

Abstract

Katherine A. Tull. SPAWNING ACTIVITY OF STRIPED BASS IN A TIDAL BORE RIVER: THE SHUBENACADIE-STEWIACKE SYSTEM, NOVA SCOTIA.

(Under the direction of Roger A. Rulifson). Department of Biology, East Carolina University, April 1997.

The only, known self-sustaining population of striped bass, *Morone saxatilis*, in the Bay of Fundy spawns in the tidal bore-dominated Shubenacadie-Stewiacke watershed, Nova Scotia.. Egg deposition and water quality were monitored in the Stewiacke River downstream of the spawning grounds from 20 May to 15 June 1994. Replicate samples were taken every 1.5 hours (16 times per day) cued to one hour after the tidal bore and 15 minutes after high slack tide. The tidal bore changed the river elevation 3.7 m and the salinity up to 20 ppt within one hour. Four major spawning peaks were observed: 2 June, 6-9 June, 13-14 June, and 20 June. The spawning period was approximately three weeks in duration and appears to be cued to the neap tide. The critical spawning temperature was 18° C and water temperatures fluctuated more with the tidal cycle than with season progression. Approximately 67% of the 20,318 eggs collected were <10 hours old, and 9% were 30+ hours old. Only 61 larvae were collected. Total estimated egg production for the Stewiacke River in 1994 was 61.5 million based on all eggs <10 hrs old caught in paired surface and paired bottom nets. Most eggs <10 hours old were collected during ebbing tides when salinities were lowest. Striped bass egg density and bouyancy estimates indicated that youngest eggs were most buoyant (1 ppt at 17° C) and oldest eggs were least buoyant (9 ppt). This suggests that the eggs are retained in the estuary through hatching by the extreme salinity gradient of the tidal bore.

SPAWNING ACTIVITY OF STRIPED BASS IN A TIDAL BORE RIVER:
THE SHUBENACADIE-STEWIACKE SYSTEM, NOVA SCOTIA

A Thesis

Presented to

The Faculty of the Department of Biology

East Carolina University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Biology

by

Katherine A. Tull

April 1997

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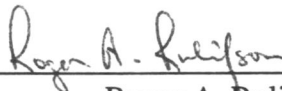
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Katherine A. Tull

APPROVED BY:

DIRECTOR OF THESIS



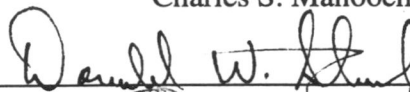
Roger A. Rulifson, Ph.D.

COMMITTEE MEMBER



Charles S. Manooch, III, Ph.D.

COMMITTEE MEMBER



Donald W. Stanley, Ph.D.

COMMITTEE MEMBER



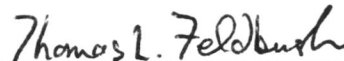
Michael J. Dadswell, Ph.D.

CHAIRMAN OF THE DEPARTMENT OF BIOLOGY



Charles E. Bland, Ph.D.

DEAN OF THE GRADUATE SCHOOL



Thomas L. Feldbush, Ph.D.

Acknowledgements

I would like to express my sincere appreciation to Dr. Roger A. Rulifson for his copious support, his endless suggestions, and his never ending pressure to finish. Without Dr. Rulifson's guidance and encouragement this thesis would not have been possible. I would also like to thank my committee, Dr. Charles S. Manooch III, of NMFS, Beaufort Fisheries Lab, Dr. Micheal J. Dadswell, of Acadia University, Nova Scotia, and Dr. Donald W. Stanley of East Carolina University for their constructive comments. A special thanks goes to Ms. Marsha E. Shepherd of East Carolina University, Academic Computing Center for her inexhaustive help in the data analysis, and Ms. Kay Evans of the Institute for Coastal and Marine Resources who helped with the conversion of SAS printouts from ASCII to Word 6.0 format. To my parents who provided the emotional support and a large portion of the financial backing for this project, a very special thank you. To the staff of AgrEvo USA Co., thank you for the endless encouragement and for allowing me the time off to complete the process. Lee Paramore, William Tarplee III, and Dr. Rulifson deserve a Tim Horton donut and a thank you for the help in data collection and entertainment during those cold weeks in the frozen North. I would also like to thank Mr. Ralph Meadows, Mr. William Stone, Mr. Robert Covert, and the shad fishermen of the Stewiacke River who supplied invaluable time, equipment, information for this project and made us feel at home. To Mrs. Donalda Stone, a special thanks for going above and beyond the call of duty in feeding us and allowing us to invade her home. Brian Jessop of the Department of Fisheries and Oceans was instrumental in obtaining the necessary paperwork for permission to conduct the

study. Finally I would like to thank Mrs. Gayle Rulifson, Heather Rulifson and Eric Rulifson for coping without Roger during the six week collection period and throughout this exhaustive procedure.

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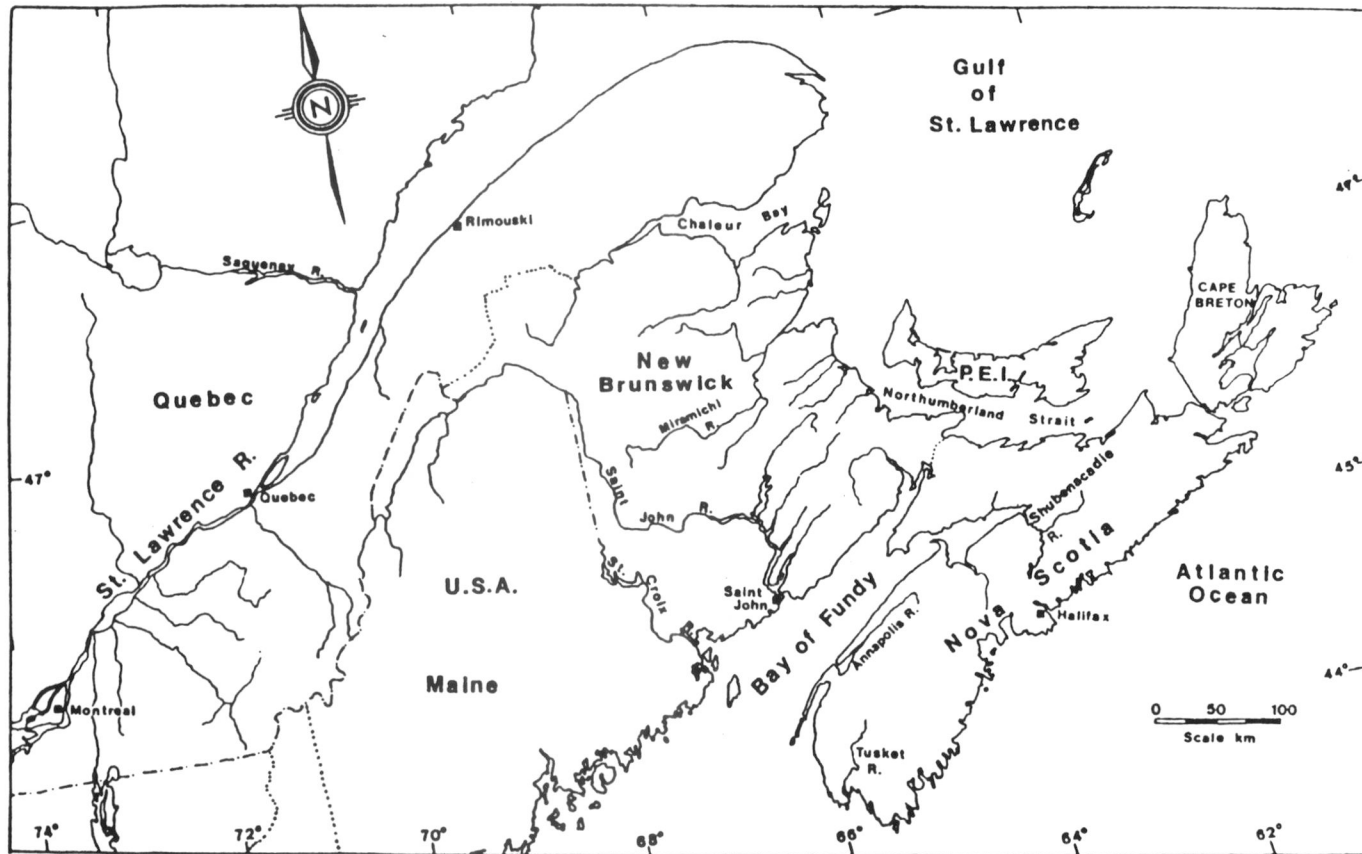
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Introduction

Striped bass (*Morone saxatilis*) as a sport fish has become increasingly popular in the Canadian Maritime provinces as the populations of more popular sport fishes such as Atlantic salmon (*Salmo salar* Linnaeus, 1758), decline (Rulifson and Dadswell 1995). This increased interest has coincided with an apparent decline in most striped bass populations in the Maritime provinces (Jessop 1995). In New Brunswick, the striped bass population problem was deemed so critical that the Canadian federal government enacted new fishing regulations making it illegal to kill or sell striped bass; all angling is now restricted to hook-and-release (Philip Lee, Moncton Telegraph Journal, February 21, 1996, "Ottawa to ban killing striped bass"). Other provinces such as Nova Scotia are considering following New Brunswick's lead (Jessop 1995). In May 1996, the Department of Fisheries and Oceans ruled that commercial shad fishermen on the Shubenacadie River in Nova Scotia could keep only 3 striped bass of between 1.3-3.1 kg (3-7 lbs), and only 1 striped bass, > 3.1 kg (>7 lbs), per day for personal consumption. Commercial fishermen are also restricted in selling bycatch striped bass. The recreational fishermen are also restricted to the 1 striped bass > 3.1 kg (>7 lbs) rule (William H. Stone, Stewiacke, Nova Scotia, personal communication).

There are nine documented spawning populations of striped bass in Atlantic Canada (Quebec, New Brunswick, Nova Scotia). These spawning sites are distributed in the St. Lawrence River (now extirpated), the Gulf of St. Lawrence, and the Bay of Fundy (Rulifson and Dadswell 1995, Figure 1). Although the species is widespread in Canada,

Figure 1. The three regions of eastern Canada with extant or extirpated striped bass populations: the St. Lawrence River and estuary, the Gulf of St. Lawrence-Northumberland Strait, and the Bay of Fundy (Rulifson and Dadswell 1995). P.E.I. is Prince Edward Island.



little detailed information is available on these populations. Even so, enough information is available to suggest that only two rivers support major self-sustaining populations -- the Miramichi River in northeastern New Brunswick (Robichand-LeBlanc et al. 1996), and the Shubenacadie River watershed in Nova Scotia (Jessop 1995).

Harvest of striped bass in the Maritimes is usually by angling or as bycatch in commercial fisheries. Striped bass in the Shubenacadie and Stewiacke rivers are harvested as bycatch in the drift-net fishery for American shad (*Alosa sapidissima* (Wilson, 1811)) and gaspereau (alewife, *A. pseudoharengus* (Wilson 1811)), and by recreational angling. Although the population of striped bass in the Shubenacadie watershed is believed to be depressed, it is not as severe as other rivers in the Bay of Fundy region, such as the Annapolis and Saint John rivers where the populations have declined to near extinction (Jessop 1995).

The Shubenacadie is a tidal bore river, and is believed to be the only tidal bore river within the range of the species to support a self-sustaining spawning population (Rulifson and Dadswell 1995). It is likely that a second watershed in the region, the Annapolis River, historically contained a tidal-bore spawning population, but the construction of a causeway in 1964 effectively eliminated the bore effect. At the present time, striped bass may still spawn in the Annapolis River system but a successful year class has not been observed for many years (Harris 1989; Jessop, DFO, Halifax, personal communication).

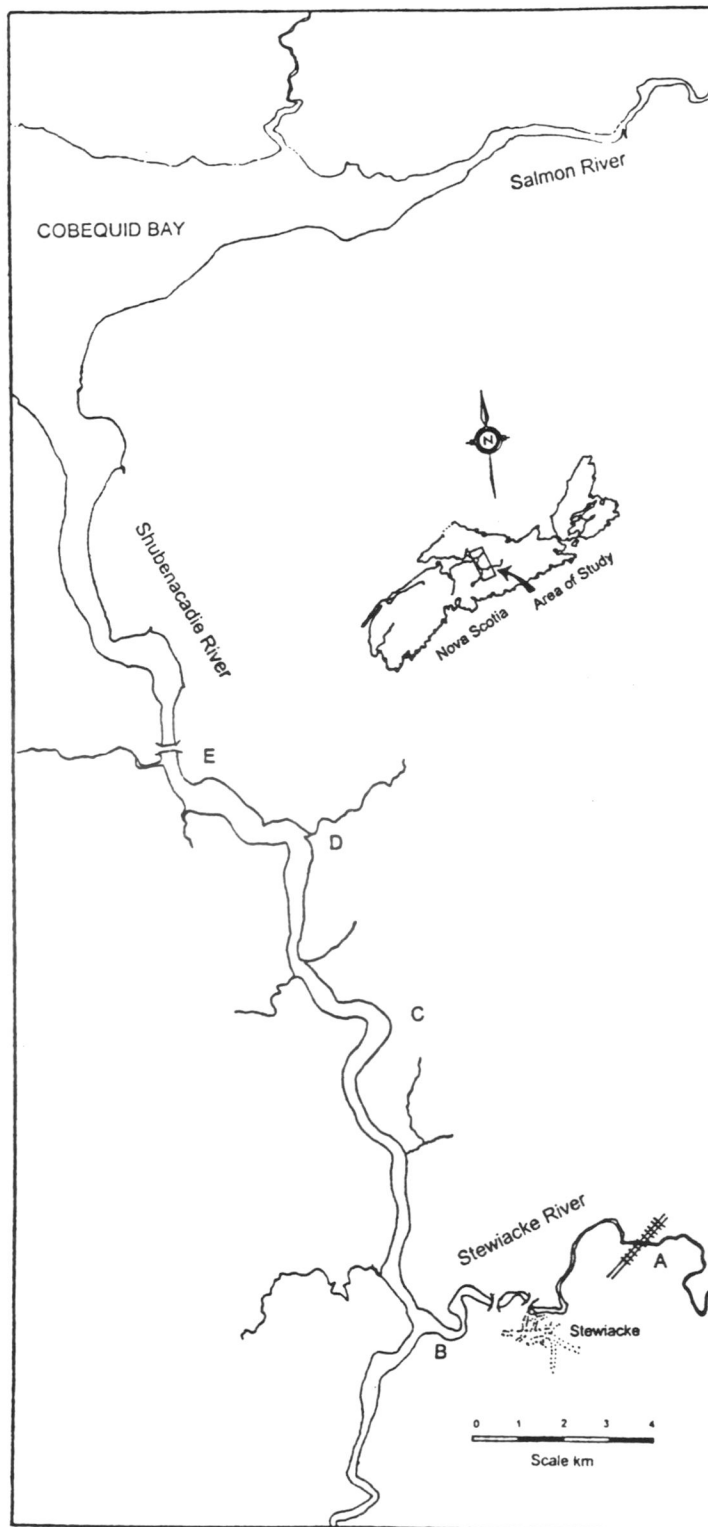
Spawning in the Shubenacadie watershed historically was at two locations near the head of the tidal bore: one site in the Shubenacadie River and the other in the Stewiacke River. Both locations are just upstream of the confluence of the Shubenacadie and Stewiacke rivers, approximately 25 km upstream from the head of the Bay of Fundy. At the present time it is believed by local fishermen that spawning occurs primarily in the Stewiacke River approximately 3-6 km upstream of the Stewiacke-Shubenacadie confluence (Figure 2). The focus of my investigation was the spawning activity of striped bass spawning in the Stewiacke River only, hereafter referred to as the Shubenacadie-Stewiacke population.

The Shubenacadie-Stewiacke population is being considered as a source of brood stock for production of young in aquaculture and for possible brood for stock restoration programs in other Canadian rivers. However, the unique set of conditions in this watershed, and the resultant ability of this population to spawn here, may limit its potential for grow-out and stock enhancement programs.

Exactly how striped bass maintain a self-sustaining population in a watershed that undergoes extreme changes in temperature and salinity with each tide is unknown. Previous studies indicate that striped bass egg survival decreases precipitously at salinities of 4 ppt or greater in the laboratory (Johnson 1972), although field studies suggest that striped bass eggs in waters of 4.7 to 9.7 ppt can hatch and larvae can survive (Hollis 1967). Larvae die within 48 hrs at salinities of 20 ppt or more (Doroshev 1970).

The goal of my study was to understand striped bass spawning in the

Figure 2. The Shubenacadie-Stewiacke River study area and drift buoy study points: A- Perceived spawning grounds and start of drift study; B- Egg sampling site and field station; C- Perceived downstream extent of egg transport, and area of lost contact between boat and buoy; D- area of re-contact between boat and drift buoy; and E- Termination of downstream drift study.



environmental extremes caused by the tidal bore, and document where the eggs are located relative to the salt wedge of the incoming tide. Results may provide information useful to fishery managers as options for stock enhancement and aquaculture are considered.

Objectives

The objectives of the study were: 1) to determine the effects of the tidal bore on Stewiacke River water quality; 2) to determine the water quality during striped bass spawning; 3) to determine the spawning period seasonally; 4) to determine the spawning pattern; and 5) to estimate the total egg production of the Shubenacadie-Stewiacke population for the 1994 spawning season.

Study Site

The Shubenacadie-Stewiacke River watershed is the largest watershed in Nova Scotia, encompassing approximately 2800 km². It extends from the city of Dartmouth in the south to Cobequid Bay in the north, and from Pictou County in the east to Rawdon Hills in the west (Figure 3). Approximately 64 km of the Shubenacadie River and 16 km of the Stewiacke River are tidally influenced (Shubenacadie-Stewiacke River Basin Board 1981).

The study site was located in the Stewiacke River, Nova Scotia, approximately 0.5 km upstream of the Shubenacadie-Stewiacke river confluence (45°8' N:63°23' W,

Figure 3. Map of the Shubenacadie River watershed.

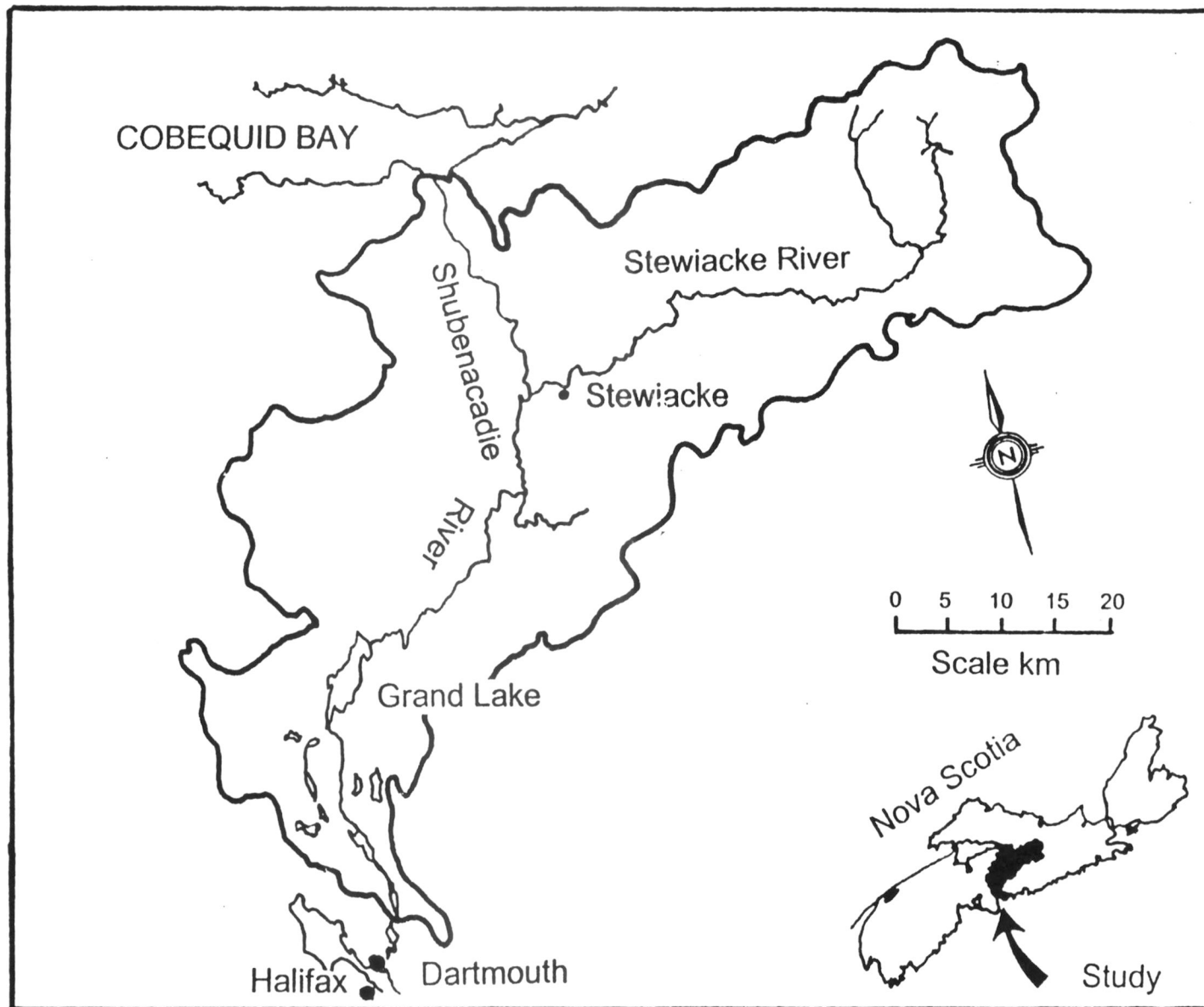


Figure 2). Striped bass spawning occurs approximately 3-6 km upstream of the sampling location dependent on prevailing tidal and freshwater discharge conditions. The Stewiacke watershed upstream of the striped bass spawning site contains extensive Atlantic salmon (*Salmo salar* Linnaeus, 1758) spawning and rearing habitats (Shubenacadie-Stewiacke River Basin Board 1981). On incoming tides, the tidal bore splits at the confluence, with the largest portion of the tidal wave continuing upstream in the Shubenacadie River. Height of the Stewiacke tidal bore at the sampling site was approximately 0.2 m on neap tides and 0.5 m on spring tides, with actual wave size directly influenced by the prevailing rate of Stewiacke River freshwater discharge. Low tide exposed extensive mud flats, which were composed of fluid muds and fine sands. Mud flat configuration changed daily based on current patterns created by the tide and amount of freshwater discharge.

Sampling Methods

Tidal Bore Characterization

Two pilot studies were conducted to determine the timing of sampling for eggs relative to the tidal bore. In the first pilot study conducted from May 11-20, 1994, environmental conditions including temperature (°C), conductivity (mhos), salinity (ppt), depth (m), velocity (m/sec), dissolved oxygen (mg/L), and secchi depth (cm) were recorded from the right bank of the river at the commercial fish house (stream-side field station, Figure 2) to calibrate the equipment and to observe the river water flow pattern.

Results of the this study indicated that it was not possible to sample for eggs or environmental conditions as the tidal bore passed the sampling site; the strength of the incoming tide prevented anchoring the boat, which was required for setting the nets to capture striped bass eggs. A second study was conducted from May 20-23 to define the sampling area most representative of this reach of the river. Environmental conditions were measured from an anchored boat near the right bank, mid-channel, and the left bank within a 15-min period, which was the time required for sampling and moving the boat among sites.

The appearance of the tidal bore at the Stewiacke River mouth occurred approximately one hour after the predicted high tide for Saint John, New Brunswick (Anonymous 1994). (Note: predicted tides are Atlantic standard time; summer daylight savings time requires the addition of two hours to the Saint John tide table to pinpoint arrival of tidal bore at the sampling site). Based on results of the pilot study, it was determined that samples should be taken 30 min before the predicted bore, 30 min after the bore (mid-flood), at high ebb tide (just after high slack), and every 1.5 h thereafter.

A third study was performed to determine the maximum potential for downstream egg movement in the river system in relation to the ebbing tide, and subsequent return by the tidal bore. A drift buoy constructed of a weighted polystyrene float was released at high slack tide in the region of the river believed to be the primary spawning grounds. The buoy was allowed to move downstream with the ebbing tide unhindered unless it became stuck on the shore or in weeds. When entrapped, the buoy was freed, taken to the

middle of the river in a position parallel to the entrapment site, and released to continue downstream.

Cross-Sectional Area

During the observation period of May 11 to May 20, 1994, the cross-sectional area was determined at low tide by measuring the vertical changes in river bed relief as a function of linear distance from the right bank. However, over the course of the study (May 20 to June 15) it was observed that the contours of the mudflats had shifted, making it necessary to remeasure the cross-sectional area. A second cross-sectional area was taken on June 1 at the same place as the first cross-sectional area. After June 1 the contours of the river bottom remained similar through the remainder of the study. All egg production estimates were based on the second cross-sectional area.

