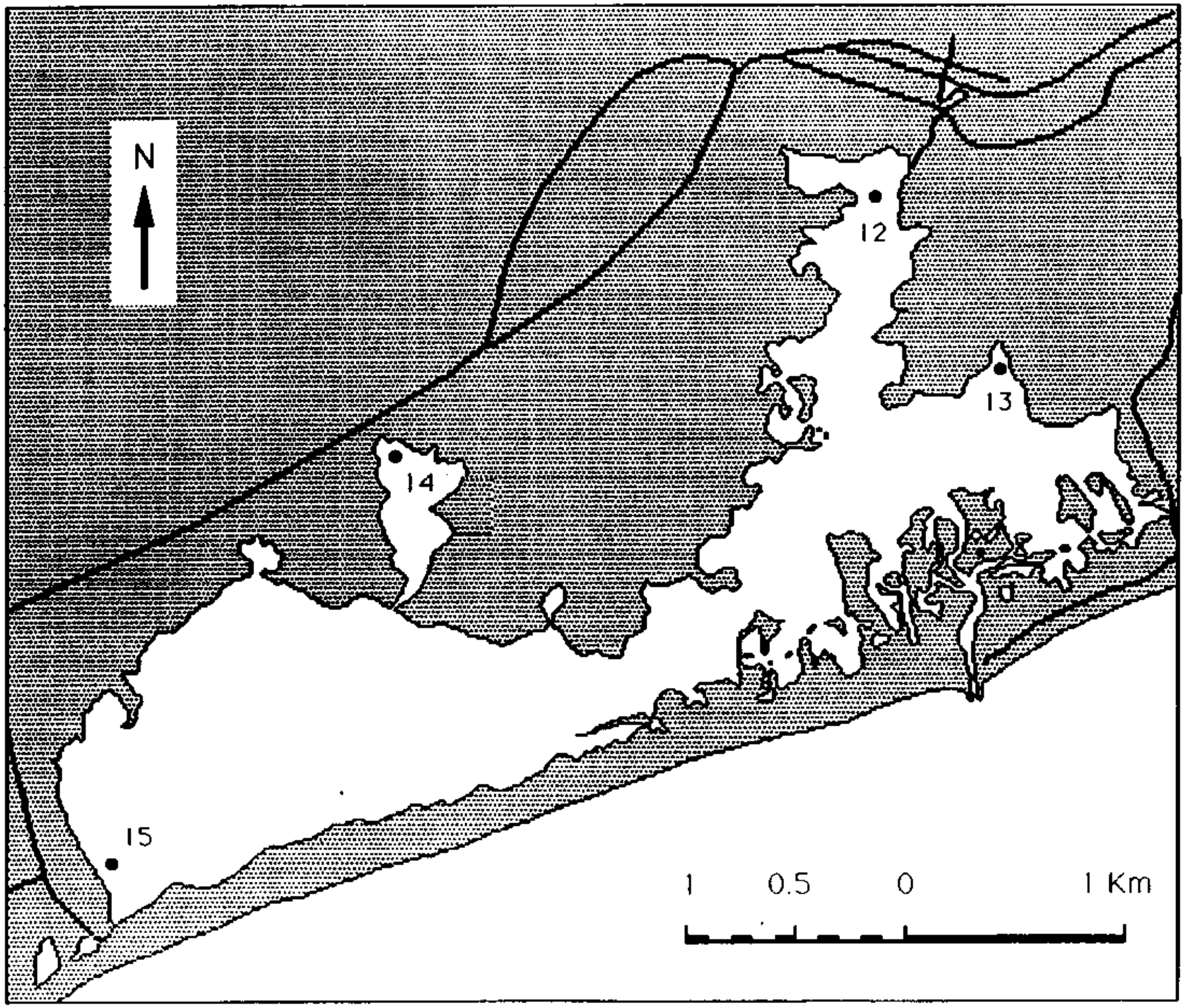
POTTER POND
Water Chemistry Stations 1985 - 1991



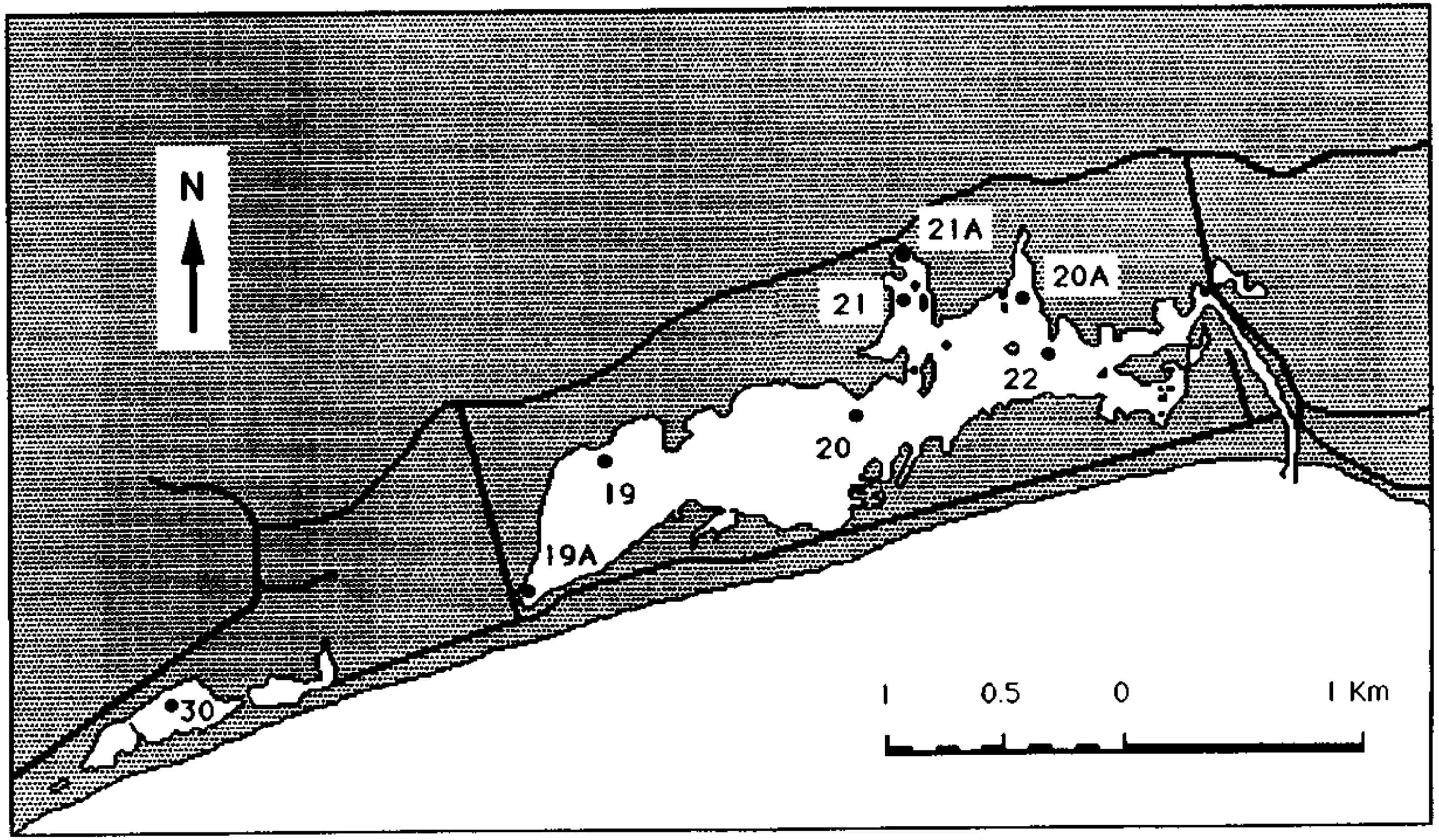
GREEN HILL POND
Water Chemistry Stations
1985 - 1991



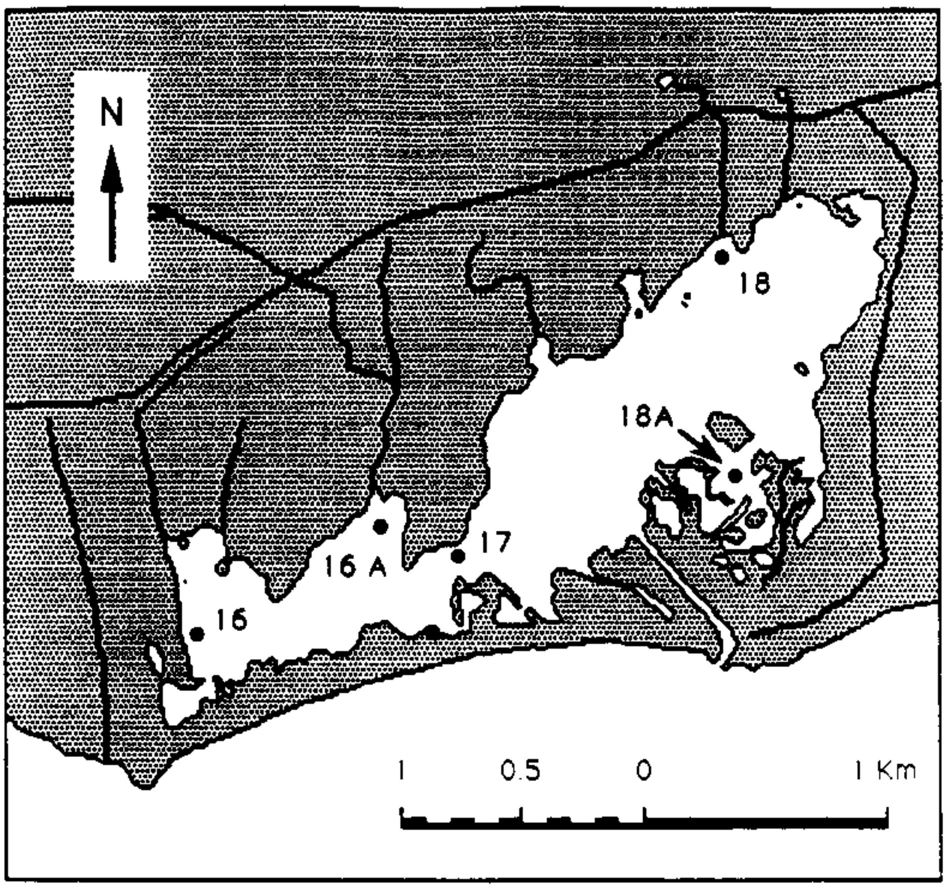
NINIGRET POND
Water Chemistry Stations 1985 - 1991



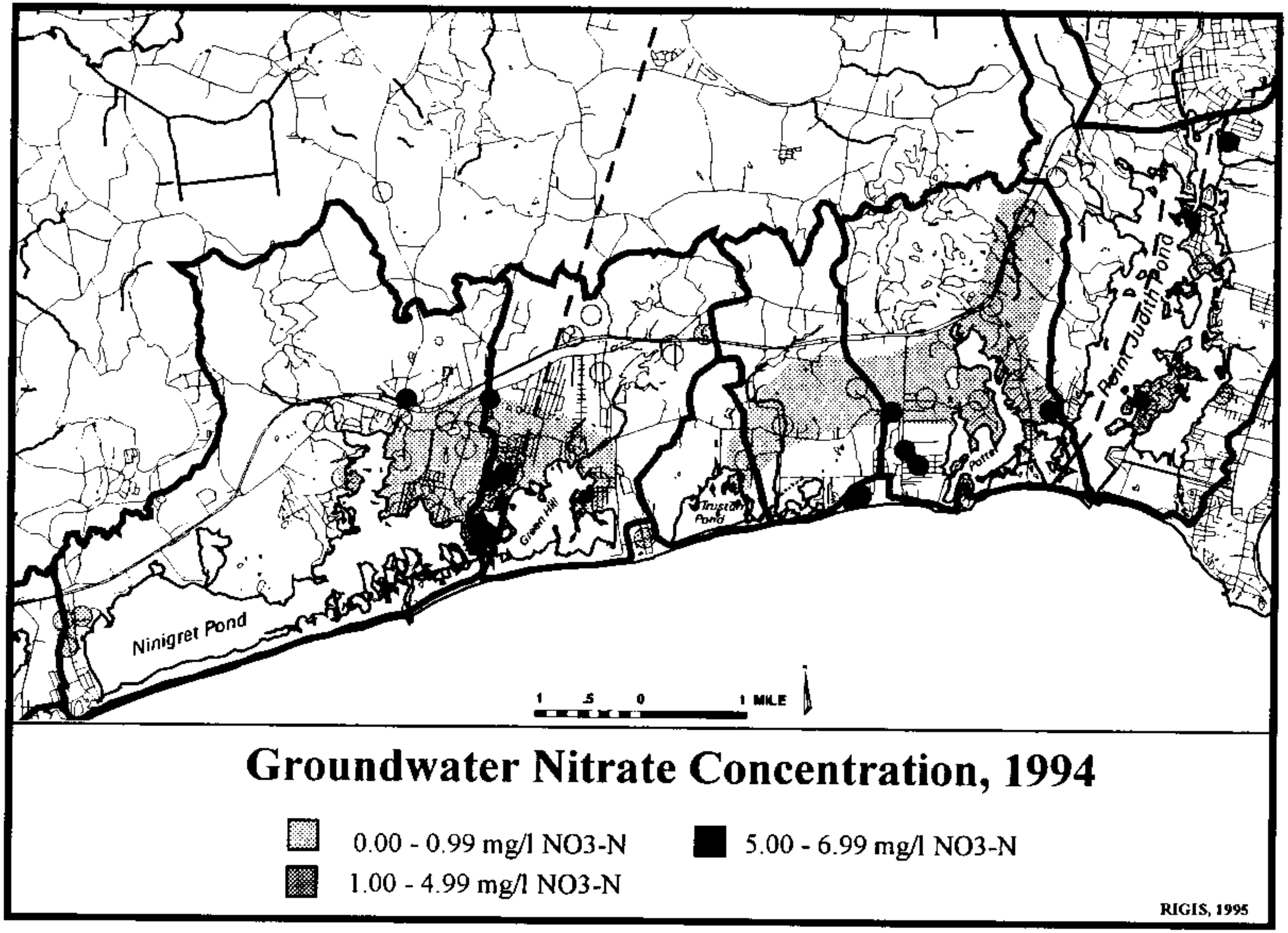
WINNAPAUG AND MASCHAUG PONDS
Water Chemistry Stations 1985 - 1991



QUONOCHONTAUG POND
Water Chemistry Stations 1985 - 1991



Appendix B



Groundwater Nitrate Concentration, 1994

1981 and 1994 Homeowner Well Data

Well #	POND	1981 N (µM/l)	1994 N (µM/l)	1994 NH3 (µM/l)	1994 P (µM/l)	Well Depth (feet)	94 Well Age (Years)
51	CARDS	4				30	
16	CARDS	16				15	300
11	CARDS	158	249.1	1.45	0.05		
15	CARDS	219	73.82	0	0.16	35	
22	CARDS	342	468.59	0.01	0.07		20
141	GREENHILL	4	7.43	0.82	0.13	7	44
105	GREENHILL	5	13.18	0.28	0.11	80	
104	GREENHILL	8				185	
35	GREENHILL	9					
40	GREENHILL	10					
38	GREENHILL	10					
153	GREENHILL	11				20	12
44	GREENHILL	11					
29	GREENHILL	13	103.42	0.31	0.05	82	30
106	GREENHILL	15	28.58	4.17	0.07	80	
37	GREENHILL	25					
36	GREENHILL	40					
39	GREENHILL	41					
142	GREENHILL	50				7	25
190	GREENHILL	59	51.92	0.01	0.17		
183	GREENHILL	59					
160	GREENHILL	61					
45	GREENHILL	62	103.65	0.11	0.03	10	50
107	GREENHILL	77				30	
108	GREENHILL	80				20	
151	GREENHILL	93				8	5
72	GREENHILL	97	190.64	0.44	0.13	20	38
88	GREENHILL	99	74.81	0.44	0.01	18	38
102	GREENHILL	111	35.97	0.06	0.05	300	21
87	GREENHILL	126	176.69	0.33	0.04	12	25
84	GREENHILL	131					
89	GREENHILL	137	101.23	1.71	0.08	20	20
96	GREENHILL	138					50
148	GREENHILL	149				10	
150	GREENHILL	154	27.86	79.9	10.62	20	39
73	GREENHILL	155				33	34
147	GREENHILL	156	85.01	0.9	0.33	19	39
145	GREENHILL	172	92.63	1.3	0.88	7	44
143	GREENHILL	179				3	
103	GREENHILL	184				150	
163	GREENHILL	190					
74	GREENHILL	4				14	24
191	GREENHILL	195					
85	GREENHILL	200	416.07	0.24	0.01	48	37
30	GREENHILL	211					
193	GREENHILL	228					
90	GREENHILL	242					
144	GREENHILL	244				101	44
50	GREENHILL	251	85.88	0.01	0.03		16
86	GREENHILL	251	192.8	0.47	0.03	10	50
80	GREENHILL	254	462.37	51.8	0.01	10	57
81	GREENHILL	263	309.35	0.52	0.02	15	41
68	GREENHILL	266				10	21
31	GREENHILL	272	391.9	0.24	0.03	21	40
152	GREENHILL	274				20	30
93	GREENHILL	276				15	7
149	GREENHILL	283	129.6	0.74	0.17	20	
77	GREENHILL	293				15	25
79	GREENHILL	302	297.33	35.34	0.02	16	30
71	GREENHILL	307	268.32	0.14	0.04	20	19
83	GREENHILL	312				14	8
34	GREENHILL	321					
47	GREENHILL	359					

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate (µM/l)	94 Nitrate (µM/l)	94 Ammonia (µM/l)	94 Phosphate (µM/l)	Well Depth (feet)	94 Well Age (Years)
78	GREENHILL	374				15	25
101	GREENHILL	387	185.69	0.02	0.04	210	
94	GREENHILL	436	161.27	0.05	0.36	16	39
75	GREENHILL	454					25
70	GREENHILL	455					
69	GREENHILL	461				65	25
100	GREENHILL	472	354.8	0.47	0.17	82	21
98	GREENHILL	480	80.18	0.39	0.03		21
99	GREENHILL	485	145.89	3.78	0.01	82	44
91	GREENHILL	497				15	20
97	GREENHILL	498	89.96	0.16	0.53	20	34
82	GREENHILL	509				14	60
146	GREENHILL	528	102.32	0.99	0.66	8	34
92	GREENHILL	545	405.26	0.52	0.08	10	15
46	GREENHILL	549					
76	GREENHILL	563				35	16
32	GREENHILL	594	217.22	0.03	0.07	50	16
33	GREENHILL	696					
194	GREENHILL	708					
67	GREENHILL	735	291.89	0.49	0.03	15	32
95	GREENHILL	1098	290.37	0.11	0.01	18	56
637	GREENHILL		101.8	0.12	0.16	360	13
342	GREENHILL		7.1	0.36	0.05		
611	GREENHILL		15.79	0.94	0.05	18	26
648	GREENHILL		52.69	0.34	0.08		1
649	GREENHILL		57.83	0.45	0.18	100	15
303	GREENHILL		115.3	0.01	0.01	300	13
369	GREENHILL		142.06	0.33	0.02	18	6
333	GREENHILL		151.05	0.24	0.13		
384	GREENHILL		172.57	0.38	0.02	18	8
640	GREENHILL		174.24	0.68	0	18	17
330	GREENHILL		194.1	0.33	0.04		
374	GREENHILL		195.13	1.31	0.07	25	31
390	GREENHILL		195.34	0.34	0		
396	GREENHILL		196.42	0.31	0.03	16	35
639	GREENHILL		222.12	1.45	0.06	10	66
334	GREENHILL		225.42	0.62	0.04	18	20
347	GREENHILL		248.05	10.21	0.04		25
370	GREENHILL		261.64	0.76	0.01	14	16
368	GREENHILL		262.85	1.99	0.02	15	10
346	GREENHILL		291.01	1.12	0.02		40
608	GREENHILL		298.6	2.75	0.02		55
443	GREENHILL		345.37	0.86	0.07	15	74
383	GREENHILL		377.06	33.46	0.02	10	12
382	GREENHILL		380.34	0.16	0.06	12	56
393	GREENHILL		417.49	0.94	0.01		40
647	GREENHILL		418.51	0.47	0.18		
373	GREENHILL		436.58	45.36	0	26	3
154	NINIGRET	0	0.02	0.25	0.11	125	32
42	NINIGRET	0	3.74	44.52	0.39	35	50
49	NINIGRET	0				125	32
48	NINIGRET	0					
169	NINIGRET	1	1.62	0.21	0.26	100	80
28	NINIGRET	1	3.97	0.4	0.13	100	15
155	NINIGRET	3	12.52	0.45	0.05	125	32
187	NINIGRET	3					
167	NINIGRET	9	9.44	0.55	9	200	30
192	NINIGRET	14					
170	NINIGRET	16	27.33	0.41	0.06		
172	NINIGRET	19	58.44	0.77	0.18	12	75
133	NINIGRET	22	15.31	0.44	0.2	300	6
115	NINIGRET	22	46.18	0	0.01	28	18
168	NINIGRET	22	51.12	0.6	0.14		

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate (μM/l)	94 Nitrate (μM/l)	94 Ammonia (μM/l)	94 Phosphate (μM/l)	Well Depth (feet)	94 Well Age (Years)
131	NINIGRET	25	37.03	0	0.03	45	30
134	NINIGRET	28	23.58	0.02	0.02	15	76
132	NINIGRET	29					60
124	NINIGRET	36	100.9	0.02	0.12	94	20
60	NINIGRET	38				10	14
43	NINIGRET	45	86.28	0.1	0.03	40	100
119	NINIGRET	46				100	3
56	NINIGRET	55	154.3	1.86	0.12	16	14
165	NINIGRET	58	374.39	0.67	0.1		
171	NINIGRET	67	13.8	0.08	0.06	120	60
173	NINIGRET	67					
41	NINIGRET	75				27	200
54	NINIGRET	75				20	40
26	NINIGRET	84					
179	NINIGRET	99					
55	NINIGRET	104				200	24
177	NINIGRET	106					
129	NINIGRET	124	139.35	0.39	0.01	10	28
117	NINIGRET	124	173.56	0.1	0.03	20	16
120	NINIGRET	127	183.26	0.03	0.02	350	16
123	NINIGRET	128	104.86	0.43	0.13	90	23
128	NINIGRET	131				36	15
118	NINIGRET	132	72.26	0.29	0.12	60	24
130	NINIGRET	150	145.31	0.17	0.01	12	34
125	NINIGRET	151	160.82	0.06	0.04	14	1
174	NINIGRET	151	258.77	0	0.02		12
159	NINIGRET	154	31.53	0.59	0.79		
175	NINIGRET	165	160.39	0.2	0	85	17
176	NINIGRET	189	330.43	0.08	0.06	20	38
122	NINIGRET	216	231.15	0.19	0.06	210	34
59	NINIGRET	219				10	49
58	NINIGRET	227	220.85	0.28	0.02	10	7
27	NINIGRET	250				15	
57	NINIGRET	254	24.49	0.16	0.08	10	50
178	NINIGRET	257					10
25	NINIGRET	290	142.24	0.2	0.13	15	28
121	NINIGRET	375	367.31	0.3	0.03		16
126	NINIGRET	394				25	28
127	NINIGRET	412	54.56	0.24	0.08	20	28
116	NINIGRET	767	236.78	0.64	0.18	20	20
651	NINIGRET		13.12	1.63	0.1		
646	NINIGRET		62.09	0.07	0.41	140	17
636	NINIGRET		0.84	0.24	0.69		
302	NINIGRET		16.52	0.01	0.14		30
632	NINIGRET		39.6	0.03	0.02	20	95
641	NINIGRET		40.73	1.23	0.02	89	22
603	NINIGRET		69.19	0	0.05		15
634	NINIGRET		71.72	5.38	0.03	45	77
635	NINIGRET		88.23	6.2	0.25	45	77
473	NINIGRET		158	0	0.02		
631	NINIGRET		194.73	0.28	0		10
199	POINTJUDITH	0	0.95	0.06	0.08		
64	POINTJUDITH	0				20	
2	POINT JUDITH	10	23.33	0.28	0.41		
65	POINTJUDITH	16	7.44	0.48	0.06		26
113	POINTJUDITH	44					
63	POINTJUDITH	78	179.19	0.54	1.75	20	44
114	POINTJUDITH	113	96.59	0.01	0.2	75	28
61	POINTJUDITH	169				15	44
62	POINTJUDITH	209				10	44
66	POINTJUDITH	785				20	44
202	POINTJUDITH	1	0.71	0.49	0.15	400	67
204	POINTJUDITH	9	28.17	0.13	0.16	160	25

1981 and 1994 Homeowner Well Data

Well #	POND	81 Nitrate (μM/l)	94 Nitrate (μM/l)	94 Ammonia (μM/l)	94 Phosphate (μM/l)	Well Depth (feet)	94 Well Age (Years)
181	POINTJUDITH	18					
186	POINTJUDITH	30					
180	POINTJUDITH	42	35.17	1.81	0.31	15	
157	POINTJUDITH	63	102.76	37.92	0.51	15	
203	POINTJUDITH	74	147.23	0.18	0.04	80	25
182	POINTJUDITH	102	69.67	0.25	0.07	15	44
196	POINTJUDITH	155					
156	POINTJUDITH	210	235.54	0.97	0.1		
185	POINTJUDITH	483	111.43	0.35	0.12		
189	POINTJUDITH	579	409.85	0.4	0.45		
184	POINTJUDITH	639	699.64	0.51	0.53	25	47
195	POINTJUDITH	803	640.69	0.83	0.12	14	44
164	POINTJUDITH	1356	431.8	0.72	0.36	20	
205	POINTJUDITH		0.16	0.08	0.07	400	19
680	POINTJUDITH		10.43	89.86	15.18	20	
602	POINTJUDITH		23.92	0.08	0.14	400	67
200	POTTER	118	0.73	0.34	0.12	286	14
140	POTTER	6				4	1
9	POTTER	9	21.42	0.17	0.16		
21	POTTER	33				148	
135	POTTER	39	106.83	0.69	0.15	80	15
137	POTTER	41	38.28	0.1	0.13	27	13
138	POTTER	72	132.85	0.09	0.02	32	85
197	POTTER	87	11.33	26.32	2.42	20	
139	POTTER	103				40	77
111	POTTER	108					
23	POTTER	122				14	40
20	POTTER	136	123.62	0.17	0.11	150	25
1	POTTER	146	354.96	6.59	0.23		
10	POTTER	155	55.6	0.63	0.87	6	
109	POTTER	158					
136	POTTER	174	68.7	1.13	0.06	45	84
24	POTTER	198	422.97	0.54	0.12	57	26
8	POTTER	209				10	
3	POTTER	220	25.64	0.21	0.13		
6	POTTER	248	10.98	0.43	0.03	15	
12	POTTER	248				250	
13	POTTER	290				22	
110	POTTER	308	263.84	13.98	0.83	20	
14	POTTER	313	371.97	0.68	0.06	35	
112	POTTER	319				15	
5	POTTER	320	22.43	0.14	0.15	25	
7	POTTER	338	440.28	1.51	0.75	33	
4	POTTER	420	26.69	0.15	0.15	25	
312	SUBWATERSHED		396.8	8.07	0.03	15	26
313	SUBWATERSHED		388.75	4.74	0.01		
19	TRUSTOM	1	0.11	26.6	0.02	15	162
53	TRUSTOM	32	2.22	0.1	0.01	231	44
18	TRUSTOM	37					
17	TRUSTOM	46	3.35	0.08	0.06	26	3
52	TRUSTOM	642	319.29	0.31	0.22		
652	TRUSTOM		48.95	0.03	3.35	30	
645	TRUSTOM		119.2	0.04	0.06	125	29
318	TRUSTOM		286.47	0.42	0.03		40