The cross-sectional area was calibrated to a river stage gage constructed of a 3.6-m long 5.08x10.16 cm board marked at vertical increments of 3.3 cm and mounted in the mud at the right bank low tide mark.

Water Quality

Environmental conditions of the Stewiacke River, which were measured from the boat for each egg sampling trip included: temperature ($^{\circ}\text{C}$), conductivity (mhos), salinity (ppt), depth (m), velocity (m/sec), dissolved oxygen (mg/L), and secchi depth (cm).

Temperature, salinity, and conductivity were recorded using a Beckman electrodeless

induction salinometer. River depth was recorded using a stern-mounted Hummingbird depth finder. Dissolved oxygen was measured with a YSI oxygen meter, and the water velocity was measured using a Marsh McBirney flowmeter. Secchi visibility was collected during day light hours only, to the nearest 5 cm.

A YSI 6000, a continuous sampling meter, also was used to collect water quality data. The YSI 6000 was mounted onto the river stage gage set at the edge of the right bank channel near the fish house and programmed to collect data every 15 min. Variables recorded were: temperature ($^{\circ}\text{C}$), conductivity (mhos), salinity (ppt), depth from mean low water (m), dissolved oxygen (mg/L), total dissolved solids and pH. Correlation analysis was performed using the YSI 6000 data, and the data collected from the boat, to assist interpretation of the water flow patterns of the river during a bore event.

Field Egg Sampling

From May 23 to June 15, 1994, simultaneous replicate samples of two minute duration were taken using conical plankton nets of 500 micron mesh and 6:1 tail-to-mouth ratios. Samples were taken 30 min before the predicted bore, 30 min after the bore (mid-flood), at high ebb tide (just after high slack), and every 1.5 h thereafter for a total of 16 samples per day. Environmental conditions were recorded for each sample. The cross-sectional area at the time of the sample was determined by reading a water level gage calibrated to the depth and corresponding width of the river. River depth changed dramatically within one hour relative to the strength of the incoming tide; the greatest

single change was from about 1 m at low tide to 3.6 m at high tide. During most of the tidal cycle, the river stayed at low ebb with a water depth of approximately 1 m. This condition caused the egg nets to either lie on the bottom or to sample the same depth as the first tow of the replicate, so bottom tows were taken only when the water depth was greater than 1.2 m.

The unpreserved egg samples were returned to the stream-side field station so that eggs could be enumerated and individually observed to determine viability (Hassler et al. 1981) and stage of development (Bonn et al. 1976). Viability was based on the status of the embryo (development), yolk and oil globules (intact), perivitelline space (cloudy or clear), and whether the chorion was broken or intact. Eggs staged under a dissecting microscope were placed into a category of <10 h old (Stage 1), 10-18 h old (Stage 2), 20-28 h old (Stage 3) and 30+ h old (Stage 4) based on an assumed constant water temperature for development of 17°C. The unfertilized eggs were classified as non-viable (i.e. dead) for the egg production estimates. Hatched larvae were counted separately. All samples were returned to the river after processing in the same condition as collected.

Egg Density Study

A laboratory experiment was conducted to determine the density of eggs at different stages of development. Eggs were staged, then 10 of each developmental stage were retained for each experiment. Instant Ocean was added to distilled water to make solutions ranging in salinity from 0 to 8 ppt in 1 ppt increments as determined by a

hydrometer at 17°C. All tests were conducted at a water temperature of 17°C. Each egg was tested by dropping it into a 100-ml graduated cylinder filled with the salinity solution and timing (to the nearest 0.1 sec) the egg's rate of descent. Starting with the 0 ppt solution, the experiment was repeated for each of the six stages of egg development at increasing salinity levels until a salinity was reached where eggs reached a neutral buoyancy or floated at the surface.

Egg Production Estimates

Striped bass egg production was estimated for each sampling period (instantaneous estimate) and on a daily basis. Average instantaneous egg production estimates were calculated by the equation:

$$(((\text{Mean egg count at depth}) / \text{tow time}) / \text{net mouth opening}) * (\text{water velocity} \times \text{cross-sectional area}),$$

where mean egg count at depth = mean count of replicate A and B samples, tow time = 120 sec, net mouth opening = 0.049 m², and water velocity and cross-sectional area were the observed values for the sample. The daily egg production estimates were calculated by multiplying the instantaneous egg production estimate (#/sec) by the number of seconds between samples, then summing all estimates for the calendar day. The last sample of the day was split using midnight as the end point. The egg production estimate was calculated for the last sampling period as before, but the estimate was split so that the estimated number of eggs transported past the sampling site in the minutes

between the last sample and midnight were added to the daily total; the remainder was added to the next daily total.

Results

River Flow Patterns and Cross-Sectional Area

River flow patterns changed dramatically within a tidal cycle, and dictated the egg sampling location within the river. During the first pilot study it was observed that a large mud flat on the left bank was exposed during the ebbing tide; the ebbing waters were well mixed and restricted to a narrow (approximately 3-m wide) channel against the right bank for the last several hours of the ebb tide period. The tidal bore rolled over the edges of the mud flat, with an immediate change in water flow direction from downstream to upstream. By mid-flood tide (within 15-20 min of the bore), one large eddy developed in mid-stream toward the right side of the river and the extensive mud flats were completely submerged. At high slack tide (within one hr of the bore), which lasted approximately 5 min, surface waters were completely still. During ebbing tide the waters flowing off the mud flat were in the direction of the right bank channel. Since the river was dewatered on the left bank during ebbing tide and low tide, the channel against the right bank had to be the study site.

The cross-sectional area of the river changed dramatically between high and low tides, and between neap and spring tides, but the river never exceeded the river banks during the study. The neap tide cross-sectional area ranged from approximately 21 m² at

low tide to 183 m² at high tide. The largest spring tide observed during the study resulted in an estimated low tide cross-sectional area of 53 m² and high tide area of 649 m². The lowest observed cross-sectional area was 8 m² on May 29, 1994 which was directly related to low fresh water discharge (Appendix 1).

Sampling times had to be shifted each day to coincide with the tidal bore event, but sampling for eggs while the bore passed the sampling site was not feasible. The flow pattern pilot study indicated that the major influence on flow patterns was the tidal bore event and flood tide. As the tidal bore progressed upstream, the river flow reversed and upstream water quality parameters changed rapidly. These changes were documented in two separate tidal bore samplings on May 22 (Figure 4) and again on May 24 (Figure 5). In both cases, depth and salinity increased rapidly in a one hour period between low flood tide and high slack tide, with water temperature decreasing only slightly. These sampling attempts during the tidal bore event revealed that a) swift currents precluded maintaining anchorage long enough to procure a sample, and b) debris in the water column carried by the bore fouled the nets and occasionally endangered the boat and crew. Based on these findings, the sampling schedule was set to 30 min before the predicted bore, 30 min after the bore (mid-flood), at high ebb tide (just after high slack), and every 1.5 h thereafter. It was also determined that water quality of the tidal bore could only be sampled by the YSI 6000 meter permanently mounted in the right bank channel.

Figure 4. Water quality of the Stewiacke River during the May 22, 1994 tidal bore event.
LFT=low flood tide; MF= mid flood tide; HF= high flood tide.

May 22, 1994 Tidal bore event

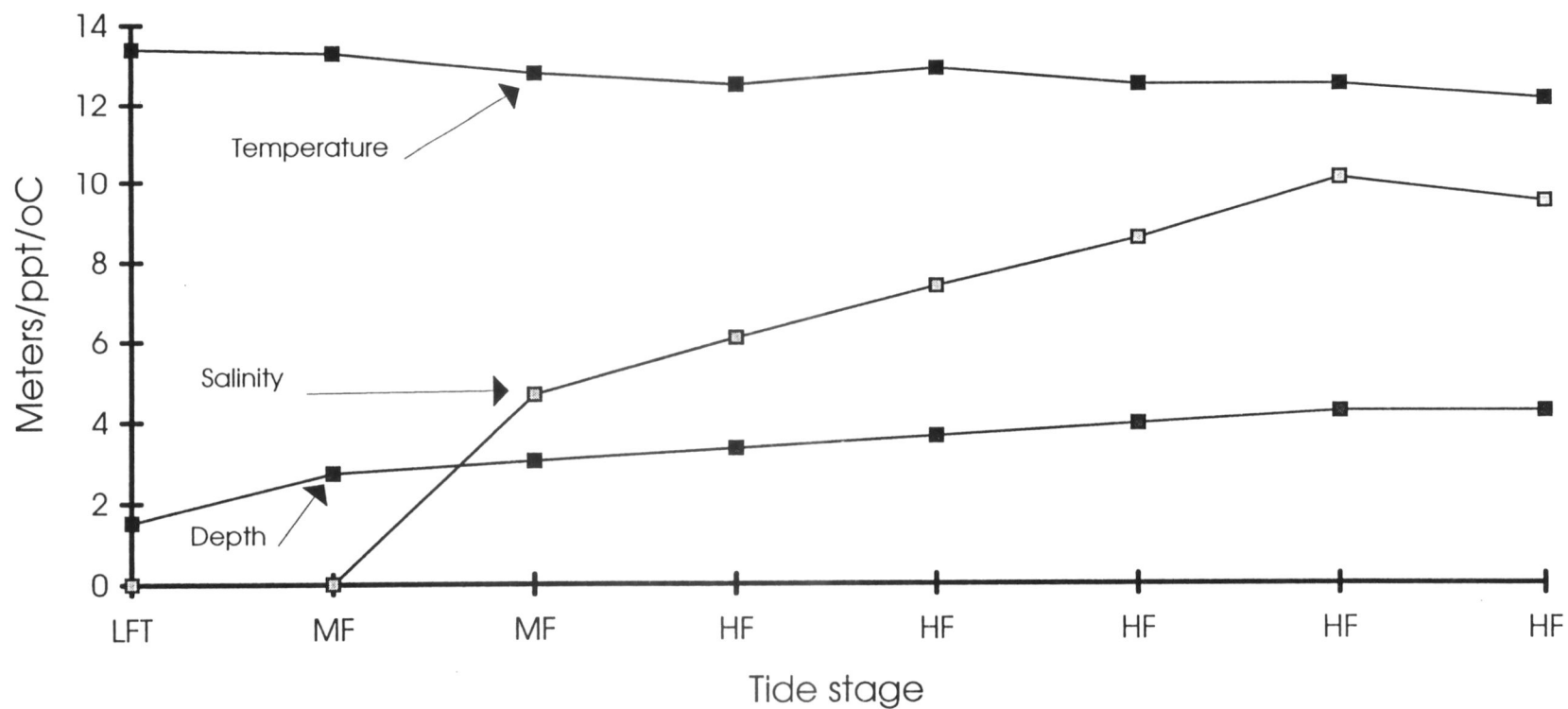
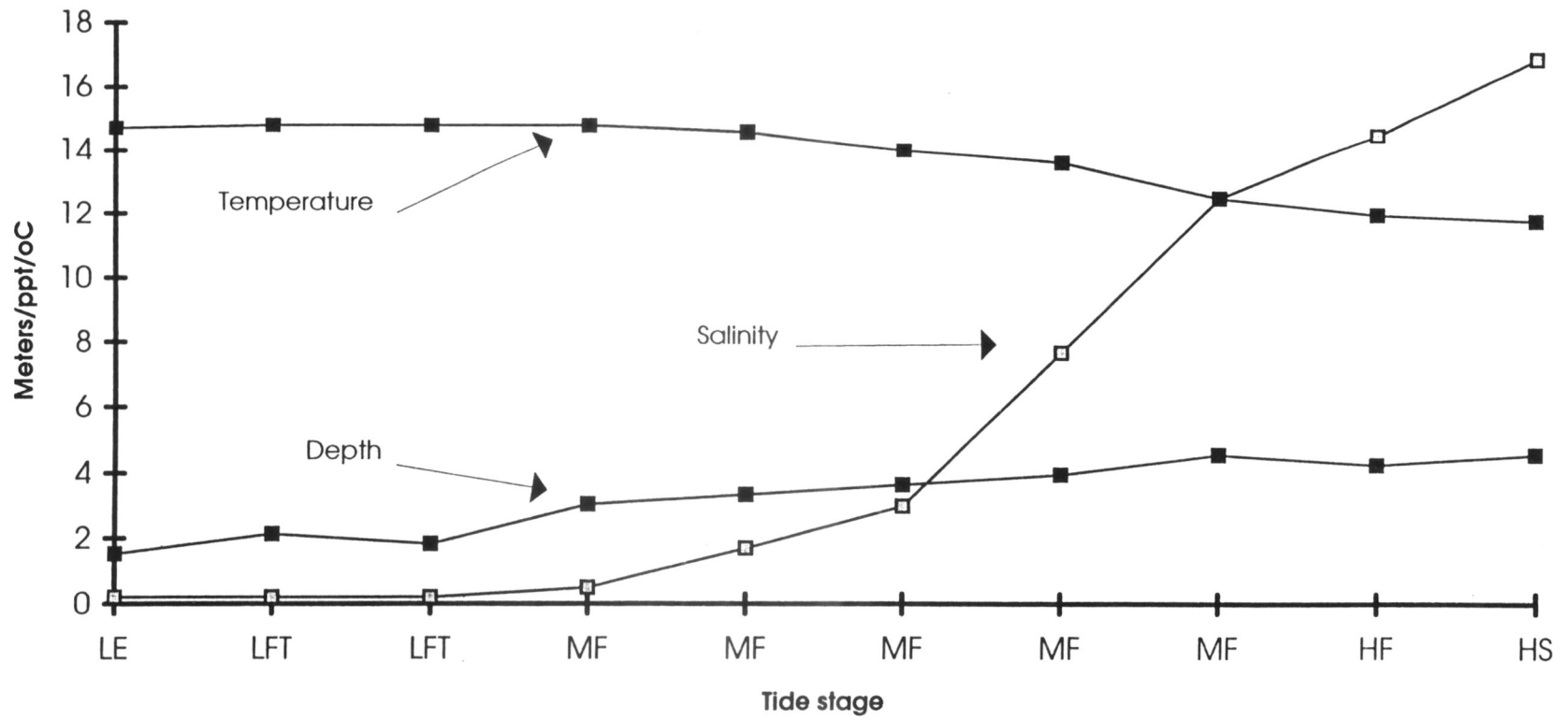


Figure 5. Water quality of the Stewiacke River during the May 24, 1994 tidal bore event.
LE= low ebb; LFT= low flood tide; MF= mid flood tide; HF= high flood tide;
HS= high slack tide.

May 24, 1994 Tidal bore event



Pilot Study Water Quality Patterns

Water quality parameters of water temperature, water depth, salinity, and dissolved oxygen of data collected during each trip, and the data collected by the YSI 6000, were statistically similar based on Pearson correlation analysis (Table 1). In general, water temperatures decreased with increasing water depth during flood tide ($r = -0.44$, DEPTH vs TEMPW). The correlation of dropping water temperatures with increased river depth was greater for bottom measurements ($r = -0.47$) than surface measurements ($r = -0.35$, Table 1). These temperature differences were due to the cooler waters from the upper Bay of Fundy flowing upstream near the bottom of the water column as warmer fresh waters from the head waters remained near the surface ($r = -0.31$, TEMPW vs SALW).

Lateral and Vertical Differences in Water Quality

The second study revealed that the Stewiacke River undergoes dramatic environmental changes with each tidal cycle. Water quality parameters (salinity, temperature and water velocity) measured at the surface and bottom of three locations across the river were analyzed by t-test (Table 2). Results indicated significant differences in lateral and vertical water quality. Salinity of the right bank surface was significantly different ($P = 0.031$, one-tail) from salinity of the mid-channel surface waters (Figure 6). Velocity of the right bank surface water was also significantly

Table 1. Results of a Pearson correlation analysis (SAS Institute 1985) comparing water quality data collected by a Hydrolab water quality monitor positioned on the right bank, and data collected in the channel during egg sampling, in the Stewiacke River, Nova Scotia, during spring 1994. SWTEMP and BWTEMP = surface and bottom water temperatures, boat; TEMPW = Hydrolab water temperature; DEPTH= channel depth, boat; DEPTHW = Hydrolab depth; SSAL and BSAL = surface and bottom salinities, boat; SALW = Hydrolab salinity; DO = dissolved oxygen, boat; DOW = Hydrolab dissolved oxygen.

Pearson Correlation Coefficients / Prob > R under Ho: Rho=0 / Number of Observations										
	SWTEMP	BWTEMP	TEMPW	DEPTH	DEPTHW	SSAL	BSAL	SALW	DO	DOW
SWTEMP	1.00000 0.0 408	0.99701 0.0001 369	0.98869 0.0001 346	-0.35366 0.0001 372	-0.44059 0.0001 346	-0.15559 0.0016 408	-0.16723 0.0012 370	-0.10470 0.0683 304	-0.58554 0.0001 388	-0.60562 0.0001 222
BWTEMP	0.99701 0.0001 369	1.00000 0.0 369	0.99018 0.0001 333	-0.46533 0.0001 341	-0.45859 0.0001 333	-0.20664 0.0001 369	-0.18555 0.0003 369	-0.13414 0.0210 296	-0.51911 0.0001 363	-0.60625 0.0001 212
TEMPW	0.98869 0.0001 346	0.99018 0.0001 333	1.00000 0.0 355	-0.43980 0.0001 317	-0.41929 0.0001 355	-0.23757 0.0001 346	-0.21155 0.0001 334	-0.12703 0.0246 313	-0.33255 0.0001 339	-0.63814 0.0001 231
DEPTH	-0.35366 0.0001 372	-0.46533 0.0001 341	-0.43980 0.0001 317	1.00000 0.0 372	0.88191 0.0001 317	0.70558 0.0001 372	0.70575 0.0001 341	0.61617 0.0001 276	-0.08039 0.1279 360	-0.06865 0.3415 194
DEPTHW	-0.44059 0.0001 346	-0.45859 0.0001 333	-0.41929 0.0001 355	0.88191 0.0001 317	1.00000 0.0 355	0.87080 0.0001 346	0.87045 0.0001 334	0.72138 0.0001 313	-0.11007 0.0428 339	-0.10407 0.1147 231
SSAL	-0.15559 0.0016 408	-0.20664 0.0001 369	-0.23757 0.0001 346	0.70558 0.0001 372	0.87080 0.0001 346	1.00000 0.0 408	0.98482 0.0001 370	0.89628 0.0001 304	-0.22474 0.0001 388	-0.34202 0.0001 222
BSAL	-0.16723 0.0012 370	-0.18555 0.0003 369	-0.21155 0.0001 334	0.70575 0.0001 341	0.87045 0.0001 334	0.98482 0.0001 370	1.00000 0.0 370	0.88819 0.0001 296	-0.21305 0.0001 363	-0.35357 0.0001 213
SALW	-0.10470 0.0683 304	-0.13414 0.0210 296	-0.12703 0.0246 313	0.61617 0.0001 276	0.72138 0.0001 313	0.89628 0.0001 304	0.88819 0.0001 296	1.00000 0.0 313	-0.25999 0.0001 301	-0.23005 0.0014 189

Table 1 (continued).

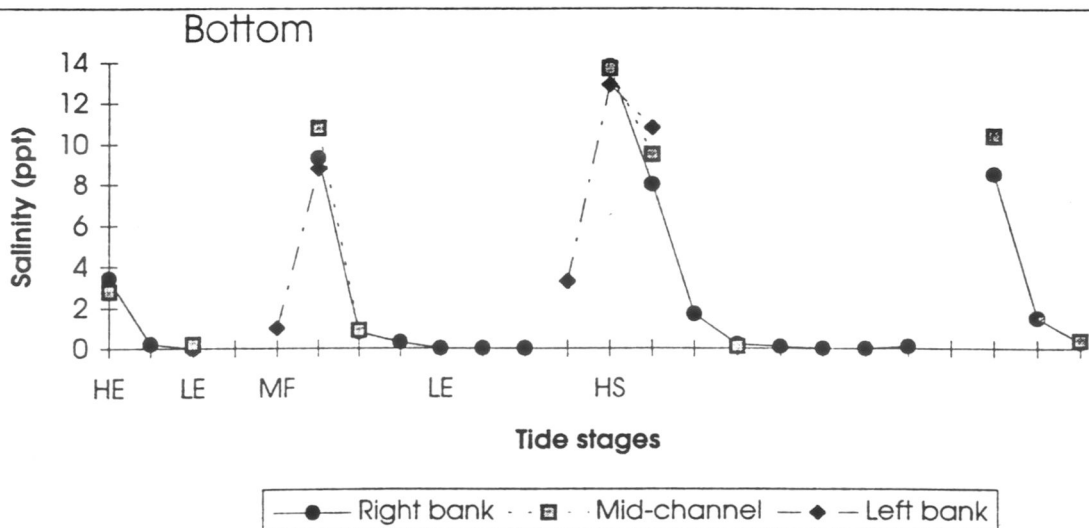
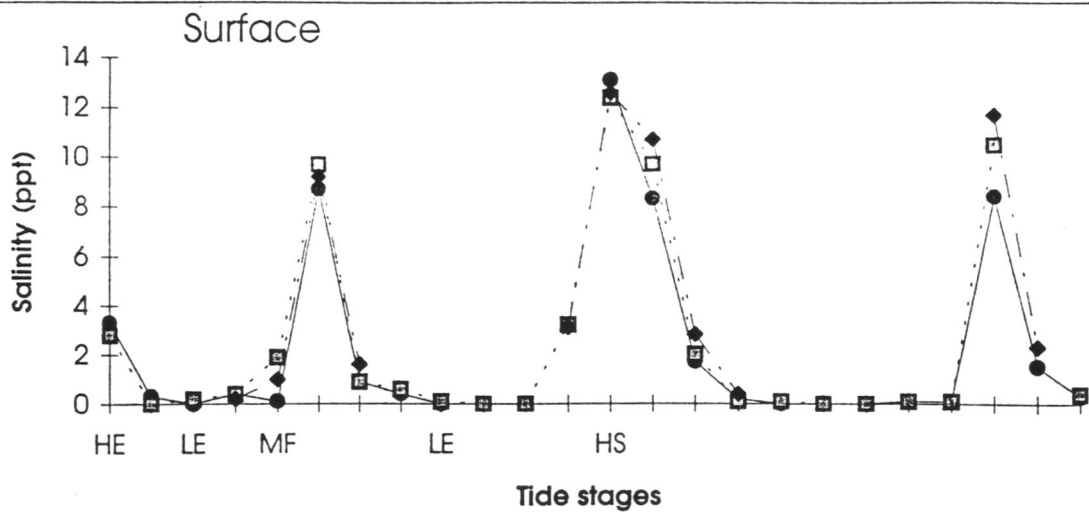
Pearson Correlation Coefficients / Prob > R under Ho: Rho=0 / Number of Observation										
	SWTEMP	BWTEMP	TEMPW	DEPTH	DEPTHW	SSAL	BSAL	SALW	DO	DOW
DO	-0.58554 0.0001 388	-0.51911 0.0001 363	-0.33255 0.0001 339	-0.08039 0.1279 360	-0.11007 0.0428 339	-0.22474 0.0001 388	-0.21305 0.0001 363	-0.25999 0.0001 301	1.00000 0.0 388	0.54735 0.0001 216
DOW	-0.60562 0.0001 222	-0.60625 0.0001 212	-0.63814 0.0001 231	-0.06865 0.3415 194	-0.10407 0.1147 231	-0.34202 0.0001 222	-0.35357 0.0001 213	-0.23005 0.0014 189	0.54735 0.0001 216	1.00000 0.0 231

Table 2. Comparisons of surface and bottom salinities, temperatures and water velocities among the three sampling locations (right bank, mid-channel, and left bank) in the Stewiacke River during May 20-24, 1994.

Comparison	Mean values		df	t value	P (1-tail)	r
	Variable 1	Variable 2				
Vertical Salinity (ppt, surface vs bottom)						
Right bank	2.36	2.41	19	-1.00	0.165	0.99
Mid-channel	5.19	5.42	8	-1.26	0.121	0.99
Left bank	7.32	7.36	4	-0.33	0.379	0.99
Lateral Salinity (ppt, right bank vs mid-channel)						
Surface	2.08	2.36	22	-1.97	0.031*	0.99
Bottom	4.92	5.42	8	-1.69	0.065	0.99
Vertical Temperature (°C, surface vs bottom)						
Right bank	10.99	10.95	22	1.28	0.110	0.99
Mid-channel	10.81	10.70	8	1.19	0.134	0.99
Left bank	10.65	10.55	3	1.41	0.126	0.99
Lateral Temperature (°C, right bank vs mid-channel)						
Surface	11.05	11.11	22	-0.90	0.190	0.99
Bottom	10.81	10.70	8	1.00	0.173	0.99
Vertical Water Velocity (m/sec, surface vs bottom)						
Right bank	0.61	0.41	22	6.74	<0.001***	0.85
Mid-channel	0.30	0.23	8	1.15	0.141	0.95
Left bank	0.71	0.59	4	2.03	0.056	0.96
Lateral Water Velocity (m/sec, right bank vs mid-channel)						
Surface	0.58	0.37	21	2.59	0.008**	0.44
Bottom	0.37	0.23	8	1.40	0.099	0.36

Significance: * P=0.05; ** P=0.01; *** P=0.001.

Figure 6. Comparisons of surface and bottom salinities at the three locations (right bank, mid-channel, left bank) across the Stewiacke River at the study site for the period of May 20-23, 1994.



different ($P < 0.001$, one-tail) from that of right bank bottom waters (Figure 7). All other comparisons, including temperature (Figure 8), were not significantly different (Table 2).

Water Quality During Spawning

The study period was 26 days long, encompassing a spring tide (May 25), a neap tide (June 3) and was 10 days from the next predicted spring tide (June 25). The spring tide (8.47 m) was one of the largest predicted tides of the year in the Bay of Fundy (Anonymous 1994) resulting in a 3.7-m change in Stewiacke River depth within one hour. The following neap tide (1.6-m range) occurred one day after major striped bass spawning commenced upstream. June 14 was the last full day of sampling; water quality data at that time resembled a spring tide trend similar to that of May 25.

Dramatic changes were observed in water quality parameters. During the study, water temperatures ranged from 7.2°C (May 20) to 21.1°C (June 1), with temperatures of 17.5° to 18.2°C on the last day of sampling. Dissolved oxygen values remained close to saturation levels over the period (8.2-12.4 mg/L). Salinity ranged from 0.0 ppt to 20.5 ppt (surface and bottom, May 26, 1994) (Appendix 2). Water clarity fluctuated little over the study period, with ranges of secchi depth readings of 5-15 cm (Table 3).

Fluctuations in water quality were directly influenced by phase of the tidal cycle. The 3.7-m tide range of the first spring tide on May 25 was characterized by the greatest salinity fluctuation (0-19.2 ppt), highest turbidity (secchi visibility 5-15 cm), lowest

Figure 7. Comparisons of surface and bottom water velocities at the three locations (right bank, mid-channel, left bank) across the Stewiacke River at the study site for the period of May 20-23, 1994.

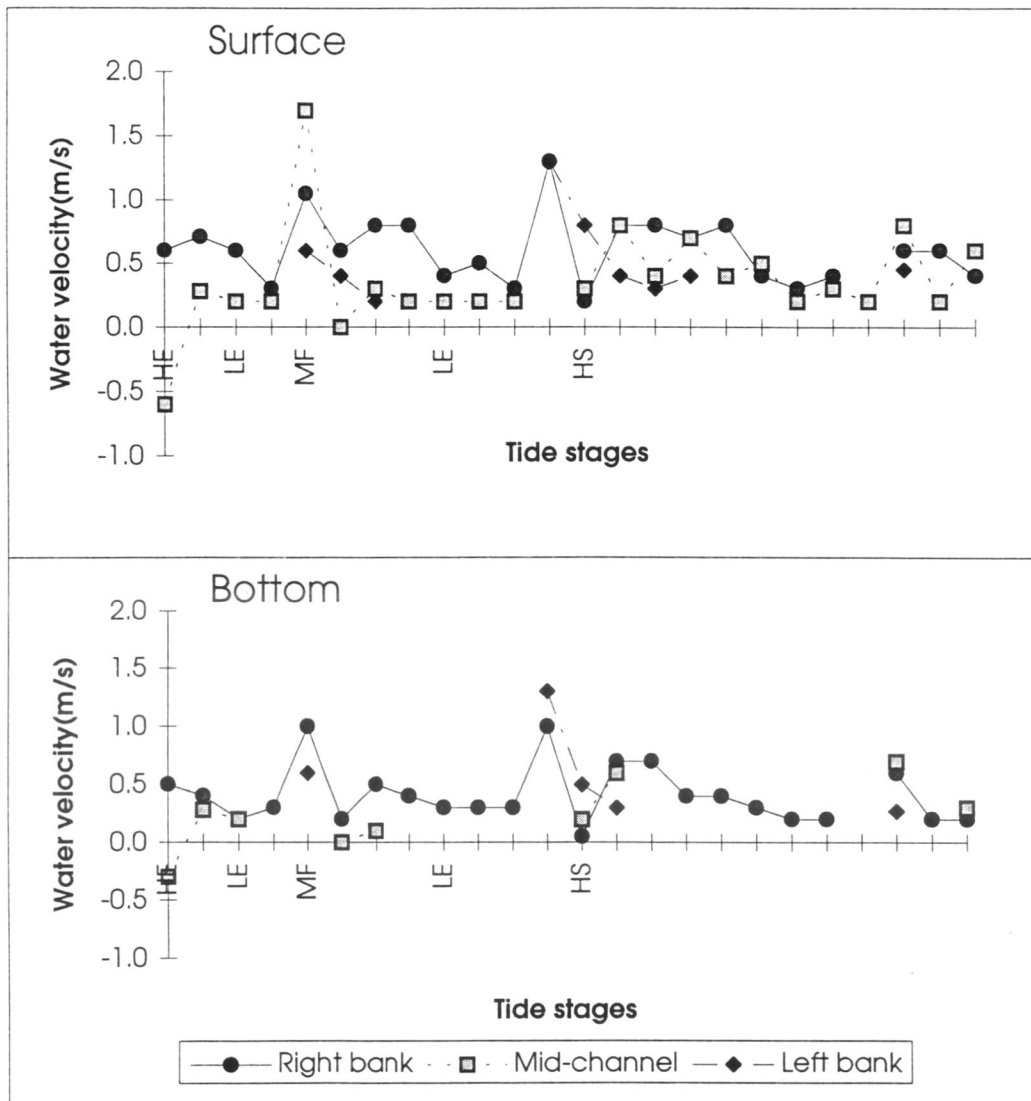
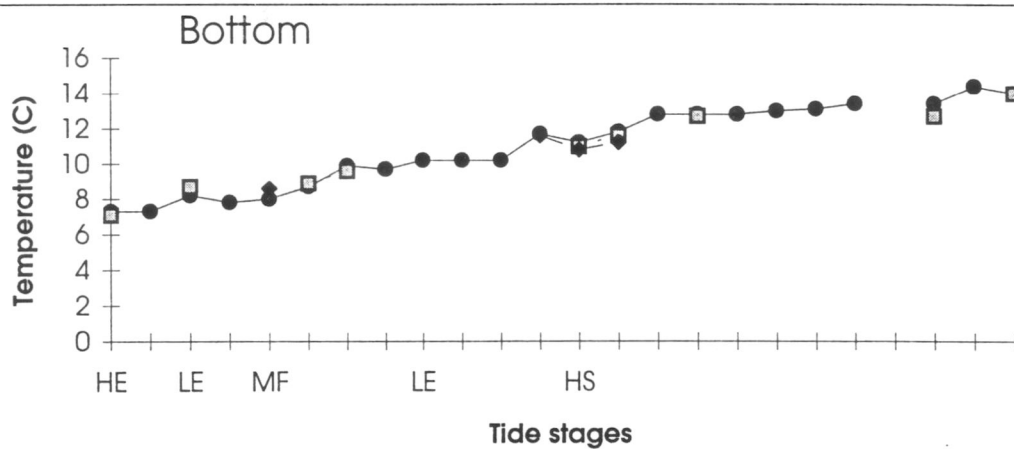
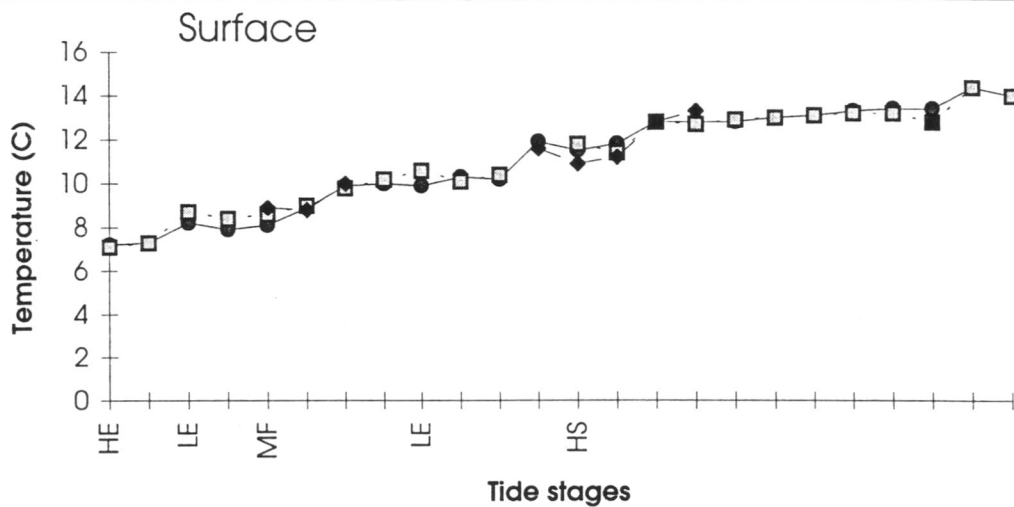


Figure 8. Comparisons of surface and bottom water temperatures at the three locations (right bank, mid-channel, left bank) across the Stewiacke River at the study site for the period of May 20-23, 1994.



—●— Right bank - -■- - Mid-channel —◆— Left bank

Table 3. Water quality differences of the Stewiacke River, Nova Scotia, observed for spring and neap tides during May and June 1994.

Variable	Spring tide (May 20)	Neap tide (June 3)	Last date (June 14)
Temperature (°C)	11.0 - 14.7	16.2 - 18.1	16.0 - 18.0
Salinity (ppt)	0.0 - 19.2	0.0 - 8.8	0.0 - 16.7
Dissolved oxygen (mg/L)	8.0 - 10.6	7.8 - 9.1	8.4 - 9.6
Secchi visibility (cm)	5 - 15	10 - 45	5 - 15
Tidal range (m)	3.7	1.6	2.0

temperatures (11.0-14.7°C), and greatest range of dissolved oxygen levels (8.0-10.6 mg/L) (Table 3). In contrast, the neap tidal range of 1.6 m on June 3, resulted in greatest water clarity (10-45 cm secchi visibility), lowest salinity range (0.0-8.8 ppt), and smallest temperature fluctuation (16.2-18.1°C). Dissolved oxygen was between 7.8 and 9.1 mg/L. On the last full sampling day (June 14), the 2.0-m tide range resulted in reduced secchi visibility (5-15 cm), higher salinity range (0.0-16.7 ppt), higher dissolved oxygen levels (8.4-9.6 mg/L), and similar temperatures (16.0-18.0°C).

Drift Buoy Study

In the third study, the drift buoy traveled considerably farther downstream than we thought possible, suggesting that striped bass eggs could be transported out of the Shubenacadie River into Cobequid Bay. The drift buoy was released at the upstream limit of the spawning grounds (Figure 2, letter A), 7 km above the study site (B) at high slack tide. The buoy was allowed to drift downstream and water quality measurements were taken every 15 min. The tracking boat remained with the buoy until point C, at which time contact between the buoy and boat was lost. The boat continued downstream to point E (19 km downstream of egg sampling site), where the danger factor of continuing downstream (large standing waves on flood tide and swift currents) outweighed the need for scientific information, and the boat crew waited to return upstream on the flood tide. During the start of the flood tide, contact with the buoy was re-

established at point D, and the boat was able to remain with the buoy until the conclusion of the drift study at point B.

The time required for the tidal bore to travel upstream was only half that required for ebbing water traveling downstream over the same portion of the river. Completion of the ebb tide drift required 7 hrs over a 26-km portion of the river between point A (high slack) and point E (Highway 238 bridge termination point, Figure 2), for a transport rate of approximately 3.7 km/hr. The flood tide drift covered 19 km of the river from point E to point B (study site) in 2hrs 35 min, for a transport rate of approximately 7.4 km/hr. The ebb drift for the same 19-km distance took 4 hrs (4.7 km/hr).

The water parcel ebbing from the Stewiacke spawning site remained essentially fresh until it entered the widened lower portion of the river near the entrance to Cobequid Bay, at which point salinity of the parcel increased to 2 ppt (Figure 9). Throughout the ebb tide, surface water of the parcel was slightly more brackish than parcel bottom waters (Figure 9), although a t-test indicated no significant difference over the entire ebb tide experiment (surface average, 0.6 ppt; bottom average, 0.5 ppt; $df = 42$, $t = 0.66$; $P = 0.26$, one-tailed).

The water parcels in and adjacent to the tidal bore were easily identified by salinity as the tidal bore proceeded upstream to the Stewiacke River (Figure 10). Saltier estuarine waters from Cobequid Bay overrode the fresh waters of the Shubenacadie River

Figure 9. Comparisons of surface and bottom salinities during the ebb tide drift of May 13, 1994, beginning at the Stewiacke River head of tide and ending near the Shubenacadie River mouth at Highway 238 bridge.

Ebb Tide Drift - 1994

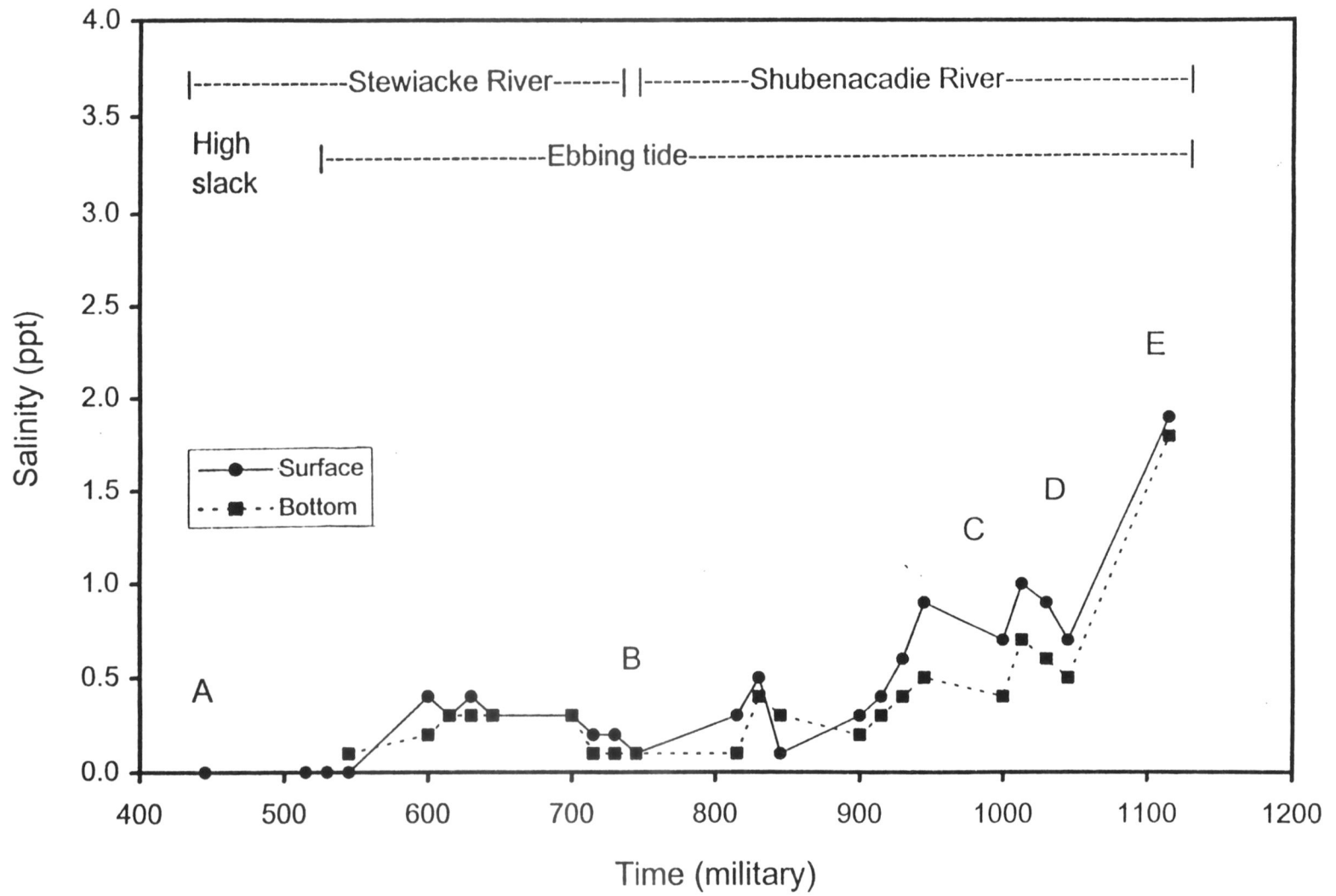
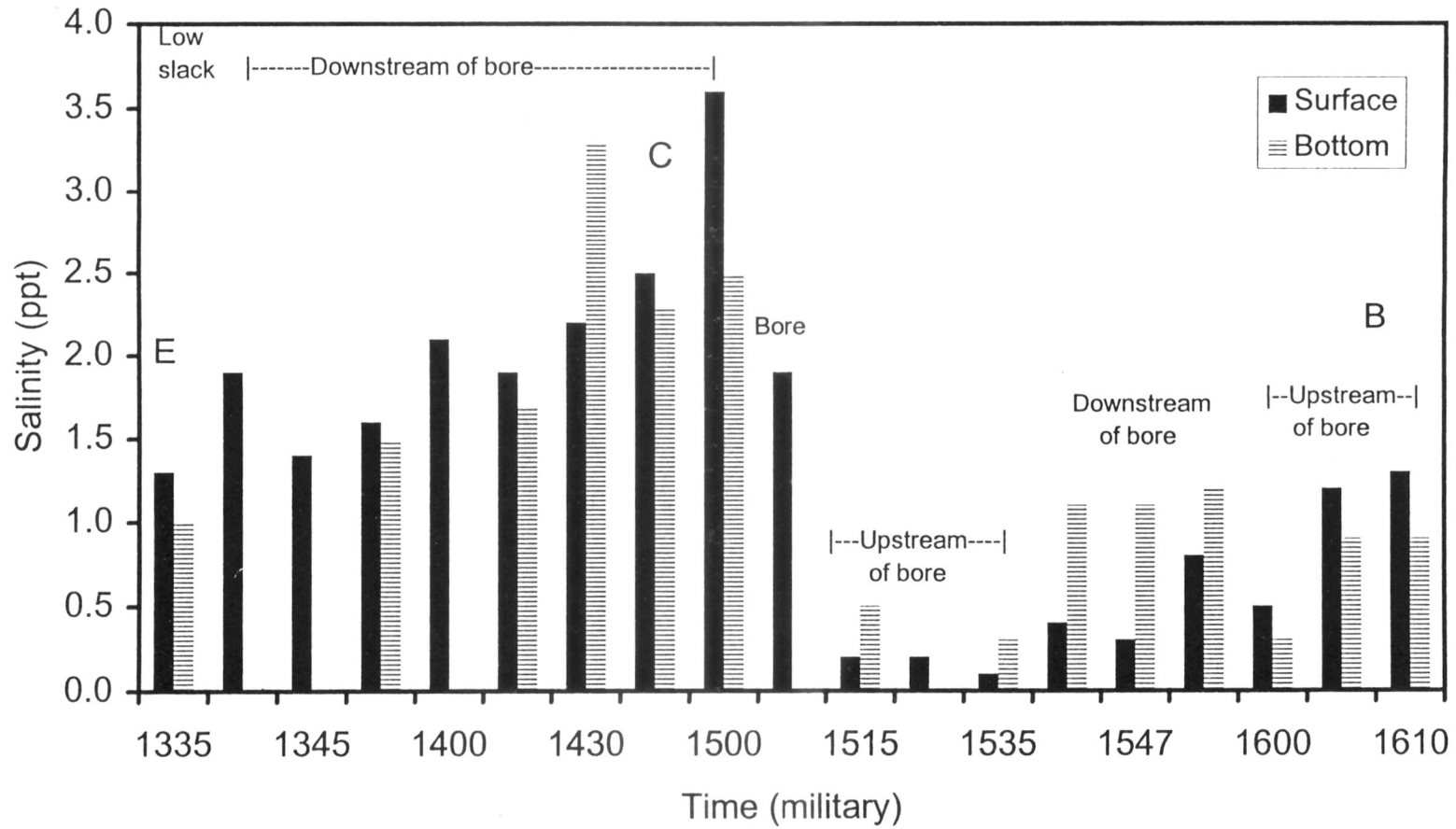


Figure 10. Comparisons of surface and bottom salinities, both in front of and behind the tidal bore, during the flood tide drift of May 13, 1994. Beginning near the Shubenacadie River mouth at Highway 238 bridge and ending at the Stewiacke River egg sampling site.

Flood Tide - 1994



as the river reversed flow direction during the tidal bore event. Surface waters were consistently higher in salinity than bottom waters until the tidal bore reached the confluence of the Shubenacadie and Stewiacke rivers, at which point fresher waters flowed over the saltier waters (Time of 1545 hrs, Figure 10). As the bore entered the Stewiacke River (point B), the saltier estuarine waters again overrode the fresher waters flowing downstream.

Spawning Period And Pattern

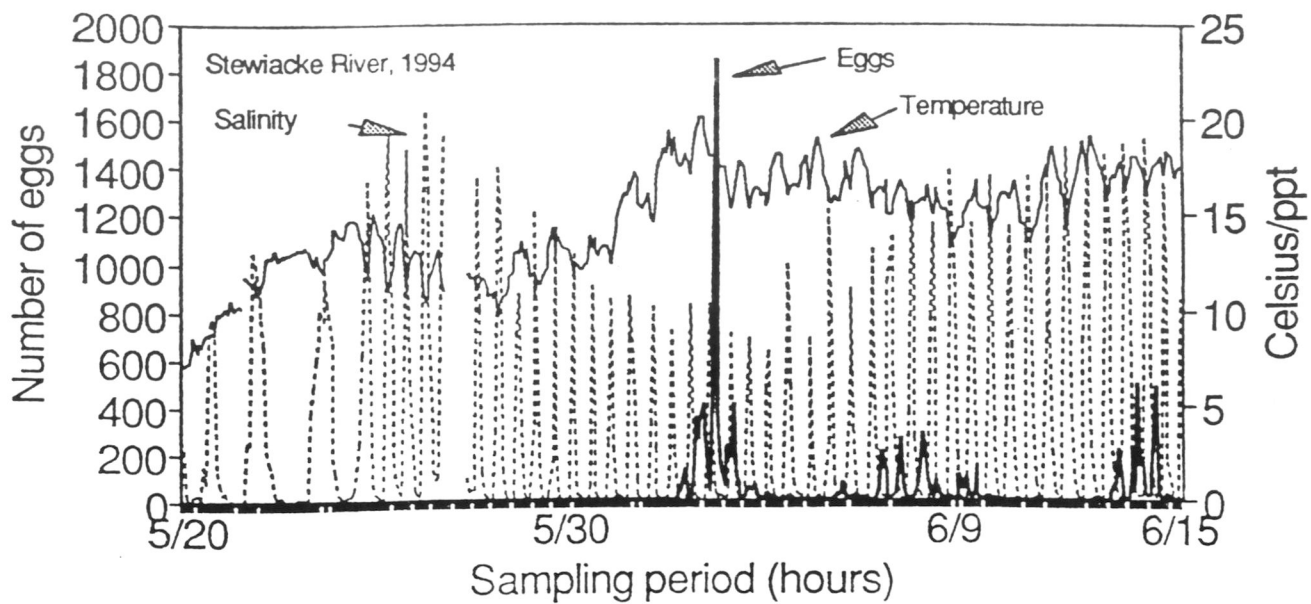
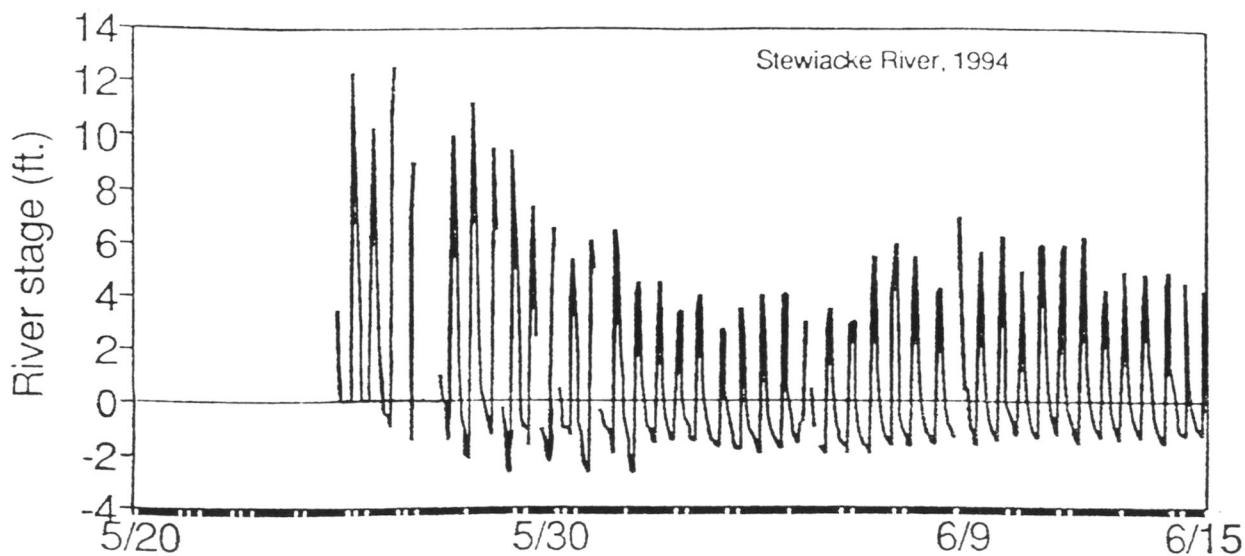
Striped bass eggs (2) were first collected in samples on May 28, 1994. Eggs reappeared on May 31, few in number and sporadic, until June 2 when water temperatures reached 18°C and major spawning commenced. Eggs remained present in samples through termination of sampling on June 15. Spawning activity ceased sometime between June 20 and June 22 based on information (i.e. no eggs in water column or further male fighting) received from local commercial fishermen (Ralph Meadows, Stewiacke, Nova Scotia, personal communication). The total spawning period for 1994 was at least 19 days but probably not more than 26 days: continuous spawning activity occurred for 16 days (Table 4).