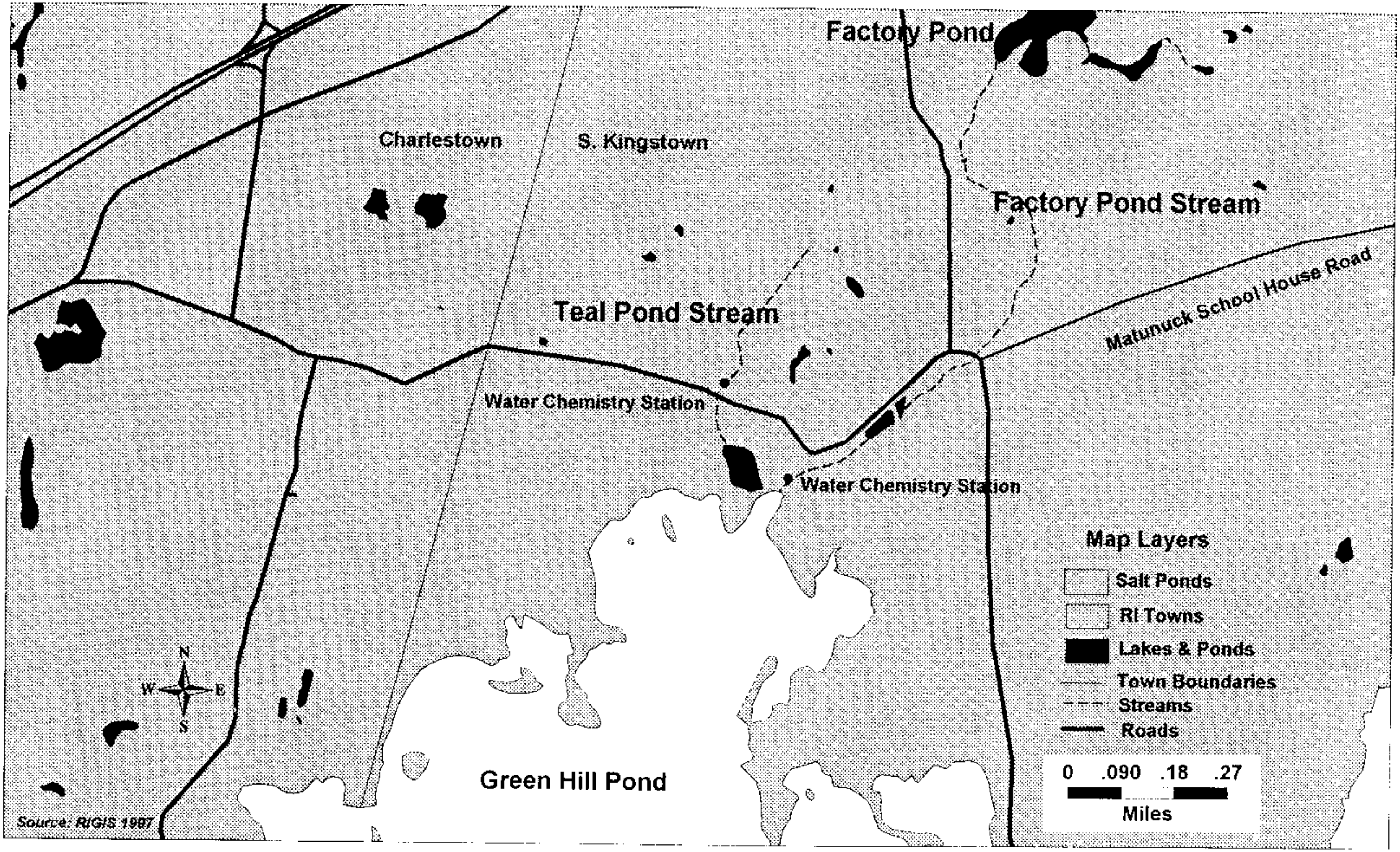
USGS Groundwater Levels

	Date	Well WEW 522 [1] Water Level (ft)	Well CHW18 [2] Water Level (ft)
	25-Oct-80	14.49	21.13
	22-Nov-80	13.81	21.17
	27-Dec-80	13.44	20.89
	24-Jan-81	13.59	21.21
	21-Feb-81	13.07	20.68
	28-Mar-81	12.45	7
	25-Apr-81	12.23	18.97
	23-May-81	12.61	18.24
	27-Jun-81	12.55	19.25
	27-Jul-81	13.15	19.45
	22-Aug-81	13.85	20.09
	26-Sep-81	14.14	20.92
1980-81 Average		13.28	20.09
	26-Oct-91	12.24	
	21-Nov-91	12.33	19.28
	23-Dec-91	11.86	17.23
	24-Jan-92	11.74	17.44
	25-Feb-92	11.73	17.88
	28-Mar-92	11.86	17.44
	28-Apr-92	11.78	17.29
	26-May-92	12.79	17.95
	26-Jun-92	12.67	19.01
	24-Jun-96	13.21	19.8
	27-Aug-92	12.97	19.1
	25-Sep-92	12.94	19.12
1991-92 Average		12.34	18.32
	23-Oct-92	13.07	19.12
	27-Nov-92	12.26	19.16
	23-Dec-92	10.83	14.58
	22-Jan-93	11.33	15
	19-Feb-93	11.39	16.1
	25-Mar-93	10.53	13.43
	27-Apr-93	11.23	13.78
	25-May-93	12.21	15.85
	24-Jun-93	13.12	17.54
	26-Jul-93	14.14	18.9
	26-Aug-93	14.65	19.83
	23-Sep-93	14.69	20.38
1992-93 Average		12.45	16.97
	25-Oct-93	14.03	20.49
	26-Nov-93	13.49	20.56
	28-Dec-93	12.07	18.57
	28-Jan-94	12.2	17.43
	22-Feb-94	12.77	17.62
	24-Mar-94	11.12	15.08
	21-Apr-94	11.33	14.09
	27-May-94	12.41	16.46
	27-Jun-94	13.09	17.89
	26-Jul-94	13.96	18.96
	25-Aug-94	13.44	19.66
	28-Sep-94	13.56	20.16
1993-94 Average		12.79	18.08

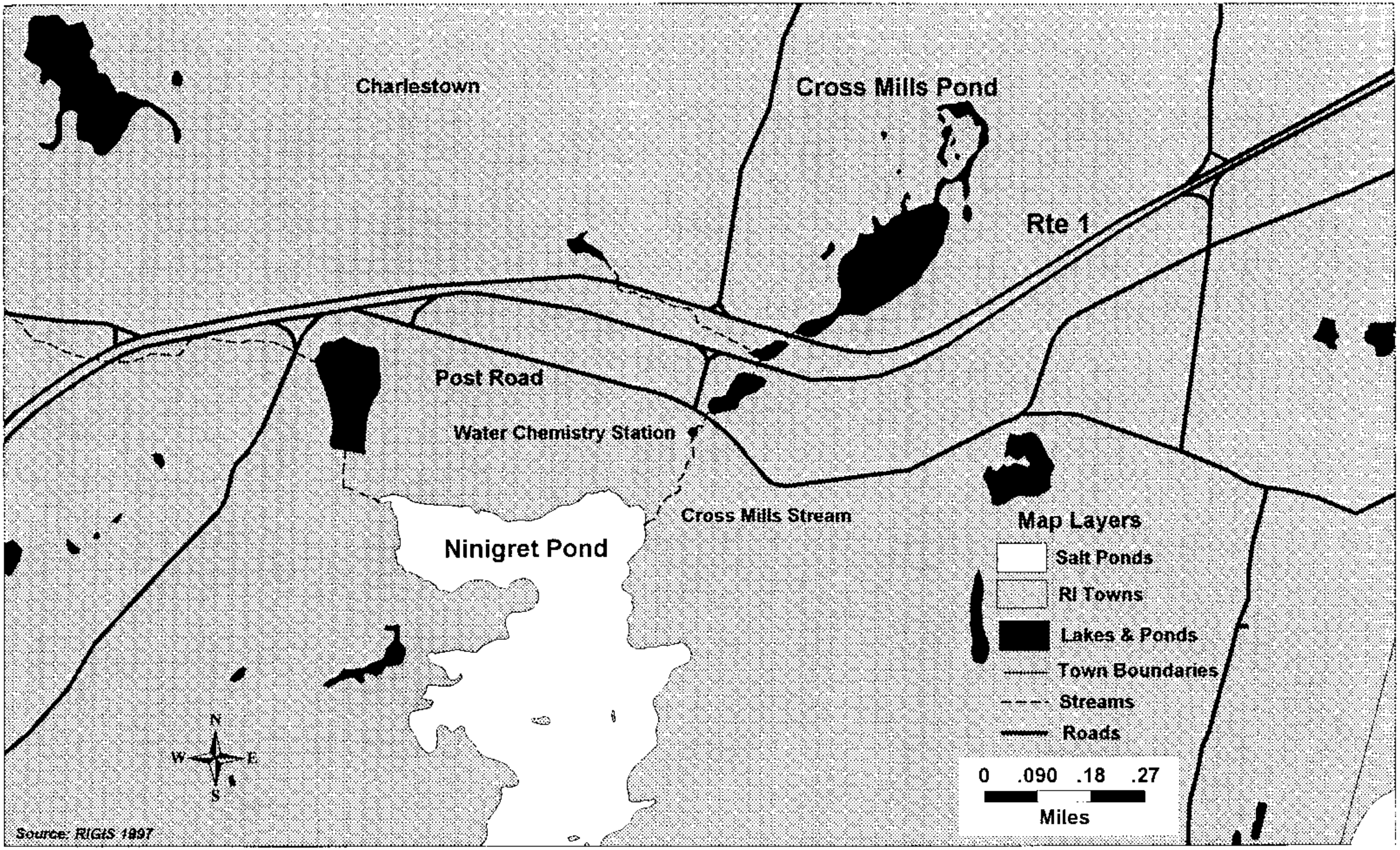
[1] Well WEW 522 is located at Dunn's Corner, Westerly, R.I.

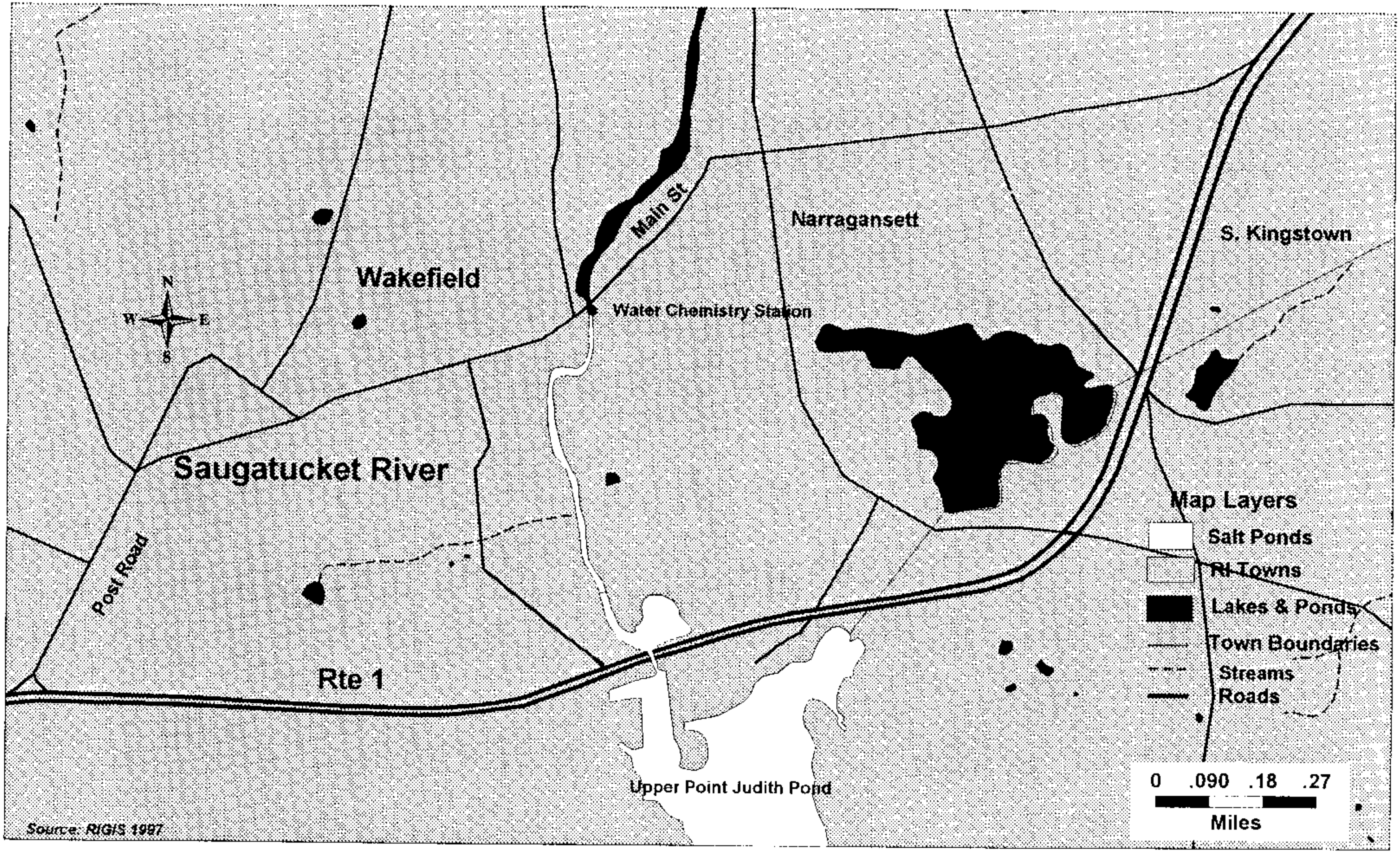
[2] Well CHW 586 is located at Burlingame State Park in Charlestown, R.I.

Appendix C



Factory Pond
Charlestown
S. Kingstown
Factory Pond Stream
Teal Pond Stream
Matunuck School House Road
Water Chemistry Station
Water Chemistry Station
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .090 .18 .27
Miles
N
W
E
S
Green Hill Pond
Source: RIGIS 1997


Charlestown
Cross Mills Pond
Rte 1
Post Road
Water Chemistry Station
Cross Mills Stream
Ninigret Pond
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .090 .18 .27
Miles
N
W
E
S
Source: RIGIS 1997



Wakefield
Main St.
Narragansett
S. Kingstown
N
W
E
S
Water Chemistry Station
Saugatucket River
Post Road
Rte 1
Upper Point Judith Pond
Map Layers
Salt Ponds
RI Towns
Lakes & Ponds
Town Boundaries
Streams
Roads
0 .090 .18 .27
Miles
Source: RIGIS 1997

Salt Pond Stream Chemistry Data

Stream	Salt Pond	Date	N (µM/l)	P (µM/l)	NH3 (µM/l)	DON (µM/l)	DOP (µM/l)
Saugatucket	Point Judith	27-Jul-94	49.47	0.10	15.12	12.10	0.19
Saugatucket	Point Judith	19-Oct-94	79.95	0.07	17.48	_	_
Saugatucket	Point Judith	2-Nov-94	66.38	0.16	32.56	_	_
Saugatucket	Point Judith	22-Nov-94	30.46	0.30	39.15	_	_
Saugatucket	Point Judith	5-Dec-94	25.22	0.11	14.62	_	_
Saugatucket	Point Judith	28-Feb-95	29.40	0.38	17.45	24.10	0.00
Saugatucket	Point Judith	9-Apr-95	40.24	0.10	18.51	27.30	0.08
Saugatucket	Point Judith	23-Apr-95	25.07	0.08	10.52	29.90	0.14
Saugatucket	Point Judith	1-May-95	19.75	0.08	16.71	27.90	0.15
Saugatucket	Point Judith	12-May-95	24.90	0.08	17.90	27.60	0.18
Saugatucket	Point Judith	19-May-95	21.95	0.02	18.22	31.50	0.20
Teal	Green Hill	27-Jul-94	9.75	0.09	1.95	20.40	0.36
Teal	Green Hill	19-Oct-94	81.53	0.20	1.13	8.40	0.03
Teal	Green Hill	2-Nov-94	70.89	0.11	2.71	_	_
Teal	Green Hill	22-Nov-94	79.29	0.08	1.90	_	_
Teal	Green Hill	5-Dec-94	56.45	0.14	1.01	_	_
Teal	Green Hill	28-Feb-95	73.49	0.20	2.66	29.40	0.16
Teal	Green Hill	9-Apr-95	101.90	0.05	1.00	23.30	0.15
Teal	Green Hill	23-Apr-95	97.55	0.04	1.02	20.90	0.10
Teal	Green Hill	1-May-95	79.19	0.07	0.64	34.10	0.01
Teal	Green Hill	12-May-95	97.67	0.03	0.45	21.40	0.11
Teal	Green Hill	19-May-95	81.67	0.02	0.45	25.60	0.35
Factory	Green Hill	27-Jul-94	76.54	0.08	1.94	12.40	0.22
Factory	Green Hill	19-Oct-94	13.77	0.26	1.93	11.30	0.09
Factory	Green Hill	2-Nov-94	12.79	0.14	2.55	_	_
Factory	Green Hill	22-Nov-94	9.93	0.11	0.78	_	_
Factory	Green Hill	5-Dec-94	10.39	0.10	0.49	_	_
Factory	Green Hill	28-Feb-95	18.42	0.10	1.30	26.70	0.15
Factory	Green Hill	9-Apr-95	19.64	0.04	1.40	18.70	0.20
Factory	Green Hill	23-Apr-95	16.48	0.09	0.89	23.80	0.07
Factory	Green Hill	1-May-95	9.94	0.08	0.52	39.80	0.14
Factory	Green Hill	12-May-95	19.03	0.06	0.92	23.10	0.29
Factory	Green Hill	19-May-95	15.11	0.07	0.31	26.90	0.10
Cross Mills	Ninigret	27-Jul-94	0.73	0.22	0.97	32.50	0.30
Cross Mills	Ninigret	19-Oct-94	10.38	0.10	3.44	10.20	0.20
Cross Mills	Ninigret	2-Nov-94	9.14	0.15	4.89	_	_
Cross Mills	Ninigret	22-Nov-94	12.70	0.20	4.50	_	_
Cross Mills	Ninigret	5-Dec-94	15.27	0.12	4.76	_	_
Cross Mills	Ninigret	28-Feb-95	13.04	0.04	2.52	18.10	0.28
Cross Mills	Ninigret	9-Apr-95	7.69	0.11	2.57	17.80	0.19
Cross Mills	Ninigret	23-Apr-95	3.34	0.05	2.74	27.40	0.31
Cross Mills	Ninigret	1-May-95	2.14	0.04	3.71	27.60	0.33
Cross Mills	Ninigret	12-May-95	2.67	0.02	5.14	23.10	0.30
Cross Mills	Ninigret	19-May-95	7.94	0.05	6.25	23.70	0.40

Salt Pond Streams Flux and Flow 1994-1995

Stream	Salt Pond	Date	Discharge $m^{-3} d^{-1}$	Flux kg $NO^{-3} d^{-1}$
Saugatucket	Point Judith	27-Jul-94	221.29	0.21
Saugatucket	Point Judith	19-Oct-94	17056.44	23.44
Saugatucket	Point Judith	2-Nov-94	14219.28	19.88
Saugatucket	Point Judith	22-Nov-94	64011.38	62.44
Saugatucket	Point Judith	5-Dec-94	156168	87.65
Saugatucket	Point Judith	28-Feb-95	323983.26	213.63
Saugatucket	Point Judith	9-Apr-95	118650.42	97.84
Saugatucket	Point Judith	23-Apr-95	87942.35	44.08
Saugatucket	Point Judith	1-May-95	232307.46	119.36
Saugatucket	Point Judith	12-May-95	123316.34	74.24
Saugatucket	Point Judith	19-May-95	139019.6	78.63
Teal	Green Hill	27-Jul-94	4644.29	0.89
Teal	Green Hill	19-Oct-94	7669.83	8.91
Teal	Green Hill	2-Nov-94	9533.8	9.61
Teal	Green Hill	22-Nov-94	4840.23	5.52
Teal	Green Hill	5-Dec-94	11645.85	9.39
Teal	Green Hill	28-Feb-95	16654.87	17.81
Teal	Green Hill	9-Apr-95	7669.99	11.06
Teal	Green Hill	23-Apr-95	9533.8	13.19
Teal	Green Hill	1-May-95	3459.7	3.88
Teal	Green Hill	12-May-95	2220.75	0.62
Teal	Green Hill	19-May-95	1903.99	2.19
Factory	Green Hill	27-Jul-94	1289.78	1.72
Factory	Green Hill	19-Oct-94	2722.16	0.61
Factory	Green Hill	2-Nov-94	2560.7	0.51
Factory	Green Hill	22-Nov-94	4812.51	0.67
Factory	Green Hill	5-Dec-94	14355.51	2.21
Factory	Green Hill	28-Feb-95	9828.5	2.74
Factory	Green Hill	9-Apr-95	8152.75	2.41
Factory	Green Hill	23-Apr-95	6383.53	1.56
Factory	Green Hill	1-May-95	11266	1.7
Factory	Green Hill	12-May-95	9058.61	1.66
Factory	Green Hill	19-May-95	5905.66	1.97
Cross Mills	Ninigret	27-Jul-94	11986.2	0.51
Cross Mills	Ninigret	19-Oct-94	11767.46	2.41
Cross Mills	Ninigret	2-Nov-94	18349.7	3.67
Cross Mills	Ninigret	22-Nov-94	18337.97	4.52
Cross Mills	Ninigret	5-Dec-94	19490.54	5.65
Cross Mills	Ninigret	28-Feb-95	26482.46	5.82
Cross Mills	Ninigret	9-Apr-95	14948.93	2.22
Cross Mills	Ninigret	23-Apr-95	16765.92	1.47
Cross Mills	Ninigret	1-May-95	23622.62	1.98
Cross Mills	Ninigret	12-May-95	20255.62	2.24
Cross Mills	Ninigret	19-May-95	20572.7	4.15