Three major spawning peaks were observed during the study period: June 2, June 6- 9, and June 13- 14 (Figure 11). Another major spawning event outside of the study period was observed by commercial fishermen on June 20, 1994.

Table 4. Mean daily viability of striped bass eggs in the Stewiacke River, Nova Scotia in 1994 based on instantaneous egg production estimates.

Date	Total eggs/sec	No. of trips	Number non-viable eggs	Number viable eggs	Mean daily egg via- bility (%)
940520	.	0	.	.	.
940521	.	0	.	.	.
940522	.	0	.	.	.
940523	.	0	.	.	.
940524	0	5	0	0	.
940525	0	16	0	0	.
940526	0	10	0	0	.
940527	0	10	0	0	.
940528	1	17	1	1	52.87
940529	0	15	0	0	.
940530	0	15	0	0	.
940531	120	17	16	105	86.88
940601	23	16	2	20	89.07
940602	5,254	15	782	4,472	85.11
940603	15,698	16	4,623	11,075	70.55
940604	1,864	16	546	1,317	70.68
940605	184	16	76	108	58.63
940606	394	17	75	319	80.91
940607	1,367	16	266	1,101	80.55
940608	2,976	16	575	2,401	80.69
940609	2,131	16	326	1,805	84.69
940610	388	15	104	285	73.30
940611	91	15	0	91	100.00
940612	19	15	3	16	83.48
940613	1,632	16	104	1,528	93.62
940614	2,973	16	720	2,253	75.78
940615	66	4	0	66	100.00

Figure 11. The number of striped bass eggs collected (bottom graph), and the corresponding river depth (m, top graph), salinity (ppt), and water temperature ($^{\circ}\text{C}$).



Tidal fluctuations in water quality were smallest during the onset of major spawning activity within the neap tide period, and increased with the progression toward the next spring tide (Table 3).

Major spawning was initiated at 18°C, and most spawning occurred between 18° and 20° C. Water temperatures during spawning ranged from 13.8° - 20.2°C (Figure 11). The lowest water temperature during spawning activity was on June 9 caused by a cold weather front that passed through the area. Salinity during spawning ranged between 0.0 and 18.7 ppt dependent on the tidal cycle (Figure 11).

Egg Production and Viability Results

The estimated number of striped bass eggs produced in the Stewiacke River for 1994 was 61,547,739 from a total of 20,318 eggs collected in paired surface and paired bottom nets during 330 sampling trips (Table 5). Only 61 larvae were collected during the study. The estimated egg viability for the season was 77%. The lowest daily egg production estimate was at the start of spawning activity on May 28, 1994 (3,644 eggs in all nets). The highest single day egg production estimate (42,688,769 eggs in all nets) was for June 3, 1994, the day after the major spawning was initiated (Table 5).

Egg Transport

Egg transport within the Stewiacke River is controlled by the tidal bore event. Unfertilized water hardened eggs, and eggs < 10 hr old, first appeared in samples taken at

Table 5. Daily estimates of striped bass egg production in the Stewiacke River, Nova Scotia, for 1994 based on instantaneous egg production estimates of all eggs in surface and bottom collections, and the instantaneous estimates of eggs <10 hrs old.

Day of study	Date	All eggs in surface nets	All eggs in all nets	Eggs <10 hrs in surface nets	Eggs <10 hrs in all nets
1	940520	.	.	.	.
2	940521	.	.	.	.
3	940522	.	.	.	.
4	940523	.	.	.	.
5	940524	0	0	0	0
6	940525	0	0	0	0
7	940526	0	0	0	0
8	940527	0	0	0	0
9	940528	1,769	3,644	0	0
10	940529	0	0	0	0
11	940530	0	0	0	0
12	940531	229,475	235,296	0	0
13	940601	50,308	43,012	0	0
14	940602	8,925,672	8,821,795	12,287,494	11,110,033
15	940603	38,966,694	42,688,769	30,461,279	29,590,106
16	940604	3,937,406	4,386,999	55,739	98,972
17	940605	682,871	452,231	2,797	2,797
18	940606	1,096,414	1,003,365	1,143,107	1,069,870
19	940607	3,462,951	3,501,884	3,503,557	3,656,727
20	940608	7,046,128	7,507,554	6,955,908	7,553,527
21	940609	5,282,030	5,194,342	6,519,812	6,418,116
22	940610	1,161,818	970,640	312,187	304,567
23	940611	186,836	211,201	173,601	158,663
24	940612	51,013	51,013	84,299	84,299
25	940613	3,214,562	3,076,349	606,076	584,278
26	940614	7,732,596	7,547,258	181,352	179,402
27	940615	2,618,457	1,633,293	1,472,765	736,382
Seasonal total:		84,647,000	87,328,645	63,759,973	61,547,739

the start of an ebb tide, indicating that spawning activity upstream of the study site was initiated near or at high neap tide. Eggs 10-18 hr old first appeared on the subsequent flood tide, indicating the upstream transport and return of the same cohort of eggs. Peak abundance of eggs 10-18 hr old occurred on the subsequent ebb tide, which also contained newly spawned eggs <10 hr old (Figure 12). This pattern remained consistent throughout the remaining spawning period until eggs reached 30 + hr in development. The subsequent flood tide did not return the oldest eggs and only a few larvae, suggesting that hatching occurred downstream and most larvae avoided upstream transport into the Stewiacke River. One exception to this pattern occurred near the end of the study when eggs 20-28 hr old suddenly appeared in large numbers. Since there were no corresponding peaks in earlier developmental stages on the previous tides, we interpret this to represent a possible spawning event in the Shubenacadie River and subsequent transport into the Stewiacke River on flooding tides (Figure 13).

During peak spawning activity, large numbers of striped bass eggs were observed stranded on the extensive mudflats just upstream of the sampling site. Eggs stranded within several meters of the waterline appeared to remain moist and clear, but whether they remained viable until the next flood tide was undetermined.

Although spawning lasted for at least 19 days, egg deposition was sporadic and large quantities would appear in samples followed by one or more samples of few eggs. The four egg developmental stages were collected under water quality conditions unique to each stage.

Figure 12. Comparisons between collections of striped bass eggs < 10 hours old and 10 - 19 hours old for the period of June 1, 1994 - June 15, 1994.

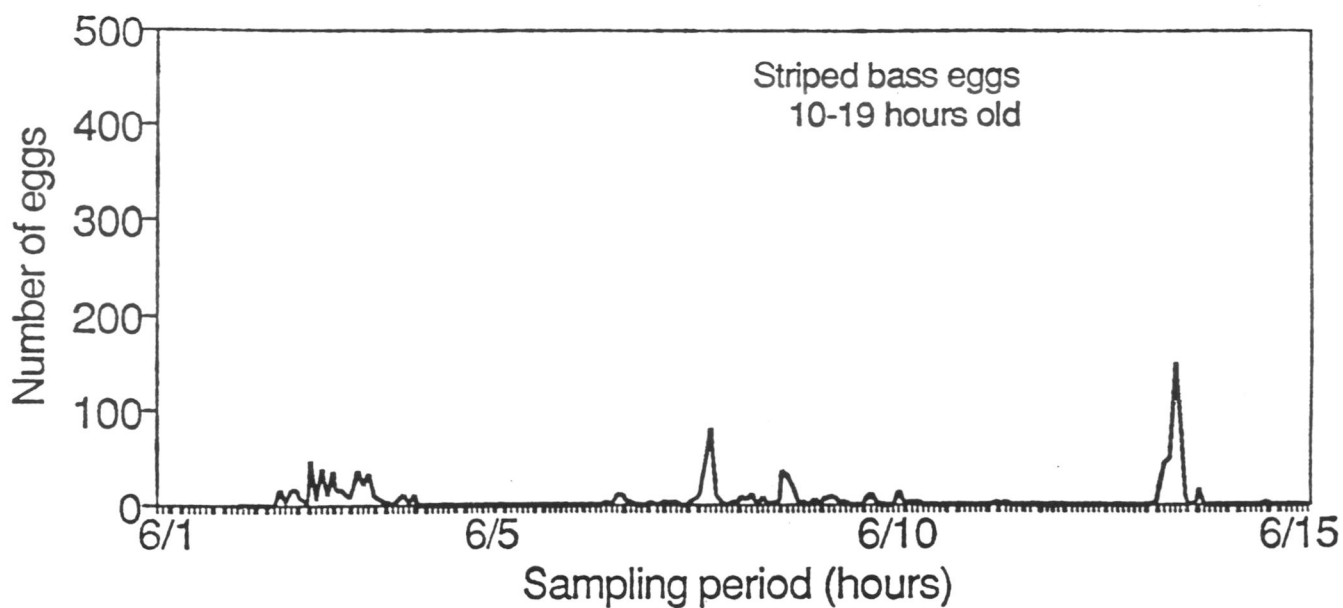
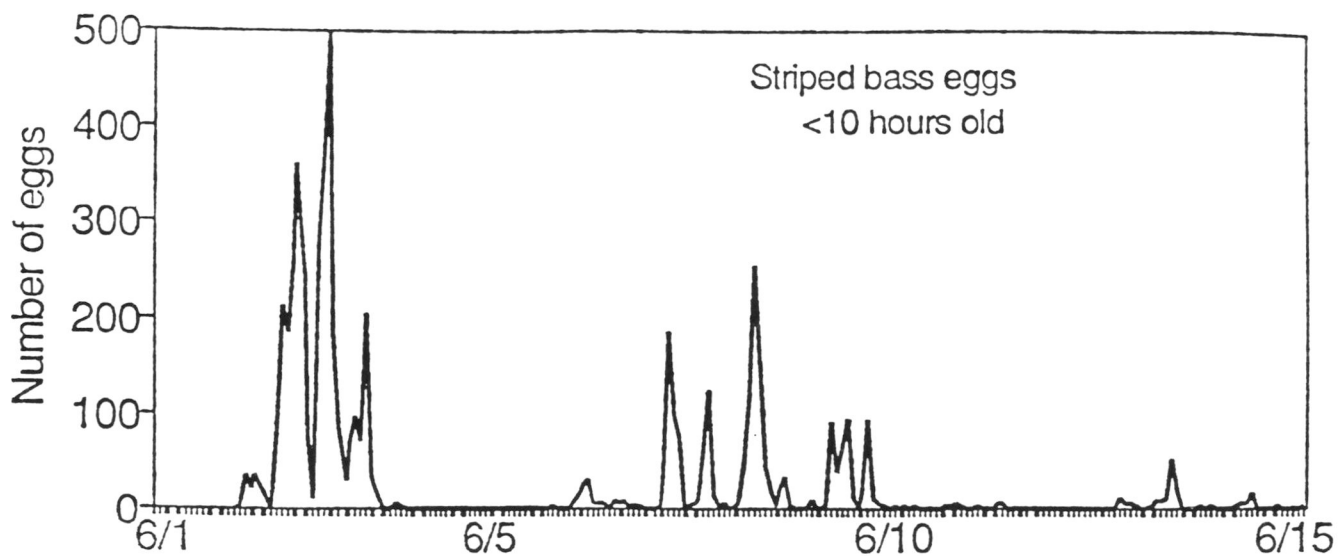
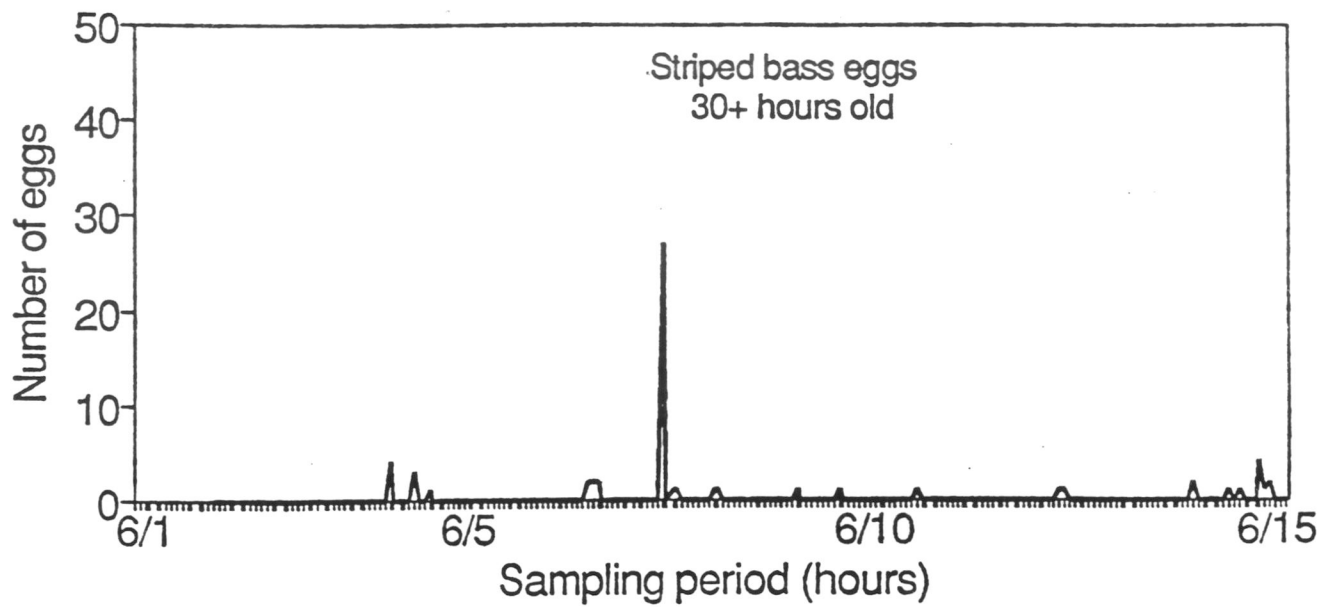
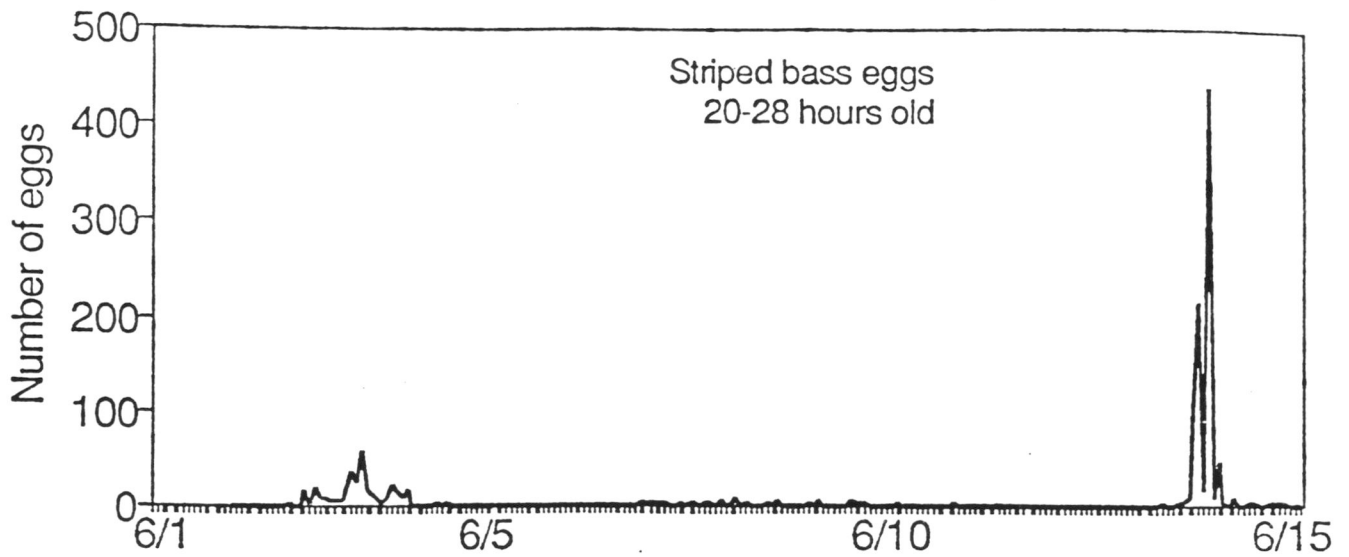


Figure 13. Comparisons between collections of striped bass eggs 20 -28 hours old and 30 + hours old for the period of June 1,1994 - June 15, 1994



Time of Day. Egg collections were greatest during nighttime sampling. Even though the time at which the tidal bore entered the river was approximately one hour later each day, the 330 trips spaced evenly throughout the 24 hr cycle collected the largest number of viable eggs (6,163) during the 0000-0259 hrs period. On a per- trip basis, the greatest number of eggs (232/trip), was collected during the 0000-0259 hrs period, the time also showing the lowest percentage of viable eggs (64.7 %). The largest percentage of viable eggs (85.5 %) was collected between 0600-0859 hrs (Table 6).

Time of day also was correlated with peak abundance of the various developmental stages in samples. The greatest percentage of <10 hour old eggs (19.5 %) was collected during the 0000-0259 hrs period. The greatest percentages of 10-18 hr old eggs (18.9 %) and 20-28 hr old eggs (43.6 %) were collected between 2100-2359 hrs. The greatest percentage of 30+ hour old eggs (31.3 %) was collected between 0900-1159 hrs, and the greatest percentage of larvae (62.6 %) was collected between 1200-1459 hrs (Table 6).

Tidal Stage. Most eggs were collected during the ebbing tide, which is the dominant tidal stage in the Stewiacke River at our sampling site for approximately 22 hrs of the tidal cycle. The majority of 330 trips (203) was taken at low ebb tide, with the remainder of the trips fairly evenly spaced over the other tidal stages (high slack, mid ebb, flood). The greatest number of viable eggs (12,846) was collected during ebb tides but the largest number of eggs on a per-trip basis was 207/trip collected during flood tides.

Table 6. Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to time of day. Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

All eggs including chorions								
Time of collection	No. of trips	Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected	Number <10 hr-old eggs	Percent <10 hr-old eggs
0000-0259	41	3,357	6,163	232.2	64.7	27.1	2,497	19.5
0300-0559	42	980	2,503	82.9	71.9	9.9	1,176	9.2
0600-0859	41	266	1,573	44.9	85.5	5.2	1,005	7.8
0900-1159	42	1,166	4,523	135.4	79.5	16.2	2,369	18.5
1200-1459	39	884	4,394	135.3	83.3	15.0	2,436	19.0
1500-1759	41	350	1,722	50.5	83.1	5.9	920	7.2
1800-2059	42	353	1,735	49.7	83.1	5.9	1,153	9.0
2100-2359	42	865	4,349	124.1	83.4	14.8	1,263	9.9
	=====	=====	=====			=====	=====	=====
	330	8,220	26,961			100.0	12,819	100.0

Table 6 continued.

Time of collection	Number 10-18 hr-old eggs	Percent 10-18 hr-old eggs	Number 20-28 hr-old eggs	Percent 20-28 hr-old eggs	Number 30+ hr-old eggs	Percent 30+ hr-old eggs	Number of larvae	Percent of larvae
0000-0259	652	17.7	682	19.6	300	10.5	25	5.5
0300-0559	209	5.7	287	8.2	184	6.5	17	3.8
0600-0859	152	4.1	42	1.2	243	8.5	3	0.8
0900-1159	554	15.1	418	12.0	892	31.3	48	10.6
1200-1459	468	12.7	345	9.9	415	14.6	280	62.6
1500-1759	638	17.3	110	3.2	34	1.2	35	7.8
1800-2059	315	8.5	79	2.3	96	3.4	0	0.0
2100-2359	695	18.9	1,519	43.6	688	24.1	40	8.9
	=====	=====	=====	=====	=====	=====	=====	=====
	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

The greatest percentage of viable eggs (83.4 %) was collected during ebb tides and the lowest percentage of viable eggs (63.0 %) was collected at mid ebb tides (Table 7).

The majority of <10 hr old eggs and 10-18 hr old eggs was collected on low ebb, mid ebb, and flood tides. The majority of 20-28 hr old eggs and 30+hr old eggs was more evenly distributed in collection over all tidal stages. Larvae were collected mostly on flood tides. The greatest number of <10 hr old eggs (50.4 %) and 20-28 hr old eggs (39.5 %) were collected on low ebb tides. The greatest number of 10-18 hr old eggs (32.7 %), 30 + hr old eggs (29.4 %), and the larvae (81.5 %) were collected on flood tides (Table 7).

Temperature. Most eggs were collected at a water temperature range of 14.0-19.9°C; on a per-trip basis, the greatest number of eggs (343/ trip) occurred at temperatures of 18.0-19.9°C (Table 8). The greatest number of viable eggs (10,568) was collected in waters of 18.0-19.9°C. The percentage of all eggs considered to be viable remained fairly constant (75.9-84.4 %) in water temperatures within a range of 12.0-21.9°C. Lowest egg viability (52.9 %) was observed at 10.0-11.9°C.

The largest percentage of < 10 hr old eggs (43.0 %) was collected in moderately warm waters of 18.0-19.9°C. For older eggs, the largest percentages were collected in cooler waters. Most 10-18 hr old eggs (73.6 %) and 30+-hr old eggs (92.9 %) were collected at a temperature range of 14.0-17.9°C. The largest percent of larvae (79.0 %) was collected in even cooler water temperatures, 14.0-15.9°C (Table 8). The exception was the 20-28-hr old eggs, which were collected at temperatures similar to those for the

Table 7. Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to tide stage. Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

All eggs including chorions								
Tidal stage	No. of trips	Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected	Number <10 hr-old eggs	Percent <10 hr-old eggs
missing	0	.	.	.	.	.	.	.
High slack	39	791	2,670	88.8	77.1	9.8	763	6.0
Mid ebb	49	3,050	5,192	168.2	63.0	23.4	2,685	20.9
Low ebb	203	2,558	12,846	75.9	83.4	43.8	6,467	50.4
Flood	39	1,820	6,253	207.0	77.5	22.9	2,903	22.6
	-----	-----	-----			-----	-----	-----
	330	8,220	26,961			100.0	12,819	100.0

Table 7 continued.

Tidal stage	Number 10-18 hr-old eggs	Percent 10-18 hr-old eggs	Number 20-28 hr-old eggs	Percent 20-28 hr-old eggs	Number 30+ hr-old eggs	Percent 30+ hr-old eggs	Number of larvae	Percent of larvae
missing	.	.	.	.	.	.	.	.
High slack	359	9.8	755	21.7	671	23.5	15	3.4
Mid ebb	957	26.0	690	19.8	559	19.6	32	7.2
Low ebb	1,163	31.6	1,374	39.5	784	27.5	36	8.0
Flood	1,203	32.7	664	19.1	838	29.4	365	81.5
	-----	-----	-----	-----	-----	-----	-----	-----
	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

Table 8 . Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to temperature.
Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

Temperature range (°C)	No. of trips	All eggs including chorions						
		Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected	Number <10 hr- old eggs	Percent <10 hr- old eggs
missing	0	.	.	.	.	.	.	.
<10	1	0	0	0.0	.	0.0	.	.
10.0-11.9	34	1	1	0.0	52.9	0.0	.	.
12.0-13.9	55	43	136	3.2	75.9	0.5	0	0.0
14.0-15.9	78	1,824	6,964	112.7	79.2	25.0	3,696	28.8
16.0-17.9	118	2,442	8,726	94.6	78.1	31.7	3,079	24.0
18.0-19.9	42	3,809	10,586	342.7	73.5	40.9	5,511	43.0
20.0-21.9	2	102	549	325.1	84.4	1.8	532	4.2
	-----	-----	-----			-----	-----	-----
	330	8,220	26,961			100.0	12,819	100.0

Table 8 continued.