Appendix D

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
1-Jan-85	47	37	0.07	0	0
2-Jan-85	54	42	0.3	0	0
3-Jan-85	44	28	0	0	0
4-Jan-85	33	22	0	0	0
5-Jan-85	34	27	0.24	2.7	2
6-Jan-85	39	9	0	0	1
7-Jan-85	36	25	0	0	1
8-Jan-85	32	17	0.18	1.5	2
9-Jan-85	20	8	0	0	2
10-Jan-85	23	9	0	0	2
11-Jan-85	26	4	0	0	2
12-Jan-85	29	9	0	0	2
13-Jan-85	36	7	0	0	1
14-Jan-85	38	7	0	0	1
15-Jan-85	37	18	0.02	0.2	1
16-Jan-85	31	3	0	0	1
17-Jan-85	21	11	0.13	1.7	3
18-Jan-85	33	8	0	0	3
19-Jan-85	35	15	0.04	0.5	2
20-Jan-85	33	13	0.04	0.5	3
21-Jan-85	15	0	0	0	3
22-Jan-85	29	3	0	0	2
23-Jan-85	33	22	0	0	2
24-Jan-85	35	18	0	0	2
25-Jan-85	39	16	0.001	0.01	2
26-Jan-85	34	11	0	0	2
27-Jan-85	30	13	0	0	2
28-Jan-85	37	4	0	0	2
29-Jan-85	35	15	0	0	1
30-Jan-85	35	6	0	0	1
31-Jan-85	32	4	0.001	0.01	1
1-Feb-85	34	27	0.16	0	1
2-Feb-85	35	32	0.13	0	1
3-Feb-85	32	19	0.11	1.2	2
4-Feb-85	29	-1	0	0	2
5-Feb-85	27	2	0.001	0.01	2
6-Feb-85	25	21	0.33	7	8
7-Feb-85	27	12	0.03	0.5	8
8-Feb-85	24	7	0	0	8
9-Feb-85	28	6	0	0	7
10-Feb-85	45	15	0	0	6
11-Feb-85	45	15	0	0	4
12-Feb-85	44	24	0.001	0	2
13-Feb-85	47	32	0.87	0	0.1
14-Feb-85	38	23	0	0	0.1
15-Feb-85	35	25	0	0	0.1
16-Feb-85	36	14	0	0	0.1
17-Feb-85	44	19	0	0	0.1
18-Feb-85	43	20	0	0	0
19-Feb-85	49	24	0	0	0
20-Feb-85	47	21	0	0	0
21-Feb-85	42	16	0	0	0
22-Feb-85	54	31	0.001	0	0
23-Feb-85	55	38	0.001	0	0
24-Feb-85	62	35	0	0	0
25-Feb-85	60	41	0	0	0
26-Feb-85	52	30	0	0	0
27-Feb-85	51	38	0.02	0	0
28-Feb-85	48	18	0	0	0
1-Mar-85	49	25	0	0	0
2-Mar-85	60	38	0.2	0	0
3-Mar-85	54	26	0	0	0
4-Mar-85	44	20	0.01	0.01	0.1
5-Mar-85	60	24	0.79	0	0
6-Mar-85	45	25	0	0	0
7-Mar-85	35	14	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
8-Mar-85	50	32	0.43	0	0
9-Mar-85	53	28	0.01	0.01	0.1
10-Mar-85	51	22	0	0	0
11-Mar-85	55	21	0	0	0
12-Mar-85	52	41	2.42	0	0
13-Mar-85	50	39	0	0	0
14-Mar-85	54	35	0	0	0
15-Mar-85	50	24	0	0	0
16-Mar-85	45	22	0	0	0
17-Mar-85	54	30	0	0	0
18-Mar-85	53	26	0.04	0.2	0.1
19-Mar-85	44	17	0	0	0
20-Mar-85	57	31	0	0	0
21-Mar-85	53	27	0	0	0
22-Mar-85	44	14	0	0	0
23-Mar-85	54	23	0	0	0
24-Mar-85	48	34	0	0	0
25-Mar-85	46	27	0	0	0
26-Mar-85	51	24	0	0	0
27-Mar-85	61	25	0	0	0
28-Mar-85	75	41	0	0	0
29-Mar-85	66	47	0	0	0
30-Mar-85	57	39	0.02	0	0
31-Mar-85	57	36	0.001	0	0
1-Apr-85	45	33	0.62	0	0
2-Apr-85	46	27	0.03	0	0
3-Apr-85	45	22	0	0	0
4-Apr-85	57	38	0.02	0	0
5-Apr-85	68	41	0	0	0
6-Apr-85	60	46	0	0	0
7-Apr-85	56	43	0	0	0
8-Apr-85	54	34	0.28	0	0
9-Apr-85	47	29	0.001	0	0
10-Apr-85	45	23	0	0	0
11-Apr-85	50	35	0	0	0
12-Apr-85	59	24	0	0	0
13-Apr-85	57	27	0	0	0
14-Apr-85	52	39	0	0	0
15-Apr-85	67	43	0.001	0	0
16-Apr-85	71	53	0.12	0	0
17-Apr-85	65	39	0	0	0
18-Apr-85	54	25	0	0	0
19-Apr-85	71	42	0	0	0
20-Apr-85	63	44	0	0	0
21-Apr-85	70	39	0	0	0
22-Apr-85	71	45	0.08	0	0
23-Apr-85	57	45	0	0	0
24-Apr-85	54	41	0	0	0
25-Apr-85	59	39	0	0	0
26-Apr-85	77	52	0	0	0
27-Apr-85	76	52	0.04	0	0
28-Apr-85	67	33	0.02	0	0
29-Apr-85	67	45	0	0	0
30-Apr-85	78	35	0	0	0
1-May-85	80	53	0	0	0
2-May-85	76	43	0.39	0	0
3-May-85	48	37	2.05	0	0
4-May-85	61	28	0	0	0
5-May-85	64	42	0	0	0
6-May-85	57	46	0.29	0	0
7-May-85	67	45	0	0	0
8-May-85	67	43	0	0	0
9-May-85	59	28	0	0	0
10-May-85	73	46	0	0	0
11-May-85	84	50	0	0	0
12-May-85	80	53	0.27	0	0
13-May-85	76	50	0.57	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
14-May-85	76	53	0	0	0
15-May-85	63	33	0	0	0
16-May-85	69	41	0	0	0
17-May-85	71	49	0.31	0	0
18-May-85	68	51	0.1	0	0
19-May-85	60	37	0.001	0	0
20-May-85	73	45	0	0	0
21-May-85	72	55	0.43	0	0
22-May-85	75	54	0.49	0	0
23-May-85	75	47	0	0	0
24-May-85	74	42	0	0	0
25-May-85	72	45	0	0	0
26-May-85	74	46	0	0	0
27-May-85	80	55	0	0	0
28-May-85	77	58	0.1	0	0
29-May-85	63	50	0.86	0	0
30-May-85	69	31	0	0	0
31-May-85	71	48	0	0	0
1-Jun-85	76	58	0.44	0	0
2-Jun-85	76	46	0	0	0
3-Jun-85	82	52	0	0	0
4-Jun-85	78	56	0	0	0
5-Jun-85	70	45	0.38	0	0
6-Jun-85	66	50	0.46	0	0
7-Jun-85	72	39	0	0	0
8-Jun-85	69	43	0.05	0	0
9-Jun-85	73	50	0	0	0
10-Jun-85	81	54	0	0	0
11-Jun-85	80	52	0	0	0
12-Jun-85	78	58	0.14	0	0
13-Jun-85	68	49	0.09	0	0
14-Jun-85	68	48	0.06	0	0
15-Jun-85	72	39	0	0	0
16-Jun-85	71	53	0.79	0	0
17-Jun-85	76	58	0.13	0	0
18-Jun-85	75	56	0.17	0	0
19-Jun-85	73	53	0	0	0
20-Jun-85	76	50	0	0	0
21-Jun-85	76	47	0	0	0
22-Jun-85	80	46	0	0	0
23-Jun-85	77	60	0.04	0	0
24-Jun-85	75	58	0.38	0	0
25-Jun-85	70	46	0.001	0	0
26-Jun-85	66	46	0.06	0	0
27-Jun-85	63	50	0.51	0	0
28-Jun-85	64	51	0.69	0	0
29-Jun-85	65	48	0.32	0	0
30-Jun-85	75	54	0	0	0
1-Jul-85	74	51	0	0	0
2-Jul-85	76	53	0	0	0
3-Jul-85	78	58	0	0	0
4-Jul-85	81	56	0	0	0
5-Jul-85	84	53	0.001	0	0
6-Jul-85	81	65	0	0	0
7-Jul-85	81	64	0.08	0	0
8-Jul-85	78	53	0	0	0
9-Jul-85	81	55	0	0	0
10-Jul-85	82	65	0	0	0
11-Jul-85	83	63	0	0	0
12-Jul-85	83	50	0	0	0
13-Jul-85	82	56	0	0	0
14-Jul-85	80	56	0	0	0
15-Jul-85	81	67	0	0	0
16-Jul-85	76	68	0.66	0	0
17-Jul-85	80	61	0.02	0	0
18-Jul-85	82	52	0	0	0
19-Jul-85	84	55	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
20-Jul-85	89	68	0	0	0
21-Jul-85	88	61	0	0	0
22-Jul-85	85	65	0.6	0	0
23-Jul-85	83	62	0	0	0
24-Jul-85	79	46	0	0	0
25-Jul-85	82	49	0	0	0
26-Jul-85	81	70	1.34	0	0
27-Jul-85	82	69	0.12	0	0
28-Jul-85	82	56	0	0	0
29-Jul-85	82	61	0	0	0
30-Jul-85	87	55	0	0	0
31-Jul-85	86	62	0.09	0	0
1-Aug-85	75	60	1.08	0	0
2-Aug-85	74	50	0	0	0
3-Aug-85	76	47	0	0	0
4-Aug-85	79	51	0	0	0
5-Aug-85	79	56	0	0	0
6-Aug-85	78	50	0	0	0
7-Aug-85	79	53	0	0	0
8-Aug-85	79	67	1.23	0	0
9-Aug-85	84	67	0	0	0
10-Aug-85	84	66	0	0	0
11-Aug-85	81	65	0	0	0
12-Aug-85	81	68	0	0	0
13-Aug-85	81	49	0	0	0
14-Aug-85	90	64	0	0	0
15-Aug-85	91	71	0	0	0
16-Aug-85	88	68	0.001	0	0
17-Aug-85	81	57	0	0	0
18-Aug-85	80	51	0	0	0
19-Aug-85	73	62	0.03	0	0
20-Aug-85	80	63	0	0	0
21-Aug-85	80	55	0.001	0	0
22-Aug-85	75	56	0.01	0	0
23-Aug-85	78	46	0	0	0
24-Aug-85	77	47	0	0	0
25-Aug-85	76	63	0.87	0	0
26-Aug-85	82	66	3.33	0	0
27-Aug-85	83	72	0	0	0
28-Aug-85	81	57	0	0	0
29-Aug-85	81	60	0	0	0
30-Aug-85	74	63	4.2	0	0
31-Aug-85	69	53	1.96	0	0
1-Sep-85	72	47	0	0	0
2-Sep-85	74	48	0.02	0	0
3-Sep-85	80	49	0	0	0
4-Sep-85	86	60	0	0	0
5-Sep-85	86	69	0.09	0	0
6-Sep-85	83	68	0.19	0	0
7-Sep-85	75	61	0.81	0	0
8-Sep-85	85	61	0	0	0
9-Sep-85	81	62	0.59	0	0
10-Sep-85	70	57	0.31	0	0
11-Sep-85	70	56	0.07	0	0
12-Sep-85	65	35	0	0	0
13-Sep-85	64	41	0	0	0
14-Sep-85	68	36	0	0	0
15-Sep-85	71	36	0	0	0
16-Sep-85	72	38	0	0	0
17-Sep-85	72	38	0	0	0
18-Sep-85	74	40	0	0	0
19-Sep-85	82	48	0	0	0
20-Sep-85	84	49	0	0	0
21-Sep-85	82	55	0	0	0
22-Sep-85	76	58	0	0	0
23-Sep-85	73	57	0	0	0
24-Sep-85	71	63	0.39	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
25-Sep-85	75	57	0.15	0	0
26-Sep-85	74	49	0	0	0
27-Sep-85	71	62	0.13	0	0
28-Sep-85	71	52	0	0	0
29-Sep-85	74	38	0	0	0
30-Sep-85	73	40	0	0	0
1-Oct-85	74	42	0	0	0
2-Oct-85	78	46	0	0	0
3-Oct-85	73	53	0.27	0	0
4-Oct-85	58	52	0.08	0	0
5-Oct-85	72	53	1.07	0	0
6-Oct-85	68	39	0	0	0
7-Oct-85	65	32	0	0	0
8-Oct-85	67	32	0	0	0
9-Oct-85	71	40	0	0	0
10-Oct-85	73	56	0	0	0
11-Oct-85	71	51	0	0	0
12-Oct-85	61	35	0	0	0
13-Oct-85	61	40	0.41	0	0
14-Oct-85	72	46	0	0	0
15-Oct-85	72	55	0.18	0	0
16-Oct-85	70	44	0.07	0	0
17-Oct-85	67	33	0	0	0
18-Oct-85	63	32	0	0	0
19-Oct-85	67	55	0.14	0	0
20-Oct-85	63	48	0	0	0
21-Oct-85	59	26	0	0	0
22-Oct-85	61	27	0	0	0
23-Oct-85	66	26	0	0	0
24-Oct-85	67	33	0	0	0
25-Oct-85	68	57	0.25	0	0
26-Oct-85	66	31	0	0	0
27-Oct-85	69	34	0	0	0
28-Oct-85	67	39	0	0	0
29-Oct-85	55	28	0	0	0
30-Oct-85	53	24	0	0	0
31-Oct-85	55	37	0	0	0
1-Nov-85	58	21	0	0	0
2-Nov-85	57	31	0.06	0	0
3-Nov-85	52	45	0	0	0
4-Nov-85	52	42	0	0	0
5-Nov-85	61	45	3.34	0	0
6-Nov-85	58	52	0.51	0	0
7-Nov-85	58	39	0	0	0
8-Nov-85	55	39	0	0	0
9-Nov-85	60	28	0	0	0
10-Nov-85	68	51	0.001	0	0
11-Nov-85	65	42	0.06	0	0
12-Nov-85	43	38	0.53	0	0
13-Nov-85	62	40	0.28	0	0
14-Nov-85	60	46	0.04	0	0
15-Nov-85	61	38	0.22	0	0
16-Nov-85	40	25	0.03	0	0
17-Nov-85	60	36	2.11	0	0
18-Nov-85	57	31	0	0	0
19-Nov-85	64	31	0	0	0
20-Nov-85	64	54	0.001	0	0
21-Nov-85	61	47	0	0	0
22-Nov-85	50	30	0.48	0	0
23-Nov-85	49	34	0.25	0	0
24-Nov-85	51	25	0	0	0
25-Nov-85	45	25	0	0	0
26-Nov-85	41	27	0.45	0.01	0
27-Nov-85	41	32	0.14	0	0
28-Nov-85	39	35	0.52	0	0
29-Nov-85	39	32	0.15	0	0
30-Nov-85	39	29	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
1-Dec-85	58	37	0	0	0
2-Dec-85	60	40	0.21	0	0
3-Dec-85	40	25	0	0	0
4-Dec-85	37	15	0	0	0
5-Dec-85	40	16	0	0	0
6-Dec-85	42	27	0.02	0.01	0
7-Dec-85	40	24	0	0	0
8-Dec-85	46	24	0	0	0
9-Dec-85	45	24	0	0	0
10-Dec-85	41	19	0	0	0
11-Dec-85	42	32	0.02	0	0
12-Dec-85	45	36	0.32	0	0
13-Dec-85	43	23	0.07	0	0
14-Dec-85	43	29	0.23	0	0
15-Dec-85	31	14	0	0	0
16-Dec-85	40	15	0	0	0
17-Dec-85	39	25	0.02	0	0
18-Dec-85	31	17	0.03	0.3	0.1
19-Dec-85	27	7	0	0	0.1
20-Dec-85	31	3	0	0	0.1
21-Dec-85	32	22	0.001	0.01	0.1
22-Dec-85	29	7	0	0	0
23-Dec-85	37	24	0.08	1.5	0.1
24-Dec-85	54	20	0	0	0
25-Dec-85	49	30	0	0	0
26-Dec-85	30	9	0	0	0
27-Dec-85	37	10	0.001	0.01	0
28-Dec-85	40	28	0	0	0
29-Dec-85	37	17	0	0	0
30-Dec-85	36	10	0	0	0
31-Dec-85	48	13	0	0	0
1-Jan-86	45	32	0.32	0	0
2-Jan-86	41	16	0	0	0
3-Jan-86	53	24	0.86	0	0
4-Jan-86	43	23	0	0	0
5-Jan-86	42	20	0.57	0	0
6-Jan-86	37	26	0	0	0
7-Jan-86	34	16	0	0	0
8-Jan-86	26	7	0	0	0
9-Jan-86	35	11	0	0	0
10-Jan-86	45	30	0	0	0
11-Jan-86	42	21	0	0	0
12-Jan-86	49	13	0	0	0
13-Jan-86	48	22	0	0	0
14-Jan-86	43	10	0	0	0
15-Jan-86	18	-1	0	0	0
16-Jan-86	35	4	0	0	0
17-Jan-86	51	10	0	0	0
18-Jan-86	60	37	0	0	0
19-Jan-86	58	30	0.29	0	0
20-Jan-86	55	41	0.96	0	0
21-Jan-86	43	33	0	0	0
22-Jan-86	53	20	0	0	0
23-Jan-86	50	29	0	0	0
24-Jan-86	35	17	0	0	0
25-Jan-86	33	13	0.01	0.2	0.1
26-Jan-86	55	33	0.73	0	0
27-Jan-86	54	37	2.08	0	0
28-Jan-86	38	11	0.05	0.6	0.1
29-Jan-86	25	6	0	0	0
30-Jan-86	31	16	0.001	0.01	0.1
31-Jan-86	34	11	0	0	0.1
1-Feb-86	35	10	0	0	0.1
2-Feb-86	50	27	0.82	0.01	0
3-Feb-86	43	23	0	0	0
4-Feb-86	38	21	0	0	0
5-Feb-86	38	32	0.42	0.2	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
6-Feb-86	38	26	0	0	0
7-Feb-86	30	16	0.14	1.8	2
8-Feb-86	31	18	0.17	2	4
9-Feb-86	36	5	0	0	2
10-Feb-86	39	8	0	0	2
11-Feb-86	35	22	0.21	3	4
12-Feb-86	31	2	0.001	0.01	4
13-Feb-86	30	8	0	0	4
14-Feb-86	29	7	0	0	3
15-Feb-86	35	20	0.06	1	2
16-Feb-86	32	16	0	0	2
17-Feb-86	33	23	0.13	1	3
18-Feb-86	34	31	0.41	0	2
19-Feb-86	35	30	0.47	0	1
20-Feb-86	44	31	0	0	0.1
21-Feb-86	47	26	0.26	0	0
22-Feb-86	46	30	0.32	0	0
23-Feb-86	39	28	0	0	0
24-Feb-86	41	22	0	0	0
25-Feb-86	38	25	0.001	0.01	0
26-Feb-86	32	11	0	0	0
27-Feb-86	38	16	0	0	0
28-Feb-86	37	14	0	0	0
1-Mar-86	43	11	0	0	0
2-Mar-86	42	23	0	0	0
3-Mar-86	45	16	0	0	0
4-Mar-86	47	17	0	0	0
5-Mar-86	50	19	0	0	0
6-Mar-86	48	18	0	0	0
7-Mar-86	39	26	0.001	0	0
8-Mar-86	25	5	0	0	0
9-Mar-86	39	13	0.001	0.01	0
10-Mar-86	38	28	0.04	0.01	0
11-Mar-86	63	34	0.02	0	0
12-Mar-86	53	23	0	0	0
13-Mar-86	39	32	0.69	0	0
14-Mar-86	40	35	0.9	0	0
15-Mar-86	62	36	1.17	0	0
16-Mar-86	60	38	0.03	0	0
17-Mar-86	55	33	0	0	0
18-Mar-86	56	28	0	0	0
19-Mar-86	53	36	0.18	0	0
20-Mar-86	55	36	0	0	0
21-Mar-86	38	10	0	0	0
22-Mar-86	41	10	0	0	0
23-Mar-86	45	16	0	0	0
24-Mar-86	51	25	0	0	0
25-Mar-86	52	18	0	0	0
26-Mar-86	65	42	0	0	0
27-Mar-86	62	45	0	0	0
28-Mar-86	57	39	0.34	0	0
29-Mar-86	61	39	0	0	0
30-Mar-86	62	36	0	0	0
31-Mar-86	72	42	0	0	0
1-Apr-86	70	28	0	0	0
2-Apr-86	73	36	0	0	0
3-Apr-86	70	39	0	0	0
4-Apr-86	53	26	0.01	0	0
5-Apr-86	50	35	0.05	0	0
6-Apr-86	44	32	0.2	0.01	0
7-Apr-86	57	38	0.43	0	0
8-Apr-86	56	40	0.28	0	0
9-Apr-86	57	32	0.01	0	0
10-Apr-86	53	39	0	0	0
11-Apr-86	45	27	0.03	0	0
12-Apr-86	51	24	0.001	0	0
13-Apr-86	53	22	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
14-Apr-86	61	25	0	0	0
15-Apr-86	63	27	0	0	0
16-Apr-86	55	30	0	0	0
17-Apr-86	60	42	0.02	0	0
18-Apr-86	54	44	0	0	0
19-Apr-86	58	36	0	0	0
20-Apr-86	65	24	0	0	0
21-Apr-86	59	40	0.18	0	0
22-Apr-86	67	43	0.17	0	0
23-Apr-86	62	40	0.14	0	0
24-Apr-86	62	40	0.26	0	0
25-Apr-86	57	42	0.24	0	0
26-Apr-86	63	50	0.02	0	0
27-Apr-86	59	50	0.1	0	0
28-Apr-86	64	49	0.03	0	0
29-Apr-86	65	46	0	0	0
30-Apr-86	62	44	0	0	0
1-May-86	63	43	0	0	0
2-May-86	63	39	0.03	0	0
3-May-86	55	29	0	0	0
4-May-86	55	26	0	0	0
5-May-86	71	35	0.02	0	0
6-May-86	75	48	0.001	0	0
7-May-86	62	46	0.34	0	0
8-May-86	58	45	0.03	0	0
9-May-86	51	38	0	0	0
10-May-86	66	32	0	0	0
11-May-86	63	30	0	0	0
12-May-86	56	39	0	0	0
13-May-86	68	35	0	0	0
14-May-86	66	30	0	0	0
15-May-86	63	29	0	0	0
16-May-86	66	46	0	0	0
17-May-86	78	55	0.001	0	0
18-May-86	84	48	0	0	0
19-May-86	78	53	0	0	0
20-May-86	75	53	0	0	0
21-May-86	76	59	0.001	0	0
22-May-86	70	58	1.33	0	0
23-May-86	73	58	0.02	0	0
24-May-86	71	52	0.03	0	0
25-May-86	72	55	0.02	0	0
26-May-86	69	51	0	0	0
27-May-86	65	37	0	0	0
28-May-86	83	52	0.05	0	0
29-May-86	78	44	0.06	0	0
30-May-86	88	58	0	0	0
31-May-86	87	57	0.02	0	0
1-Jun-86	81	57	0.12	0	0
2-Jun-86	79	51	0.06	0	0
3-Jun-86	64	31	0.02	0	0
4-Jun-86	67	40	0	0	0
5-Jun-86	77	54	0	0	0
6-Jun-86	76	56	0.21	0	0
7-Jun-86	63	52	0.57	0	0
8-Jun-86	80	58	0.91	0	0
9-Jun-86	79	52	0	0	0
10-Jun-86	77	45	0	0	0
11-Jun-86	78	58	0.08	0	0
12-Jun-86	76	53	0.85	0	0
13-Jun-86	70	50	0.66	0	0
14-Jun-86	78	51	0	0	0
15-Jun-86	84	50	0	0	0
16-Jun-86	82	64	0	0	0
17-Jun-86	72	65	0	0	0
18-Jun-86	72	42	0	0	0
19-Jun-86	75	40	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
20-Jun-86	74	57	0.41	0	0
21-Jun-86	70	46	0.01	0	0
22-Jun-86	80	39	0	0	0
23-Jun-86	81	57	0.03	0	0
24-Jun-86	84	50	0.02	0	0
25-Jun-86	78	49	0.22	0	0
26-Jun-86	73	40	0	0	0
27-Jun-86	77	57	0	0	0
28-Jun-86	84	65	0.05	0	0
29-Jun-86	85	63	0.08	0	0
30-Jun-86	82	53	0	0	0
1-Jul-86	79	44	0	0	0
2-Jul-86	74	56	1.45	0	0
3-Jul-86	70	53	0.23	0	0
4-Jul-86	72	43	0.17	0	0
5-Jul-86	82	60	0	0	0
6-Jul-86	82	68	0	0	0
7-Jul-86	93	61	0	0	0
8-Jul-86	91	72	0	0	0
9-Jul-86	85	66	0.02	0	0
10-Jul-86	81	60	0	0	0
11-Jul-86	78	47	0	0	0
12-Jul-86	75	56	0.88	0	0
13-Jul-86	61	57	0.39	0	0
14-Jul-86	75	54	0.95	0	0
15-Jul-86	82	56	0.22	0	0
16-Jul-86	82	52	0	0	0
17-Jul-86	81	55	0	0	0
18-Jul-86	82	60	0	0	0
19-Jul-86	80	62	0	0	0
20-Jul-86	73	62	0	0	0
21-Jul-86	82	65	0	0	0
22-Jul-86	82	58	0	0	0
23-Jul-86	84	54	0	0	0
24-Jul-86	87	57	0	0	0
25-Jul-86	80	63	0	0	0
26-Jul-86	83	66	0	0	0
27-Jul-86	77	66	1.17	0	0
28-Jul-86	81	66	0	0	0
29-Jul-86	78	65	0.06	0	0
30-Jul-86	72	63	1.07	0	0
31-Jul-86	70	59	0	0	0
1-Aug-86	75	59	0	0	0
2-Aug-86	82	59	0	0	0
3-Aug-86	80	66	0.7	0	0
4-Aug-86	82	62	0	0	0
5-Aug-86	83	56	0	0	0
6-Aug-86	83	55	0.01	0	0
7-Aug-86	80	62	0.001	0	0
8-Aug-86	77	66	1.12	0	0
9-Aug-86	84	63	0	0	0
10-Aug-86	83	57	0	0	0
11-Aug-86	85	63	0.18	0	0
12-Aug-86	83	60	0	0	0
13-Aug-86	78	54	0	0	0
14-Aug-86	75	50	0	0	0
15-Aug-86	78	46	0	0	0
16-Aug-86	77	61	0.01	0	0
17-Aug-86	80	65	0.01	0	0
18-Aug-86	80	67	0.65	0	0
19-Aug-86	74	64	0.42	0	0
20-Aug-86	76	56	0	0	0
21-Aug-86	74	58	0.001	0	0
22-Aug-86	76	55	0.69	0	0
23-Aug-86	78	49	0	0	0
24-Aug-86	71	61	0.13	0	0
25-Aug-86	73	53	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
26-Aug-86	78	48	0	0	0
27-Aug-86	79	63	0.04	0	0
28-Aug-86	79	51	0.22	0	0
29-Aug-86	65	35	0	0	0
30-Aug-86	72	34	0	0	0
31-Aug-86	76	42	0	0	0
1-Sep-86	76	46	0	0	0
2-Sep-86	75	49	0	0	0
3-Sep-86	73	60	0.01	0	0
4-Sep-86	67	56	0	0	0
5-Sep-86	72	54	0	0	0
6-Sep-86	77	63	0.14	0	0
7-Sep-86	77	51	0	0	0
8-Sep-86	69	41	0	0	0
9-Sep-86	73	37	0	0	0
10-Sep-86	74	41	0	0	0
11-Sep-86	73	61	0	0	0
12-Sep-86	72	68	0.001	0	0
13-Sep-86	74	54	0	0	0
14-Sep-86	73	41	0	0	0
15-Sep-86	68	34	0	0	0
16-Sep-86	67	48	0.48	0	0
17-Sep-86	66	37	0	0	0
18-Sep-86	65	34	0	0	0
19-Sep-86	68	57	0.06	0	0
20-Sep-86	69	48	0	0	0
21-Sep-86	67	55	0.12	0	0
22-Sep-86	65	42	0.01	0	0
23-Sep-86	68	53	0.03	0	0
24-Sep-86	77	62	0.06	0	0
25-Sep-86	78	56	0.01	0	0
26-Sep-86	77	54	0	0	0
27-Sep-86	68	55	0	0	0
28-Sep-86	66	34	0	0	0
29-Sep-86	71	58	0	0	0
30-Sep-86	80	64	0	0	0
1-Oct-86	80	69	0	0	0
2-Oct-86	77	57	0.33	0	0
3-Oct-86	63	50	0.001	0	0
4-Oct-86	77	58	0.9	0	0
5-Oct-86	72	55	0	0	0
6-Oct-86	61	37	0	0	0
7-Oct-86	57	25	0	0	0
8-Oct-86	66	28	0	0	0
9-Oct-86	72	58	0	0	0
10-Oct-86	71	39	0	0	0
11-Oct-86	55	27	0	0	0
12-Oct-86	61	38	0	0	0
13-Oct-86	67	46	0.03	0	0
14-Oct-86	68	59	0.93	0	0
15-Oct-86	67	43	0	0	0
16-Oct-86	59	29	0	0	0
17-Oct-86	58	29	0.001	0	0
18-Oct-86	55	39	0.04	0	0
19-Oct-86	60	24	0	0	0
20-Oct-86	62	33	0	0	0
21-Oct-86	64	32	0	0	0
22-Oct-86	67	38	0.001	0	0
23-Oct-86	70	41	0.03	0	0
24-Oct-86	66	40	0	0	0
25-Oct-86	57	27	0	0	0
26-Oct-86	56	37	0.12	0	0
27-Oct-86	52	45	0.33	0	0
28-Oct-86	62	50	0	0	0
29-Oct-86	67	32	0	0	0
30-Oct-86	62	44	0	0	0
31-Oct-86	62	30	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
1-Nov-86	60	26	0	0	0
2-Nov-86	62	52	0.001	0	0
3-Nov-86	52	25	0	0	0
4-Nov-86	58	30	0.001	0	0
5-Nov-86	51	30	0	0	0
6-Nov-86	49	39	0.74	0	0
7-Nov-86	51	37	0	0	0
8-Nov-86	56	47	0.75	0	0
9-Nov-86	64	55	1.17	0	0
10-Nov-86	55	36	0.08	0	0
11-Nov-86	43	24	0.56	0	0
12-Nov-86	50	29	0.23	0	0
13-Nov-86	44	25	0	0	0
14-Nov-86	35	14	0	0	0
15-Nov-86	47	22	0	0	0
16-Nov-86	52	38	0.02	0	0
17-Nov-86	54	22	0	0	0
18-Nov-86	52	28	0	0	0
19-Nov-86	46	28	1.06	2.1	2
20-Nov-86	34	15	0	0	2
21-Nov-86	57	31	2.01	0	0
22-Nov-86	44	29	0	0	0
23-Nov-86	51	22	0	0	0
24-Nov-86	55	47	0.44	0	0
25-Nov-86	51	25	0	0	0
26-Nov-86	53	23	0.32	0	0
27-Nov-86	62	48	0.73	0	0
28-Nov-86	50	23	0	0	0
29-Nov-86	54	27	0	0	0
30-Nov-86	51	22	0	0	0
1-Dec-86	40	18	0	0	0
2-Dec-86	43	20	0	0	0
3-Dec-86	62	40	4.28	0	0
4-Dec-86	54	36	0	0	0
5-Dec-86	42	25	0	0	0
6-Dec-86	41	17	0	0	0
7-Dec-86	44	20	0	0	0
8-Dec-86	46	36	0	0	0
9-Dec-86	42	26	0.28	1	0
10-Dec-86	54	41	0.59	0	0
11-Dec-86	50	26	0.001	0.01	0
12-Dec-86	40	30	0.5	1	1
13-Dec-86	36	24	0	0	0
14-Dec-86	33	9	0	0	0
15-Dec-86	41	25	0	0	0
16-Dec-86	41	29	0	0	0
17-Dec-86	40	30	0.03	0.2	0
18-Dec-86	41	27	0.08	0	0
19-Dec-86	47	38	2.32	0	0
20-Dec-86	45	30	0	0	0
21-Dec-86	38	26	0	0	0
22-Dec-86	38	17	0	0	0
23-Dec-86	46	23	0	0	0
24-Dec-86	43	19	0	0	0
25-Dec-86	57	36	1.4	0	0
26-Dec-86	48	31	0	0	0
27-Dec-86	40	25	0	0	0
28-Dec-86	38	21	0	0	0
29-Dec-86	42	19	0	0	0
30-Dec-86	38	28	0.03	0.2	0
31-Dec-86	40	24	0.27	3	2
1-Jan-87	39	11	0	0	2
2-Jan-87	39	32	1.45	0	0.1
3-Jan-87	36	26	0.27	2.5	2
4-Jan-87	38	12	0	0	1
5-Jan-87	37	11	0	0	1
6-Jan-87	39	11	0	0	1

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
7-Jan-87	45	25	0	0	0.1
8-Jan-87	43	26	0	0	0.1
9-Jan-87	42	17	0	0	0.1
10-Jan-87	42	25	0.27	0	0
11-Jan-87	45	33	0.47	0	0
12-Jan-87	38	31	0	0	0
13-Jan-87	40	29	0	0	0
14-Jan-87	46	20	0	0	0
15-Jan-87	52	40	0.02	0	0
16-Jan-87	50	34	0	0	0
17-Jan-87	38	16	0	0	0
18-Jan-87	38	14	0.25	0	0
19-Jan-87	39	29	0.98	0.1	0.1
20-Jan-87	33	20	0.29	2.5	2
21-Jan-87	37	14	0	0	2
22-Jan-87	34	18	0.18	2.2	3
23-Jan-87	46	27	1.04	2	1
24-Jan-87	35	9	0.001	0.5	1
25-Jan-87	27	2	0	0	1
26-Jan-87	24	16	0.48	5.5	6
27-Jan-87	26	-4	0	0	6
28-Jan-87	30	-7	0	0	5
29-Jan-87	36	-2	0	0	4
30-Jan-87	35	5	0.03	0.2	4
31-Jan-87	34	31	0.46	1.8	5
1-Feb-87	39	25	0	0	4
2-Feb-87	49	27	0	0	4
3-Feb-87	45	22	0	0	3
4-Feb-87	44	32	0	0	3
5-Feb-87	38	16	0	0	3
6-Feb-87	41	9	0	0	3
7-Feb-87	50	17	0	0	3
8-Feb-87	45	19	0	0	2
9-Feb-87	38	29	0.7	2	4
10-Feb-87	34	9	0.05	1	5
11-Feb-87	39	21	0	0	5
12-Feb-87	39	21	0	0	4
13-Feb-87	34	20	0	0	4
14-Feb-87	22	1	0	0	4
15-Feb-87	21	-4	0	0	3
16-Feb-87	40	3	0	0	3
17-Feb-87	40	12	0	0	2
18-Feb-87	40	19	0	0	2
19-Feb-87	39	13	0	0	2
20-Feb-87	39	12	0	0	2
21-Feb-87	40	12	0	0	2
22-Feb-87	46	13	0	0	2
23-Feb-87	43	24	0.16	1.6	4
24-Feb-87	42	13	0	0	3
25-Feb-87	42	19	0	0	2
26-Feb-87	42	22	0	0	2
27-Feb-87	42	18	0	0	2
28-Feb-87	44	16	0	0	2
1-Mar-87	40	33	1.69	0	1
2-Mar-87	39	31	0.98	0.01	1
3-Mar-87	44	28	0.01	0	0.1
4-Mar-87	41	22	0	0	0.1
5-Mar-87	39	19	0	0	0.1
6-Mar-87	47	15	0	0	0
7-Mar-87	64	38	0	0	0
8-Mar-87	69	34	0	0	0
9-Mar-87	63	32	0	0	0
10-Mar-87	45	12	0	0	0
11-Mar-87	35	13	0	0	0
12-Mar-87	40	23	0	0	0
13-Mar-87	38	32	0.02	0.01	0.1
14-Mar-87	38	29	0.04	0.8	0.1

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
15-Mar-87	43	21	0	0	0
16-Mar-87	42	20	0	0	0
17-Mar-87	39	24	0	0	0
18-Mar-87	46	29	0	0	0
19-Mar-87	49	24	0	0	0
20-Mar-87	47	23	0.001	0.01	0
21-Mar-87	41	26	0.04	0.5	0
22-Mar-87	41	31	0.001	0	0
23-Mar-87	50	34	0	0	0
24-Mar-87	61	24	0	0	0
25-Mar-87	71	27	0	0	0
26-Mar-87	63	36	0.37	0	0
27-Mar-87	62	29	0	0	0
28-Mar-87	60	43	0.53	0	0
29-Mar-87	64	29	0	0	0
30-Mar-87	61	35	0	0	0
31-Mar-87	55	46	1.41	0	0
1-Apr-87	55	33	1.52	0	0
2-Apr-87	51	23	0	0	0
3-Apr-87	61	34	0	0	0
4-Apr-87	59	46	0.16	0	0
5-Apr-87	52	41	1.44	0	0
6-Apr-87	45	40	0.34	0	0
7-Apr-87	47	39	0.18	0	0
8-Apr-87	51	34	0.07	0	0
9-Apr-87	51	34	0	0	0
10-Apr-87	67	29	0	0	0
11-Apr-87	70	29	0	0	0
12-Apr-87	70	44	0	0	0
13-Apr-87	61	34	1.21	0.01	0
14-Apr-87	58	34	0	0	0
15-Apr-87	64	28	0	0	0
16-Apr-87	56	41	0.001	0	0
17-Apr-87	47	39	0.11	0	0
18-Apr-87	56	45	0.81	0	0
19-Apr-87	67	51	0	0	0
20-Apr-87	68	51	0.001	0	0
21-Apr-87	73	50	0.001	0	0
22-Apr-87	72	47	0	0	0
23-Apr-87	50	38	0.001	0	0
24-Apr-87	72	48	0.51	0	0
25-Apr-87	62	37	0.49	0	0
26-Apr-87	59	27	0	0	0
27-Apr-87	56	30	0	0	0
28-Apr-87	50	36	0.88	0	0
29-Apr-87	55	32	0.54	0.01	0
30-Apr-87	56	36	0	0	0
1-May-87	58	35	0	0	0
2-May-87	65	32	0	0	0
3-May-87	62	32	0.001	0	0
4-May-87	54	41	0.97	0	0
5-May-87	47	40	0.36	0	0
6-May-87	50	41	0	0	0
7-May-87	73	41	0	0	0
8-May-87	70	46	0	0	0
9-May-87	71	33	0	0	0
10-May-87	83	47	0	0	0
11-May-87	85	46	0	0	0
12-May-87	75	49	0	0	0
13-May-87	73	40	0	0	0
14-May-87	63	27	0	0	0
15-May-87	62	51	0.03	0	0
16-May-87	65	39	0	0	0
17-May-87	79	45	0	0	0
18-May-87	78	48	0	0	0
19-May-87	65	47	0.19	0	0
20-May-87	62	36	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
21-May-87	70	50	0	0	0
22-May-87	72	49	0.001	0	0
23-May-87	79	56	0	0	0
24-May-87	65	48	0.02	0	0
25-May-87	65	45	0	0	0
26-May-87	66	41	0	0	0
27-May-87	66	42	0.02	0	0
28-May-87	79	50	0.22	0	0
29-May-87	85	64	0	0	0
30-May-87	92	58	0	0	0
31-May-87	93	62	0	0	0
1-Jun-87	88	63	0	0	0
2-Jun-87	85	61	0	0	0
3-Jun-87	67	55	0	0	0
4-Jun-87	65	54	0.02	0	0
5-Jun-87	73	56	0.23	0	0
6-Jun-87	72	53	0	0	0
7-Jun-87	71	35	0.001	0	0
8-Jun-87	84	54	0.49	0	0
9-Jun-87	82	60	0	0	0
10-Jun-87	79	52	0	0	0
11-Jun-87	74	40	0	0	0
12-Jun-87	72	58	0.08	0	0
13-Jun-87	82	60	0.001	0	0
14-Jun-87	83	59	0	0	0
15-Jun-87	88	62	0	0	0
16-Jun-87	87	54	0	0	0
17-Jun-87	81	56	0	0	0
18-Jun-87	82	44	0	0	0
19-Jun-87	81	50	0	0	0
20-Jun-87	88	60	0	0	0
21-Jun-87	82	61	0.14	0	0
22-Jun-87	73	62	0.001	0	0
23-Jun-87	70	59	0.32	0	0
24-Jun-87	76	45	0	0	0
25-Jun-87	78	54	0	0	0
26-Jun-87	67	55	0	0	0
27-Jun-87	66	60	0.18	0	0
28-Jun-87	78	61	0.001	0	0
29-Jun-87	82	46	0	0	0
30-Jun-87	85	61	0	0	0
1-Jul-87	85	62	0.03	0	0
2-Jul-87	81	62	0	0	0
3-Jul-87	73	58	0.72	0	0
4-Jul-87	83	63	0.001	0	0
5-Jul-87	80	56	0	0	0
6-Jul-87	78	49	0	0	0
7-Jul-87	75	47	0.001	0	0
8-Jul-87	72	62	0.15	0	0
9-Jul-87	85	66	0	0	0
10-Jul-87	90	63	0.001	0	0
11-Jul-87	86	67	0.001	0	0
12-Jul-87	81	68	0.001	0	0
13-Jul-87	77	67	0.001	0	0
14-Jul-87	79	70	0	0	0
15-Jul-87	80	63	0.04	0	0
16-Jul-87	79	57	0	0	0
17-Jul-87	82	48	0	0	0
18-Jul-87	91	51	0	0	0
19-Jul-87	88	66	0	0	0
20-Jul-87	79	58	0	0	0
21-Jul-87	85	68	0.04	0	0
22-Jul-87	84	61	0	0	0
23-Jul-87	83	59	0	0	0
24-Jul-87	89	67	0	0	0
25-Jul-87	92	69	0.001	0	0
26-Jul-87	86	71	0.07	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
27-Jul-87	84	58	0	0	0
28-Jul-87	82	54	0	0	0
29-Jul-87	81	55	0	0	0
30-Jul-87	77	48	0	0	0
31-Jul-87	83	61	0	0	0
1-Aug-87	79	47	0	0	0
2-Aug-87	79	48	0	0	0
3-Aug-87	78	65	0.25	0	0
4-Aug-87	88	62	0.001	0	0
5-Aug-87	85	63	0	0	0
6-Aug-87	82	62	0.09	0	0
7-Aug-87	80	58	0	0	0
8-Aug-87	84	60	0	0	0
9-Aug-87	85	64	0.001	0	0
10-Aug-87	80	62	0.92	0	0
11-Aug-87	84	56	0	0	0
12-Aug-87	83	51	0	0	0
13-Aug-87	75	48	0	0	0
14-Aug-87	78	50	0	0	0
15-Aug-87	85	56	0	0	0
16-Aug-87	86	59	0	0	0
17-Aug-87	89	69	0	0	0
18-Aug-87	94	70	0	0	0
19-Aug-87	93	57	0	0	0
20-Aug-87	85	58	0	0	0
21-Aug-87	84	49	0	0	0
22-Aug-87	83	54	0.47	0	0
23-Aug-87	75	64	0	0	0
24-Aug-87	73	50	0	0	0
25-Aug-87	74	38	0	0	0
26-Aug-87	78	42	0	0	0
27-Aug-87	74	53	0.36	0	0
28-Aug-87	63	57	0.58	0	0
29-Aug-87	66	57	0.48	0	0
30-Aug-87	73	45	0	0	0
31-Aug-87	74	43	0	0	0
1-Sep-87	76	59	0.72	0	0
2-Sep-87	74	42	0	0	0
3-Sep-87	74	51	0	0	0
4-Sep-87	74	40	0	0	0
5-Sep-87	74	41	0	0	0
6-Sep-87	74	45	0	0	0
7-Sep-87	72	63	0.23	0	0
8-Sep-87	79	63	0.01	0	0
9-Sep-87	82	67	0.91	0	0
10-Sep-87	83	61	0	0	0
11-Sep-87	81	57	0	0	0
12-Sep-87	68	59	0	0	0
13-Sep-87	68	60	2.16	0	0
14-Sep-87	77	64	0.68	0	0
15-Sep-87	78	45	0	0	0
16-Sep-87	77	51	0.001	0	0
17-Sep-87	76	62	0.04	0	0
18-Sep-87	70	54	0.08	0	0
19-Sep-87	59	52	0.43	0	0
20-Sep-87	60	54	0.52	0	0
21-Sep-87	64	53	0.03	0	0
22-Sep-87	70	51	0.001	0	0
23-Sep-87	70	51	0	0	0
24-Sep-87	75	51	0	0	0
25-Sep-87	69	43	0.001	0	0
26-Sep-87	66	31	0	0	0
27-Sep-87	66	37	0	0	0
28-Sep-87	73	42	0	0	0
29-Sep-87	72	51	0	0	0
30-Sep-87	64	59	0.3	0	0
1-Oct-87	68	50	0.02	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
2-Oct-87	68	33	0	0	0
3-Oct-87	70	50	0	0	0
4-Oct-87	71	40	0.96	0	0
5-Oct-87	67	28	0	0	0
6-Oct-87	68	38	0	0	0
7-Oct-87	68	47	0.01	0	0
8-Oct-87	66	41	0	0	0
9-Oct-87	60	30	0	0	0
10-Oct-87	63	38	0	0	0
11-Oct-87	61	40	0.1	0	0
12-Oct-87	48	40	0.1	0	0
13-Oct-87	53	32	0	0	0
14-Oct-87	56	27	0	0	0
15-Oct-87	66	25	0	0	0
16-Oct-87	66	31	0	0	0
17-Oct-87	66	42	0	0	0
18-Oct-87	69	51	0	0	0
19-Oct-87	69	36	0	0	0
20-Oct-87	65	34	0	0	0
21-Oct-87	64	55	0.13	0	0
22-Oct-87	62	38	0	0	0
23-Oct-87	59	26	0	0	0
24-Oct-87	65	39	0.001	0	0
25-Oct-87	63	46	0	0	0
26-Oct-87	58	22	0	0	0
27-Oct-87	57	23	0	0	0
28-Oct-87	62	52	1.05	0	0
29-Oct-87	58	36	0	0	0
30-Oct-87	55	26	0	0	0
31-Oct-87	60	47	0	0	0
1-Nov-87	60	26	0	0	0
2-Nov-87	54	32	0	0	0
3-Nov-87	59	28	0	0	0
4-Nov-87	72	45	0	0	0
5-Nov-87	68	51	0	0	0
6-Nov-87	57	34	0	0	0
7-Nov-87	50	25	0	0	0
8-Nov-87	60	24	0	0	0
9-Nov-87	64	53	0	0	0
10-Nov-87	60	36	0.37	0	0
11-Nov-87	36	30	0.64	0.01	0.1
12-Nov-87	37	28	0.58	6.5	6
13-Nov-87	49	24	0	0	3
14-Nov-87	58	26	0	0	1
15-Nov-87	56	30	0	0	0.1
16-Nov-87	53	21	0	0	0
17-Nov-87	64	26	0.001	0	0
18-Nov-87	63	53	0.36	0	0
19-Nov-87	61	28	0	0	0
20-Nov-87	47	32	0.34	0	0
21-Nov-87	44	17	0	0	0
22-Nov-87	34	13	0	0	0
23-Nov-87	49	16	0	0	0
24-Nov-87	60	43	0	0	0
25-Nov-87	56	30	0	0	0
26-Nov-87	57	39	0.02	0	0
27-Nov-87	39	30	0.01	0	0
28-Nov-87	43	28	0	0	0
29-Nov-87	50	29	0	0	0
30-Nov-87	59	41	1.47	0	0
1-Dec-87	57	40	0.18	0	0
2-Dec-87	47	34	0	0	0
3-Dec-87	44	21	0	0	0
4-Dec-87	40	28	0.13	0	0
5-Dec-87	36	32	0.001	0	0
6-Dec-87	42	25	0	0	0
7-Dec-87	44	22	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
8-Dec-87	48	13	0	0	0
9-Dec-87	55	40	0	0	0
10-Dec-87	58	36	0	0	0
11-Dec-87	53	38	0.87	0	0
12-Dec-87	44	26	0.04	0	0
13-Dec-87	46	27	0.001	0	0
14-Dec-87	49	27	0	0	0
15-Dec-87	44	23	0.16	0	0
16-Dec-87	46	36	1.5	0	0
17-Dec-87	40	27	0.001	0.01	0
18-Dec-87	35	16	0	0	0
19-Dec-87	40	17	0	0	0
20-Dec-87	41	20	0.16	0.2	0
21-Dec-87	44	31	0.04	0	0
22-Dec-87	47	20	0	0	0
23-Dec-87	46	23	0	0	0
24-Dec-87	46	22	0	0	0
25-Dec-87	49	30	0.08	0	0
26-Dec-87	50	36	0.001	0	0
27-Dec-87	38	17	0	0	0
28-Dec-87	31	15	0	0	0
29-Dec-87	28	18	0.35	6	6
30-Dec-87	19	2	0	0	5
31-Dec-87	37	3	0	0	5
1-Jan-88	43	34	0.1	0	0.1
2-Jan-88	41	23	0	0	0.1
3-Jan-88	31	7	0	0	0.1
4-Jan-88	35	24	0.4	5.2	4
5-Jan-88	34	13	0.01	0.1	4
6-Jan-88	21	-1	0	0	4
7-Jan-88	21	4	0	0	3
8-Jan-88	27	3	0.1	2.2	5
9-Jan-88	35	22	0.53	7.5	12
10-Jan-88	30	0	0	0	12
11-Jan-88	29	-16	0	0	11
12-Jan-88	39	-3	0	0	10
13-Jan-88	39	17	0.07	0	7
14-Jan-88	35	-1	0	0	7
15-Jan-88	22	-13	0	0	7
16-Jan-88	41	-5	0	0	6
17-Jan-88	44	15	0	0	4
18-Jan-88	46	32	0.69	0	1
19-Jan-88	48	36	0.001	0	1
20-Jan-88	46	26	0.35	0	0.1
21-Jan-88	48	34	0.12	0	0.1
22-Jan-88	46	22	0	0	0.1
23-Jan-88	35	13	0	0	0.1
24-Jan-88	42	13	0	0	0
25-Jan-88	41	31	0.01	0	0
26-Jan-88	39	31	1.03	0	0
27-Jan-88	37	18	0	0	0
28-Jan-88	29	6	0	0	0
29-Jan-88	32	7	0	0	0
30-Jan-88	46	18	0	0	0
31-Jan-88	56	30	0	0	0
1-Feb-88	59	38	0	0	0
2-Feb-88	50	42	0.37	0	0
3-Feb-88	49	24	0.43	0.5	1
4-Feb-88	34	23	0.64	0.5	1
5-Feb-88	33	11	0.001	0.01	1
6-Feb-88	25	6	0	0	1
7-Feb-88	23	5	0	0	1
8-Feb-88	36	19	0	0	0.1
9-Feb-88	37	13	0	0	0.1
10-Feb-88	40	26	0	0	0.1
11-Feb-88	39	18	0	0	0.1
12-Feb-88	39	30	2.49	0.7	0.1