Temperature range (°C)	Number 10-18 hr- old eggs	Percent 10-18 hr- old eggs	Number 20-28 hr- old eggs	Percent 20-28 hr- old eggs	Number 30+ hr- old eggs	Percent 30+ hr- old eggs	Number of larvae	Percent of larvae
missing	.	.	.	.	.	.	.	.
<10	.	.	.	.	.	.	.	.
10.0-11.9	.	.	.	.	.	.	.	.
12.0-13.9	47	1.3	54	1.5	30	1.0	0	0.0
14.0-15.9	1,273	34.6	758	21.8	818	28.7	354	79.0
16.0-17.9	1,435	39.0	1,616	46.4	1,830	64.2	76	17.0
18.0-19.9	911	24.7	1,054	30.3	174	6.1	18	4.0
20.0-21.9	17	0.5	0	0.0	0	0.0	0	0.0
	-----	-----	-----	-----	-----	-----	-----	-----
	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

<10-hr old eggs. Because of the time at which these eggs occurred in the system relative to the other egg stages, we believe that the eggs may have entered the Stewiacke River from spawning activity in the Shubenacadie River.

Salinity. Although the 330 trips occurred over the entire salinity range (0.0- >16.0 ppt), the greatest number of trips was taken in salinity levels of 0.0-1.9 ppt (198 trips). Most eggs were collected in salinities 0.0-9.9 ppt; however on a per-trip basis, the greatest number of eggs collected (534) was at a salinity of 4.0-5.9 ppt. The greatest number of viable eggs (12,857) was collected at salinities of 0.0-1.9 ppt. In the salinity range in which most of the eggs were collected (0.0-9.9 ppt), the percentage of viable eggs remained consistent (79.9-88.5 %, Table 9).

The majority (57.2 %) of <10 hr old eggs was collected at 0.0-5.9 ppt. Most of the 10-18 hr old eggs and 20-28 hr old eggs were collected at salinities of 0.0-7.9 ppt. The greatest percentage of 10-18 hr old eggs (33.0 %) was collected at 0.0-1.9 ppt. The greatest percentage of 20-28 hr old eggs (23.7 %) was collected in salinities of 4.0-5.9 ppt. Most 30 + hr old eggs were collected between 0.0-9.9 ppt with the largest percentage (25.1 %) in salinities of 4.0-5.9 ppt. Most larvae were collected between 0.0-11.9 ppt; the largest percentage of larvae (64.2%) was collected in salinities of 10.0-11.9 ppt (Table 9).

Water Velocity. Water velocities determine the rate of egg dispersal in a river system. The majority of the 330 trips was collected in water velocities between < 0.4-0.79 m/sec. The greatest number of trips (256) was conducted in water velocities of <0.4 m/sec. Most eggs were collected between < 0.4-0.59 m/sec, with the largest number of

Table 9. Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to salinity. Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

All eggs including chorions								
Salinity range (ppt)	No. of trips	Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected	Number <10 hr-old eggs	Percent <10 hr-old eggs
missing	0	.	.	.	.	.	.	.
0.0-1.9	198	2,822	12,857	79.2	82.0	44.6	7,337	57.2
2.0-3.9	27	462	2,853	122.8	86.1	9.4	1,423	11.1
4.0-5.9	16	3,367	5,171	533.7	60.6	24.3	2,242	17.5
6.0-7.9	11	254	1,964	201.6	88.5	6.3	675	5.3
8.0-9.9	18	489	1,941	135.0	79.9	6.9	732	5.7
10.0-11.9	18	258	884	63.5	77.4	3.2	299	2.3
12.0-13.9	12	70	468	44.9	87.0	1.5	24	0.2
14.0-15.9	13	466	575	80.1	55.2	3.0	87	0.7
>=16.0	17	31	248	16.4	88.8	0.8	0	0.0
	=====	=====	=====			=====	=====	=====
	330	8,220	26,961			100.0	12,819	100.0

Table 9 continued.

Salinity range (ppt)	Number 10-18 hr-old eggs	Percent 10-18 hr-old eggs	Number 20-28 hr-old eggs	Percent 20-28 hr-old eggs	Number 30+ hr-old eggs	Percent 30+ hr-old eggs	Number of larvae	Percent of larvae
missing	.	.	.	.	.	.	.	.
0.0-1.9	1,217	33.0	762	21.9	536	18.8	19	4.2
2.0-3.9	366	9.9	740	21.3	268	9.4	28	6.3
4.0-5.9	962	26.1	827	23.7	715	25.1	66	14.7
6.0-7.9	429	11.7	464	13.3	308	10.8	9	2.0
8.0-9.9	307	8.3	284	8.2	477	16.7	25	5.5
10.0-11.9	257	7.0	168	4.8	73	2.6	288	64.2
12.0-13.9	92	2.5	127	3.7	198	6.9	3	0.8
14.0-15.9	51	1.4	96	2.7	130	4.5	10	2.3
>=16.0	2	0.1	14	0.4	148	5.2	0	0.0
	=====	=====	=====	=====	=====	=====	=====	=====
	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

eggs per trip (399 eggs) collected in water velocities of 0.80-0.99 m/sec. The largest number of viable eggs (16,682) was collected in water velocities <0.40 m/sec, however the largest percentage of viable eggs (88.0 %) was in water velocities of 0.60-0.79 m/sec. The lowest percentage of viable eggs (49.4 %) were collected in water velocities of 0.80-0.99 m/sec (Table 10).

The majority of all eggs, regardless of age, was collected in water velocities of <0.40-0.59 m/sec. The largest percentages of < 10 hr old eggs (61.2 %), 20-28 hr old eggs (72.7%) and 30+ hr old eggs (62.1%) were collected at < 0.40 m/sec velocities. The largest percentages of 10-18 hr old eggs and larvae (50.2% and 80.3%, respectively) were collected at water velocities of 0.40-0.59 m/sec (Table 10).

Dissolved Oxygen. Throughout the study the dissolved oxygen levels remained above 7.0 mg/L, usually measuring 8.0-9.9 mg/L. Most eggs, regardless of age, were collected in waters containing 8.0-9.9 mg/L of dissolved oxygen (Table 11).

Egg Density

Egg density increased as embryos progressed in development, which demonstrated the salinity required for eggs to exhibit neutral buoyancy. Unfertilized water-hardened eggs were neutrally buoyant at a salinity of 2 ppt and 17°C temperature; unfertilized egg density was approximately 1.0016. Fertilized eggs < 10 hr old measured 4 mm in diameter and were neutrally buoyant at 4 ppt, for an egg density of approximately 1.0029. Eggs containing embryos between 10 and 28 hours of

Table 10. Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to water velocity. Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

All eggs including chorions								
Water velocities (m/sec)	No. of trips	Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected	Number <10 hr-old eggs	Percent <10 hr-old eggs
<0.4	256	3,735	16,682	79.8	81.7	58.0	7,840	61.2
0.40-0.59	62	4,014	9,390	216.2	70.1	38.1	4,905	38.3
0.60-0.79	10	68	494	56.2	88.0	1.6	73	0.6
0.80-0.99	2	403	394	398.8	49.4	2.3	0	0.0
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	330	8,220	26,961			100.0	12,819	100.0

Table 10 continued.

Water velocities (m/sec)	Number 10-18 hr-old eggs	Percent 10-18 hr-old eggs	Number 20-28 hr-old eggs	Percent 20-28 hr-old eggs	Number 30+ hr-old eggs	Percent 30+ hr-old eggs	Number of larvae	Percent of larvae
<0.4	1,800	48.9	2,532	72.7	1,770	62.1	53	11.8
0.40-0.59	1,850	50.2	851	24.4	729	25.6	360	80.3
0.60-0.79	33	0.9	13	0.4	233	8.2	35	7.9
0.80-0.99	0	0.0	86	2.5	120	4.2	0	0.0
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	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

Table 11. Striped bass egg viability in the Stewiacke River, Nova Scotia, in 1994 relative to dissolved oxygen. Numbers derived from instantaneous egg production estimates and rounded to nearest whole number.

Dissolved oxygen values (mg/L)	No. of trips	All eggs including chorions					Number <10 hr-old eggs	Percent <10 hr-old eggs
		Number non-viable eggs	Number viable eggs	Number/ trip	Percent viable eggs	Percent of all eggs collected		
missing	1	107	482	588.7	81.9	1.7	220	1.7
7.0-7.9	7	470	1,654	303.5	77.9	6.0	954	7.4
8.0-8.9	96	5,389	13,876	200.7	72.0	54.8	6,204	48.4
9.0-9.9	174	2,172	10,624	73.5	83.0	36.4	5,310	41.4
10.0-10.9	42	76	302	9.0	79.9	1.1	130	1.0
11.0-11.9	10	5	23	2.8	82.3	0.1	.	.
12.0 or more	0	.	.	.	.	.	.	.
	330	8,220	26,961			100.0	12,819	100.0

Table 11 continued.

Dissolved oxygen values (mg/L)	Number 10-18 hr-old eggs	Percent 10-18 hr-old eggs	Number 20-28 hr-old eggs	Percent 20-28 hr-old eggs	Number 30+ hr-old eggs	Percent 30+ hr-old eggs	Number of larvae	Percent of larvae
missing	225	6.1	18	0.5	0	0.0	3	0.7
7.0-7.9	301	8.2	319	9.2	52	1.8	6	1.2
8.0-8.9	1,357	36.8	1,638	47.0	1,686	59.1	73	16.2
9.0-9.9	1,702	46.2	1,466	42.1	1,107	38.8	352	78.6
10.0-10.9	98	2.7	41	1.2	8	0.3	15	3.3
11.0-11.9	.	.	.	.	.	.	.	.
12.0 or more	.	.	.	.	.	.	.	.
	3,682	100.0	3,482	100.0	2,852	100.0	448	100.0

development floated at 4 ppt and 17°C but exhibited slow sinking at 3 ppt for an egg density between 1.0022 and 1.0029, a value slightly less than that observed for fertilized eggs containing no visible germ ring. Neutral buoyancy was not observed for eggs 10-28 hrs old.. In the final stages of development, eggs containing fully-developed larvae exhibiting pre-hatch flexion movements were neutrally buoyant between 8 ppt and 9 ppt, for a density between 1.0060 and 1.0066.

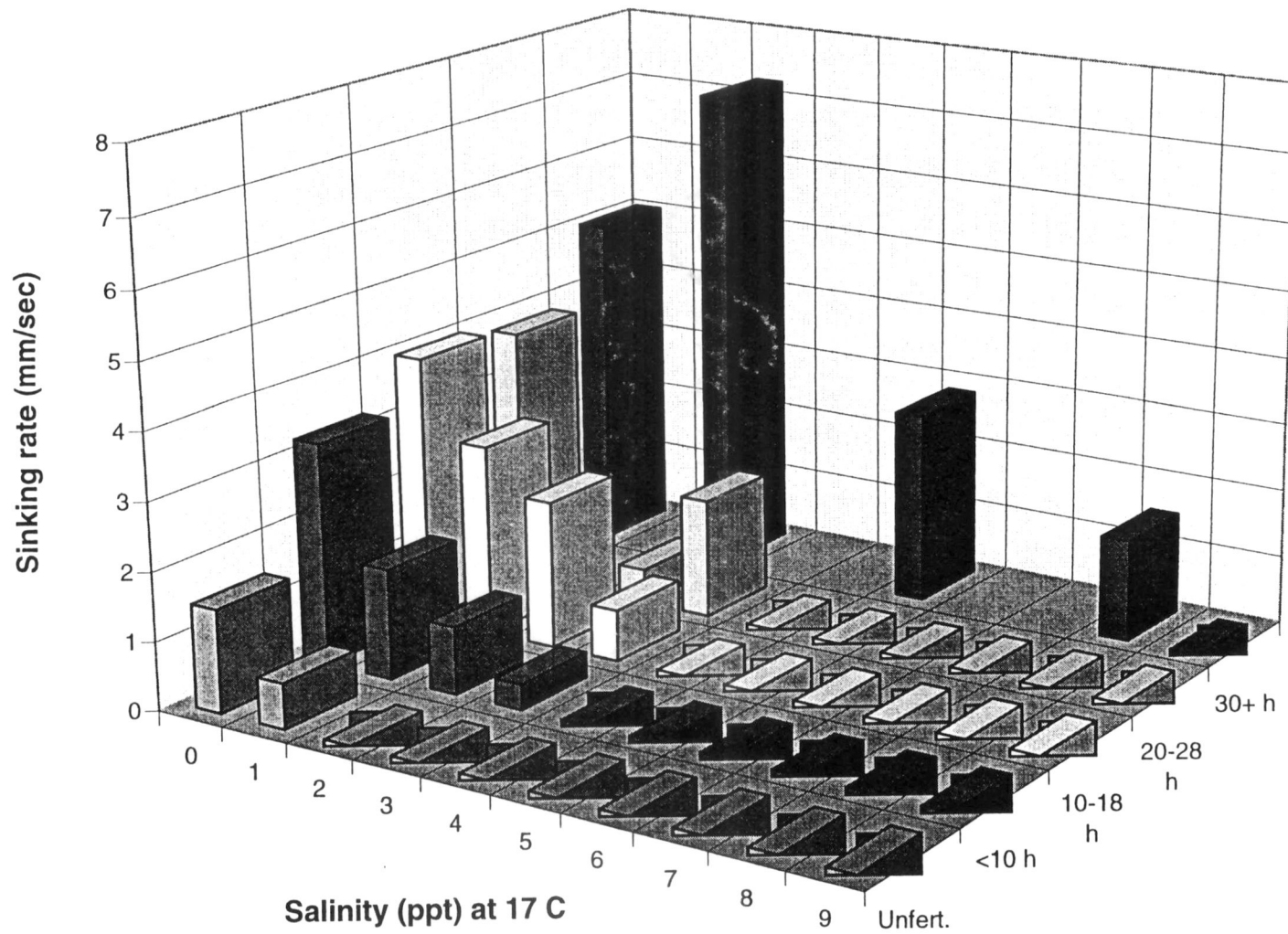
The fastest sinking rates occurred in fresh water, for striped bass eggs of all stages of development. Sinking rates for all eggs decreased at higher salinities (Figure 14). The exception occurred in the 40+ hr old eggs, which exhibited the greatest sinking rate at 2 ppt. However, this exception may have been caused by a temperature increase (from 17°C to 19°C) during testing of the 40+ hr old eggs in the 2 ppt salinity solution. The sinking rates also increased with increasing embryo development within salinity levels, with the exception of the 20-28 hr old eggs in a salinity of 2 ppt (perhaps due to the temperature fluctuation).

DISCUSSION

Equipment Problems

The YSI 6000 used to monitor water quality every 15 min experienced several problems during set-up and down-loading of data. Initially the YSI 6000 was deployed underwater on the bank in a horizontal position to minimize damage from tidal bore flotsam and jetsam; however, in this position the meter became clogged with mud and

Figure 14. Sinking rates (mm/sec) of striped bass eggs at several stages of development relative to salinities of 0-9 ppt at 17°C water temperature.



was not operational. To correct the problem the meter was mounted onto the river gauge in a vertical position. This allowed the sediments in the water column to pass through the protective tubing and prevented clogging. Another problem encountered was the incompatibility of the computer cord with the meter. The cord was needed to download data from the meter to the computer without removing the meter from the water. The computer cord incompatibility problem necessitated removing the meter from the water twice during the course of the study to download data .

River Flow Patterns

The tidal bore characteristics of this watershed cause substantial vertical, lateral, and longitudinal mixing of fresh and ocean waters two times per lunar day. Several water quality parameters of the Stewiacke River were significantly different vertically and laterally; these differences were expected and were noted for waters flowing in the right bank channel. As the water level fell during ebbing tide, the water was confined to the right bank channel. During the flooding tide, as the water level increased and covered the exposed mud flats, a large eddy developed in midstream to the right bank channel. This large eddy developed as a result of the fresh water still attempting to move downstream along the right against the upstream movement of the incoming tide forced to the middle and left bank. Once the upstream water velocity was greater than the downstream velocity, the eddy disappeared and the water flow across the river width was all upstream.

The extreme tidal range of this watershed caused changes in water temperatures associated with ocean input and solar heating. Mudflats, which absorb solar energy during the day, have less capacity to heat river waters during spring tides compared to neap tides because the mudflats are exposed for a shorter period (due to greater ebb tide volume) and the colder ocean waters penetrate farther upstream.

Spawning

The striped bass spawning season in the Shubenacadie-Stewiacke River system is similar to the spawning seasons found in other Canadian watersheds, and is later than the spawning seasons found in the southern range of the species (Table 12). In rivers and watersheds of Canada, the striped bass spawning season ranges from May to late June. In watersheds farther south, the spawning season ranges from May - June in the Hudson River to late March - early May in the Savannah River (Table 12). The Shubenacadie River spawning season in 1994 was similar to that observed by Rulifson and Wood in 1992 (Rulifson and Dadswell 1995).

The two major components influencing striped bass spawning and egg deposition are water temperature and salinity. Throughout the range, studies indicate that spawning generally starts at approximately 14°C, ends between 21.1- 22.2°C, and peaks at 15.6° - 19.4°C. Egg viability is enhanced at optimal levels of water temperature (15-18°C), and salinity (0.0-4.0 ppt) (Setzler et al. 1980, Van Den Avyle et al. 1990, Winger and Lasier 1994).

Table 12. Spawning seasons for striped bass in watersheds of North America from New Brunswick to Georgia, and in California.

Watershed	Year	Spawning activity	Source
Miramichi River, New Brunswick	1992	24 May - 10 June	Robichaud-LeBlanc et al. (1996)
Kouchibouguac River, New Brunswick	1983	May - early June	Hogans and Melvin (1984)
Shubenacadie/Stewiacke rivers, Nova Scotia	1992	fourth week in May up to 20 June	Rulifson and Dadswell (1995)
	1994	28 May - 20 June; peak eggs on 3 June.	This study
Annapolis River, Nova Scotia	1976	1-19 June	Williams (1978)
	1979	fourth week in May - 19 June	Parker and Doe (1981)
Saint John (Belleisle Bay), New Brunswick	1975	13-19 May	Dadswell (1976)
Hudson River, New York	1969-1976	May- early June	McFadden(1977)
Delaware River,		late May- late June	Murawski (1969)
Chesapeake and Delaware Canal	1973-1977	early or mid-April through mid-June; peak eggs late April to early May	Kernehan et al. (1981)
Chesapeake Bay		early-mid April- May	Mansueti and Hollis(1963)
Staunton River, Virginia			
Roanoke River, North Carolina	1963-1980	third week in April through first week in June; mid-point 11-13 May.	Hassler et al. (1981)
	1989-1993	third week in April through second week in June; mid-point 10-26 May.	Rulifson and Isely (1995)
Congaree-Wateree rivers, South Carolina		early April- early June	May and Fuller Jr.(1963)
Savannah River, Georgia	1986-1989	last week in March to first week in May	Van den Avyle and Maynard (1994)
Lower Sacramento, California		May- June	Raney (1952)
Delta region, California			

Striped bass in the Shubenacadie-Stewiacke River system spawn at the same temperature as described for other river systems throughout the species range. Spawning in the Stewiacke River was observed at temperatures of 12.4-20.5°C in 1992 (Rulifson and Dadswell 1995) and 10.0-21.9°C in 1994 (this study). In both years spawning was initiated at 18.0°C. Striped bass spawning in other Canadian rivers ranges between 11.5 and 22.0°C (Table 13). Spawning temperatures in southern watersheds are similar to the Canadian rivers. In the Roanoke River, NC spawning is initiated at 18.0°C (Rulifson and Manooch 1993) similar to that observed in the Miramichi River, NB (Robichaud-LeBlanc et al. 1996), and in the Stewiacke River.

Striped bass in the Shubenacadie-Stewiacke River, like striped bass in other systems, spawn at the head of the tide in fresh to brackish water. However, eggs in the Shubenacadie, unlike those in most other systems, potentially could experience large salinity variations during development. We believe that the majority of the eggs do not experience large salinity variations due to containment of eggs within the leading edge of the salt wedge, which is a function of their buoyancy. In 1994, the salinity range in which eggs were collected in the Stewiacke River was 0.0-16.0 ppt, a range slightly less than that reported in 1992 (0.0-21.7 ppt, Rulifson and Dadswell 1995). However, most eggs were collected at salinities 0-9.9 ppt. The only other river system in which eggs were collected in a large salinity range was found in the Chesapeake Bay (2-10 ppt). In other river systems along the east coast of North America, striped bass eggs are usually

Table 13. Spawning and egg collection temperatures for striped bass in watersheds of North America from New Brunswick to Georgia, and in California.

Watershed	Year	Water temperatures	Source
Miramichi River, New Brunswick	1992	13.3-19.4°C; initiated at 17.7°C	Robichaud-LeBlanc et al. (1996)
Kouchibouguac River, New Brunswick	1983	12.0-14.5°C	Hogans and Melvin (1984)
Shubenacadie/Stewiacke rivers, Nova Scotia	1992	12.4-20.5°C, initiated at 18.0°C	Rulifson and Dadswell (1995)
	1994	10.0-21.9°C; initiated at 18.0°C; peak at 18.0-19.9°C	This study
Annapolis River, Nova Scotia	1976	15.5-21.0°C	Williams (1978)
	1979	11.5-22.0°C	Parker and Doe (1981)
Saint John (Belleisle Bay), New Brunswick	1975	11.5-16.0°C; peak at 13.5°C	Dadswell (1976)
Hudson River, New York	1969-1976	12.0-23.0°C; peak at 14.0-20.0°C	McFadden (1977)
Delaware River,		12.2-19.4°C	Murawski (1969)
Chesapeake and Delaware Canal	1973-1977	8.4-29.0°C (eggs collected); peak spawning at 12.5-15.0°C; peak eggs at 13.5-17.4°C	Kernehan et al. (1981)
Chesapeake Bay	1980	14.4-21.2°C; peak 17.8-20.0°C	Setzler et al.(1980)
Staunton River, Virginia		14.4-25.0°C	Neal (1967)
Roanoke River, North Carolina	1963-1980	12.0-25.3°C; peak eggs at 17.1-20.4°C	Hassler et al. (1981)
	1989-1993	14.0-25.9°C; initiation at 18.0°C; peak eggs at 18.0-21.9°C	Rulifson and Isely (1995)
Congaree-Wateree rivers, South Carolina		14.4°C (eggs first seen)	May and Fuller Jr.(1965)
Lower Sacramento, California	1963-1972	15.6°C	Turner (1976)
Delta region, California	1963-1972	14.4°C; peak 15.6-19.4°C	Turner (1976)

collected in salinities ranging from freshwater to < 3 ppt, with most reported in fresh waters (Table 14).

Egg Transport

Results of the drift study suggest that striped bass eggs spawned in the Stewiacke River have the potential to drift into Cobequid Bay of the upper Bay of Fundy where salinities are near ocean levels, but the likelihood is small. Van Den Avyle and Maynard (1994) believed that flow of the Savannah River flushed striped bass eggs from the freshwater portion of the river into “lethal salinity levels” before the embryos could develop, thus affecting recruitment. Winger and Lasier (1994) defined harmful salinity levels in the Savannah River as >15 ppt for eggs and >10 ppt for larvae. In the Shubenacadie system, the large number of viable eggs in the system at all stages of development implies that most of the eggs are not entering Cobequid Bay, but are remaining in the brackish and fresh portions of the river. The mechanism for this phenomenon is not well understood, but it is likely that the salinity gradient increases egg buoyancy, thereby positioning eggs upstream ahead of the tidal bore.

Another hypothesis for this phenomenon is the effects of the tidal bore itself. Since most eggs are spawned on the ebbing tide, the waters are moving slowly thereby transporting the eggs a short distance downstream before the returning tide redeposits the eggs upstream, perhaps in a location equal to or farther upstream than the initial spawning

Table 14. Egg collection salinities for striped bass in watersheds of North America from New Brunswick to Georgia, and in California.