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
13-Feb-88	38	22	0.09	0.01	0
14-Feb-88	36	17	0	0	0
15-Feb-88	47	23	0.001	0	0
16-Feb-88	48	40	1.89	0	0
17-Feb-88	42	21	0	0	0
18-Feb-88	50	25	0	0	0
19-Feb-88	48	19	0	0	0
20-Feb-88	51	33	0.88	0	0
21-Feb-88	48	23	0	0	0
22-Feb-88	38	15	0	0	0
23-Feb-88	50	35	0	0	0
24-Feb-88	46	31	0.06	0	0
25-Feb-88	38	14	0.001	0.01	0.1
26-Feb-88	38	16	0	0	0
27-Feb-88	36	17	0	0	0
28-Feb-88	40	21	0	0	0
29-Feb-88	43	14	0	0	0
1-Mar-88	42	23	0	0	0
2-Mar-88	43	11	0	0	0
3-Mar-88	53	31	0.01	0	0
4-Mar-88	48	32	0.25	0	0
5-Mar-88	38	22	0.68	1.2	0
6-Mar-88	44	13	0	0	0
7-Mar-88	58	22	0	0	0
8-Mar-88	56	28	0	0	0
9-Mar-88	48	28	0	0	0
10-Mar-88	49	39	0.02	0	0
11-Mar-88	48	21	0	0	0
12-Mar-88	51	27	0	0	0
13-Mar-88	55	35	0.12	0	0
14-Mar-88	49	31	0.53	0	0
15-Mar-88	41	31	0.08	0	0
16-Mar-88	48	27	0.001	0.01	0
17-Mar-88	51	29	0	0	0
18-Mar-88	51	21	0	0	0
19-Mar-88	49	29	0	0	0
20-Mar-88	41	22	0.03	0.01	0
21-Mar-88	34	16	0	0	0
22-Mar-88	41	14	0	0	0
23-Mar-88	44	14	0	0	0
24-Mar-88	59	35	0	0	0
25-Mar-88	58	43	0.001	0	0
26-Mar-88	57	45	0.13	0	0
27-Mar-88	60	46	2.85	0	0
28-Mar-88	59	26	0	0	0
29-Mar-88	55	25	0	0	0
30-Mar-88	51	27	0	0	0
31-Mar-88	60	31	0	0	0
1-Apr-88	59	28	0.001	0	0
2-Apr-88	57	42	0.001	0	0
3-Apr-88	53	38	0.001	0	0
4-Apr-88	53	44	0.35	0	0
5-Apr-88	66	45	0.001	0	0
6-Apr-88	66	42	0	0	0
7-Apr-88	46	40	0	0	0
8-Apr-88	44	40	0.001	0	0
9-Apr-88	65	40	0	0	0
10-Apr-88	65	40	0	0	0
11-Apr-88	64	38	0.02	0	0
12-Apr-88	48	35	0.001	0	0
13-Apr-88	46	27	0	0	0
14-Apr-88	50	27	0	0	0
15-Apr-88	48	35	0.001	0	0
16-Apr-88	48	38	0.13	0.01	0
17-Apr-88	58	35	0	0	0
18-Apr-88	58	38	0.04	0	0
19-Apr-88	51	32	0.13	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
20-Apr-88	49	32	0	0	0
21-Apr-88	58	28	0.001	0	0
22-Apr-88	57	35	0	0	0
23-Apr-88	57	28	0	0	0
24-Apr-88	55	40	0.07	0	0
25-Apr-88	58	41	0	0	0
26-Apr-88	58	28	0	0	0
27-Apr-88	64	37	0	0	0
28-Apr-88	61	47	2.27	0	0
29-Apr-88	56	36	0	0	0
30-Apr-88	56	36	0	0	0
1-May-88	55	36	0.001	0	0
2-May-88	53	40	0.04	0	0
3-May-88	52	40	0.01	0	0
4-May-88	69	38	0	0	0
5-May-88	67	36	0.001	0	0
6-May-88	60	50	0.12	0	0
7-May-88	60	52	0.1	0	0
8-May-88	62	38	0	0	0
9-May-88	60	28	0	0	0
10-May-88	56	42	0.06	0	0
11-May-88	60	51	0.45	0	0
12-May-88	68	45	0.01	0	0
13-May-88	67	39	0	0	0
14-May-88	65	52	0.03	0	0
15-May-88	62	33	0	0	0
16-May-88	70	49	0	0	0
17-May-88	73	53	0.001	0	0
18-May-88	67	55	0.34	0	0
19-May-88	61	48	0.47	0	0
20-May-88	67	48	0.24	0	0
21-May-88	68	47	0.31	0	0
22-May-88	72	56	0	0	0
23-May-88	78	54	0	0	0
24-May-88	80	56	0	0	0
25-May-88	78	48	0.72	0	0
26-May-88	66	42	0.11	0	0
27-May-88	73	41	0	0	0
28-May-88	76	47	0	0	0
29-May-88	81	50	0	0	0
30-May-88	75	50	0	0	0
31-May-88	85	55	0	0	0
1-Jun-88	83	51	0.02	0	0
2-Jun-88	68	47	0.24	0	0
3-Jun-88	63	40	0	0	0
4-Jun-88	61	44	0.02	0	0
5-Jun-88	76	49	0	0	0
6-Jun-88	76	54	0	0	0
7-Jun-88	76	54	0	0	0
8-Jun-88	74	39	0	0	0
9-Jun-88	72	50	0.12	0	0
10-Jun-88	69	36	0.02	0	0
11-Jun-88	72	44	0	0	0
12-Jun-88	83	46	0	0	0
13-Jun-88	91	53	0	0	0
14-Jun-88	92	57	0	0	0
15-Jun-88	94	59	0	0	0
16-Jun-88	91	60	0	0	0
17-Jun-88	75	59	0	0	0
18-Jun-88	76	62	0.02	0	0
19-Jun-88	82	57	0	0	0
20-Jun-88	73	51	0	0	0
21-Jun-88	89	63	0	0	0
22-Jun-88	90	58	0	0	0
23-Jun-88	81	66	0.31	0	0
24-Jun-88	80	44	0	0	0
25-Jun-88	68	48	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
26-Jun-88	68	48	2.15	0	0
27-Jun-88	73	55	0	0	0
28-Jun-88	78	50	0	0	0
29-Jun-88	75	56	0.001	0	0
30-Jun-88	72	46	0.25	0	0
1-Jul-88	70	41	0	0	0
2-Jul-88	72	47	0.001	0	0
3-Jul-88	79	46	0	0	0
4-Jul-88	80	50	0	0	0
5-Jul-88	79	59	0	0	0
6-Jul-88	82	55	0	0	0
7-Jul-88	80	63	0.02	0	0
8-Jul-88	85	66	0	0	0
9-Jul-88	80	64	0	0	0
10-Jul-88	90	65	0.55	0	0
11-Jul-88	89	67	0.001	0	0
12-Jul-88	88	67	0.28	0	0
13-Jul-88	86	66	0	0	0
14-Jul-88	84	62	0	0	0
15-Jul-88	84	66	0.01	0	0
16-Jul-88	80	58	0	0	0
17-Jul-88	87	69	0	0	0
18-Jul-88	89	69	0	0	0
19-Jul-88	85	65	0.03	0	0
20-Jul-88	77	70	1.51	0	0
21-Jul-88	75	66	1.54	0	0
22-Jul-88	75	67	0.06	0	0
23-Jul-88	77	63	0.58	0	0
24-Jul-88	78	66	1.19	0	0
25-Jul-88	79	63	0.02	0	0
26-Jul-88	85	59	0	0	0
27-Jul-88	82	72	0.23	0	0
28-Jul-88	81	69	0.96	0	0
29-Jul-88	87	63	0.02	0	0
30-Jul-88	93	69	0	0	0
31-Jul-88	90	68	0.19	0	0
1-Aug-88	85	63	0	0	0
2-Aug-88	86	67	0	0	0
3-Aug-88	88	73	0	0	0
4-Aug-88	86	73	0	0	0
5-Aug-88	86	73	0	0	0
6-Aug-88	85	74	0	0	0
7-Aug-88	85	72	0.05	0	0
8-Aug-88	86	67	0	0	0
9-Aug-88	87	62	0	0	0
10-Aug-88	86	74	0	0	0
11-Aug-88	88	74	0	0	0
12-Aug-88	90	71	0.001	0	0
13-Aug-88	91	71	0	0	0
14-Aug-88	88	73	0	0	0
15-Aug-88	85	72	0	0	0
16-Aug-88	84	67	0	0	0
17-Aug-88	82	57	0	0	0
18-Aug-88	80	66	0	0	0
19-Aug-88	80	49	0	0	0
20-Aug-88	77	45	0	0	0
21-Aug-88	81	48	0	0	0
22-Aug-88	78	42	0	0	0
23-Aug-88	70	39	0	0	0
24-Aug-88	69	59	1.06	0	0
25-Aug-88	78	58	0	0	0
26-Aug-88	80	61	0	0	0
27-Aug-88	80	61	0	0	0
28-Aug-88	82	71	0	0	0
29-Aug-88	78	70	0	0	0
30-Aug-88	75	64	0.06	0	0
31-Aug-88	77	50	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
1-Sep-88	77	48	0	0	0
2-Sep-88	78	49	0	0	0
3-Sep-88	78	50	0	0	0
4-Sep-88	77	52	0.38	0	0
5-Sep-88	77	64	1.39	0	0
6-Sep-88	77	40	0	0	0
7-Sep-88	70	38	0	0	0
8-Sep-88	72	41	0	0	0
9-Sep-88	73	47	0.05	0	0
10-Sep-88	79	64	0	0	0
11-Sep-88	76	48	0	0	0
12-Sep-88	71	40	0	0	0
13-Sep-88	70	50	0.32	0	0
14-Sep-88	68	46	0	0	0
15-Sep-88	67	54	0	0	0
16-Sep-88	65	39	0	0	0
17-Sep-88	68	41	0	0	0
18-Sep-88	67	58	0.05	0	0
19-Sep-88	79	53	0	0	0
20-Sep-88	77	62	0.02	0	0
21-Sep-88	77	67	0.78	0	0
22-Sep-88	75	55	0	0	0
23-Sep-88	73	48	0.001	0	0
24-Sep-88	71	46	0	0	0
25-Sep-88	71	49	0	0	0
26-Sep-88	75	38	0	0	0
27-Sep-88	74	43	0	0	0
28-Sep-88	75	52	0	0	0
29-Sep-88	75	38	0	0	0
30-Sep-88	67	35	0	0	0
1-Oct-88	73	55	0	0	0
2-Oct-88	74	57	0	0	0
3-Oct-88	68	55	0.1	0	0
4-Oct-88	64	51	0.32	0	0
5-Oct-88	56	46	0.06	0	0
6-Oct-88	58	32	0	0	0
7-Oct-88	59	34	0.001	0	0
8-Oct-88	52	38	0.91	0	0
9-Oct-88	52	27	0	0	0
10-Oct-88	61	35	0	0	0
11-Oct-88	61	53	0	0	0
12-Oct-88	60	31	0	0	0
13-Oct-88	55	27	0	0	0
14-Oct-88	54	24	0	0	0
15-Oct-88	59	33	0	0	0
16-Oct-88	64	38	0	0	0
17-Oct-88	66	45	0	0	0
18-Oct-88	66	58	0	0	0
19-Oct-88	64	44	0.001	0	0
20-Oct-88	53	32	0	0	0
21-Oct-88	52	22	0	0	0
22-Oct-88	58	45	1.15	0	0
23-Oct-88	50	41	0	0	0
24-Oct-88	57	32	0.06	0	0
25-Oct-88	56	32	0	0	0
26-Oct-88	57	27	0.04	0	0
27-Oct-88	56	26	0	0	0
28-Oct-88	59	23	0.001	0	0
29-Oct-88	58	26	0.17	0	0
30-Oct-88	51	23	0	0	0
31-Oct-88	46	16	0	0	0
1-Nov-88	51	22	0.73	0	0
2-Nov-88	59	39	1.9	0	0
3-Nov-88	52	39	0	0	0
4-Nov-88	59	25	0	0	0
5-Nov-88	63	45	0.001	0	0
6-Nov-88	61	55	0.24	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
7-Nov-88	59	36	0.001	0	0
8-Nov-88	52	28	0	0	0
9-Nov-88	55	35	0	0	0
10-Nov-88	56	28	0	0	0
11-Nov-88	58	35	0.33	0	0
12-Nov-88	49	24	0	0	0
13-Nov-88	54	22	0.27	0	0
14-Nov-88	56	31	0.65	0	0
15-Nov-88	55	34	0	0	0
16-Nov-88	55	27	0	0	0
17-Nov-88	61	45	0.76	0	0
18-Nov-88	50	28	0	0	0
19-Nov-88	46	29	0	0	0
20-Nov-88	54	39	1.97	0	0
21-Nov-88	60	40	1.08	0	0
22-Nov-88	51	26	0	0	0
23-Nov-88	48	18	0	0	0
24-Nov-88	46	27	0	0	0
25-Nov-88	50	23	0	0	0
26-Nov-88	61	25	0	0	0
27-Nov-88	60	30	0.12	0	0
28-Nov-88	60	40	1.82	0	0
29-Nov-88	54	34	0	0	0
30-Nov-88	49	24	0	0	0
1-Dec-88	48	35	0	0	0
2-Dec-88	44	24	0	0	0
3-Dec-88	46	35	0	0	0
4-Dec-88	50	31	0	0	0
5-Dec-88	36	23	0	0	0
6-Dec-88	46	14	0	0	0
7-Dec-88	57	32	0	0	0
8-Dec-88	51	31	0	0	0
9-Dec-88	43	17	0	0	0
10-Dec-88	33	12	0	0	0
11-Dec-88	29	10	0.02	0.5	0
12-Dec-88	20	-2	0	0	0
13-Dec-88	37	2	0.03	0.01	0
14-Dec-88	39	35	0.81	0	0
15-Dec-88	49	34	0.04	0	0
16-Dec-88	46	14	0	0	0
17-Dec-88	23	8	0.02	0.01	0.1
18-Dec-88	30	12	0.03	0.01	0
19-Dec-88	37	10	0.001	0.01	0
20-Dec-88	50	18	0	0	0
21-Dec-88	51	45	0.02	0	0
22-Dec-88	47	29	0.001	0	0
23-Dec-88	40	19	0.1	0.01	0
24-Dec-88	47	30	0.38	0	0
25-Dec-88	52	40	0.11	0	0
26-Dec-88	47	27	0	0	0
27-Dec-88	36	15	0	0	0
28-Dec-88	53	30	0.05	0	0
29-Dec-88	54	29	0.22	0	0
30-Dec-88	38	20	0	0	0
31-Dec-88	41	20	0	0	0
1-Jan-89	39	20	0	0	0
2-Jan-89	41	29	0	0	0
3-Jan-89	40	28	0	0	0
4-Jan-89	35	15	0	0	0
5-Jan-89	22	4	0	0	0
6-Jan-89	23	8	0	0	0
7-Jan-89	34	23	0.03	0.4	0
8-Jan-89	51	27	0.01	0	0
9-Jan-89	50	36	0	0	0
10-Jan-89	38	22	0	0	0
11-Jan-89	39	19	0	0	0
12-Jan-89	43	17	0.11	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
13-Jan-89	47	34	0.44	0	0
14-Jan-89	41	15	0	0	0
15-Jan-89	52	34	0.72	0	0
16-Jan-89	44	21	0	0	0
17-Jan-89	44	17	0	0	0
18-Jan-89	45	26	0	0	0
19-Jan-89	47	27	0	0	0
20-Jan-89	51	22	0	0	0
21-Jan-89	48	10	0.001	0.01	0
22-Jan-89	38	6	0	0	0
23-Jan-89	45	21	0	0	0
24-Jan-89	61	19	0	0	0
25-Jan-89	55	27	0	0	0
26-Jan-89	47	24	0.14	0.01	0
27-Jan-89	47	30	0.15	0.01	0
28-Jan-89	40	18	0	0	0
29-Jan-89	50	36	0	0	0
30-Jan-89	50	28	0.24	0	0
31-Jan-89	46	26	0.001	0	0
1-Feb-89	58	39	0	0	0
2-Feb-89	54	29	0	0	0
3-Feb-89	36	31	0.18	0	0
4-Feb-89	33	15	0.001	0	0
5-Feb-89	26	14	0.08	1.8	2
6-Feb-89	33	8	0.05	1	2
7-Feb-89	32	25	0.001	0.01	1
8-Feb-89	33	8	0	0	1
9-Feb-89	32	16	0	0	0.1
10-Feb-89	27	3	0	0	0.1
11-Feb-89	37	4	0	0	0.1
12-Feb-89	39	13	0	0	0
13-Feb-89	37	12	0	0	0
14-Feb-89	49	27	0.62	0	0
15-Feb-89	48	36	0.14	0	0
16-Feb-89	39	36	0.19	0	0
17-Feb-89	36	12	0	0	0
18-Feb-89	26	9	0	0	0
19-Feb-89	35	10	0	0	0
20-Feb-89	42	16	0	0	0
21-Feb-89	55	29	0.84	0	0
22-Feb-89	55	44	0.84	0	0
23-Feb-89	45	34	0	0	0
24-Feb-89	34	22	0.001	0.01	0.1
25-Feb-89	31	17	0.14	3.8	2
26-Feb-89	33	0	0.001	0.01	1
27-Feb-89	39	18	0.18	2	2
28-Feb-89	38	10	0	0	1
1-Mar-89	42	13	0	0	1
2-Mar-89	38	13	0	0	0.1
3-Mar-89	40	22	0	0	0.1
4-Mar-89	40	28	0	0	0.1
5-Mar-89	40	30	0.04	0	0
6-Mar-89	39	26	0.08	0.01	0.1
7-Mar-89	35	12	0	0	0
8-Mar-89	26	14	0.001	0.01	0.1
9-Mar-89	38	19	0.001	0.01	0
10-Mar-89	39	19	0	0	0
11-Mar-89	41	12	0	0	0
12-Mar-89	40	28	0.04	0	0
13-Mar-89	36	20	0.06	0.01	0
14-Mar-89	48	20	0	0	0
15-Mar-89	50	29	0.001	0	0
16-Mar-89	50	38	0	0	0
17-Mar-89	55	31	0	0	0
18-Mar-89	61	42	0.001	0	0
19-Mar-89	49	27	0.47	0.01	0
20-Mar-89	43	15	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
21-Mar-89	47	32	1.05	0	0
22-Mar-89	46	25	0	0	0
23-Mar-89	41	19	0	0	0
24-Mar-89	42	26	0.14	0	0
25-Mar-89	58	35	2.26	0	0
26-Mar-89	61	41	0	0	0
27-Mar-89	55	26	0	0	0
28-Mar-89	70	42	0	0	0
29-Mar-89	72	50	0	0	0
30-Mar-89	70	38	0.19	0	0
31-Mar-89	41	34	0.53	0	0
1-Apr-89	49	33	0.08	0	0
2-Apr-89	52	29	0	0	0
3-Apr-89	47	35	0.39	0	0
4-Apr-89	59	38	0.16	0	0
5-Apr-89	59	49	0.001	0	0
6-Apr-89	60	47	0.8	0	0
7-Apr-89	54	37	0.03	0	0
8-Apr-89	51	33	0.61	0.01	0
9-Apr-89	46	28	0.07	0	0
10-Apr-89	48	25	0	0	0
11-Apr-89	46	29	0.02	0.01	0
12-Apr-89	50	22	0	0	0
13-Apr-89	49	25	0	0	0
14-Apr-89	52	34	0.01	0	0
15-Apr-89	53	28	0.04	0	0
16-Apr-89	47	42	2.55	0	0
17-Apr-89	66	32	0.03	0	0
18-Apr-89	71	44	0.001	0	0
19-Apr-89	70	43	0	0	0
20-Apr-89	57	26	0	0	0
21-Apr-89	60	31	0	0	0
22-Apr-89	57	35	0	0	0
23-Apr-89	50	21	0	0	0
24-Apr-89	54	29	0	0	0
25-Apr-89	60	33	0	0	0
26-Apr-89	60	28	0	0	0
27-Apr-89	68	34	0	0	0
28-Apr-89	68	36	0	0	0
29-Apr-89	58	32	0	0	0
30-Apr-89	60	45	1.65	0	0
1-May-89	60	45	0	0	0
2-May-89	61	42	1.3	0	0
3-May-89	61	46	0	0	0
4-May-89	66	38	0	0	0
5-May-89	64	34	0.001	0	0
6-May-89	62	48	0.41	0	0
7-May-89	60	48	0	0	0
8-May-89	58	32	0	0	0
9-May-89	64	31	0	0	0
10-May-89	58	44	0.27	0	0
11-May-89	56	42	2.1	0	0
12-May-89	65	49	0.22	0	0
13-May-89	65	45	0.04	0	0
14-May-89	68	42	0	0	0
15-May-89	69	38	0	0	0
16-May-89	66	51	0.001	0	0
17-May-89	72	50	0.38	0	0
18-May-89	80	44	0	0	0
19-May-89	78	43	0	0	0
20-May-89	72	43	0	0	0
21-May-89	75	50	0	0	0
22-May-89	76	45	0.02	0	0
23-May-89	77	42	0	0	0
24-May-89	69	54	0.03	0	0
25-May-89	74	50	0.37	0	0
26-May-89	72	57	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
27-May-89	77	57	0.87	0	0
28-May-89	67	49	0	0	0
29-May-89	74	41	0	0	0
30-May-89	69	41	0	0	0
31-May-89	74	56	0.02	0	0
1-Jun-89	77	58	0.12	0	0
2-Jun-89	85	61	0	0	0
3-Jun-89	79	57	0.41	0	0
4-Jun-89	78	56	0.16	0	0
5-Jun-89	75	40	0	0	0
6-Jun-89	76	56	0.04	0	0
7-Jun-89	76	57	0.21	0	0
8-Jun-89	71	57	0.18	0	0
9-Jun-89	73	60	1.22	0	0
10-Jun-89	74	55	0.84	0	0
11-Jun-89	74	54	0	0	0
12-Jun-89	79	48	0	0	0
13-Jun-89	76	54	0.34	0	0
14-Jun-89	68	54	0	0	0
15-Jun-89	68	49	0.29	0	0
16-Jun-89	73	54	0.81	0	0
17-Jun-89	77	63	0.01	0	0
18-Jun-89	77	62	0.41	0	0
19-Jun-89	78	52	0	0	0
20-Jun-89	80	58	0	0	0
21-Jun-89	77	60	0	0	0
22-Jun-89	84	64	0.001	0	0
23-Jun-89	83	62	0.001	0	0
24-Jun-89	81	56	0.02	0	0
25-Jun-89	78	53	0	0	0
26-Jun-89	85	54	0	0	0
27-Jun-89	89	64	0	0	0
28-Jun-89	86	68	0.001	0	0
29-Jun-89	74	61	0	0	0
30-Jun-89	78	46	0	0	0
1-Jul-89	80	57	0	0	0
2-Jul-89	85	57	0	0	0
3-Jul-89	85	58	0	0	0
4-Jul-89	74	53	0	0	0
5-Jul-89	75	64	0.001	0	0
6-Jul-89	83	66	1.18	0	0
7-Jul-89	89	66	0.21	0	0
8-Jul-89	87	66	0.24	0	0
9-Jul-89	77	55	0.001	0	0
10-Jul-89	80	62	0.02	0	0
11-Jul-89	83	66	0	0	0
12-Jul-89	84	56	0	0	0
13-Jul-89	77	53	0	0	0
14-Jul-89	79	54	0.94	0	0
15-Jul-89	78	52	0.09	0	0
16-Jul-89	78	55	0.01	0	0
17-Jul-89	68	53	3.1	0	0
18-Jul-89	73	52	0	0	0
19-Jul-89	81	57	0	0	0
20-Jul-89	81	58	0.03	0	0
21-Jul-89	75	61	0.33	0	0
22-Jul-89	79	63	0	0	0
23-Jul-89	85	65	0	0	0
24-Jul-89	86	57	0	0	0
25-Jul-89	87	64	0	0	0
26-Jul-89	91	67	0	0	0
27-Jul-89	89	68	0	0	0
28-Jul-89	86	67	0.18	0	0
29-Jul-89	85	53	0.21	0	0
30-Jul-89	78	60	0	0	0
31-Jul-89	80	62	0	0	0
1-Aug-89	80	60	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
2-Aug-89	78	54	0	0	0
3-Aug-89	86	65	0	0	0
4-Aug-89	83	64	0	0	0
5-Aug-89	87	70	0	0	0
6-Aug-89	87	69	0.14	0	0
7-Aug-89	85	70	0.3	0	0
8-Aug-89	78	53	0.43	0	0
9-Aug-89	74	47	0	0	0
10-Aug-89	78	48	0	0	0
11-Aug-89	75	58	1.38	0	0
12-Aug-89	81	61	1.41	0	0
13-Aug-89	82	69	0.14	0	0
14-Aug-89	80	69	0.01	0	0
15-Aug-89	78	69	0.06	0	0
16-Aug-89	84	70	0.02	0	0
17-Aug-89	82	64	0	0	0
18-Aug-89	82	60	0	0	0
19-Aug-89	76	62	0.001	0	0
20-Aug-89	79	67	0.08	0	0
21-Aug-89	84	69	0	0	0
22-Aug-89	82	62	0.001	0	0
23-Aug-89	87	62	0	0	0
24-Aug-89	85	54	0	0	0
25-Aug-89	79	48	0	0	0
26-Aug-89	74	43	0	0	0
27-Aug-89	73	42	0	0	0
28-Aug-89	74	50	0	0	0
29-Aug-89	70	55	0.63	0	0
30-Aug-89	83	66	0.95	0	0
31-Aug-89	83	56	0.16	0	0
1-Sep-89	78	50	0	0	0
2-Sep-89	81	68	0	0	0
3-Sep-89	78	46	0	0	0
4-Sep-89	75	45	0	0	0
5-Sep-89	69	40	0	0	0
6-Sep-89	73	44	0	0	0
7-Sep-89	74	45	0	0	0
8-Sep-89	76	49	0	0	0
9-Sep-89	82	51	0	0	0
10-Sep-89	89	62	0	0	0
11-Sep-89	89	62	0	0	0
12-Sep-89	87	65	0	0	0
13-Sep-89	80	60	0	0	0
14-Sep-89	79	57	0.001	0	0
15-Sep-89	77	57	0.94	0	0
16-Sep-89	67	51	1.33	0	0
17-Sep-89	71	56	1.67	0	0
18-Sep-89	70	58	0	0	0
19-Sep-89	70	57	0.75	0	0
20-Sep-89	80	62	0.07	0	0
21-Sep-89	81	71	0.04	0	0
22-Sep-89	80	70	0.01	0	0
23-Sep-89	79	69	0.03	0	0
24-Sep-89	72	43	0.11	0	0
25-Sep-89	65	36	0	0	0
26-Sep-89	63	56	1.29	0	0
27-Sep-89	65	38	0	0	0
28-Sep-89	62	31	0	0	0
29-Sep-89	70	53	0	0	0
30-Sep-89	68	46	0	0	0
1-Oct-89	65	36	0	0	0
2-Oct-89	66	46	0.8	0	0
3-Oct-89	71	62	0.63	0	0
4-Oct-89	65	37	0	0	0
5-Oct-89	61	30	0	0	0
6-Oct-89	67	40	0.001	0	0
7-Oct-89	67	51	0.02	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
8-Oct-89	61	32	0	0	0
9-Oct-89	55	34	0	0	0
10-Oct-89	55	25	0	0	0
11-Oct-89	62	36	0.47	0	0
12-Oct-89	62	31	0	0	0
13-Oct-89	71	41	0	0	0
14-Oct-89	70	34	0	0	0
15-Oct-89	64	46	1.21	0	0
16-Oct-89	62	53	0	0	0
17-Oct-89	66	53	0.75	0	0
18-Oct-89	55	42	0.58	0	0
19-Oct-89	48	37	0.56	0	0
20-Oct-89	67	43	0.53	0	0
21-Oct-89	66	45	1.48	0	0
22-Oct-89	56	34	0	0	0
23-Oct-89	64	27	0	0	0
24-Oct-89	66	30	0	0	0
25-Oct-89	70	31	0	0	0
26-Oct-89	70	32	0	0	0
27-Oct-89	72	36	0	0	0
28-Oct-89	76	41	0	0	0
29-Oct-89	74	38	0	0	0
30-Oct-89	74	40	0	0	0
31-Oct-89	67	45	0.01	0	0
1-Nov-89	66	54	1.86	0	0
2-Nov-89	60	34	0	0	0
3-Nov-89	51	39	0.7	0	0
4-Nov-89	47	29	0	0	0
5-Nov-89	54	23	0	0	0
6-Nov-89	62	31	0.001	0	0
7-Nov-89	60	34	0	0	0
8-Nov-89	58	50	0	0	0
9-Nov-89	64	49	2.05	0	0
10-Nov-89	62	35	0.02	0	0
11-Nov-89	53	28	0.12	0	0
12-Nov-89	57	43	0	0	0
13-Nov-89	58	24	0	0	0
14-Nov-89	63	45	0	0	0
15-Nov-89	61	57	0.37	0	0
16-Nov-89	64	58	0.9	0	0
17-Nov-89	63	33	0.001	0	0
18-Nov-89	48	22	0	0	0
19-Nov-89	43	27	0	0	0
20-Nov-89	49	26	0.23	0.01	0
21-Nov-89	55	30	0.11	0.01	0
22-Nov-89	35	19	0	0	0
23-Nov-89	34	21	0.66	7.5	7
24-Nov-89	33	60	0	0	6
25-Nov-89	46	7	0	0	3
26-Nov-89	44	36	0.08	0	0.1
27-Nov-89	42	25	0	0	0
28-Nov-89	57	28	0.41	0	0
29-Nov-89	55	28	0	0	0
30-Nov-89	39	14	0	0	0
1-Dec-89	37	20	0	0	0
2-Dec-89	31	6	0.001	0.01	0
3-Dec-89	48	25	0	0	0
4-Dec-89	25	8	0	0	0
5-Dec-89	31	13	0	0	0
6-Dec-89	42	12	0	0	0
7-Dec-89	46	25	0.07	0	0
8-Dec-89	26	12	0	0	0
9-Dec-89	25	10	0	0	0
10-Dec-89	33	9	0	0	0
11-Dec-89	37	16	0	0	0
12-Dec-89	35	11	0	0	0
13-Dec-89	28	20	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
14-Dec-89	27	4	0	0	0
15-Dec-89	30	6	0	0	0
16-Dec-89	34	18	0.5	5.5	5
17-Dec-89	29	14	0	0	5
18-Dec-89	30	3	0	0	5
19-Dec-89	26	2	0	0	4
20-Dec-89	27	15	0.03	1.5	6
21-Dec-89	25	9	0.01	0.1	6
22-Dec-89	19	1	0	0	6
23-Dec-89	19	-10	0	0	5
24-Dec-89	19	-3	0	0	5
25-Dec-89	25	-7	0	0	5
26-Dec-89	30	24	0.001	0.01	4
27-Dec-89	30	3	0.001	0.01	4
28-Dec-89	28	12	0.02	0.8	5
29-Dec-89	28	3	0.001	0.01	5
30-Dec-89	25	18	0.22	5	9
31-Dec-89	43	25	0.05	0	5
1-Jan-90	51	36	1.04	0	0.1
2-Jan-90	37	26	0	0	0.1
3-Jan-90	49	29	0	0	0
4-Jan-90	48	25	0.08	0	0
5-Jan-90	46	36	0.02	0	0
6-Jan-90	44	23	0	0	0
7-Jan-90	37	19	0	0	0
8-Jan-90	44	26	0	0	0
9-Jan-90	41	24	0.69	1.5	1
10-Jan-90	44	36	0.01	0	0.1
11-Jan-90	40	29	0	0	0
12-Jan-90	43	24	0	0	0
13-Jan-90	40	23	0	0	0
14-Jan-90	32	18	0	0	0
15-Jan-90	39	19	0.14	0.2	0
16-Jan-90	52	26	0	0	0
17-Jan-90	55	28	0	0	0
18-Jan-90	59	41	0.001	0	0
19-Jan-90	50	33	0	0	0
20-Jan-90	36	19	0.03	0.8	1
21-Jan-90	32	29	0.85	1	1
22-Jan-90	32	18	0.04	0.3	1
23-Jan-90	41	21	0	0	1
24-Jan-90	51	24	0.08	0	0.1
25-Jan-90	46	31	0.53	0	0
26-Jan-90	56	40	0.71	0	0
27-Jan-90	43	31	0.001	0.01	0
28-Jan-90	55	26	0	0	0
29-Jan-90	48	29	0	0	0
30-Jan-90	45	33	1.88	0.01	0
31-Jan-90	46	21	0	0	0
1-Feb-90	48	22	0	0	0
2-Feb-90	51	42	0.02	0	0
3-Feb-90	45	29	0.12	0	0
4-Feb-90	32	27	0.5	1	1
5-Feb-90	30	14	0.001	0	0.1
6-Feb-90	46	15	0	0	0
7-Feb-90	48	26	0	0	0
8-Feb-90	51	21	0	0	0
9-Feb-90	56	36	0	0	0
10-Feb-90	53	44	0.61	0	0
11-Feb-90	44	22	0	0	0
12-Feb-90	42	22	0	0	0
13-Feb-90	43	14	0	0	0
14-Feb-90	58	41	0	0	0
15-Feb-90	52	30	0.001	0	0
16-Feb-90	41	31	0.49	0	0
17-Feb-90	51	34	0	0	0
18-Feb-90	36	13	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
19-Feb-90	50	26	0	0	0
20-Feb-90	50	22	0	0	0
21-Feb-90	41	12	0	0	0
22-Feb-90	58	32	0.001	0	0
23-Feb-90	55	46	0.87	0	0
24-Feb-90	53	26	0.49	2.4	2
25-Feb-90	28	17	0.15	4.5	5
26-Feb-90	29	2	0.02	0.4	5
27-Feb-90	34	-5	0.01	0.5	4
28-Feb-90	32	14	0.01	0.7	4
1-Mar-90	35	5	0	0	3
2-Mar-90	44	29	0	0	0.1
3-Mar-90	49	36	0	0	0.1
4-Mar-90	46	24	0	0	0
5-Mar-90	34	11	0	0	0
6-Mar-90	31	24	0.16	3	3
7-Mar-90	31	10	0	0	1
8-Mar-90	41	5	0	0	0.1
9-Mar-90	52	20	0	0	0
10-Mar-90	48	24	0	0	0
11-Mar-90	63	37	0	0	0
12-Mar-90	61	37	0.18	0	0
13-Mar-90	77	35	0	0	0
14-Mar-90	76	38	0	0	0
15-Mar-90	73	38	0.01	0	0
16-Mar-90	74	42	0	0	0
17-Mar-90	60	51	0	0	0
18-Mar-90	56	43	0.36	0	0
19-Mar-90	55	24	0	0	0
20-Mar-90	49	38	0.48	0	0
21-Mar-90	52	37	0.12	0	0
22-Mar-90	53	25	0	0	0
23-Mar-90	67	43	0	0	0
24-Mar-90	62	27	0	0	0
25-Mar-90	45	26	0	0	0
26-Mar-90	52	21	0	0	0
27-Mar-90	51	16	0	0	0
28-Mar-90	44	14	0	0	0
29-Mar-90	44	21	0	0	0
30-Mar-90	40	33	0.18	0.01	0
31-Mar-90	43	32	0.49	0	0
1-Apr-90	48	36	0	0	0
2-Apr-90	46	35	0	0	0
3-Apr-90	44	39	0.66	0	0
4-Apr-90	44	41	2.39	0	0
5-Apr-90	54	40	0	0	0
6-Apr-90	54	30	0.04	0	0
7-Apr-90	49	30	0.11	2.4	0
8-Apr-90	47	26	0	0	0
9-Apr-90	56	23	0	0	0
10-Apr-90	59	43	0	0	0
11-Apr-90	59	48	0.63	0	0
12-Apr-90	61	28	0	0	0
13-Apr-90	49	24	0	0	0
14-Apr-90	51	24	0	0	0
15-Apr-90	53	39	0.88	0	0
16-Apr-90	63	42	0.001	0	0
17-Apr-90	63	30	0.15	0	0
18-Apr-90	55	31	0.19	0	0
19-Apr-90	51	21	0	0	0
20-Apr-90	55	39	0	0	0
21-Apr-90	55	47	0.54	0	0
22-Apr-90	63	47	0	0	0
23-Apr-90	73	40	0	0	0
24-Apr-90	66	34	0	0	0
25-Apr-90	57	38	0.15	0	0
26-Apr-90	61	44	0.01	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
27-Apr-90	85	45	0	0	0
28-Apr-90	88	53	0	0	0
29-Apr-90	58	46	0.001	0	0
30-Apr-90	52	45	0.19	0	0
1-May-90	70	46	1.11	0	0
2-May-90	69	51	0	0	0
3-May-90	65	41	0	0	0
4-May-90	63	40	0	0	0
5-May-90	59	45	0.98	0	0
6-May-90	60	40	0.01	0	0
7-May-90	61	37	0.03	0	0
8-May-90	62	46	0.36	0	0
9-May-90	69	49	0	0	0
10-May-90	70	55	0	0	0
11-May-90	62	53	0.92	0	0
12-May-90	64	34	0	0	0
13-May-90	65	49	0.03	0	0
14-May-90	71	48	0.69	0	0
15-May-90	72	44	0	0	0
16-May-90	70	52	0.11	0	0
17-May-90	60	52	0.51	0	0
18-May-90	67	45	0.17	0	0
19-May-90	67	43	0	0	0
20-May-90	65	40	0	0	0
21-May-90	56	41	0.45	0	0
22-May-90	54	39	0.08	0	0
23-May-90	55	35	0	0	0
24-May-90	66	36	0.02	0	0
25-May-90	68	37	0	0	0
26-May-90	70	44	0.01	0	0
27-May-90	71	40	0	0	0
28-May-90	69	39	0	0	0
29-May-90	68	43	0.32	0	0
30-May-90	65	51	0.58	0	0
31-May-90	73	36	0	0	0
1-Jun-90	80	41	0	0	0
2-Jun-90	77	50	0	0	0
3-Jun-90	75	58	0	0	0
4-Jun-90	76	59	0.07	0	0
5-Jun-90	69	44	0	0	0
6-Jun-90	70	39	0	0	0
7-Jun-90	78	56	0.34	0	0
8-Jun-90	78	52	0	0	0
9-Jun-90	75	57	0.06	0	0
10-Jun-90	77	57	0.04	0	0
11-Jun-90	69	54	0.03	0	0
12-Jun-90	69	47	0	0	0
13-Jun-90	75	39	0	0	0
14-Jun-90	75	44	0	0	0
15-Jun-90	76	51	0	0	0
16-Jun-90	79	58	0	0	0
17-Jun-90	79	59	0	0	0
18-Jun-90	77	57	0	0	0
19-Jun-90	79	59	0.001	0	0
20-Jun-90	76	62	0	0	0
21-Jun-90	75	62	0	0	0
22-Jun-90	84	55	0	0	0
23-Jun-90	83	65	0.02	0	0
24-Jun-90	80	62	0	0	0
25-Jun-90	79	52	0	0	0
26-Jun-90	79	51	0	0	0
27-Jun-90	79	63	0	0	0
28-Jun-90	82	63	0	0	0
29-Jun-90	83	57	0.001	0	0
30-Jun-90	77	62	0.48	0	0
1-Jul-90	75	60	0.17	0	0
2-Jul-90	74	54	0.48	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
3-Jul-90	81	48	0	0	0
4-Jul-90	85	64	0	0	0
5-Jul-90	90	75	0	0	0
6-Jul-90	88	56	0	0	0
7-Jul-90	76	52	0	0	0
8-Jul-90	79	50	0	0	0
9-Jul-90	83	62	0.001	0	0
10-Jul-90	84	65	0	0	0
11-Jul-90	84	54	0.001	0	0
12-Jul-90	71	58	0.14	0	0
13-Jul-90	72	56	1.09	0	0
14-Jul-90	75	51	0	0	0
15-Jul-90	82	62	0	0	0
16-Jul-90	85	70	0	0	0
17-Jul-90	85	58	0	0	0
18-Jul-90	90	62	0	0	0
19-Jul-90	88	65	0	0	0
20-Jul-90	87	67	0	0	0
21-Jul-90	86	67	0	0	0
22-Jul-90	84	68	0.17	0	0
23-Jul-90	82	68	0.16	0	0
24-Jul-90	81	70	0.9	0	0
25-Jul-90	80	66	2.42	0	0
26-Jul-90	80	66	0.01	0	0
27-Jul-90	80	67	0.52	0	0
28-Jul-90	75	67	0.39	0	0
29-Jul-90	77	63	0	0	0
30-Jul-90	77	63	0	0	0
31-Jul-90	84	60	0	0	0
1-Aug-90	84	65	0	0	0
2-Aug-90	84	51	0	0	0
3-Aug-90	87	54	0	0	0
4-Aug-90	89	60	0	0	0
5-Aug-90	86	61	0	0	0
6-Aug-90	81	68	0	0	0
7-Aug-90	81	68	0.2	0	0
8-Aug-90	80	69	0.27	0	0
9-Aug-90	81	68	0.001	0	0
10-Aug-90	80	63	0.12	0	0
11-Aug-90	81	71	0.09	0	0
12-Aug-90	85	66	0.02	0	0
13-Aug-90	86	61	0	0	0
14-Aug-90	82	68	0	0	0
15-Aug-90	81	56	0	0	0
16-Aug-90	85	52	0	0	0
17-Aug-90	85	60	0	0	0
18-Aug-90	85	68	0	0	0
19-Aug-90	83	57	0	0	0
20-Aug-90	70	54	0.12	0	0
21-Aug-90	73	60	0	0	0
22-Aug-90	75	61	0	0	0
23-Aug-90	73	60	0	0	0
24-Aug-90	76	63	1.17	0	0
25-Aug-90	79	67	0.3	0	0
26-Aug-90	81	64	0	0	0
27-Aug-90	87	61	0	0	0
28-Aug-90	86	66	0	0	0
29-Aug-90	85	63	0	0	0
30-Aug-90	85	60	0	0	0
31-Aug-90	82	51	0	0	0
1-Sep-90	82	49	0	0	0
2-Sep-90	85	56	0	0	0
3-Sep-90	81	65	0	0	0
4-Sep-90	71	48	0	0	0
5-Sep-90	79	43	0	0	0
6-Sep-90	80	56	0	0	0
7-Sep-90	80	68	0.01	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
8-Sep-90	80	51	0	0	0
9-Sep-90	70	36	0	0	0
10-Sep-90	71	61	0.19	0	0
11-Sep-90	82	53	0	0	0
12-Sep-90	80	60	0	0	0
13-Sep-90	80	63	0	0	0
14-Sep-90	77	65	0	0	0
15-Sep-90	77	64	1.2	0	0
16-Sep-90	78	45	0	0	0
17-Sep-90	65	46	0.19	0	0
18-Sep-90	61	32	0	0	0
19-Sep-90	65	32	0	0	0
20-Sep-90	69	54	0.33	0	0
21-Sep-90	68	38	0	0	0
22-Sep-90	66	44	0.06	0	0
23-Sep-90	70	50	1.07	0	0
24-Sep-90	67	37	0	0	0
25-Sep-90	67	35	0	0	0
26-Sep-90	73	47	0	0	0
27-Sep-90	75	52	0.19	0	0
28-Sep-90	77	50	0	0	0
29-Sep-90	75	61	0	0	0
30-Sep-90	74	61	0	0	0
1-Oct-90	72	48	0.001	0	0
2-Oct-90	68	38	0	0	0
3-Oct-90	69	37	0	0	0
4-Oct-90	72	39	0	0	0
5-Oct-90	71	40	0.18	0	0
6-Oct-90	80	54	0	0	0
7-Oct-90	79	55	0	0	0
8-Oct-90	78	63	0	0	0
9-Oct-90	76	57	0.11	0	0
10-Oct-90	79	64	0	0	0
11-Oct-90	76	55	0.03	0	0
12-Oct-90	76	64	0.1	0	0
13-Oct-90	73	66	0.75	0	0
14-Oct-90	79	66	0.31	0	0
15-Oct-90	79	54	0	0	0
16-Oct-90	74	40	0	0	0
17-Oct-90	69	32	0	0	0
18-Oct-90	74	33	0	0	0
19-Oct-90	70	44	0.52	0	0
20-Oct-90	61	31	0	0	0
21-Oct-90	63	31	0	0	0
22-Oct-90	70	43	0	0	0
23-Oct-90	69	57	0.12	0	0
24-Oct-90	69	34	0.85	0	0
25-Oct-90	69	36	0	0	0
26-Oct-90	54	39	0.15	0	0
27-Oct-90	49	31	0.15	0	0
28-Oct-90	58	24	0.19	0	0
29-Oct-90	50	33	0.03	0	0
30-Oct-90	59	23	0	0	0
31-Oct-90	61	42	0	0	0
1-Nov-90	62	23	0	0	0
2-Nov-90	72	38	0	0	0
3-Nov-90	78	49	0	0	0
4-Nov-90	73	44	0	0	0
5-Nov-90	69	39	0	0	0
6-Nov-90	51	40	1.01	0	0
7-Nov-90	53	28	0	0	0
8-Nov-90	49	35	0.06	0	0
9-Nov-90	51	19	0	0	0
10-Nov-90	57	31	1.02	0	0
11-Nov-90	61	40	0.04	0	0
12-Nov-90	48	31	0	0	0
13-Nov-90	40	25	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
14-Nov-90	44	22	0	0	0
15-Nov-90	61	25	0	0	0
16-Nov-90	70	39	0	0	0
17-Nov-90	64	37	0	0	0
18-Nov-90	54	36	0	0	0
19-Nov-90	46	31	0	0	0
20-Nov-90	53	24	0	0	0
21-Nov-90	50	21	0	0	0
22-Nov-90	50	21	0	0	0
23-Nov-90	52	38	0.14	0	0
24-Nov-90	54	40	0.07	0	0
25-Nov-90	60	24	0	0	0
26-Nov-90	59	38	0	0	0
27-Nov-90	56	26	0	0	0
28-Nov-90	67	48	0.001	0	0
29-Nov-90	61	45	0.09	0	0
30-Nov-90	45	30	0	0	0
1-Dec-90	52	17	0	0	0
2-Dec-90	56	26	0	0	0
3-Dec-90	55	30	0	0	0
4-Dec-90	59	40	1.82	0	0
5-Dec-90	48	29	0	0	0
6-Dec-90	45	24	0	0	0
7-Dec-90	46	22	0	0	0
8-Dec-90	44	38	0.4	0	0
9-Dec-90	44	30	0	0	0
10-Dec-90	52	25	0	0	0
11-Dec-90	48	20	0	0	0
12-Dec-90	47	28	0	0	0
13-Dec-90	56	31	0	0	0
14-Dec-90	54	25	0	0	0
15-Dec-90	49	12	0.21	0	0
16-Dec-90	51	42	0.91	0	0
17-Dec-90	49	29	0	0	0
18-Dec-90	54	24	0.39	0	0
19-Dec-90	57	44	0.04	0	0
20-Dec-90	47	22	0	0	0
21-Dec-90	51	28	0.001	0	0
22-Dec-90	57	50	0.18	0	0
23-Dec-90	58	52	0.17	0	0
24-Dec-90	57	38	0.47	0	0
25-Dec-90	38	19	0	0	0
26-Dec-90	34	14	0	0	0
27-Dec-90	34	12	0	0	0
28-Dec-90	34	23	0.67	6	6
29-Dec-90	45	33	0	0	1
30-Dec-90	54	39	0	0	0
31-Dec-90	56	35	0.06	0	0
1-Jan-91	35	11	0	0	0
2-Jan-91	50	17	0	0	0
3-Jan-91	48	20	0	0	0
4-Jan-91	39	15	0	0	0
5-Jan-91	38	10	0	0	0
6-Jan-91	44	32	0.08	0	0
7-Jan-91	41	30	0	0	0
8-Jan-91	34	12	0.001	0.01	0.1
9-Jan-91	31	20	0.39	0	0
10-Jan-91	39	30	0.3	0	0
11-Jan-91	35	12	0	0	0
12-Jan-91	38	20	0.93	3	1
13-Jan-91	33	25	0	0	1
14-Jan-91	35	8	0	0	1
15-Jan-91	48	18	0	0	0.1
16-Jan-91	48	24	0.42	0	0
17-Jan-91	52	41	0.9	0	0
18-Jan-91	42	23	0	0	0
19-Jan-91	41	27	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
20-Jan-91	50	33	0	0	0
21-Jan-91	52	20	0.09	2	2
22-Jan-91	23	2	0	0	2
23-Jan-91	31	-5	0.001	0.01	2
24-Jan-91	39	28	0	0	0.1
25-Jan-91	36	12	0	0	0.1
26-Jan-91	29	-2	0	0	0.1
27-Jan-91	38	14	0	0	0.1
28-Jan-91	49	26	0.04	0	0
29-Jan-91	49	16	0	0	0
30-Jan-91	57	25	0	0	0
31-Jan-91	51	31	0.24	0.01	0.1
1-Feb-91	32	19	0	0	0
2-Feb-91	47	10	0	0	0
3-Feb-91	58	31	0	0	0
4-Feb-91	65	25	0	0	0
5-Feb-91	67	28	0	0	0
6-Feb-91	62	40	0	0	0
7-Feb-91	42	37	0.47	0	0
8-Feb-91	50	38	0.12	0	0
9-Feb-91	54	22	0	0	0
10-Feb-91	53	24	0	0	0
11-Feb-91	47	18	0	0	0
12-Feb-91	33	10	0	0	0
13-Feb-91	38	12	0.01	0.5	0
14-Feb-91	48	31	0.86	1.5	0
15-Feb-91	48	28	0.001	0.01	0
16-Feb-91	38	10	0	0	0
17-Feb-91	37	12	0.001	0.01	0
18-Feb-91	38	14	0.001	0.01	0
19-Feb-91	46	30	0.28	0.01	0
20-Feb-91	51	43	0.43	0	0
21-Feb-91	51	22	0	0	0
22-Feb-91	60	26	0	0	0
23-Feb-91	56	21	0	0	0
24-Feb-91	38	10	0	0	0
25-Feb-91	43	29	0	0	0
26-Feb-91	41	29	0.001	0.01	0
27-Feb-91	35	28	0.15	2.5	2
28-Feb-91	41	10	0	0	0.1
1-Mar-91	59	26	0	0	0
2-Mar-91	60	34	0.26	0	0
3-Mar-91	66	45	0	0	0
4-Mar-91	56	39	1.45	0	0
5-Mar-91	54	37	0	0	0
6-Mar-91	54	24	0	0	0
7-Mar-91	60	41	0.37	0	0
8-Mar-91	48	24	0	0	0
9-Mar-91	41	20	0	0	0
10-Mar-91	40	20	0	0	0
11-Mar-91	41	21	0	0	0
12-Mar-91	46	25	0	0	0
13-Mar-91	47	19	0	0	0
14-Mar-91	41	30	0.28	0.5	1
15-Mar-91	34	29	0.56	2	2
16-Mar-91	48	19	0	0	0
17-Mar-91	54	21	0	0	0
18-Mar-91	49	25	0.19	0	0
19-Mar-91	50	42	1.24	0	0
20-Mar-91	54	33	0	0	0
21-Mar-91	53	21	0.001	0	0
22-Mar-91	45	35	0	0	0
23-Mar-91	40	34	0.25	0	0
24-Mar-91	44	34	0.79	0	0
25-Mar-91	43	34	0.4	0	0
26-Mar-91	49	32	0	0	0
27-Mar-91	49	30	0.07	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
28-Mar-91	76	46	0	0	0
29-Mar-91	74	32	0.001	0	0
30-Mar-91	54	34	0.42	0	0
31-Mar-91	45	22	0.42	0	0
1-Apr-91	47	30	0.01	0	0
2-Apr-91	48	29	0.01	0	0
3-Apr-91	55	29	0.001	0	0
4-Apr-91	61	26	0	0	0
5-Apr-91	62	38	0	0	0
6-Apr-91	72	49	0	0	0
7-Apr-91	79	49	0	0	0
8-Apr-91	83	47	0	0	0
9-Apr-91	80	51	0	0	0
10-Apr-91	72	43	0	0	0
11-Apr-91	62	40	0	0	0
12-Apr-91	53	32	0	0	0
13-Apr-91	52	25	0	0	0
14-Apr-91	55	30	0.02	0	0
15-Apr-91	53	33	0.16	0	0
16-Apr-91	69	37	0.11	0	0
17-Apr-91	68	44	0	0	0
18-Apr-91	50	39	0.01	0	0
19-Apr-91	55	29	0	0	0
20-Apr-91	56	38	0	0	0
21-Apr-91	50	37	2.94	0	0
22-Apr-91	50	43	0.28	0	0
23-Apr-91	63	43	0	0	0
24-Apr-91	65	32	0	0	0
25-Apr-91	68	36	0	0	0
26-Apr-91	69	30	0	0	0
27-Apr-91	74	48	0.001	0	0
28-Apr-91	72	36	0	0	0
29-Apr-91	56	32	0	0	0
30-Apr-91	55	46	0.9	0	0
1-May-91	65	46	0.1	0	0
2-May-91	68	43	0.07	0	0
3-May-91	65	44	0	0	0
4-May-91	70	46	0	0	0
5-May-91	67	35	0	0	0
6-May-91	61	39	0.19	0	0
7-May-91	68	52	0.62	0	0
8-May-91	68	33	0	0	0
9-May-91	65	43	0	0	0
10-May-91	65	49	0	0	0
11-May-91	75	38	0	0	0
12-May-91	81	50	0	0	0
13-May-91	84	46	0	0	0
14-May-91	83	52	0.03	0	0
15-May-91	75	46	0	0	0
16-May-91	83	45	0	0	0
17-May-91	80	49	0	0	0
18-May-91	73	45	0.74	0	0
19-May-91	60	34	0	0	0
20-May-91	71	38	0	0	0
21-May-91	73	45	0	0	0
22-May-91	84	52	0	0	0
23-May-91	82	51	0	0	0
24-May-91	79	44	0	0	0
25-May-91	88	63	0	0	0
26-May-91	86	63	0	0	0
27-May-91	81	55	0	0	0
28-May-91	88	65	0.18	0	0
29-May-91	87	56	0	0	0
30-May-91	80	60	0	0	0
31-May-91	75	61	0	0	0
1-Jun-91	78	59	0	0	0
2-Jun-91	78	56	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
3-Jun-91	79	47	0	0	0
4-Jun-91	78	55	0.42	0	0
5-Jun-91	58	46	0.08	0	0
6-Jun-91	71	41	0	0	0
7-Jun-91	78	43	0	0	0
8-Jun-91	84	49	0	0	0
9-Jun-91	85	54	0	0	0
10-Jun-91	82	48	0	0	0
11-Jun-91	85	57	0	0	0
12-Jun-91	81	61	0.17	0	0
13-Jun-91	79	48	0.05	0	0
14-Jun-91	76	44	0	0	0
15-Jun-91	83	51	0	0	0
16-Jun-91	83	63	0	0	0
17-Jun-91	69	60	0	0	0
18-Jun-91	70	54	0	0	0
19-Jun-91	70	56	0.1	0	0
20-Jun-91	88	62	0	0	0
21-Jun-91	86	54	0	0	0
22-Jun-91	87	59	0	0	0
23-Jun-91	71	57	0	0	0
24-Jun-91	75	42	0	0	0
25-Jun-91	81	48	0	0	0
26-Jun-91	82	55	0	0	0
27-Jun-91	84	56	0	0	0
28-Jun-91	90	63	0	0	0
29-Jun-91	93	65	0	0	0
30-Jun-91	91	56	0.21	0	0
1-Jul-91	77	47	0	0	0
2-Jul-91	80	44	0	0	0
3-Jul-91	78	63	0.02	0	0
4-Jul-91	76	56	0	0	0
5-Jul-91	75	51	0.07	0	0
6-Jul-91	75	62	0.08	0	0
7-Jul-91	75	62	0	0	0
8-Jul-91	87	62	0	0	0
9-Jul-91	85	58	0	0	0
10-Jul-91	82	44	0	0	0
11-Jul-91	81	53	0	0	0
12-Jul-91	82	47	0	0	0
13-Jul-91	78	56	0.04	0	0
14-Jul-91	77	64	0.16	0	0
15-Jul-91	87	50	0	0	0
16-Jul-91	87	50	0	0	0
17-Jul-91	88	63	0	0	0
18-Jul-91	93	65	0	0	0
19-Jul-91	93	68	0	0	0
20-Jul-91	95	68	0	0	0
21-Jul-91	98	65	0	0	0
22-Jul-91	93	66	0.001	0	0
23-Jul-91	90	67	0.6	0	0
24-Jul-91	89	67	0.13	0	0
25-Jul-91	85	23	0.01	0	0
26-Jul-91	85	69	0	0	0
27-Jul-91	82	66	0.61	0	0
28-Jul-91	81	53	0	0	0
29-Jul-91	82	54	0.001	0	0
30-Jul-91	76	61	0	0	0
31-Jul-91	80	61	0	0	0
1-Aug-91	86	63	0	0	0
2-Aug-91	88	63	0	0	0
3-Aug-91	86	63	0.001	0	0
4-Aug-91	79	63	1.07	0	0
5-Aug-91	79	59	0.88	0	0
6-Aug-91	78	50	0	0	0
7-Aug-91	81	52	0	0	0
8-Aug-91	86	54	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
9-Aug-91	85	59	0.06	0	0
10-Aug-91	81	65	3.1	0	0
11-Aug-91	82	56	0	0	0
12-Aug-91	82	56	0	0	0
13-Aug-91	85	57	0	0	0
14-Aug-91	87	60	0	0	0
15-Aug-91	85	66	0.06	0	0
16-Aug-91	86	63	0	0	0
17-Aug-91	87	63	0	0	0
18-Aug-91	83	68	0	0	0
19-Aug-91	79	68	1.72	0	0
20-Aug-91	71	58	0.09	0	0
21-Aug-91	72	59	0.46	0	0
22-Aug-91	79	65	0	0	0
23-Aug-91	85	55	0	0	0
24-Aug-91	84	60	0.15	0	0
25-Aug-91	73	54	0	0	0
26-Aug-91	75	49	0	0	0
27-Aug-91	83	63	0	0	0
28-Aug-91	90	65	0	0	0
29-Aug-91	87	64	0	0	0
30-Aug-91	85	60	0	0	0
31-Aug-91	84	65	0.01	0	0
1-Sep-91	81	50	0	0	0
2-Sep-91	69	40	0	0	0
3-Sep-91	72	43	0	0	0
4-Sep-91	78	62	0	0	0
5-Sep-91	76	61	2.22	0	0
6-Sep-91	68	58	0.66	0	0
7-Sep-91	77	56	0	0	0
8-Sep-91	81	52	0	0	0
9-Sep-91	77	48	0	0	0
10-Sep-91	79	56	0	0	0
11-Sep-91	78	65	0	0	0
12-Sep-91	76	46	0	0	0
13-Sep-91	70	40	0	0	0
14-Sep-91	70	49	0.13	0	0
15-Sep-91	69	54	0.08	0	0
16-Sep-91	88	65	0.06	0	0
17-Sep-91	86	69	0	0	0
18-Sep-91	85	63	0.06	0	0
19-Sep-91	74	64	0.001	0	0
20-Sep-91	64	50	1.13	0	0
21-Sep-91	62	33	0	0	0
22-Sep-91	66	32	0	0	0
23-Sep-91	68	44	0.06	0	0
24-Sep-91	72	53	0.19	0	0
25-Sep-91	71	56	1.43	0	0
26-Sep-91	72	55	0.57	0	0
27-Sep-91	63	40	0	0	0
28-Sep-91	60	31	0	0	0
29-Sep-91	67	30	0	0	0
30-Sep-91	63	31	0	0	0
1-Oct-91	68	34	0	0	0
2-Oct-91	75	61	0	0	0
3-Oct-91	73	53	0.001	0	0
4-Oct-91	76	53	0	0	0
5-Oct-91	72	56	0	0	0
6-Oct-91	70	64	0.28	0	0
7-Oct-91	68	37	0.08	0	0
8-Oct-91	60	29	0	0	0
9-Oct-91	66	35	0	0	0
10-Oct-91	67	46	0.01	0	0
11-Oct-91	67	44	0	0	0
12-Oct-91	66	43	0.31	0	0
13-Oct-91	59	35	0	0	0
14-Oct-91	58	29	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
15-Oct-91	63	30	0	0	0
16-Oct-91	65	57	0.62	0	0
17-Oct-91	59	45	0.19	0	0
18-Oct-91	68	50	0.26	0	0
19-Oct-91	71	40	0	0	0
20-Oct-91	68	37	0	0	0
21-Oct-91	55	22	0	0	0
22-Oct-91	67	34	0	0	0
23-Oct-91	68	35	0	0	0
24-Oct-91	68	43	0	0	0
25-Oct-91	67	45	0.001	0	0
26-Oct-91	71	57	0.01	0	0
27-Oct-91	68	56	0	0	0
28-Oct-91	61	45	0	0	0
29-Oct-91	53	33	0	0	0
30-Oct-91	54	40	0	0	0
31-Oct-91	53	43	0.61	0	0
1-Nov-91	53	49	0.78	0	0
2-Nov-91	60	47	0	0	0
3-Nov-91	61	45	0	0	0
4-Nov-91	56	40	0	0	0
5-Nov-91	46	27	0	0	0
6-Nov-91	47	25	0	0	0
7-Nov-91	50	23	0	0	0
8-Nov-91	49	26	0	0	0
9-Nov-91	44	32	0	0	0
10-Nov-91	41	34	0.11	0	0
11-Nov-91	44	34	1.38	0	0
12-Nov-91	42	32	0.18	0	0
13-Nov-91	45	34	0.03	0	0
14-Nov-91	55	34	0	0	0
15-Nov-91	53	24	0.06	0	0
16-Nov-91	56	42	0	0	0
17-Nov-91	52	28	0	0	0
18-Nov-91	59	18	0	0	0
19-Nov-91	65	30	0	0	0
20-Nov-91	66	44	0	0	0
21-Nov-91	65	56	0.001	0	0
22-Nov-91	62	49	0.4	0	0
23-Nov-91	53	46	1.22	0	0
24-Nov-91	50	41	0.62	0	0
25-Nov-91	53	31	0	0	0
26-Nov-91	40	29	0	0	0
27-Nov-91	39	14	0	0	0
28-Nov-91	52	24	0	0	0
29-Nov-91	60	24	0.001	0	0
30-Nov-91	59	38	0	0	0
1-Dec-91	61	50	0.06	0	0
2-Dec-91	52	43	0.03	0	0
3-Dec-91	47	33	0.87	0	0
4-Dec-91	42	34	0.39	0.01	0
5-Dec-91	36	19	0.001	0	0
6-Dec-91	41	17	0.23	2.5	1
7-Dec-91	49	23	0	0	0.1
8-Dec-91	55	33	0	0	0
9-Dec-91	65	41	0	0	0
10-Dec-91	61	35	0.44	0	0
11-Dec-91	50	22	0	0	0
12-Dec-91	49	28	0	0	0
13-Dec-91	56	43	0.23	0	0
14-Dec-91	56	48	0.23	0	0
15-Dec-91	56	31	0	0	0
16-Dec-91	36	25	0	0	0
17-Dec-91	26	6	0.001	0.5	0.1
18-Dec-91	40	16	0.19	0.01	0.1
19-Dec-91	32	9	0	0	0
20-Dec-91	38	15	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
21-Dec-91	41	23	0.09	0	0
22-Dec-91	42	23	0	0	0
23-Dec-91	47	20	0.001	0	0
24-Dec-91	43	26	0	0	0
25-Dec-91	36	16	0	0	0
26-Dec-91	33	9	0	0	0
27-Dec-91	43	18	0	0	0
28-Dec-91	50	15	0	0	0
29-Dec-91	50	26	0.17	0	0
30-Dec-91	51	30	0.4	0.01	0
31-Dec-91	38	18	0	0	0
1-Jan-92	49	11	0	0	0
2-Jan-92	50	15	0	0	0
3-Jan-92	48	25	0	0	0
4-Jan-92	45	38	1.48	0	0
5-Jan-92	49	39	0.11	0	0
6-Jan-92	45	31	0	0	0
7-Jan-92	46	23	0	0	0
8-Jan-92	42	28	0	0	0
9-Jan-92	42	18	0.1	0	0
10-Jan-92	45	27	0.07	0	0
11-Jan-92	41	22	0	0	0
12-Jan-92	36	11	0	0	0
13-Jan-92	52	23	0	0	0
14-Jan-92	56	28	0.66	0	0
15-Jan-92	54	23	0	0	0
16-Jan-92	26	12	0.04	3	3
17-Jan-92	26	2	0.001	0.01	1
18-Jan-92	28	23	0	0	0.1
19-Jan-92	25	6	0	0	0.1
20-Jan-92	22	2	0.03	1	1
21-Jan-92	31	1	0	0	0.1
22-Jan-92	32	12	0	0	0
23-Jan-92	50	18	1.28	0	0
24-Jan-92	55	38	0.6	0	0
25-Jan-92	38	16	0	0	0
26-Jan-92	28	11	0	0	0
27-Jan-92	30	6	0	0	0
28-Jan-92	34	23	0	0	0
29-Jan-92	45	26	0	0	0
30-Jan-92	42	12	0	0	0
31-Jan-92	44	30	0	0	0
1-Feb-92	43	28	0	0	0
2-Feb-92	35	20	0	0	0
3-Feb-92	37	16	0	0	0
4-Feb-92	36	11	0.001	0.01	0.1
5-Feb-92	34	20	0.05	0.5	0.1
6-Feb-92	31	3	0	0	0.1
7-Feb-92	37	12	0	0	0
8-Feb-92	34	28	0.03	0.2	0.1
9-Feb-92	28	18	0.04	1.2	0.1
10-Feb-92	28	4	0	0	0.1
11-Feb-92	43	10	0	0	0
12-Feb-92	41	8	0	0	0
13-Feb-92	34	-3	0.001	0.01	0.1
14-Feb-92	44	29	0.19	0.5	0
15-Feb-92	45	18	0.001	0	0
16-Feb-92	56	37	1.3	0	0
17-Feb-92	51	22	0	0	0
18-Feb-92	46	29	0	0	0
19-Feb-92	45	39	0.12	0	0
20-Feb-92	49	36	0	0	0
21-Feb-92	48	23	0	0	0
22-Feb-92	49	22	0	0	0
23-Feb-92	52	34	0	0	0
24-Feb-92	44	28	0	0	0
25-Feb-92	37	32	0.001	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
26-Feb-92	42	35	0.62	0	0
27-Feb-92	46	21	0	0	0
28-Feb-92	45	25	0	0	0
29-Feb-92	42	19	0.08	0	0
1-Mar-92	42	8	0	0	0
2-Mar-92	43	22	0	0	0
3-Mar-92	35	28	0.001	0.01	0
4-Mar-92	44	22	0	0	0
5-Mar-92	53	23	0	0	0
6-Mar-92	51	29	0	0	0
7-Mar-92	53	34	0.46	0	0
8-Mar-92	56	43	0.07	0	0
9-Mar-92	48	38	0	0	0
10-Mar-92	49	37	0	0	0
11-Mar-92	54	39	1.33	0	0
12-Mar-92	43	21	0	0	0
13-Mar-92	35	21	0	0	0
14-Mar-92	36	12	0	0	0
15-Mar-92	34	12	0	0	0
16-Mar-92	34	11	0	0	0
17-Mar-92	42	15	0	0	0
18-Mar-92	42	27	0	0	0
19-Mar-92	41	28	0.3	5.2	5
20-Mar-92	37	16	0	0	4
21-Mar-92	38	16	0	0	2
22-Mar-92	36	16	0	0	1
23-Mar-92	35	25	0.14	2.5	2
24-Mar-92	37	12	0	0	2
25-Mar-92	43	14	0	0	2
26-Mar-92	48	33	0.001	0	1
27-Mar-92	51	40	0.8	0	0
28-Mar-92	50	40	0.001	0	0
29-Mar-92	52	29	0	0	0
30-Mar-92	56	32	0	0	0
31-Mar-92	48	39	0.45	0	0
1-Apr-92	49	22	0	0	0
2-Apr-92	54	34	0	0	0
3-Apr-92	49	30	0	0	0
4-Apr-92	48	28	0	0	0
5-Apr-92	52	23	0	0	0
6-Apr-92	56	35	0	0	0
7-Apr-92	56	28	0	0	0
8-Apr-92	63	40	0.001	0	0
9-Apr-92	63	22	0	0	0
10-Apr-92	67	33	0.01	0	0
11-Apr-92	67	36	0.16	0	0
12-Apr-92	45	34	0.02	0	0
13-Apr-92	52	29	0	0	0
14-Apr-92	51	26	0	0	0
15-Apr-92	51	27	0	0	0
16-Apr-92	48	20	0.001	0	0
17-Apr-92	42	31	0.86	1.5	0
18-Apr-92	43	36	0.24	0	0
19-Apr-92	48	38	0.43	0	0
20-Apr-92	60	40	0	0	0
21-Apr-92	68	49	0.02	0	0
22-Apr-92	68	50	0.02	0	0
23-Apr-92	75	50	0.24	0	0
24-Apr-92	74	41	0.001	0	0
25-Apr-92	54	39	0.18	0	0
26-Apr-92	47	36	0.02	0	0
27-Apr-92	49	34	0	0	0
28-Apr-92	56	24	0	0	0
29-Apr-92	53	25	0	0	0
30-Apr-92	59	24	0	0	0
1-May-92	63	43	0	0	0
2-May-92	71	48	0.15	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
3-May-92	69	47	0	0	0
4-May-92	68	42	0	0	0
5-May-92	52	40	0	0	0
6-May-92	54	30	0	0	0
7-May-92	57	33	0	0	0
8-May-92	56	43	0.08	0	0
9-May-92	72	46	0.58	0	0
10-May-92	68	42	0	0	0
11-May-92	62	46	0	0	0
12-May-92	62	42	0.01	0	0
13-May-92	72	51	0	0	0
14-May-92	75	53	0	0	0
15-May-92	72	50	0	0	0
16-May-92	61	49	0.11	0	0
17-May-92	67	38	0	0	0
18-May-92	74	43	0.001	0	0
19-May-92	69	48	0	0	0
20-May-92	69	29	0	0	0
21-May-92	85	38	0	0	0
22-May-92	90	47	0	0	0
23-May-92	90	45	0	0	0
24-May-92	83	49	0	0	0
25-May-92	67	44	0	0	0
26-May-92	58	38	0.03	0	0
27-May-92	60	42	0.07	0	0
28-May-92	64	40	0	0	0
29-May-92	71	39	0	0	0
30-May-92	68	37	0	0	0
31-May-92	64	47	0	0	0
1-Jun-92	60	52	1.58	0	0
2-Jun-92	69	45	0.11	0	0
3-Jun-92	77	48	0	0	0
4-Jun-92	76	49	0	0	0
5-Jun-92	73	52	0.03	0	0
6-Jun-92	71	57	0.63	0	0
7-Jun-92	79	58	0	0	0
8-Jun-92	85	57	0	0	0
9-Jun-92	80	63	0	0	0
10-Jun-92	80	48	0	0	0
11-Jun-92	73	51	0	0	0
12-Jun-92	78	45	0	0	0
13-Jun-92	82	50	0	0	0
14-Jun-92	79	58	0	0	0
15-Jun-92	77	55	0	0	0
16-Jun-92	73	42	0	0	0
17-Jun-92	80	46	0	0	0
18-Jun-92	78	44	0	0	0
19-Jun-92	74	60	0	0	0
20-Jun-92	75	64	0.06	0	0
21-Jun-92	76	64	0.02	0	0
22-Jun-92	68	53	0.05	0	0
23-Jun-92	71	46	0	0	0
24-Jun-92	71	50	0.66	0	0
25-Jun-92	74	58	0.38	0	0
26-Jun-92	77	47	0	0	0
27-Jun-92	75	55	0.06	0	0
28-Jun-92	81	52	0.12	0	0
29-Jun-92	80	50	0	0	0
30-Jun-92	79	59	0	0	0
1-Jul-92	85	59	0	0	0
2-Jul-92	84	55	0	0	0
3-Jul-92	72	43	0	0	0
4-Jul-92	70	57	0.42	0	0
5-Jul-92	68	55	0.02	0	0
6-Jul-92	74	56	0.12	0	0
7-Jul-92	77	49	0	0	0
8-Jul-92	80	50	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
9-Jul-92	82	62	0.14	0	0
10-Jul-92	84	57	0	0	0
11-Jul-92	84	63	0	0	0
12-Jul-92	80	56	0	0	0
13-Jul-92	86	65	0.25	0	0
14-Jul-92	86	57	0	0	0
15-Jul-92	78	65	0	0	0
16-Jul-92	75	59	1.77	0	0
17-Jul-92	75	54	0	0	0
18-Jul-92	85	63	0	0	0
19-Jul-92	85	59	0	0	0
20-Jul-92	84	67	0	0	0
21-Jul-92	85	67	0	0	0
22-Jul-92	82	60	0	0	0
23-Jul-92	77	52	0.12	0	0
24-Jul-92	72	53	0.28	0	0
25-Jul-92	75	48	0	0	0
26-Jul-92	75	45	0	0	0
27-Jul-92	78	64	0.06	0	0
28-Jul-92	78	62	0	0	0
29-Jul-92	79	53	0	0	0
30-Jul-92	79	64	0	0	0
31-Jul-92	77	53	0.001	0	0
1-Aug-92	74	70	0.7	0	0
2-Aug-92	80	53	0	0	0
3-Aug-92	80	62	0	0	0
4-Aug-92	77	61	0.49	0	0
5-Aug-92	75	54	0	0	0
6-Aug-92	81	49	0	0	0
7-Aug-92	81	51	0	0	0
8-Aug-92	79	47	0	0	0
9-Aug-92	73	52	3.4	0	0
10-Aug-92	77	65	2.1	0	0
11-Aug-92	84	67	0	0	0
12-Aug-92	83	63	0.58	0	0
13-Aug-92	77	55	0	0	0
14-Aug-92	70	59	0.28	0	0
15-Aug-92	68	54	0.18	0	0
16-Aug-92	64	60	0.55	0	0
17-Aug-92	68	58	0.33	0	0
18-Aug-92	69	64	1.36	0	0
19-Aug-92	77	62	0.01	0	0
20-Aug-92	76	56	0	0	0
21-Aug-92	76	46	0	0	0
22-Aug-92	79	49	0	0	0
23-Aug-92	83	50	0	0	0
24-Aug-92	81	54	0	0	0
25-Aug-92	86	64	0	0	0
26-Aug-92	86	63	0	0	0
27-Aug-92	86	68	0	0	0
28-Aug-92	78	68	0	0	0
29-Aug-92	78	72	0	0	0
30-Aug-92	75	49	0	0	0
31-Aug-92	78	64	0	0	0
1-Sep-92	78	49	0	0	0
2-Sep-92	73	38	0	0	0
3-Sep-92	70	48	0.6	0	0
4-Sep-92	73	57	0.86	0	0
5-Sep-92	74	53	0	0	0
6-Sep-92	68	52	0	0	0
7-Sep-92	70	54	0.02	0	0
8-Sep-92	78	64	0.11	0	0
9-Sep-92	82	67	0	0	0
10-Sep-92	79	68	0.13	0	0
11-Sep-92	77	63	0.02	0	0
12-Sep-92	71	51	0	0	0
13-Sep-92	70	38	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
14-Sep-92	71	40	0	0	0
15-Sep-92	74	43	0	0	0
16-Sep-92	81	60	0	0	0
17-Sep-92	80	59	0	0	0
18-Sep-92	81	64	0	0	0
19-Sep-92	78	65	0	0	0
20-Sep-92	69	42	0	0	0
21-Sep-92	70	41	0	0	0
22-Sep-92	72	56	0.12	0	0
23-Sep-92	70	53	0.7	0	0
24-Sep-92	62	39	0	0	0
25-Sep-92	63	41	0	0	0
26-Sep-92	65	54	0.36	0	0
27-Sep-92	69	61	2.91	0	0
28-Sep-92	70	53	0	0	0
29-Sep-92	67	59	0.02	0	0
30-Sep-92	60	34	0.001	0	0
1-Oct-92	53	27	0	0	0
2-Oct-92	65	28	0	0	0
3-Oct-92	72	51	0	0	0
4-Oct-92	71	50	0	0	0
5-Oct-92	59	36	0	0	0
6-Oct-92	58	28	0	0	0
7-Oct-92	69	29	0	0	0
8-Oct-92	69	33	0	0	0
9-Oct-92	67	42	0.05	0	0
10-Oct-92	68	62	0.8	0	0
11-Oct-92	68	49	0	0	0
12-Oct-92	65	53	0.22	0	0
13-Oct-92	64	40	0	0	0
14-Oct-92	61	31	0	0	0
15-Oct-92	68	50	0	0	0
16-Oct-92	69	53	0	0	0
17-Oct-92	66	46	0	0	0
18-Oct-92	54	25	0	0	0
19-Oct-92	51	38	0.001	0	0
20-Oct-92	53	30	0.26	0	0
21-Oct-92	51	42	0.09	0	0
22-Oct-92	54	37	0.09	0	0
23-Oct-92	58	33	0	0	0
24-Oct-92	64	46	0	0	0
25-Oct-92	62	42	0.67	0	0
26-Oct-92	54	36	0	0	0
27-Oct-92	54	33	0	0	0
28-Oct-92	57	24	0	0	0
29-Oct-92	60	32	0	0	0
30-Oct-92	57	47	0	0	0
31-Oct-92	51	39	0.03	0	0
1-Nov-92	47	31	0	0	0
2-Nov-92	45	21	0.05	0	0
3-Nov-92	53	28	1.33	0	0
4-Nov-92	55	47	0.03	0	0
5-Nov-92	58	46	0.11	0	0
6-Nov-92	50	36	0.2	0	0
7-Nov-92	47	27	0	0	0
8-Nov-92	40	26	0	0	0
9-Nov-92	41	20	0	0	0
10-Nov-92	45	17	0	0	0
11-Nov-92	55	25	0	0	0
12-Nov-92	54	45	0.06	0	0
13-Nov-92	61	53	0.6	0	0
14-Nov-92	53	26	0	0	0
15-Nov-92	44	25	0.001	0.01	0
16-Nov-92	40	24	0	0	0
17-Nov-92	47	20	0.001	0	0
18-Nov-92	47	30	0.001	0	0
19-Nov-92	41	26	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
20-Nov-92	42	19	0	0	0
21-Nov-92	54	20	0.001	0	0
22-Nov-92	58	52	0.18	0	0
23-Nov-92	61	54	1.51	0	0
24-Nov-92	57	40	0.06	0	0
25-Nov-92	47	42	0.12	0	0
26-Nov-92	556	46	0.48	0	0
27-Nov-92	58	41	0.59	0	0
28-Nov-92	58	28	0	0	0
29-Nov-92	49	26	0	0	0
30-Nov-92	46	30	0	0	0
1-Dec-92	49	25	0	0	0
2-Dec-92	49	24	0	0	0
3-Dec-92	46	33	0.72	0.01	0
4-Dec-92	42	30	0	0	0
5-Dec-92	40	30	0.35	1	0.1
6-Dec-92	32	18	0.01	0	0
7-Dec-92	41	30	0	0	0
8-Dec-92	39	21	0	0	0
9-Dec-92	30	7	0	0	0
10-Dec-92	36	11	0	0	0
11-Dec-92	41	34	1.45	0	0
12-Dec-92	42	32	1.81	3.5	1
13-Dec-92	37	35	0.33	0	0.1
14-Dec-92	37	33	0	0	0
15-Dec-92	40	30	0	0	0
16-Dec-92	47	24	0	0	0
17-Dec-92	53	42	0.48	0	0
18-Dec-92	54	35	0.71	0	0
19-Dec-92	43	18	0	0	0
20-Dec-92	49	41	0.25	0	0
21-Dec-92	42	23	0	0	0
22-Dec-92	44	16	0.02	0	0
23-Dec-92	43	22	0.01	0	0
24-Dec-92	43	16	0.01	0.01	0
25-Dec-92	36	8	0	0	0
26-Dec-92	42	30	0	0	0
27-Dec-92	30	6	0	0	0
28-Dec-92	45	10	0	0	0
29-Dec-92	49	33	0.01	0	0
30-Dec-92	47	38	0.85	0	0
31-Dec-92	45	37	0.51	0	0
1-Jan-93	48	29	0	0	0
2-Jan-93	34	17	0	0	0
3-Jan-93	33	10	0	0	0
4-Jan-93	54	33	0.01	0	0
5-Jan-93	57	51	1.08	0	0
6-Jan-93	57	28	0	0	0
7-Jan-93	42	27	0	0	0
8-Jan-93	40	26	0.001	0	0
9-Jan-93	38	26	0	0	0
10-Jan-93	27	17	0.001	0.01	0
11-Jan-93	30	16	0.03	1	0.1
12-Jan-93	33	28	0.05	1	0.1
13-Jan-93	35	33	0.23	0	0
14-Jan-93	35	20	0.14	0.01	0.1
15-Jan-93	34	23	0.09	0.5	0.1
16-Jan-93	36	14	0	0	0.1
17-Jan-93	34	17	0	0	0.1
18-Jan-93	36	22	0	0	0.1
19-Jan-93	34	12	0	0	0.1
20-Jan-93	38	9	0	0	0
21-Jan-93	39	14	0	0	0
22-Jan-93	48	34	0.37	0	0
23-Jan-93	47	34	0	0	0
24-Jan-93	52	24	0	0	0
25-Jan-93	46	36	0.15	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
26-Jan-93	37	19	0	0	0
27-Jan-93	35	19	0	0	0
28-Jan-93	35	24	0	0	0
29-Jan-93	42	25	0.05	0	0
30-Jan-93	37	11	0	0	0
31-Jan-93	31	14	0.06	0	0
1-Feb-93	31	17	0.001	0.5	1
2-Feb-93	24	6	0	0	0.1
3-Feb-93	37	10	0	0	0
4-Feb-93	37	30	0	0	0
5-Feb-93	46	18	0	0	0
6-Feb-93	46	9	0.09	3	3
7-Feb-93	25	-6	0	0	2
8-Feb-93	42	17	0	0	0.1
9-Feb-93	41	13	0	0	0.1
10-Feb-93	45	12	0	0	0
11-Feb-93	44	24	0	0	0
12-Feb-93	36	25	0.13	2.6	2
13-Feb-93	45	34	1.9	0	0
14-Feb-93	38	31	0	0	0
15-Feb-93	40	14	0	0	0
16-Feb-93	40	22	0.36	0.5	0.1
17-Feb-93	48	38	1.84	0	0
18-Feb-93	38	14	0.001	0	0
19-Feb-93	29	12	0.06	2.5	2
20-Feb-93	29	-2	0	0	0
21-Feb-93	30	4	0	0	0.1
22-Feb-93	34	27	0.56	3.2	2
23-Feb-93	37	27	0	0	2
24-Feb-93	35	18	0	0	1
25-Feb-93	26	7	0	0	0
26-Feb-93	30	1	0	0	1
27-Feb-93	29	5	0.001	0.01	1
28-Feb-93	30	19	0.001	0.01	1
1-Mar-93	43	18	0	0	0.1
2-Mar-93	46	16	0	0	0.1
3-Mar-93	46	20	0	0	0.1
4-Mar-93	41	26	0.001	0	0.1
5-Mar-93	37	32	1.4	0	0
6-Mar-93	41	23	0.09	0	0
7-Mar-93	45	28	0	0	0
8-Mar-93	51	26	0.001	0	0
9-Mar-93	46	33	0	0	0
10-Mar-93	44	27	0	0	0
11-Mar-93	38	32	0.34	3	2
12-Mar-93	38	18	0	0	1
13-Mar-93	33	22	0.28	4.3	4
14-Mar-93	39	20	2.43	3.5	4
15-Mar-93	27	10	0	0	4
16-Mar-93	41	12	0	0	4
17-Mar-93	47	35	0.29	0	2
18-Mar-93	44	15	0.64	2	4
19-Mar-93	30	10	0	0	4
20-Mar-93	37	8	0	0	2
21-Mar-93	41	28	0	0	0.1
22-Mar-93	47	22	0	0	0.1
23-Mar-93	47	21	0	0	0.1
24-Mar-93	40	33	1.3	0	0
25-Mar-93	40	33	0.25	0	0
26-Mar-93	65	39	0	0	0
27-Mar-93	65	32	0	0	0
28-Mar-93	58	40	0.1	0	0
29-Mar-93	53	44	0.12	0	0
30-Mar-93	46	40	0.001	0	0
31-Mar-93	59	32	0	0	0
1-Apr-93	50	39	1.41	0	0
2-Apr-93	42	33	0.95	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
3-Apr-93	46	32	0.001	0	0
4-Apr-93	44	28	0	0	0
5-Apr-93	56	24	0	0	0
6-Apr-93	51	24	0	0	0
7-Apr-93	56	32	0	0	0
8-Apr-93	61	24	0	0	0
9-Apr-93	57	33	0	0	0
10-Apr-93	57	43	0.2	0	0
11-Apr-93	59	47	0.11	0	0
12-Apr-93	62	45	0.22	0	0
13-Apr-93	48	41	0.25	0	0
14-Apr-93	56	38	0	0	0
15-Apr-93	52	40	0	0	0
16-Apr-93	62	44	0.03	0	0
17-Apr-93	60	48	0.88	0	0
18-Apr-93	55	37	0	0	0
19-Apr-93	68	29	0	0	0
20-Apr-93	64	43	0	0	0
21-Apr-93	62	50	0	0	0
22-Apr-93	62	42	0.03	0	0
23-Apr-93	58	36	0.32	0	0
24-Apr-93	65	34	0	0	0
25-Apr-93	67	45	0	0	0
26-Apr-93	64	51	0	0	0
27-Apr-93	55	33	0.89	0	0
28-Apr-93	57	32	0	0	0
29-Apr-93	64	32	0	0	0
30-Apr-93	67	42	0	0	0
1-May-93	71	47	0	0	0
2-May-93	71	40	0	0	0
3-May-93	65	37	0	0	0
4-May-93	67	50	0	0	0
5-May-93	69	52	0	0	0
6-May-93	78	53	0.01	0	0
7-May-93	79	53	0	0	0
8-May-93	68	39	0	0	0
9-May-93	80	43	0	0	0
10-May-93	78	45	0	0	0
11-May-93	87	48	0	0	0
12-May-93	84	52	0.06	0	0
13-May-93	69	53	0.001	0	0
14-May-93	65	43	0.03	0	0
15-May-93	66	35	0	0	0
16-May-93	78	52	0	0	0
17-May-93	76	52	0.16	0	0
18-May-93	70	41	0	0	0
19-May-93	61	49	0.44	0	0
20-May-93	55	48	0.29	0	0
21-May-93	68	48	0.01	0	0
22-May-93	68	40	0.06	0	0
23-May-93	71	48	0	0	0
24-May-93	72	44	0	0	0
25-May-93	79	57	0	0	0
26-May-93	76	56	0	0	0
27-May-93	68	41	0	0	0
28-May-93	68	40	0.001	0	0
29-May-93	68	54	0.1	0	0
30-May-93	73	40	0	0	0
31-May-93	72	37	0	0	0
1-Jun-93	67	56	1	0	0
2-Jun-93	68	38	0	0	0
3-Jun-93	71	43	0	0	0
4-Jun-93	70	51	0.05	0	0
5-Jun-93	71	43	0.001	0	0
6-Jun-93	59	50	0.15	0	0
7-Jun-93	75	42	0	0	0
8-Jun-93	77	46	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
9-Jun-93	78	58	0.03	0	0
10-Jun-93	84	61	0.08	0	0
11-Jun-93	84	60	0	0	0
12-Jun-93	76	56	0	0	0
13-Jun-93	72	43	0	0	0
14-Jun-93	78	54	0	0	0
15-Jun-93	78	51	0	0	0
16-Jun-93	78	63	0	0	0
17-Jun-93	77	50	0	0	0
18-Jun-93	80	53	0	0	0
19-Jun-93	89	65	0	0	0
20-Jun-93	86	64	0	0	0
21-Jun-93	77	62	0	0	0
22-Jun-93	81	64	0.02	0	0
23-Jun-93	82	56	0.001	0	0
24-Jun-93	79	44	0	0	0
25-Jun-93	82	48	0	0	0
26-Jun-93	81	59	0	0	0
27-Jun-93	76	66	0.18	0	0
28-Jun-93	82	65	0	0	0
29-Jun-93	81	64	0.001	0	0
30-Jun-93	81	63	0	0	0
1-Jul-93	81	63	0	0	0
2-Jul-93	75	46	0.001	0	0
3-Jul-93	72	63	0.47	0	0
4-Jul-93	85	63	0	0	0
5-Jul-93	87	58	0	0	0
6-Jul-93	80	55	0	0	0
7-Jul-93	90	67	0	0	0
8-Jul-93	93	67	0.13	0	0
9-Jul-93	92	67	0.03	0	0
10-Jul-93	95	67	0	0	0
11-Jul-93	95	58	0	0	0
12-Jul-93	88	58	1.19	0	0
13-Jul-93	88	59	0	0	0
14-Jul-93	85	56	0	0	0
15-Jul-93	85	70	0	0	0
16-Jul-93	84	52	0	0	0
17-Jul-93	81	57	0	0	0
18-Jul-93	82	51	0	0	0
19-Jul-93	80	56	0.001	0	0
20-Jul-93	80	60	0.57	0	0
21-Jul-93	82	61	0	0	0
22-Jul-93	82	51	0	0	0
23-Jul-93	79	55	0	0	0
24-Jul-93	81	53	0	0	0
25-Jul-93	79	55	0	0	0
26-Jul-93	78	55	0	0	0
27-Jul-93	69	58	1.56	0	0
28-Jul-93	86	65	0.08	0	0
29-Jul-93	84	64	0.14	0	0
30-Jul-93	85	61	0	0	0
31-Jul-93	83	57	0	0	0
1-Aug-93	84	58	0	0	0
2-Aug-93	84	68	0.001	0	0
3-Aug-93	88	70	0	0	0
4-Aug-93	86	65	0	0	0
5-Aug-93	85	59	0	0	0
6-Aug-93	80	45	0	0	0
7-Aug-93	74	58	0.08	0	0
8-Aug-93	77	53	0	0	0
9-Aug-93	78	54	0	0	0
10-Aug-93	78	48	0	0	0
11-Aug-93	78	51	0	0	0
12-Aug-93	78	62	0	0	0
13-Aug-93	81	58	0	0	0
14-Aug-93	83	63	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
15-Aug-93	86	63	0.001	0	0
16-Aug-93	84	63	0.04	0	0
17-Aug-93	78	68	0.07	0	0
18-Aug-93	75	66	0.05	0	0
19-Aug-93	81	60	0.04	0	0
20-Aug-93	82	56	0	0	0
21-Aug-93	81	66	0.02	0	0
22-Aug-93	77	49	0	0	0
23-Aug-93	80	46	0	0	0
24-Aug-93	78	61	0	0	0
25-Aug-93	91	67	0.12	0	0
26-Aug-93	93	59	0	0	0
27-Aug-93	90	58	0	0	0
28-Aug-93	88	69	0	0	0
29-Aug-93	82	60	0.12	0	0
30-Aug-93	83	57	0	0	0
31-Aug-93	83	62	0	0	0
1-Sep-93	86	69	0	0	0
2-Sep-93	79	58	0	0	0
3-Sep-93	87	67	0.001	0	0
4-Sep-93	84	73	0.05	0	0
5-Sep-93	81	62	0.31	0	0
6-Sep-93	84	55	0	0	0
7-Sep-93	82	58	0	0	0
8-Sep-93	76	61	0.27	0	0
9-Sep-93	77	60	0.03	0	0
10-Sep-93	76	65	0.67	0	0
11-Sep-93	74	48	0.12	0	0
12-Sep-93	70	37	0	0	0
13-Sep-93	78	49	0	0	0
14-Sep-93	80	63	0	0	0
15-Sep-93	81	64	0	0	0
16-Sep-93	77	55	0.14	0	0
17-Sep-93	61	54	0.08	0	0
18-Sep-93	62	54	0.27	0	0
19-Sep-93	71	52	0	0	0
20-Sep-93	68	28	0	0	0
21-Sep-93	61	36	0.06	0	0
22-Sep-93	63	55	1.15	0	0
23-Sep-93	70	55	0	0	0
24-Sep-93	68	51	0.11	0	0
25-Sep-93	71	34	0	0	0
26-Sep-93	71	50	1.19	0	0
27-Sep-93	71	68	0.22	0	0
28-Sep-93	71	57	0.15	0	0
29-Sep-93	65	37	0	0	0
30-Sep-93	64	37	0	0	0
1-Oct-93	60	31	0	0	0
2-Oct-93	70	50	0	0	0
3-Oct-93	68	48	0.21	0	0
4-Oct-93	68	30	0	0	0
5-Oct-93	67	46	0	0	0
6-Oct-93	62	34	0	0	0
7-Oct-93	67	40	0	0	0
8-Oct-93	71	54	0	0	0
9-Oct-93	74	55	0	0	0
10-Oct-93	69	42	0	0	0
11-Oct-93	51	22	0	0	0
12-Oct-93	56	29	0.15	0	0
13-Oct-93	56	36	0.26	0	0
14-Oct-93	56	23	0	0	0
15-Oct-93	59	44	0.02	0	0
16-Oct-93	67	44	0.02	0	0
17-Oct-93	65	42	0.02	0	0
18-Oct-93	70	57	0.11	0	0
19-Oct-93	69	30	0	0	0
20-Oct-93	58	39	0.3	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
21-Oct-93	64	48	0.52	0	0
22-Oct-93	65	44	0.38	0	0
23-Oct-93	58	29	0	0	0
24-Oct-93	61	25	0	0	0
25-Oct-93	70	42	0	0	0
26-Oct-93	67	40	0	0	0
27-Oct-93	53	45	0.75	0	0
28-Oct-93	53	45	0.02	0	0
29-Oct-93	58	26	0	0	0
30-Oct-93	59	40	0.13	0	0
31-Oct-93	47	37	0.85	0	0
1-Nov-93	49	42	0.32	0	0
2-Nov-93	51	31	0	0	0
3-Nov-93	54	25	0	0	0
4-Nov-93	53	32	0	0	0
5-Nov-93	57	32	0.24	0	0
6-Nov-93	58	51	0.65	0	0
7-Nov-93	51	29	0	0	0
8-Nov-93	47	13	0	0	0
9-Nov-93	52	20	0	0	0
10-Nov-93	56	22	0	0	0
11-Nov-93	54	20	0	0	0
12-Nov-93	57	47	0.03	0	0
13-Nov-93	53	22	0.001	0	0
14-Nov-93	71	48	0.02	0	0
15-Nov-93	76	53	0.02	0	0
16-Nov-93	73	43	0	0	0
17-Nov-93	53	30	0.15	0	0
18-Nov-93	60	42	0.19	0	0
19-Nov-93	52	26	0.52	0	0
20-Nov-93	51	36	0.22	0	0
21-Nov-93	43	27	0	0	0
22-Nov-93	55	38	0	0	0
23-Nov-93	55	25	0	0	0
24-Nov-93	52	32	0	0	0
25-Nov-93	51	20	0	0	0
26-Nov-93	51	9	0	0	0
27-Nov-93	49	24	0	0	0
28-Nov-93	60	46	1.1	0	0
29-Nov-93	61	30	0.06	0	0
30-Nov-93	45	25	0	0	0
1-Dec-93	42	21	0	0	0
2-Dec-93	44	23	0	0	0
3-Dec-93	56	35	0.01	0	0
4-Dec-93	53	29	0.001	0	0
5-Dec-93	58	42	2.6	0	0
6-Dec-93	47	33	0.1	0	0
7-Dec-93	51	30	0.02	0	0
8-Dec-93	48	27	0	0	0
9-Dec-93	45	20	0	0	0
10-Dec-93	52	29	0	0	0
11-Dec-93	54	38	0.84	0	0
12-Dec-93	38	21	0.12	0	0
13-Dec-93	47	25	0	0	0
14-Dec-93	43	31	0.001	0	0
15-Dec-93	44	40	0	0	0
16-Dec-93	44	32	0.02	0	0
17-Dec-93	40	25	0	0	0
18-Dec-93	43	12	0	0	0
19-Dec-93	43	35	0.28	0	0
20-Dec-93	48	23	0.05	0	0
21-Dec-93	55	28	1.29	0	0
22-Dec-93	50	36	0	0	0
23-Dec-93	39	22	0	0	0
24-Dec-93	33	10	0.001	0.001	0
25-Dec-93	35	25	0.04	1	1
26-Dec-93	34	16	0.03	0.5	1