Watershed	Year	Salinities	Source
Miramichi River, New Brunswick	1992	<3 PSU (practical salinity units)	Robichaud-LeBlanc et al. (1996)
Kouchibouguac River, New Brunswick	1983	just above head of tide.	Hogans and Melvin (1984)
Shubenacadie/Stewiacke rivers, Nova Scotia	1992	0.0-21.7 ppt	Rulifson and Dadswell (1995)
	1994	0.0-16.0 ppt	This study
Annapolis River, Nova Scotia	1976	just above head of tide.	Williams (1978)
	1979	just above head of tide.	Parker and Doe (1981)
Saint John (Belleisle Bay), New Brunswick	1975	above head of tide.	Dadswell (1976)
Hudson River, New York	1969-1976	Freshwater- $\leq$ 0.25 ppt	McFadden (1977)
Delaware River,			Murawski (1969)
Chesapeake and Delaware Canal	1973-1977	within 40 km of the freshwater and brackish water interface.	Kernehan et al. (1981)
Chesapeake Bay		2-10 ppt	Bonn et al.(1976)
Staunton River, Virginia		inland river	Neal (1967)
Roanoke River, North Carolina	1963-1980	no tidal influence; no salinity	Hassler et al. (1981)
	1989-1993	no tidal influence; no salinity	Rulifson and Isely (1995)
Savannah River, Georgia	1986-1989	$\leq$ 0.5 ppt	Van den Avyle and Maynard (1994)
Lower Sacramento, California			
Delta region, California			

point. This scenario would result in the eggs remaining in the freshwater portion of the system until hatching.

Egg Density

Results of the egg density study indicate that Shubenacadie striped bass eggs are heavier than other striped bass populations. Albrecht (1964, cited in McFadden 1977) reported that striped bass egg densities collected from the Sacramento River had a mean specific gravity of 1.0005 and a range of 1.0003-1.00065. In this study, neutral buoyancy was attained at a range of 1.0016 (2 ppt, 17°C) for unfertilized eggs to a maximum of 1.0066 (9 ppt) for preflexion embryos. McFadden (1977) reported that, theoretically, waters of 2.0 ppt at 18°C is needed to suspend a striped bass egg with a specific gravity of 1.0005. This density increase may be due to ontogenetic changes experienced by the developing embryo; yolk, which is more buoyant, is used as a food source as the embryo grows, thereby reducing the overall buoyancy of the egg. Our study indicates that egg later in development require higher salinities for neutral buoyancy. In achieving neutral buoyancy, salinity gradients may be keeping the eggs up in the water column and within the non-lethal salinity levels.

Summary and Recommendations for Future Research

Based on the data collected in the Stewiacke River, several facts emerge for the 1994 striped bass spawning season. The spawning period was approximately three weeks

in duration. The critical spawning temperature was 18°C, but water temperatures fluctuated more with the tidal cycle than with progression of the season. Spawning appeared to be cued to the neap tide, and the typical multi-peak spawning reported for other populations is observed in this population as well. Striped bass utilizing the Shubenacadie watershed are spawning under environmental conditions of water temperature, dissolved oxygen, and salinity similar to other striped bass populations, with several important deviations:

- 1) The water is extremely turbid and has a potential for lethal salinity effects to the eggs.
- 2) During peak spawning activity, large numbers of striped bass eggs were left stranded and exposed on the extensive mudflats and banks for an extended period during ebb tide.

At first glance the eggs seem to be subjected to environmental extremes such as temperature and salinity. However, this population seems to have adapted their spawning behavior to accommodate these fluctuations by spawning during the smallest tidal range and having buoyant eggs which are able to move with the flooding and ebbing tides. This buoyancy, coupled with their rapid embryo development, obviously allows the species to survive and prosper in the face of such harsh conditions.

Several aspects of this study are worthy of additional investigation. Egg stranding on the mudflats appears to be common during peak spawning, but the mortality rate and possible contribution to spawning success is unknown. A second aspect involves the

extent of egg downstream transport in this system. Eggs are capable of drifting to Cobequid Bay, but whether this phenomenon occurs remains undocumented. A third aspect concerns lethal salinities. Most eggs are likely precluded from entering the region of higher salinities on flood tides, but the portion of total eggs experiencing lethal salinity levels is not known. The last aspect concerns the paucity of larvae collected during the study. Few larvae were captured on the return (flood) tides, suggesting that larvae were exiting the estuarine transport system after hatching. The nursery grounds should be located if possible, and investigated to determine the water quality conditions and the exact mechanism used by the larvae to resist the returning tides.

One aspect of this study was to determine if striped bass from the Shubenacadie watershed was a viable option for aquaculture brood stock and for restocking of other rivers in Atlantic Canada. This population is spawning in water conditions similar to other Canadian rivers and therefore should be able to reproduce successfully in other Canadian river systems. The first step in stock restoration efforts should be to identify and remove the causes for population decline from each target river system. Caution should be exercised in utilizing the Shubenacadie population for brood; the population appears to be small but stable. In utilizing the population for stocking and brood stock, careful control of population numbers should be maintained to ensure the continuation of this successful stock.

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Appendix 1. Raw data and instantaneous count estimates (number/second) of striped bass eggs in the Stewiacke River, Nova Scotia, during May and June 1994.

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
940520	1100	0	0	0	0	.	.	0.4	0.1	.	.	.
	1105	.	.	.	.	.	.	.	.	.	.	.
	1235	0	0	0	0	.	.	0.4	0.4	.	.	.
	1240	.	.	.	.	.	.	.	.	.	.	.
	1445	0	0	0	0	.	.	0.3	0.2	.	.	.
	1450	.	.	.	.	.	.	.	.	.	.	.
940521	845	0	0	0	0	.	.	0.2	0.2	.	.	.
	900	.	.	.	.	.	.	.	.	.	.	.
	945	0	0	0	0	.	.	0.5	0.5	.	.	.
	1000	.	.	.	.	.	.	.	.	.	.	.
	1045	0	0	0	0	.	.	0.4	0.3	.	.	.
	1100	0	0	0	0	.	.	0.2	0.0	.	.	.
	1130	0	0	0	0	.	.	0.1	0.0	.	.	.
	1145	.	.	.	.	.	.	.	.	.	.	.
	1345	.	.	.	.	.	.	.	.	.	.	.
	1400	0	0	.	.	.	.	0.3	.	.	.	.
	1410	0	0	0	0	.	.	0.5	0.3	.	.	.
	1430	0	0	0	0	.	.	0.4	0.3	.	.	.
	1445	.	.	.	.	.	.	.	.	.	.	.
	1530	.	.	.	.	.	.	.	.	.	.	.
	1545	.	.	.	.	.	.	.	.	.	.	.
	1615	.	.	.	.	.	.	.	.	.	.	.
	1620	.	.	.	.	.	.	.	.	.	.	.
	1700	.	.	.	.	.	.	.	.	.	.	.
	1705	0	0	0	0	.	.	0.3	0.1	.	.	.

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
940522	1045	0	0	.	.	.	.	0.4	.	.	.	.
	1120	.	.	.	.	.	.	.	.	.	.	.
	1125	.	.	.	.	.	.	.	.	.	.	.
	1230	.	.	.	.	.	.	.	.	.	.	.
	1235	.	.	.	.	.	.	.	.	.	.	.
	1245	.	.	.	.	.	.	.	.	.	.	.
	1315	0	0	.	.	.	.	0.1	.	.	.	.
	1325	0	0	.	.	.	.	0.2	.	.	.	.
	1335	0	0	0	0	.	.	0.4	0.3	.	.	.
	1500	.	.	.	.	.	.	.	.	.	.	.
	1510	.	.	.	.	.	.	.	.	.	.	.
	1515	0	0	0	0	.	.	0.4	0.3	.	.	.
	1625	.	.	.	.	.	.	.	.	.	.	.
	1630	.	.	.	.	.	.	.	.	.	.	.
	1645	0	0	0	0	.	.	0.3	0.2	.	.	.
	1805	.	.	.	.	.	.	.	.	.	.	.
	1815	0	0	0	0	.	.	0.2	0.2	.	.	.
	1930	.	.	.	.	.	.	.	.	.	.	.
	1935	0	0	0	0	.	.	0.2	0.2	.	.	.
	2030	.	.	.	.	.	.	.	.	.	.	.
	2035	0	0	0	0	.	.	0.2	0.1	.	.	.
	2150	.	.	.	.	.	.	.	.	.	.	.
	2200	0	0	.	.	.	.	0.0	.	.	.	.
	2300	.	.	.	.	.	.	.	.	.	.	.
	2305	.	.	.	.	.	.	.	.	.	.	.
	2310	.	.	.	.	.	.	.	.	.	.	.
	2320	.	.	.	.	.	.	.	.	.	.	.
	2335	.	.	.	.	.	.	.	.	.	.	.
	2340	.	.	.	.	.	.	.	.	.	.	.
	2345	.	.	.	.	.	.	.	.	.	.	.
	2349	.	.	.	.	.	.	.	.	.	.	.

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	2350	.	.	.	.	.	.	.	.	.	.	.
	2355	.	.	.	.	.	.	.	.	.	.	.
940523	1440	.	.	.	.	.	.	.	.	.	.	.
	1455	0	0	0	0	.	.	0.4	0.4	.	.	.
	1520	0	0	0	0	.	.	0.4	0.3	.	.	.
	1705	.	.	.	.	.	.	.	.	.	.	.
	1710	0	0	.	.	.	.	0.3	.	.	.	.
	1800	.	.	.	.	.	.	.	.	.	.	.
	1815	0	0	.	.	.	.	0.2	.	.	.	.
	2310	0	0	.	.	.	.	0.1	.	.	.	.
940524	1150	0	0	.	.	.	.	0.1	.	.	.	.
	1230	.	.	.	.	.	.	.	.	.	.	.
	1237	.	.	.	.	.	.	.	.	.	.	.
	1240	.	.	.	.	.	.	.	.	.	.	.
	1247	.	.	.	.	.	.	.	.	.	.	.
	1255	.	.	.	.	.	.	.	.	.	.	.
	1300	.	.	.	.	.	.	.	.	.	.	.
	1308	.	.	.	.	.	.	.	.	.	.	.
	1319	0	0	0	0	.	.	0.3	0.1	.	.	.
	1335	.	.	.	.	.	.	.	.	.	.	.
	1440	0	0	0	0	.	.	0.3	0.3	.	.	.
	1645	0	0	0	0	1.2	207	0.3	0.2	0	0	0
	1900	0	0	.	.	0.2	65	0.3	.	0	.	0
	2028	0	0	.	.	0.2	65	0.2	.	0	.	0
	2200	0	0	.	.	0.2	65	0.1	.	0	.	0
	2325	0	0	.	.	0.2	65	0.0	.	0	.	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
940525	30	0	0	.	.	0.2	65	0.1	.	0	.	0
	135	0	0	.	.	3.7	607	0.3	.	0	.	0
	300	0	0	.	.	3.9	649	0.1	.	0	.	0
	435	0	0	.	.	1.8	297	0.5	.	0	.	0
	555	0	0	.	.	0.9	165	0.4	.	0	.	0
	730	0	0	.	.	0.2	65	0.3	.	0	.	0
	850	0	0	.	.	0.2	65	0.2	.	0	.	0
	1030	0	0	.	.	0.2	65	0.2	.	0	.	0
	1200	0	0	.	.	0.2	65	0.1	.	0	.	0
	1405	0	0	0	0	2.3	373	0.6	0.4	0	0	0
	1530	0	0	0	0	3.3	539	0.2	0.3	0	0	0
	1700	0	0	0	0	1.8	292	0.4	0.3	0	0	0
	1830	0	0	.	.	0.8	138	0.4	.	0	.	0
	2000	0	0	.	.	0.1	60	0.2	.	0	.	0
	2130	0	0	.	.	0.0	53	0.2	.	0	.	0
	2312	0	0	.	.	0.0	53	0.2	.	0	.	0
940526	30	0	0	.	.	-0.2	42	0.2	.	0	.	0
	230	0	0	.	.	3.4	565	0.6	.	0	.	0
	330	0	0	.	.	4.0	.	0.0	.	.	.	.
	500	0	0	.	.	1.8	301	0.5	.	0	.	0
	630	0	0	.	.	1.1	183	0.3	.	0	.	0
	800	0	0	.	.	0.2	65	0.3	.	0	.	0
	930	0	0	.	.	0.0	53	0.0	.	0	.	0
	1100	0	0	.	.	-0.2	42	0.1	.	0	.	0
	1230	0	0	.	.	-0.5	25	0.1	.	0	.	0
	1505	0	0	.	.	2.1	349	0.2	.	0	.	0
	1600	0	0	.	.	2.7	446	0.1	.	0	.	0
	1730	.	.	.	.	.	.	.	.	.	.	.
	1900	.	.	.	.	.	.	.	.	.	.	.
	2130	.	.	.	.	.	.	.	.	.	.	.

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	2300	.	.	.	.	.	.	.	.	.	.	.
940527	30	.	.	.	.	.	.	.	.	.	.	.
	200	.	.	.	.	.	.	.	.	.	.	.
	330	.	.	.	.	.	.	.	.	.	.	.
	500	.	.	.	.	.	.	.	.	.	.	.
	630	.	.	.	.	.	.	.	.	.	.	.
	830	0	0	.	.	0.3	81	0.4	.	0	.	0
	955	0	0	.	.	0.0	53	0.3	.	0	.	0
	1113	0	0	.	.	0.0	53	0.3	.	0	.	0
	1255	0	0	.	.	-0.5	25	0.3	.	0	.	0
	1540	0	0	.	.	1.5	254	0.1	.	0	.	0
	1655	0	0	.	.	3.0	497	0.1	.	0	.	0
	1830	0	0	0	0	2.1	349	0.4	0.1	0	0	0
	1955	0	0	.	.	0.5	98	0.4	.	0	.	0
	2130	0	0	.	.	-0.2	42	0.3	.	0	.	0
	2300	0	0	.	.	-0.3	33	0.2	.	0	.	0
940528	30	1	0	.	.	-0.6	18	0.2	.	0	.	0
	200	0	0	.	.	-0.6	16	0.2	.	0	.	0
	320	0	0	.	.	-0.7	15	0.2	.	0	.	0
	410	0	0	.	.	2.0	330	0.9	.	0	.	0
	500	0	0	.	.	3.4	560	0.1	.	0	.	0
	620	0	0	.	.	2.4	388	0.5	.	0	.	0
	810	0	0	0	0	0.9	161	0.4	0.4	0	0	0
	935	0	0	0	1	0.2	65	0.4	0.1	0	1	0
	1100	0	0	0	0	0.0	53	0.3	0.3	0	0	0
	1230	0	0	0	0	-0.2	42	0.5	0.3	0	0	0
	1400	0	0	.	.	-0.3	33	0.3	.	0	.	0
	1525	0	0	.	.	-0.4	28	0.2	.	0	.	0
	1700	0	0	.	.	2.9	471	0.4	.	0	.	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	1830	0	0	.	.	2.0	325	0.4	.	0	.	0
	2005	0	0	.	.	1.5	254	0.4	.	0	.	0
	2135	0	0	.	.	-0.1	49	0.4	.	0	.	0
	2205	0	0	.	.	-0.3	33	0.3	.	0	.	0
940529	200	0	0	.	.	-0.8	11	0.3	.	0	.	0
	330	0	0	.	.	-0.8	8	0.1	.	0	.	0
	500	0	0	.	.	1.6	273	0.7	.	0	.	0
	600	0	0	.	.	2.9	466	0.1	.	0	.	0
	730	0	0	0	0	1.6	263	0.5	0.5	0	0	0
	900	0	0	0	0	0.5	105	0.5	0.3	0	0	0
	1100	0	0	.	.	-0.2	42	0.4	.	0	.	0
	1230	0	0	.	.	-0.3	33	0.3	.	0	.	0
	1400	0	0	.	.	-0.3	33	0.2	.	0	.	0
	1530	0	0	.	.	-0.5	22	0.0	.	0	.	0
	1800	0	0	0	0	1.7	277	0.0	0.3	0	0	0
	1900	0	0	0	0	2.2	364	0.2	0.2	0	0	0
	2040	0	0	0	0	0.7	134	0.4	0.3	0	0	0
	2200	0	0	.	.	-0.2	42	0.4	.	0	.	0
	2330	0	0	.	.	-0.3	33	0.3	.	0	.	0
940530	100	0	0	.	.	-0.4	27	0.3	.	0	.	0
	230	0	0	.	.	-0.6	18	0.0	.	0	.	0
	400	0	0	.	.	-0.7	14	0.2	.	0	.	0
	600	0	0	.	.	1.3	216	0.5	.	0	.	0
	735	0	0	0	0	2.0	330	0.5	0.4	0	0	0
	905	0	0	.	.	1.5	244	0.4	.	0	.	0
	1030	0	0	.	.	0.2	65	0.3	.	0	.	0
	1205	0	0	.	.	-0.2	42	0.3	.	0	.	0
	1340	0	0	.	.	-0.3	33	0.1	.	0	.	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	1500	0	0	.	.	-0.3	33	0.2	.	0	.	0
	1625	0	0	.	.	-0.4	28	0.2	.	0	.	0
	1840	0	0	0	0	1.1	183	0.2	0.4	0	0	0
	2000	0	0	0	0	1.6	268	0.2	0.3	0	0	0
	2135	0	0	.	.	0.5	101	0.5	.	0	.	0
	2310	0	0	.	.	-0.2	37	0.4	.	0	.	0
940531	30	0	0	.	.	-0.4	30	0.3	.	0	.	0
	200	0	0	.	.	-0.7	14	0.5	.	0	.	0
	330	0	0	.	.	-0.8	11	0.1	.	0	.	0
	500	0	0	.	.	-0.8	8	0.2	.	0	.	0
	710	0	0	0	0	1.9	306	0.3	0.3	0	0	0
	835	0	0	0	0	1.5	254	0.3	0.3	0	0	0
	1020	0	0	0	0	0.2	65	0.4	0.3	0	0	0
	1145	4	7	.	.	-0.1	47	0.3	.	14	.	14
	1255	10	6	14	13	-0.2	42	0.2	0.1	14	14	14
	1430	0	2	0	2	-0.3	33	0.1	0.0	1	0	0
	1600	0	1	0	0	-0.3	33	0.2	0.2	1	0	0
	1725	0	0	0	0	-0.4	28	0.2	0.1	0	0	0
	1855	0	0	0	0	-0.6	18	0.2	0.1	0	0	0
	1955	1	0	0	2	2.0	320	0.7	0.7	18	37	28
	2040	2	0	0	0	1.7	277	0.2	0.0	7	0	4
	2200	0	0	0	0	0.5	109	0.4	0.3	0	0	0
	2330	0	0	0	0	0.2	74	0.4	0.4	0	0	0
940601	100	0	1	0	0	-0.2	42	0.3	0.3	1	0	1
	230	0	0	0	0	-0.5	25	0.2	0.0	0	0	0
	400	0	0	0	0	-0.6	18	0.4	0.2	0	0	0
	530	0	0	0	0	-0.8	9	0.2	0.1	0	0	0
	700	0	0	0	0	-0.8	8	0.2	0.2	0	0	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	815	1	0	0	1	1.2	207	0.6	0.5	11	9	10
	915	0	0	0	0	1.4	230	0.2	0.2	0	0	0
	1100	0	0	0	0	0.3	81	0.4	0.3	0	0	0
	1230	0	0	0	0	0.0	53	0.3	0.2	0	0	0
	1405	0	0	.	.	-0.3	33	0.1	.	0	.	0
	1525	1	0	0	0	-0.3	33	0.2	.	1	.	1
	1655	0	0	.	.	-0.5	25	0.1	.	0	.	0
	1825	0	0	.	.	-0.5	24	0.2	.	0	.	0
	2025	0	0	0	0	0.8	143	0.4	0.4	0	0	0
	2130	0	0	0	0	1.4	230	0.2	0.2	0	0	0
	2330	0	0	0	0	0.2	65	0.4	0.4	0	0	0
940602	100	3	1	14	16	-0.2	41	0.4	0.2	5	25	15
	230	24	15	21	25	-0.3	31	0.2	0.0	23	3	13
	400	16	18	25	10	-0.5	25	0.2	0.1	16	10	13
	630	64	25	54	28	-0.4	27	0.2	0.2	38	33	36
	700	43	85	66	31	-0.5	25	0.1	0.0	37	4	21
	905	12	3	10	5	1.0	174	0.3	0.4	70	96	83
	1015	0	1	3	1	1.0	179	0.2	0.1	3	6	5
	1205	66	39	88	63	0.1	60	0.4	0.3	227	219	223
	1330	230	125	357	244	-0.2	41	0.4	0.3	491	603	547
	1500	119	142	99	31	-0.3	33	0.2	0.2	177	56	116
	1645	170	165	128	186	-0.4	27	0.2	0.1	140	66	103
	1805	162	250	159	164	-0.5	25	0.2	0.4	189	255	222
	1935	127	169	168	13	-0.5	25	0.2	0.1	116	40	78
	2130	100	76	67	92	1.1	183	0.4	0.4	1,105	867	986
	2230	7	22	25	28	1.2	207	0.2	0.2	101	232	166
940603	5	239	200	1,164	244	0.1	63	0.4	0.4	1,006	2,848	1,927
	130	816	483	739	755	-0.2	42	0.4	0.4	1,676	1,953	1,814

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	300	1,165	693	0	0	-0.3	33	0.3	0.2	1,510	0	755
	430	337	30	.	.	-0.5	25	0.2	.	168	.	168
	600	106	44	.	.	-0.5	25	0.2	.	65	.	65
	730	15	43	.	.	-0.5	22	0.2	.	17	.	17
	900	60	163	.	.	-0.5	22	0.1	.	50	.	50
	1010	111	126	161	147	0.8	147	0.3	0.3	755	1,130	943
	1130	77	98	73	86	0.8	138	0.3	0.2	592	378	485
	1300	201	206	.	.	0.1	60	0.4	.	848	.	848
	1500	42	63	.	.	-0.2	37	0.1	.	43	.	43
	1645	42	35	.	.	-0.4	28	0.2	.	41	.	41
	1800	3	11	.	.	-0.5	25	0.2	.	5	.	5
	1930	3	9	.	.	-0.5	21	0.2	.	3	.	3
	2100	10	2	.	.	-0.5	21	0.2	.	4	.	4
	2230	12	43	76	84	1.1	183	0.4	0.4	306	1,058	682
940604	0	21	27	.	.	0.8	138	0.4	.	223	.	223
	140	27	14	.	.	-0.1	49	0.4	.	67	.	67
	300	26	36	.	.	-0.3	33	0.2	.	43	.	43
	430	4	0	.	.	-0.4	30	0.2	.	2	.	2
	555	5	1	.	.	-0.4	27	0.2	.	3	.	3
	730	2	3	.	.	-0.5	22	0.2	.	2	.	2
	900	0	3	.	.	-0.6	18	0.2	.	1	.	1
	1100	10	26	24	33	1.2	202	0.4	0.5	250	451	350
	1215	14	10	13	11	0.6	117	0.3	0.3	69	75	72
	1410	8	6	.	.	-0.2	42	0.4	.	19	.	19
	1530	6	5	0	0	-0.3	33	0.2	.	5	.	5
	1700	0	0	.	.	-0.4	28	0.2	.	0	.	0
	1830	0	0	.	.	-0.5	25	0.2	.	0	.	0
	2000	0	0	.	.	-0.5	22	0.1	.	0	.	0
	2137	1	0	.	.	-0.5	21	0.2	.	0	.	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	2330	10	5	7	14	1.2	207	0.6	0.4	158	130	144
940605	30	5	11	2	2	1.2	202	0.3	0.2	79	15	47
	200	7	3	1	3	0.2	65	0.5	0.3	27	6	16
	330	1	1	.	.	-0.2	37	0.1	.	1	.	1
	500	0	2	.	.	-0.3	31	0.2	.	1	.	1
	630	0	0	.	.	-0.4	27	0.2	.	0	.	0
	800	1	0	.	.	-0.5	24	0.1	.	0	.	0
	930	0	0	.	.	-0.2	37	0.1	.	0	.	0
	1100	0	0	.	.	-0.2	37	0.1	.	0	.	0
	1200	1	2	.	.	0.9	161	0.6	.	23	.	23
	1300	0	0	0	0	1.2	207	0.0	0.0	0	0	0
	1430	1	0	.	.	0.2	65	0.4	.	2	.	2
	1600	0	0	.	.	-0.3	33	0.3	.	0	.	0
	1730	0	0	.	.	-0.4	28	0.2	.	0	.	0
	1900	0	0	.	.	-0.5	22	0.2	.	0	.	0
	2030	1	1	.	.	-0.5	21	0.2	.	1	.	1
	2200	1	0	.	.	-0.6	18	0.1	.	0	.	0
940606	0	0	0	0	0	0.9	152	0.4	0.4	0	0	0
	120	0	0	0	0	1.1	183	0.1	0.2	0	0	0
	300	0	0	.	.	0.1	63	0.4	.	0	.	0
	430	0	10	.	.	-0.2	37	0.4	.	12	.	12
	600	7	13	.	.	-0.4	30	0.3	.	13	.	13
	730	2	25	.	.	-0.4	27	0.2	.	13	.	13
	900	35	40	.	.	-0.5	22	0.2	.	24	.	24
	1030	5	4	.	.	-0.5	22	0.1	.	2	.	2
	1200	4	4	.	.	-0.6	18	0.2	.	2	.	2
	1245	6	3	7	5	0.9	156	0.7	0.3	81	42	61
	1400	1	0	1	1	0.9	161	0.2	0.2	2	6	4