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
27-Dec-93	17	2	0	0	1
28-Dec-93	24	2	0	0	1
29-Dec-93	22	0	0.001	0.001	0.001
30-Dec-93	27	18	0.41	7.5	8
31-Dec-93	30	-7	0	0	7
1-Jan-94	41	-1	0	0	4
2-Jan-94	47	31	0.14	0	0.001
3-Jan-94	42	25	0	0	0.001
4-Jan-94	38	21	0.92	6.7	7
5-Jan-94	41	15	0.001	0.001	5
6-Jan-94	30	9	0.001	0.001	4
7-Jan-94	20	13	0.34	3.5	6
8-Jan-94	32	19	0.89	2	6
9-Jan-94	26	9	0	0	6
10-Jan-94	24	5	0	0	6
11-Jan-94	32	-4	0	0	5
12-Jan-94	33	13	0.03	0.5	5
13-Jan-94	36	27	0.17	1.5	6
14-Jan-94	34	29	0.01	0.001	5
15-Jan-94	33	8	0	0	5
16-Jan-94	12	-5	0	0	5
17-Jan-94	44	-10	0.001	0	4
18-Jan-94	47	13	1.28	0	3
19-Jan-94	20	-2	0	0	3
20-Jan-94	17	-1	0	0	3
21-Jan-94	24	-4	0	0	3
22-Jan-94	29	9	0	0	3
23-Jan-94	27	6	0.001	0.001	3
24-Jan-94	46	12	0.001	0.001	2
25-Jan-94	46	24	0	0	2
26-Jan-94	33	12	0.05	2.4	4
27-Jan-94	19	-5	0.001	0.001	4
28-Jan-94	49	18	0.62	0	0.001
29-Jan-94	53	38	0.43	0	0.001
30-Jan-94	38	23	0	0	0
31-Jan-94	34	14	0	0	0
1-Feb-94	30	9	0.001	0.001	0.001
2-Feb-94	27	-2	0.01	0.4	0.001
3-Feb-94	36	5	0.001	0.001	0.001
4-Feb-94	33	4	0.001	0.001	0.001
5-Feb-94	44	14	0	0	0
6-Feb-94	40	21	0	0	0
7-Feb-94	42	19	0	0	0
8-Feb-94	39	12	0.2	4.1	4
9-Feb-94	18	9	0.36	2.6	7
10-Feb-94	18	5	0.07	2.1	9
11-Feb-94	19	-2	0.41	5.5	13
12-Feb-94	33	19	0.42	2.2	14
13-Feb-94	37	23	0	0	13
14-Feb-94	37	14	0	0	13
15-Feb-94	32	-2	0	0	12
16-Feb-94	35	10	0	0	12
17-Feb-94	36	-1	0	0	11
18-Feb-94	54	18	0	0	10
19-Feb-94	53	13	0	0	10
20-Feb-94	60	34	0	0	5
21-Feb-94	50	36	0.01	0	2
22-Feb-94	46	31	0.04	0	2
23-Feb-94	45	22	0.07	1.5	3
24-Feb-94	37	23	0.45	1	2
25-Feb-94	37	21	0	0	2
26-Feb-94	31	17	0.19	4.1	5
27-Feb-94	27	7	0	0	5
28-Feb-94	32	2	0	0	4
1-Mar-94	35	11	0	0	3
2-Mar-94	34	4	0	0	2
3-Mar-94	37	25	1.73	4.2	3

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
4-Mar-94	44	28	0.001	0.01	3
5-Mar-94	44	29	0	0	2
6-Mar-94	41	21	0	0	1
7-Mar-94	49	30	0.001	0	1
8-Mar-94	48	33	0.32	0	0.1
9-Mar-94	41	28	0.03	0.3	0.1
10-Mar-94	55	31	2.08	0	0
11-Mar-94	46	34	0.69	0	0
12-Mar-94	42	20	0	0	0
13-Mar-94	47	23	0	0	0
14-Mar-94	53	33	0	0	0
15-Mar-94	53	26	0	0	0
16-Mar-94	50	29	0.02	0	0
17-Mar-94	39	22	0.02	0.7	0
18-Mar-94	38	22	0.001	0.01	0.1
19-Mar-94	42	23	0.05	1.5	0.1
20-Mar-94	47	28	0	0	0
21-Mar-94	47	20	0	0	0
22-Mar-94	47	35	1.51	0	0
23-Mar-94	66	34	0	0	0
24-Mar-94	65	31	0	0	0
25-Mar-94	48	37	0.02	0	0
26-Mar-94	53	29	0	0	0
27-Mar-94	51	28	0.11	0	0
28-Mar-94	53	41	0.88	0	0
29-Mar-94	50	33	0.9	0.01	0
30-Mar-94	48	29	0.03	0	0
31-Mar-94	52	24	0	0	0
1-Apr-94	58	30	0	0	0
2-Apr-94	58	33	0	0	0
3-Apr-94	58	32	0	0	0
4-Apr-94	56	37	0	0	0
5-Apr-94	57	25	0	0	0
6-Apr-94	58	35	0.02	0	0
7-Apr-94	63	46	0.29	0	0
8-Apr-94	54	26	0	0	0
9-Apr-94	53	24	0	0	0
10-Apr-94	55	42	0.09	0	0
11-Apr-94	63	37	0.24	0	0
12-Apr-94	61	30	0.001	0	0
13-Apr-94	55	40	0.17	0	0
14-Apr-94	63	47	0.69	0	0
15-Apr-94	72	38	0	0	0
16-Apr-94	69	44	0.26	0	0
17-Apr-94	60	39	0	0	0
18-Apr-94	58	28	0	0	0
19-Apr-94	63	35	0.02	0	0
20-Apr-94	61	44	0.05	0	0
21-Apr-94	58	28	0	0	0
22-Apr-94	55	30	0	0	0
23-Apr-94	56	25	0	0	0
24-Apr-94	68	43	0	0	0
25-Apr-94	67	45	0.001	0	0
26-Apr-94	55	42	0.22	0	0
27-Apr-94	75	44	0.02	0	0
28-Apr-94	71	52	0.001	0	0
29-Apr-94	58	36	0.001	0	0
30-Apr-94	77	47	0	0	0
1-May-94	72	47	0.16	0	0
2-May-94	65	42	0	0	0
3-May-94	61	32	0	0	0
4-May-94	62	39	0	0	0
5-May-94	58	46	0.63	0	0
6-May-94	57	35	0.11	0	0
7-May-94	66	36	0.1	0	0
8-May-94	67	45	0.33	0	0
9-May-94	70	46	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
10-May-94	69	45	0	0	0
11-May-94	67	38	0	0	0
12-May-94	64	50	0	0	0
13-May-94	64	40	0	0	0
14-May-94	71	38	0	0	0
15-May-94	73	37	0.001	0	0
16-May-94	64	52	0.58	0	0
17-May-94	53	47	0.05	0	0
18-May-94	55	41	0.01	0	0
19-May-94	54	44	0.03	0	0
20-May-94	59	42	0.03	0	0
21-May-94	68	37	0	0	0
22-May-94	74	39	0	0	0
23-May-94	87	44	0.001	0	0
24-May-94	74	52	0.46	0	0
25-May-94	75	52	0.03	0	0
26-May-94	74	52	0.48	0	0
27-May-94	67	51	0.03	0	0
28-May-94	64	33	0	0	0
29-May-94	74	45	0	0	0
30-May-94	75	49	0	0	0
31-May-94	73	53	0	0	0
1-Jun-94	75	56	0.001	0	0
2-Jun-94	77	45	0	0	0
3-Jun-94	72	44	0	0	0
4-Jun-94	79	40	0	0	0
5-Jun-94	74	50	0	0	0
6-Jun-94	69	54	0.001	0	0
7-Jun-94	82	61	0.76	0	0
8-Jun-94	82	53	0	0	0
9-Jun-94	75	41	0	0	0
10-Jun-94	74	46	0	0	0
11-Jun-94	75	42	0	0	0
12-Jun-94	75	60	0.001	0	0
13-Jun-94	79	63	0.01	0	0
14-Jun-94	77	64	0.1	0	0
15-Jun-94	83	64	0.23	0	0
16-Jun-94	79	64	0	0	0
17-Jun-94	84	56	0	0	0
18-Jun-94	87	64	0	0	0
19-Jun-94	93	68	0	0	0
20-Jun-94	86	57	0	0	0
21-Jun-94	76	56	0.001	0	0
22-Jun-94	81	66	0	0	0
23-Jun-94	84	51	0	0	0
24-Jun-94	81	63	0.001	0	0
25-Jun-94	79	64	0.01	0	0
26-Jun-94	82	62	0	0	0
27-Jun-94	80	58	0.001	0	0
28-Jun-94	80	67	0	0	0
29-Jun-94	77	65	0.55	0	0
30-Jun-94	76	67	0.34	0	0
1-Jul-94	82	64	0	0	0
2-Jul-94	82	66	0	0	0
3-Jul-94	82	65	0	0	0
4-Jul-94	80	61	0	0	0
5-Jul-94	79	51	0	0	0
6-Jul-94	88	70	0	0	0
7-Jul-94	91	68	0	0	0
8-Jul-94	88	68	0	0	0
9-Jul-94	88	69	0.04	0	0
10-Jul-94	87	72	0	0	0
11-Jul-94	83	57	0	0	0
12-Jul-94	82	52	0	0	0
13-Jul-94	90	66	0	0	0
14-Jul-94	88	63	0	0	0
15-Jul-94	77	63	0.57	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
16-Jul-94	85	61	0.001	0	0
17-Jul-94	84	61	0	0	0
18-Jul-94	77	61	0.03	0	0
19-Jul-94	83	60	0	0	0
20-Jul-94	89	67	0	0	0
21-Jul-94	89	69	0	0	0
22-Jul-94	86	74	0	0	0
23-Jul-94	84	73	0	0	0
24-Jul-94	81	71	0.02	0	0
25-Jul-94	88	66	0	0	0
26-Jul-94	84	71	0	0	0
27-Jul-94	84	68	0.97	0	0
28-Jul-94	81	69	0.03	0	0
29-Jul-94	83	71	0.19	0	0
30-Jul-94	84	69	0	0	0
31-Jul-94	86	69	0	0	0
1-Aug-94	86	67	0	0	0
2-Aug-94	86	71	0	0	0
3-Aug-94	85	68	0.39	0	0
4-Aug-94	87	66	0	0	0
5-Aug-94	84	68	0.001	0	0
6-Aug-94	76	54	1.1	0	0
7-Aug-94	76	43	0	0	0
8-Aug-94	78	47	0	0	0
9-Aug-94	80	49	0	0	0
10-Aug-94	79	59	0	0	0
11-Aug-94	78	51	0	0	0
12-Aug-94	76	62	0.37	0	0
13-Aug-94	83	65	0	0	0
14-Aug-94	84	69	0.26	0	0
15-Aug-94	72	56	0.46	0	0
16-Aug-94	76	46	0	0	0
17-Aug-94	77	55	0	0	0
18-Aug-94	80	64	0.79	0	0
19-Aug-94	80	63	0.04	0	0
20-Aug-94	76	65	0.03	0	0
21-Aug-94	77	67	0	0	0
22-Aug-94	74	64	2.56	0	0
23-Aug-94	71	58	0	0	0
24-Aug-94	76	43	0	0	0
25-Aug-94	74	46	0	0	0
26-Aug-94	78	61	0	0	0
27-Aug-94	84	64	0	0	0
28-Aug-94	83	58	0	0	0
29-Aug-94	77	57	0.3	0	0
30-Aug-94	73	46	0	0	0
31-Aug-94	74	50	0	0	0
1-Sep-94	79	65	0.02	0	0
2-Sep-94	76	47	0	0	0
3-Sep-94	71	40	0	0	0
4-Sep-94	69	45	0	0	0
5-Sep-94	62	52	0.15	0	0
6-Sep-94	71	48	0	0	0
7-Sep-94	75	42	0	0	0
8-Sep-94	77	46	0	0	0
9-Sep-94	78	50	0	0	0
10-Sep-94	74	53	0.06	0	0
11-Sep-94	68	44	0	0	0
12-Sep-94	72	47	0	0	0
13-Sep-94	80	55	0	0	0
14-Sep-94	80	65	0.15	0	0
15-Sep-94	73	51	0	0	0
16-Sep-94	72	45	0	0	0
17-Sep-94	80	63	0	0	0
18-Sep-94	78	54	0.84	0	0
19-Sep-94	70	39	0	0	0
20-Sep-94	71	39	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
21-Sep-94	78	44	0	0	0
22-Sep-94	75	54	0	0	0
23-Sep-94	66	59	2.15	0	0
24-Sep-94	71	62	0.02	0	0
25-Sep-94	71	56	0	0	0
26-Sep-94	67	61	0	0	0
27-Sep-94	63	58	0.02	0	0
28-Sep-94	74	59	0.49	0	0
29-Sep-94	70	50	0	0	0
30-Sep-94	66	50	0	0	0
1-Oct-94	61	36	0.04	0	0
2-Oct-94	62	45	0.02	0	0
3-Oct-94	60	33	0	0	0
4-Oct-94	59	33	0	0	0
5-Oct-94	58	38	0	0	0
6-Oct-94	60	31	0	0	0
7-Oct-94	67	32	0	0	0
8-Oct-94	68	39	0	0	0
9-Oct-94	72	47	0	0	0
10-Oct-94	68	54	0	0	0
11-Oct-94	60	28	0	0	0
12-Oct-94	58	24	0	0	0
13-Oct-94	66	25	0	0	0
14-Oct-94	66	37	0	0	0
15-Oct-94	63	42	0	0	0
16-Oct-94	62	28	0	0	0
17-Oct-94	63	31	0	0	0
18-Oct-94	64	29	0	0	0
19-Oct-94	62	50	0.03	0	0
20-Oct-94	66	54	0.01	0	0
21-Oct-94	67	54	0.02	0	0
22-Oct-94	70	50	0	0	0
23-Oct-94	69	38	0.001	0	0
24-Oct-94	68	41	0.51	0	0
25-Oct-94	67	35	0	0	0
26-Oct-94	63	34	0	0	0
27-Oct-94	57	29	0	0	0
28-Oct-94	59	25	0	0	0
29-Oct-94	62	35	0	0	0
30-Oct-94	70	38	0	0	0
31-Oct-94	69	37	0	0	0
1-Nov-94	65	55	0.24	0	0
2-Nov-94	64	48	0.04	0	0
3-Nov-94	65	41	0	0	0
4-Nov-94	69	40	0	0	0
5-Nov-94	70	52	0	0	0
6-Nov-94	67	44	0.08	0	0
7-Nov-94	63	45	0.02	0	0
8-Nov-94	61	34	0	0	0
9-Nov-94	65	48	0	0	0
10-Nov-94	62	38	0.61	0	0
11-Nov-94	49	27	0	0	0
12-Nov-94	50	22	0	0	0
13-Nov-94	58	31	0	0	0
14-Nov-94	57	26	0	0	0
15-Nov-94	67	49	0	0	0
16-Nov-94	64	42	0	0	0
17-Nov-94	57	37	0	0	0
18-Nov-94	62	40	0.18	0	0
19-Nov-94	61	50	1.61	0	0
20-Nov-94	56	31	0	0	0
21-Nov-94	54	27	0	0	0
22-Nov-94	61	48	0.41	0	0
23-Nov-94	54	29	0.001	0.01	0.1
24-Nov-94	33	17	0	0	0
25-Nov-94	52	18	0	0	0
26-Nov-94	49	18	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI