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	1530	15	5	12	4	0.0	53	0.4	0.4	37	31	34
	1700	19	2	22	6	-0.3	33	0.3	0.3	19	20	19
	1830	9	5	.	.	-0.4	27	0.3	.	8	.	8
	2005	5	3	.	.	-0.5	22	0.2	.	3	.	3
	2130	0	14	.	.	-0.5	22	0.0	.	0	.	0
	2300	1	0	.	.	-0.6	18	0.1	.	0	.	0
940607	50	0	1	2	0	1.2	202	0.8	0.6	13	21	17
	200	0	0	2	0	1.7	277	0.1	0.2	0	8	4
	330	2	0	.	.	0.3	81	0.4	.	6	.	6
	500	5	1	.	.	-0.1	47	0.3	.	8	.	8
	630	29	16	.	.	-0.3	31	0.2	.	27	.	27
	800	121	86	.	.	-0.4	27	0.2	.	90	.	90
	930	105	49	.	.	-0.5	25	0.1	.	44	.	44
	1105	69	50	.	.	-0.5	22	0.2	.	36	.	36
	1330	4	7	4	5	1.2	202	0.5	0.6	99	95	97
	1430	4	1	0	0	1.8	297	0.3	.	33	.	33
	1600	9	8	5	11	0.3	81	0.5	0.5	53	56	54
	1730	10	17	.	.	-0.2	42	0.4	.	42	.	42
	1900	84	43	.	.	-0.3	33	0.2	.	84	.	84
	2030	103	163	.	.	-0.5	25	0.2	.	116	.	116
	2200	33	19	.	.	-0.5	22	0.2	.	23	.	23
	2330	4	1	.	.	-0.5	22	0.1	.	1	.	1
940608	125	7	7	6	6	1.2	211	0.5	0.6	130	121	126
	230	1	3	3	0	1.6	273	0.2	0.1	14	7	10
	400	2	3	5	9	0.5	101	0.4	0.5	17	66	42
	530	16	8	.	.	-0.0	51	0.3	.	35	.	35
	700	31	26	.	.	-0.2	37	0.3	.	54	.	54
	830	93	50	.	.	-0.4	30	0.3	.	113	.	113

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
940608	1000	181	101	.	.	-0.4	28	0.2	.	157	.	157
	1130	134	84	.	.	-0.5	24	0.2	.	107	.	107
	1315	51	43	.	.	-0.5	24	0.5	.	89	.	89
	1410	15	24	23	19	1.2	211	0.3	0.3	227	254	240
	1520	0	6	6	5	1.3	221	0.3	0.3	33	71	52
	1655	47	37	70	40	0.3	81	0.5	0.4	259	329	294
	1830	34	35	.	.	-0.1	45	0.4	.	106	.	106
	2000	38	14	.	.	-0.3	35	0.3	.	49	.	49
	2130	11	3	.	.	-0.3	31	0.3	.	11	.	11
	2300	5	3	.	.	-0.4	27	0.2	.	4	.	4
940609	30	6	3	.	.	-0.5	21	0.2	.	4	.	4
	215	16	9	5	4	1.5	249	0.4	0.4	219	80	150
	300	0	3	3	1	2.1	349	0.0	0.2	1	21	11
	430	6	5	7	2	0.8	147	0.5	0.4	65	40	53
	600	8	4	.	.	0.1	63	0.5	.	30	.	30
	730	50	64	.	.	0.2	65	0.3	.	208	.	208
	900	22	24	.	.	-0.3	33	0.1	.	15	.	15
	1030	35	36	.	.	-0.4	30	0.3	.	45	.	45
	1200	45	56	.	.	-0.5	22	0.2	.	31	.	31
	1430	7	9	15	17	1.1	183	0.4	0.4	105	184	144
	1530	5	0	2	0	1.7	287	0.1	0.2	18	9	13
	1700	25	6	.	.	0.5	98	0.4	.	113	.	113
	1830	78	56	.	.	0.0	53	0.4	.	213	.	213
	2000	7	14	.	.	-0.2	39	0.5	.	31	.	31
	2137	4	2	.	.	-0.3	31	0.3	.	5	.	5
	2200	2	0	.	.	-0.4	28	0.2	.	1	.	1
940610	30	0	0	.	.	-0.5	25	0.0	.	0	.	0
	230	6	13	4	6	1.2	207	0.5	0.4	169	72	121

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	350	2	2	2	2	1.9	311	0.1	0.2	8	16	12
	530	4	2	3	1	0.6	113	0.4	0.4	24	15	20
	710	1	0	.	.	0.0	53	0.4	.	2	.	2
	830	3	1	.	.	-0.2	41	0.3	.	4	.	4
	1000	3	2	.	.	-0.3	33	0.2	.	3	.	3
	1130	0	2	.	.	-0.4	30	0.1	.	0	.	0
	1300	0	0	.	.	-0.4	28	0.1	.	0	.	0
	1500	0	0	1	0	1.1	183	0.2	0.2	0	4	2
	1630	0	1	2	1	1.5	254	0.3	0.3	6	20	13
	1800	3	0	2	1	0.5	98	0.4	0.4	10	10	10
	1930	1	1	.	.	0.0	53	0.3	.	3	.	3
	2100	1	6	.	.	-0.2	39	0.2	.	4	.	4
	2230	1	0	.	.	-0.3	31	0.1	.	0	.	0
940611	0	0	0	.	.	-0.4	28	0.2	.	0	.	0
	130	0	0	.	.	-0.4	27	0.2	.	0	.	0
	330	0	2	0	1	1.8	292	0.5	0.5	25	12	19
	430	0	0	0	0	1.8	297	0.3	0.3	0	0	0
	600	1	0	5	0	0.7	134	0.7	0.4	8	20	14
	730	1	0	.	.	0.1	63	0.3	.	2	.	2
	900	2	3	.	.	-0.2	42	0.3	.	5	.	5
	1030	3	2	.	.	-0.3	35	0.2	.	3	.	3
	1200	0	0	.	.	-0.4	30	0.1	.	0	.	0
	1330	0	0	.	.	-0.4	28	.	.	.	.	.
	1600	0	0	0	1	1.7	287	0.1	0.2	0	6	3
	1730	0	0	0	0	1.8	301	0.4	0.4	0	0	0
	1900	0	0	.	.	0.3	81	0.4	.	0	.	0
	2030	0	0	.	.	-0.1	47	0.4	.	0	.	0
	2200	0	0	.	.	-0.3	33	0.3	.	0	.	0
	2330	0	0	.	.	-0.4	30	0.2	.	0	.	0

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
940612	110	0	0	.	.	-0.4	27	0.2	.	0	.	0
	230	0	0	.	.	-0.5	24	0.2	.	0	.	0
	410	0	0	0	0	1.3	226	0.3	0.3	0	0	0
	515	0	0	0	0	1.9	311	0.1	0.1	0	0	0
	700	0	0	0	0	0.4	87	0.6	0.4	0	0	0
	830	0	0	.	.	0.0	53	0.3	.	0	.	0
	1000	0	0	.	.	-0.2	41	0.2	.	0	.	0
	1130	0	1	.	.	-0.3	33	0.0	.	0	.	0
	1300	0	0	.	.	-0.4	30	0.0	.	0	.	0
	1430	0	0	.	.	-0.4	27	0.0	.	0	.	0
	1630	0	0	.	.	1.0	174	0.4	.	0	.	0
	1730	0	0	0	0	1.3	221	0.3	0.3	0	0	0
	1900	0	0	0	0	0.5	98	0.4	0.4	0	0	0
	2115	0	0	.	.	-0.1	45	0.4	.	0	.	0
	2230	8	4	.	.	-0.3	35	0.3	.	9	.	9
940613	0	2	5	.	.	-0.4	30	0.2	.	4	.	4
	130	1	4	.	.	-0.5	25	0.2	.	2	.	2
	300	1	2	.	.	-0.5	25	0.1	.	1	.	1
	440	1	0	0	0	1.2	211	0.7	0.6	13	0	6
	610	0	0	0	0	1.5	254	0.3	0.4	0	0	0
	730	0	2	0	4	0.5	101	0.5	0.4	8	14	11
	900	14	15	.	.	0.0	53	0.4	.	47	.	47
	1030	24	31	.	.	-0.2	41	0.3	.	47	.	47
	1200	34	47	.	.	-0.3	33	0.2	.	43	.	43
	1330	134	81	.	.	-0.4	30	0.1	.	66	.	66
	1500	79	59	.	.	-0.4	27	0.1	.	26	.	26
	1715	5	7	2	1	1.1	188	0.5	0.5	95	25	60
	1810	1	0	0	0	1.5	244	0.1	0.1	2	0	1
	1930	4	6	.	.	0.5	109	0.4	.	39	.	39

Appendix 1 (continued).

Date	Time	Egg count surface (rep A)	Egg count surface (rep B)	Egg count bottom (rep A)	Egg count bottom (rep B)	River stage (m)	Cross- section (sq.m.)	Surface speed m/sec	Bottom speed m/sec	Eggs/sec surface	Eggs/sec bottom	Mean eggs/sec
	2100	51	66	.	.	0.3	77	0.3	.	236	.	236
	2230	135	92	.	.	-0.2	39	0.3	.	226	.	226
940614	0	30	7	.	.	-0.3	33	0.3	.	30	.	30
	130	59	434	.	.	-0.4	28	0.1	.	161	.	161
	315	116	29	.	.	-0.5	25	0.2	.	57	.	57
	420	69	115	.	.	-0.5	24	0.2	.	76	.	76
	530	8	16	14	9	1.3	226	0.9	0.9	401	396	399
	656	9	8	2	4	1.5	249	0.3	0.2	119	31	75
	830	10	17	10	13	0.4	94	0.5	0.4	104	76	90
	930	28	57	.	.	0.1	60	0.3	.	117	.	117
	1100	133	149	.	.	-0.2	41	0.3	.	259	.	259
	1230	258	226	.	.	-0.3	35	0.0	.	67	.	67
	1400	16	12	.	.	-0.4	30	0.2	.	12	.	12
	1530	1	7	0	0	-0.4	28	0.1	0.0	1	0	1
	1930	4	0	3	3	1.4	235	0.2	0.5	16	66	41
	2100	9	21	.	.	0.3	77	0.3	.	62	.	62
	2230	9	11	.	.	-0.1	49	0.4	.	32	.	32
	2355	2	5	.	.	-0.2	41	0.3	.	8	.	8
940615	130	7	3	.	.	-0.3	33	0.3	.	7	.	7
	255	0	1	.	.	-0.3	31	0.2	.	1	.	1
	430	0	0	.	.	-0.4	28	0.3	.	0	.	0
	620	5	2	2	0	1.3	221	0.3	0.3	41	10	25

Appendix 2. Raw water quality data collected during striped bass egg sampling in the Stewiacke River, Nova Scotia, in 1994. LOC = location; RB=right bank; MD=mid-river; LB=left bank; TIDE LE=low ebb, MF=mid-flood, HS=high slack, ME=mid-ebb, BOR=tidal bore; Depth=dt; R-stage=river stage (ft); ATEMP=air temperature (°C); SWTEMP and BWTEMP=surface and bottom water temperature (°C); SECCHI=cm; DO=dissolved oxygen (mg/L); SCOND and BCOND=surface and bottom conductivity (mmhos); SSAL and BSAL=surface and bottom salinity (ppt); SWVEL and BWVEL=surface and bottom water velocity (m/sec); SREV and BREV=surface and bottom meter revolutions.