Date	Max. Temp °F	Min. Temp. °F	Rain Inches	Snow Inches	Snow on Ground Inches
27-Nov-94	39	19	0	0	0
28-Nov-94	61	30	2.56	0.01	0
29-Nov-94	60	44	0.001	0	0
30-Nov-94	50	32	0	0	0
1-Dec-94	46	22	0	0	0
2-Dec-94	51	17	0	0	0
3-Dec-94	59	22	0	0	0
4-Dec-94	62	31	0	0	0
5-Dec-94	60	32	1.26	0	0
6-Dec-94	60	52	0.1	0	0
7-Dec-94	55	39	0.001	0	0
8-Dec-94	45	23	0.08	0.01	0
9-Dec-94	41	15	0	0	0
10-Dec-94	47	35	0.01	0	0
11-Dec-94	53	38	0.81	0	0
12-Dec-94	39	18	0	0	0
13-Dec-94	36	12	0	0	0
14-Dec-94	33	28	0	0	0
15-Dec-94	37	28	0.001	0.01	0
16-Dec-94	35	30	0	0	0
17-Dec-94	42	30	0.001	0	0
18-Dec-94	43	39	0.29	0	0
19-Dec-94	41	29	0	0	0
20-Dec-94	41	15	0	0	0
21-Dec-94	50	22	0	0	0
22-Dec-94	58	24	0	0	0
23-Dec-94	48	23	0	0	0
24-Dec-94	48	44	3.12	0	0
25-Dec-94	53	39	0	0	0
26-Dec-94	51	30	0	0	0
27-Dec-94	51	20	0	0	0
28-Dec-94	51	27	0	0	0
29-Dec-94	46	29	0	0	0
30-Dec-94	31	12	0	0	0
31-Dec-94	39	11	0	0	0

Source: URI Department of Plant Sciences, College of Resource Development Kingston, RI