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940520	1100	RB	HS	12	.	7.5	7.2	7.3	10	12.4	4.4	4.4	3.3	3.4	0.6	0.5	1992	294
940520	1105	MD	E	3	.	7.6	7.1	7.1	10	13.0	3.5	3.5	2.8	2.8	0.6	0.3	.	.
940520	1235	RB	ME	10	.	11.6	7.3	7.3	10	15.0	0.6	0.5	0.3	0.2	0.7	0.4	2042	1974
940520	1240	MD	ME	3	.	11.0	7.3	.	10	14.3	0.1	.	0.0	.	0.3	0.3	.	.
940520	1445	RB	ME	8	.	13.1	8.2	8.2	20	.	0.0	0.1	0.0	0.0	0.6	0.2	1496	999
940520	1450	MD	ME	2	.	12.1	8.7	8.7	.	.	0.2	0.2	0.2	0.2	0.2	0.2	.	.
940521	845	RB	LS	7	.	7.6	7.9	7.8	40	11.6	0.2	0.1	0.4	0.2	0.3	0.3	952	793
940521	900	MD	LS	4	.	10.9	8.4	.	40	11.2	0.2	.	0.4	.	0.2	.	.	.
940521	945	RB	BOR	9	.	11.5	8.1	8.0	20	12.4	0.1	0.1	0.1	0.0	1.0	1.0	2517	2304
940521	1000	MD	MF	4	.	12.5	8.6	.	10	12.0	2.4	.	1.9	.	1.7	.	.	.
940521	1045	LB	MF	4	.	16.7	8.9	8.6	10	11.6	1.3	1.3	1.0	1.0	0.6	0.6	1839	1277
940521	1100	RB	MF	14	.	14.3	8.9	8.7	15	7.8	10.4	11.1	8.7	9.3	0.6	0.2	981	115
940521	1130	MD	HS	6	.	13.5	9.0	8.9	.	11.8	11.6	13.0	9.7	10.8	0.0	0.0	258	50
940521	1145	LB	HS	3	.	.	8.8	.	.	11.5	11.1	.	9.2	.	0.4	.	.	.
940521	1345	LB	ME	2	.	19.8	10.0	.	10	12.2	1.9	.	1.6	.	0.2	.	.	.
940521	1400	MD	MF	3	.	17.3	9.8	9.6	10	12.4	1.1	1.1	0.9	0.9	0.3	0.1	1286	.
940521	1410	RB	HS	11	.	17.1	9.9	9.9	10	12.2	1.1	1.0	0.9	0.8	0.8	0.5	2083	1506
940521	1430	RB	ME	10	.	17.7	10.0	9.7	10	12.8	0.5	0.5	0.4	0.3	0.8	0.4	1821	1562
940521	1445	MD	ME	1	.	17.2	10.2	.	10	12.4	0.8	.	0.6	.	0.2	.	.	.
940521	1530	RB	LE	8	.	23.3	9.9	10.2	10	12.8	0.0	0.0	0.0	0.0	0.4	0.3	.	.
940521	1545	MD	LE	1	.	23.3	10.6	.	10	12.2	0.2	.	0.1	.	0.2	.	.	.
940521	1615	RB	LE	7	.	19.4	10.3	10.2	10	13.4	0.1	0.1	0.0	0.0	0.5	0.3	.	.
940521	1620	MD	LE	1	.	19.4	10.1	.	10	12.4	0.0	.	0.0	.	0.2	.	.	.
940521	1700	MD	LE	1	.	19.5	10.4	.	10	12.4	0.0	.	0.0	.	0.2	.	.	.
940521	1705	RB	LE	8	.	19.5	10.2	10.2	10	12.4	0.0	0.0	0.0	0.0	0.3	0.3	1278	682
940522	1045	RB	BOR	8	.	16.8	11.9	.	.	12.0	0.0	.	0.0	.	1.3	1.0	2042	.
940522	1120	MD	MF	9	.	.	11.7	.	10	.	4.1	.	3.2	.	.	.	.	.
940522	1125	LB	MF	4	.	.	11.6	11.6	10	11.5	4.0	4.5	3.1	3.3	1.3	1.3	.	.
940522	1230	RB	HS	20	.	.	11.5	11.2	10	10.9	16.2	16.8	13.1	13.8	0.2	0.1	.	.
940522	1235	MD	HS	8	.	.	11.8	11.0	10	10.8	15.4	16.7	12.4	13.7	0.3	0.2	.	.
940522	1245	LB	HS	8	.	.	10.9	10.8	10	10.8	15.5	15.9	12.6	12.9	0.8	0.5	.	.
940522	1315	LB	ME	5	.	19.9	11.2	11.2	10	10.0	13.4	13.4	10.7	10.8	0.4	0.3	580	.
940522	1325	MD	ME	6	.	.	11.4	11.6	10	12.1	12.3	12.2	9.7	9.5	0.8	0.6	984	.
940522	1335	RB	ME	15	.	.	11.8	11.8	10	10.8	10.8	10.6	8.3	8.0	0.8	0.7	2014	1527
940522	1500	LB	ME	2	.	20.0	12.8	.	10	11.3	3.8	.	2.8	.	0.3	.	.	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940522	1510	MD	ME	2	.	20.0	12.8	.	10	11.3	2.8	.	2.0	.	0.4	.	.	.
940522	1515	RB	ME	9	.	20.0	12.8	12.8	10	10.0	2.3	2.3	1.7	1.7	0.8	0.7	1690	1397
940522	1625	LB	LE	1	.	21.0	13.3	.	10	10.6	0.7	.	0.4	.	0.4	.	.	.
940522	1630	MD	LE	6	.	.	12.7	12.7	.	.	0.2	0.2	0.1	0.1	0.7	.	.	.
940522	1645	RB	LE	7	.	17.3	12.8	12.8	10	11.5	0.2	0.2	0.2	0.2	0.7	0.4	1535	1000
940522	1805	LB	LE	3	.	16.5	12.9	.	15	11.5	0.1	.	0.1	.	0.4	.	.	.
940522	1815	RB	LE	7	.	.	12.8	12.8	15	11.3	0.1	0.1	0.0	0.1	0.8	0.4	1148	877
940522	1930	LB	LE	3	.	15.0	13.0	.	20	10.8	0.0	.	0.0	.	0.5	.	.	.
940522	1935	RB	LE	6	.	.	13.0	13.0	20	10.6	0.0	0.0	0.0	0.0	0.4	0.3	957	817
940522	2030	LB	LE	3	.	13.0	13.1	.	25	10.4	0.0	.	0.0	.	0.2	.	.	.
940522	2035	RB	LE	6	.	.	13.1	13.1	25	10.5	0.0	0.0	0.0	0.0	0.3	0.2	863	650
940522	2150	LB	LE	3	.	10.0	13.2	.	.	10.2	0.1	.	0.1	.	0.3	.	.	.
940522	2200	RB	LE	7	.	.	13.3	13.4	.	10.2	0.1	0.1	0.1	0.1	0.4	0.2	173	.
940522	2300	LB	LE	1	.	11.0	13.2	.	.	9.8	0.2	.	0.1	.	0.2	.	.	.
940522	2305	RB	LS	10	.	.	13.4	.	.	.	0.1	.	0.1	.	.	.	.	.
940522	2310	RB	BOR	.	.	.	.	.	.	.	.	.	.	.	2.0	.	.	.
940522	2320	RB	MF	.	.	.	13.3	.	.	.	0.0	.	0.0	.	1.0	.	.	.
940522	2335	RB	MF	.	.	.	12.8	.	.	.	6.6	.	4.7	.	.	.	.	.
940522	2340	RB	HF	.	.	.	12.5	.	.	.	8.1	.	6.1	.	.	.	.	.
940522	2345	RB	HF	.	.	.	12.9	.	.	.	9.7	.	7.4	.	.	.	.	.
940522	2349	RB	HF	.	.	.	12.5	.	.	.	11.3	.	8.6	.	.	.	.	.
940522	2350	RB	HF	.	.	.	12.5	.	.	.	13.0	.	10.1	.	.	.	.	.
940522	2355	RB	HF	.	.	.	12.1	.	.	.	12.5	.	9.5	.	.	.	.	.
940523	1440	LB	HS	3	.	16.5	12.8	.	10	10.4	14.7	.	11.7	.	0.5	0.3	.	.
940523	1455	MD	HS	9	.	16.5	12.8	12.7	.	10.4	13.9	13.8	10.5	10.4	0.8	0.7	2036	1855
940523	1520	RB	HS	12	.	17.8	13.4	13.4	10	10.2	11.3	11.6	8.4	8.5	0.6	0.6	1675	1440
940523	1705	LB	ME	2	.	15.7	14.4	.	10	10.4	3.3	.	2.3	.	0.2	.	.	.
940523	1710	RB	ME	8	.	14.8	14.4	14.4	10	10.2	2.3	2.1	1.5	1.5	0.6	0.2	1535	.
940523	1800	MD	LE	5	.	13.8	14.0	14.0	10	10.4	0.7	0.7	0.4	0.4	0.6	0.3	.	.
940523	1815	RB	LE	6	.	13.5	14.0	14.0	10	10.2	0.5	0.5	0.3	0.3	0.4	0.2	870	.
940523	2310	RB	LE	6	.	3.0	13.8	13.8	.	9.4	0.0	0.0	0.0	0.0	0.3	0.2	547	.
940524	1150	RB	LE	5	.	14.0	14.5	14.6	10	9.0	0.4	0.4	0.2	0.2	0.3	0.1	448	.
940524	1230	RB	LE	5	.	.	14.7	.	.	.	0.4	.	0.2	.	0.3	.	.	.
940524	1237	RB	BOR	7	.	.	14.8	.	.	.	0.3	.	0.2	.	0.6	.	.	.
940524	1240	RB	BOR	6	.	.	14.8	.	.	.	0.3	.	0.2	.	1.0	.	.	.
940524	1247	RB	MF	10	.	.	14.8	.	.	.	0.9	.	0.5	.	.	.	.	.
940524	1255	RB	MF	11	.	.	14.6	14.5	.	.	2.6	2.5	1.7	1.8	.	.	.	.
940524	1300	RB	MF	.	.	.	14.0	.	.	.	4.3	4.3	3.0	3.0	0.3	.	.	.
940524	1308	RB	MF	13	.	12.5	13.6	13.4	.	8.1	10.3	11.5	7.7	8.5	.	.	.	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940524	1319	RB	MF	15	.	13.0	12.5	12.4	.	9.1	16.3	16.9	12.5	13.2	.	.	1235	361
940524	1335	RB	HF	14	.	.	12.0	11.9	.	.	18.3	19.0	14.5	15.0	.	.	.	.
940524	1440	RB	HS	15	.	10.5	11.8	11.7	20	8.5	21.0	21.4	16.9	17.3	0.5	0.4	1394	1273
940524	1645	RB	ME	9	3.5	14.4	14.0	13.8	10	8.8	12.2	12.2	9.2	9.1	0.8	0.4	1463	809
940524	1900	RB	LE	6	0.0	11.9	15.2	15.2	10	8.4	1.3	1.3	0.9	0.8	0.6	0.3	1170	.
940524	2028	RB	LE	5	0.0	.	14.8	14.5	10	9.1	0.6	0.6	0.4	0.5	0.5	0.3	934	.
940524	2200	RB	LE	5	0.0	.	14.1	13.9	.	9.5	0.3	0.4	0.2	0.3	0.3	0.2	671	.
940524	2325	RB	LE	4	0.0	.	14.0	13.6	.	9.2	0.1	0.1	0.1	0.1	0.3	0.1	187	.
940525	30	RB	LE	5	0.0	.	13.5	13.8	.	9.4	0.0	0.2	0.0	0.2	0.3	0.2	567	.
940525	135	RB	HF	16	11.6	3.5	11.4	11.3	.	8.0	20.0	20.9	16.4	17.1	0.6	0.4	1243	.
940525	300	RB	HS	16	12.4	3.0	11.0	10.8	.	7.6	22.9	23.1	19.2	19.6	0.3	0.2	433	.
940525	435	RB	ME	9	5.4	3.5	11.5	11.4	.	8.0	17.6	17.5	14.3	14.3	0.8	0.8	2168	.
940525	555	RB	ME	7	2.6	5.0	12.4	12.0	.	7.6	10.4	10.4	8.1	8.1	0.8	0.7	1860	.
940525	730	RB	LE	5	0.0	7.0	13.1	13.0	10	8.8	2.9	3.1	2.1	2.2	0.7	0.4	1496	.
940525	850	RB	LE	4	0.0	11.3	14.2	14.2	10	8.6	1.2	1.2	0.9	0.9	0.4	0.4	886	.
940525	1030	RB	LE	4	0.0	13.5	14.6	14.4	10	9.6	0.7	0.9	0.5	0.6	0.4	0.1	860	.
940525	1200	RB	LE	4	0.0	12.0	14.7	14.6	10	9.6	0.3	0.5	0.2	0.2	0.2	0.2	395	.
940525	1405	RB	MF	11	7.0	13.7	12.3	12.0	5	10.4	10.0	14.0	7.4	11.2	0.5	0.8	2740	1825
940525	1530	RB	HS	14	10.3	10.0	11.1	10.9	15	10.6	22.4	23.5	18.5	19.8	.	.	1094	1158
940525	1700	RB	ME	11	5.3	9.5	11.7	11.7	10	10.6	17.8	17.9	14.2	14.3	.	.	1743	1490
940525	1830	RB	LE	6	2.0	8.5	12.7	12.7	5	10.2	8.5	8.4	6.3	6.3	.	.	1838	.
940525	2000	RB	LE	5	-0.2	9.0	13.3	13.4	5	10.0	2.2	2.5	1.4	1.7	.	.	1100	.
940525	2130	RB	LE	5	-0.5	8.5	13.1	13.3	5	9.8	0.9	0.9	0.6	0.6	.	.	983	.
940525	2312	RB	LE	5	-0.5	11.9	13.1	12.9	.	8.6	0.4	0.5	0.3	0.3	.	.	762	.
940526	30	RB	LE	5	-1.0	11.5	13.0	12.8	.	9.7	0.3	0.1	0.2	0.3	.	.	723	.
940526	230	RB	MF	16	10.8	10.0	11.2	11.2	.	10.1	17.9	18.7	14.6	15.5	.	.	2810	.
940526	330	RB	HS	17	12.6	9.8	10.5	10.5	.	9.5	23.9	23.8	20.5	20.5	.	.	117	.
940526	500	RB	ME	10	.	10.0	10.8	10.9	.	10.1	19.9	20.0	16.5	16.6	.	.	2202	.
940526	630	RB	ME	8	.	10.5	11.6	11.6	5	9.3	13.2	13.2	10.5	10.5	.	.	1481	.
940526	800	RB	ME	5	.	10.0	12.3	12.2	5	9.4	5.2	5.2	3.9	3.8	.	.	1432	.
940526	930	RB	LE	5	.	11.6	12.4	12.4	5	9.6	2.0	2.0	1.6	1.6	.	.	226	.
940526	1100	RB	LE	5	.	14.2	12.8	12.8	10	9.6	1.4	1.4	1.1	1.0	.	.	250	.
940526	1230	RB	LE	5	-1.5	14.9	13.2	12.9	10	9.2	1.7	1.5	1.3	1.1	.	.	306	.
940526	1505	RB	MF	12	7.0	15.5	11.8	11.7	10	9.1	16.1	17.2	12.8	13.8	.	.	1046	.
940526	1600	RB	HS	15	9.0	15.3	11.1	11.2	10	9.4	23.0	23.0	19.2	19.2	.	.	436	.
940526	1730			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940526	1900			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940526	2130			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940526	2300			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940527	30			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940527	200			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940527	330			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940527	500			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940527	630			.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
940527	830	RB	LE	.	1.0	1.7	11.9	12.0	10	10.2	1.7	1.7	1.3	1.2	.	.	1882	.
940527	955	RB	LE	5	0.0	13.6	12.0	11.9	10	9.8	0.6	0.5	0.4	0.3	.	.	1495	.
940527	1113	RB	LE	4	0.0	12.5	11.8	11.8	10	9.9	0.7	0.7	0.6	0.6	.	.	1494	.
940527	1255	RB	LE	5	-1.5	13.8	11.7	11.9	10	10.0	0.7	0.7	0.5	0.5	.	.	1255	.
940527	1540	RB	MF	7	5.0	10.0	11.8	11.6	5	8.2	1.8	1.8	1.1	1.1	.	.	285	.
940527	1655	RB	HS	16	10.0	9.1	11.1	10.7	5	8.4	20.6	21.0	17.0	17.3	.	.	456	.
940527	1830	RB	ME	11	7.0	8.6	11.5	11.5	10	9.4	13.0	13.3	10.1	10.4	.	.	2075	334
940527	1955	RB	ME	7	1.5	7.0	11.7	11.5	10	9.2	2.0	2.0	1.5	1.5	.	.	1934	.
940527	2130	RB	LE	5	-0.5	7.0	11.6	11.7	.	9.8	0.2	0.2	0.3	0.2	.	.	1328	.
940527	2300	RB	LE	4	-1.0	6.0	11.2	11.6	.	9.6	0.3	0.3	0.2	0.2	.	.	1025	.
940528	30	RB	LE	4	-2.0	6.0	10.8	11.0	.	9.9	0.0	0.2	0.0	0.2	.	.	997	.
940528	200	RB	LE	4	-2.1	6.0	10.9	11.0	.	9.8	0.1	0.1	0.1	0.2	.	.	1053	.
940528	320	RB	LE	4	-2.2	6.0	10.6	10.8	.	11.1	0.0	0.1	0.1	0.1	.	.	1048	.
940528	410	RB	MF	15	6.6	5.6	11.0	10.6	.	10.0	4.8	7.7	3.6	4.2	.	.	4333	.
940528	500	RB	HS	15	11.2	5.5	9.7	10.2	.	8.4	20.5	20.3	17.5	17.3	.	.	389	.
940528	620	RB	HS	14	7.8	5.5	10.5	10.1	.	9.3	17.3	16.8	14.5	14.2	.	.	2479	.
940528	810	RB	ME	7	3.0	10.0	10.8	10.6	5	11.2	2.3	2.6	1.7	1.9	.	.	2060	1880
940528	935	RB	ME	5	0.5	10.0	10.8	10.5	5	11.2	0.2	0.4	0.2	0.3	.	.	1644	611
940528	1100	RB	LE	4	0.0	15.0	11.2	11.1	10	11.0	0.1	0.1	0.0	0.0	.	.	1440	1194
940528	1230	RB	LE	5	-0.5	11.6	11.8	11.6	20	11.6	0.0	0.0	0.0	0.0	.	.	2406	1432
940528	1400	RB	LE	4	-1.0	17.0	12.0	12.3	20	11.8	0.0	0.0	0.0	0.0	.	.	1298	.
940528	1525	RB	LE	3	-1.3	18.6	13.0	12.7	25	10.2	0.3	0.3	0.2	0.2	.	.	1082	.
940528	1700	RB	MF	13	9.5	15.1	13.1	12.7	5	9.6	11.6	13.3	8.7	10.1	.	.	1731	.
940528	1830	RB	ME	15	6.5	18.0	13.0	12.9	10	9.5	14.2	14.0	10.9	0.2	.	.	2007	.
940528	2005	RB	ME	9	.	14.0	13.6	13.7	10	9.2	5.7	5.6	4.2	4.2	.	.	1986	.
940528	2135	RB	LE	4	-0.2	10.0	12.7	12.8	.	10.2	0.4	0.2	0.4	0.2	.	.	2071	.
940528	2205	RB	LE	9	-1.0	7.0	13.2	12.5	.	10.0	0.0	0.3	0.0	0.3	.	.	1377	.
940529	200	RB	LE	.	-2.5	3.0	12.0	12.3	.	9.5	0.0	0.0	0.0	0.0	.	.	1178	.
940529	330	RB	LE	4	-2.7	2.0	11.8	11.7	.	9.2	0.1	0.0	0.1	0.0	.	.	504	.
940529	500	RB	HF	11	5.4	1.0	12.0	11.7	.	8.9	5.3	4.3	4.4	3.3	.	.	3173	.
940529	600	RB	HS	19	9.4	2.5	10.8	10.9	.	8.4	18.3	18.6	15.2	15.6	.	.	382	.
940529	730	RB	ME	9	5.2	9.7	11.6	11.3	5	11.0	10.5	10.8	8.5	8.5	.	.	2379	2167
940529	900	RB	LE	5	1.7	10.5	11.4	11.4	10	10.0	1.9	1.8	1.4	1.3	.	.	2158	1582
940529	1100	RB	LE	4	-0.5	14.5	11.8	11.5	10	10.7	0.0	0.0	0.0	0.0	.	.	1631	.
940529	1230	RB	LE	4	-1.0	12.0	12.0	11.8	10	9.9	0.0	0.2	0.0	0.2	.	.	1274	.
940529	1400	RB	LE	3	-1.0	15.0	12.3	.	20	10.0	0.0	.	0.0	.	.	.	1085	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940529	1530	RB	LE	4	-1.7	18.0	13.2	.	32	10.1	0.3	.	0.3	.	.	.	60	.
940529	1800	RB	MF	10	5.5	16.0	14.3	14.1	10	9.6	3.1	6.7	2.1	4.8	.	.	215	1192
940529	1900	RB	HS	10	7.3	16.0	12.8	12.6	15	9.6	18.4	19.5	14.4	15.2	0.7	0.7	922	1058
940529	2040	RB	ME	6	2.4	12.6	14.1	14.0	10	9.2	5.2	5.4	3.5	3.9	0.8	0.3	1945	1596
940529	2200	RB	LE	5	.	9.0	13.8	13.6	.	9.7	0.4	0.4	0.2	0.3	.	.	1759	.
940529	2330	RB	LE	3	-1.0	7.8	13.4	13.3	.	9.4	0.1	0.0	0.0	0.0	.	.	1376	.
940530	100	RB	LE	3	-1.4	7.0	13.3	13.3	.	9.9	0.0	0.0	0.0	0.0	.	.	1253	.
940530	230	RB	LE	3	-2.0	5.5	13.3	13.3	.	9.8	0.0	0.1	0.0	0.0	.	.	178	.
940530	400	RB	LE	3	-2.3	5.0	13.1	13.1	.	9.6	0.0	0.0	0.0	0.0	.	.	1020	.
940530	600	RB	MF	9	4.2	4.0	13.1	13.1	5	9.1	1.5	1.6	1.2	1.2	.	.	2279	.
940530	735	RB	HS	9	6.6	7.8	11.9	11.7	15	9.2	16.3	18.0	13.0	14.4	.	.	2108	1921
940530	905	RB	ME	8	.	9.8	12.4	12.5	10	11.6	6.4	6.5	4.9	4.9	.	.	1638	.
940530	1030	RB	ME	4	0.5	10.2	12.5	12.4	10	9.8	0.5	0.5	0.3	0.5	.	.	1479	.
940530	1205	RB	LE	5	-0.5	14.0	12.2	12.1	10	10.0	0.3	0.1	0.3	0.1	.	.	1307	.
940530	1340	RB	LE	4	-1.0	17.0	12.2	12.0	15	9.8	0.1	0.1	0.0	0.0	.	.	670	.
940530	1500	RB	LE	4	-1.0	18.1	12.4	12.1	20	10.2	0.0	0.0	0.0	0.0	.	.	930	.
940530	1625	RB	LE	4	-1.3	17.1	12.4	12.4	25	10.6	0.0	0.0	0.0	0.0	.	.	962	.
940530	1840	RB	MF	8	3.5	16.6	13.9	14.1	5	10.0	1.0	1.0	0.7	0.5	.	.	845	1701
940530	2000	RB	HS	10	5.3	18.0	13.2	13.0	20	9.6	15.2	16.6	11.4	12.7	.	.	1109	1241
940530	2135	RB	ME	6	1.6	14.8	13.8	13.8	.	9.8	5.1	5.3	3.7	3.9	.	.	2300	.
940530	2310	RB	LE	5	-0.8	12.2	13.1	13.1	.	9.5	0.5	0.4	0.4	0.3	.	.	1659	.
940531	30	RB	LE	4	-1.2	10.8	12.8	12.7	.	9.2	0.1	0.2	0.1	0.1	.	.	1457	.
940531	200	RB	LE	4	-2.3	12.0	13.2	13.1	.	9.5	0.0	0.0	0.0	0.1	.	.	2204	.
940531	330	RB	LE	4	-2.5	11.1	13.4	13.3	.	9.7	0.0	0.0	0.0	0.0	.	.	472	.
940531	500	RB	LE	4	-2.7	11.0	13.4	13.5	30	9.5	0.0	0.0	0.0	0.0	.	.	1016	.
940531	710	RB	MF	8	6.1	12.7	13.2	13.1	5	9.4	4.2	7.4	3.0	5.3	.	.	1505	1545
940531	835	RB	HS	10	5.0	16.3	12.5	12.6	10	9.0	13.9	14.7	10.7	11.2	.	.	1277	1524
940531	1020	RB	ME	4	.	16.5	13.4	13.5	10	10.6	4.1	3.9	2.8	2.9	.	.	1824	1467
940531	1145	RB	LE	4	-0.3	19.5	14.3	14.2	10	11.0	0.5	0.5	0.3	0.5	.	.	1468	.
940531	1255	RB	LE	4	-0.5	19.5	14.8	14.6	10	10.9	0.1	0.1	0.1	0.0	.	.	1132	682
940531	1430	RB	LE	4	-1.0	21.0	15.4	15.1	20	10.9	0.3	0.2	0.2	0.1	.	.	420	127
940531	1600	RB	LE	4	-1.0	21.0	15.7	15.7	20	10.6	0.2	0.2	0.1	0.1	.	.	911	1031
940531	1725	RB	LE	3	-1.3	21.3	16.2	16.0	20	10.8	0.0	0.3	0.0	0.2	.	.	816	312
940531	1855	RB	LE	4	-2.0	20.7	16.0	16.0	30	9.8	0.0	0.1	0.0	0.1	.	.	933	651
940531	1955	RB	MF	7	6.4	18.1	16.7	16.8	5	9.6	12.3	12.5	8.5	8.7	.	.	3130	3134
940531	2040	RB	HS	10	5.5	16.0	16.3	16.0	10	8.8	15.3	17.2	10.8	12.4	.	.	713	172
940531	2200	RB	ME	7	1.8	15.5	17.3	17.0	.	9.8	8.6	9.1	5.8	6.2	.	.	1776	1615
940531	2330	RB	ME	6	0.8	12.5	17.0	16.8	.	9.5	1.7	1.7	1.1	1.1	.	.	1899	2024
940601	100	RB	LE	4	-0.5	12.2	15.6	15.6	.	10.0	0.3	0.3	0.2	0.2	.	.	1579	1200
940601	230	RB	LE	4	-1.5	9.9	15.3	15.5	.	10.1	0.1	0.0	0.0	0.0	.	.	906	48

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940601	400	RB	LE	4	-2.0	10.0	15.5	15.8	.	10.2	0.0	0.0	0.0	0.0	.	.	2059	813
940601	530	RB	LE	4	-2.6	9.0	15.7	15.7	40	10.6	0.0	0.0	0.0	0.0	.	.	1001	594
940601	700	RB	LE	4	-2.7	11.5	16.2	15.8	45	10.2	0.0	0.2	0.0	0.2	.	.	980	869
940601	815	RB	MF	7	4.0	15.0	14.9	14.9	10	9.6	5.7	7.0	4.0	5.0	.	.	2939	2361
940601	915	RB	HS	9	4.5	17.0	14.7	14.6	15	9.0	14.0	16.1	10.3	12.0	.	.	1068	1097
940601	1100	RB	ME	.	1.0	23.0	15.8	15.4	10	9.6	4.1	4.4	2.7	3.1	.	.	1893	1523
940601	1230	RB	LE	4	0.0	23.0	16.8	16.7	15	11.1	0.4	0.4	0.2	0.2	.	.	1192	733
940601	1405	RB	LE	4	-1.0	25.0	17.8	17.6	15	9.8	0.2	0.2	0.1	0.1	.	.	256	.
940601	1525	RB	LE	4	-1.0	25.0	18.0	18.0	20	10.5	0.2	0.1	0.0	0.0	.	.	1028	.
940601	1655	RB	LE	4	-1.5	25.0	18.5	18.1	30	9.9	0.2	0.1	0.1	0.1	.	.	610	.
940601	1825	RB	LE	4	-1.6	23.0	18.3	18.1	25	9.5	0.1	0.1	0.0	0.0	.	.	738	.
940601	2025	RB	MF	7	2.6	19.0	19.4	19.3	5	9.4	1.4	1.8	0.9	1.1	.	.	2041	2015
940601	2130	RB	HS	10	4.5	19.0	18.1	17.9	.	8.6	13.3	15.8	9.0	10.8	.	.	786	864
940601	2330	RB	ME	7	0.5	18.0	19.0	19.3	.	8.6	3.8	4.4	2.5	2.8	.	.	2006	1682
940602	100	RB	LE	4	-0.6	16.0	17.8	18.3	.	8.4	0.5	0.4	0.5	0.3	.	.	1708	1110
940602	230	RB	LE	4	-1.1	16.0	17.8	17.6	.	9.9	0.3	0.3	0.2	0.2	.	.	1045	102
940602	400	RB	LE	4	-1.5	15.5	17.5	17.5	.	9.6	0.0	0.0	0.0	0.0	.	.	1019	599
940602	630	RB	LE	4	-1.4	15.0	17.7	17.9	40	9.7	0.0	0.0	0.0	0.0	.	.	874	824
940602	700	RB	LE	3	-1.5	17.0	18.3	18.0	50	9.0	0.1	0.0	0.0	0.0	.	.	632	93
940602	905	RB	MF	7	3.3	17.0	17.8	17.6	5	8.9	4.0	6.0	2.6	4.0	.	.	1459	1999
940602	1015	RB	HS	7	3.4	24.0	17.1	17.1	20	8.4	15.1	16.5	10.4	11.7	.	.	990	489
940602	1205	RB	ME	5	0.3	23.0	18.5	18.6	10	9.1	3.1	3.0	2.0	2.0	0.7	0.4	1942	1306
940602	1330	RB	LE	5	-0.6	21.0	19.4	19.3	5	9.6	0.3	0.3	0.1	0.2	0.7	0.3	1853	1343
940602	1500	RB	LE	4	-1.0	20.0	19.9	19.7	20	9.7	0.2	0.2	0.1	0.1	0.6	0.3	1120	714
940602	1645	RB	LE	4	-1.4	20.5	20.2	20.2	.	9.4	0.1	0.1	0.0	0.0	.	.	853	426
940602	1805	RB	LE	4	-1.5	19.0	20.1	20.0	35	9.4	0.1	0.1	0.0	0.0	0.4	0.3	996	1714
940602	1935	RB	LE	3	-1.5	17.0	19.5	19.5	35	9.0	0.1	0.1	0.0	0.0	0.4	0.3	851	474
940602	2130	RB	MF	7	3.5	12.0	18.8	18.6	.	9.2	6.8	7.9	4.3	5.2	0.4	0.7	1860	1616
940602	2230	RB	HS	9	4.0	11.0	18.1	17.7	.	8.3	14.9	16.9	10.4	11.7	.	.	915	1149
940603	5	RB	ME	6	0.4	10.0	18.1	18.3	.	8.2	7.4	7.8	4.8	5.1	.	.	1979	1747
940603	130	RB	LE	5	-0.5	10.0	18.3	18.1	.	8.2	1.1	1.1	0.6	0.6	.	.	1649	1671
940603	300	RB	LE	3	-1.0	9.0	18.0	17.6	.	8.8	0.0	0.0	0.0	0.0	.	.	1345	817
940603	430	RB	LE	3	-1.5	9.0	17.8	17.8	.	8.2	0.3	0.1	0.3	0.1	.	.	990	.
940603	600	RB	LE	3	-1.5	6.0	17.6	17.7	30	8.7	0.2	0.1	0.2	0.1	.	.	935	.
940603	730	RB	LE	3	-1.7	8.0	17.5	17.3	32	8.5	0.2	0.0	0.0	0.0	.	.	711	.
940603	900	RB	LE	2	-1.7	8.0	17.3	.	45	8.9	0.0	.	0.0	.	.	.	553	.
940603	1010	RB	MF	6	2.7	10.0	16.3	16.0	10	7.8	1.3	4.3	0.8	3.0	.	.	1175	1354
940603	1130	RB	HS	7	2.5	11.0	15.4	15.6	15	8.4	12.6	13.3	8.8	9.7	.	.	1330	933
940603	1300	RB	ME	5	0.3	12.0	15.9	16.0	10	8.8	3.0	3.2	2.0	2.2	.	.	1874	.
940603	1500	RB	LE	4	-0.8	15.0	16.8	16.8	10	9.1	0.4	0.4	0.4	0.4	.	.	607	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940603	1645	RB	LE	3	-1.3	16.0	17.7	17.7	20	9.1	0.4	0.2	0.3	0.2	.	.	1017	.
940603	1800	RB	LE	3	-1.5	14.0	17.9	18.0	30	8.6	0.0	0.0	0.0	0.0	.	.	727	.
940603	1930	RB	LE	4	-1.8	12.0	17.5	17.7	40	9.1	0.1	0.1	0.1	0.1	.	.	726	.
940603	2100	RB	LE	4	-1.8	10.5	17.5	17.5	40	8.8	0.1	0.1	0.1	0.1	.	.	795	.
940603	2230	RB	HS	7	3.5	9.0	16.2	16.0	.	9.0	7.7	8.2	5.2	5.5	.	.	1648	1960
940604	0	RB	ME	5	2.5	8.0	15.4	15.3	.	9.2	12.5	14.0	8.5	9.8	.	.	1825	.
940604	140	RB	LE	5	-0.2	8.0	16.2	16.2	.	8.3	3.0	2.8	2.0	1.7	.	.	1827	.
940604	300	RB	LE	3	-1.0	8.0	16.4	16.2	.	7.6	0.4	0.5	0.2	0.3	.	.	1148	.
940604	430	RB	LE	3	-1.2	8.0	16.5	16.4	.	8.0	0.1	0.1	0.1	0.1	.	.	1045	.
940604	555	RB	LE	3	-1.4	7.0	16.3	16.3	20	8.4	0.1	0.1	0.1	0.0	.	.	861	.
940604	730	RB	LE	4	-1.7	8.0	16.0	15.8	35	8.6	0.0	0.0	0.0	0.0	.	.	929	.
940604	900	RB	LE	3	-2.0	10.0	16.2	16.0	48	8.6	0.0	0.0	0.0	0.0	.	.	747	.
940604	1100	RB	MF	6	3.9	16.0	15.5	15.4	5	8.8	8.1	8.6	5.8	6.0	0.8	0.4	1865	2125
940604	1215	RB	HS	7	2.0	16.5	15.7	15.2	2	8.8	11.3	13.2	7.8	9.4	0.7	0.2	1326	1455
940604	1410	RB	ME	3	-0.5	21.0	17.4	17.2	20	8.9	1.6	1.8	1.1	1.2	0.9	0.6	1769	.
940604	1530	RB	LE	4	-1.0	17.0	17.9	17.9	15	9.2	0.4	0.2	0.2	0.1	0.6	0.5	774	.
940604	1700	RB	LE	4	-1.3	20.0	18.2	18.2	15	9.0	0.1	0.1	0.0	0.0	0.5	0.4	920	.
940604	1830	RB	LE	4	-1.5	19.0	18.3	18.3	25	9.2	0.0	0.0	0.0	0.0	0.3	0.2	871	.
940604	2000	RB	LE	3	-1.7	14.0	18.1	17.9	35	8.9	0.3	0.1	0.2	0.1	0.3	0.2	665	.
940604	2137	RB	LE	2	-1.8	10.0	17.5	.	.	9.1	0.0	.	0.0	.	.	.	741	.
940604	2330	RB	MF	5	4.0	7.0	16.5	16.4	.	9.7	13.7	14.3	9.6	10.1	.	.	2773	1628
940605	30	RB	HS	7	3.9	8.0	16.0	15.8	.	9.3	17.0	18.6	12.4	13.7	.	.	1329	998
940605	200	RB	ME	5	0.5	6.0	16.5	16.5	.	9.2	8.7	8.5	6.1	6.0	.	.	2246	1220
940605	330	RB	LE	4	-0.8	4.0	16.6	16.4	.	9.2	1.3	1.1	0.9	0.7	.	.	575	.
940605	500	RB	LE	3	-1.1	3.5	16.6	16.6	5	9.2	0.4	0.4	0.4	0.3	.	.	1070	.
940605	630	RB	LE	3	-1.4	4.0	16.5	16.5	10	9.4	0.3	0.3	0.3	0.3	.	.	791	.
940605	800	RB	LE	3	-1.6	12.0	17.0	17.0	15	9.1	0.2	0.2	0.2	0.2	.	.	539	.
940605	930	RB	LE	3	-0.8	14.0	17.5	17.5	30	9.5	0.1	0.1	0.0	0.0	.	.	385	.
940605	1100	RB	LE	3	-0.8	22.0	18.1	18.0	45	9.1	0.0	0.0	0.0	0.0	.	.	640	.
940605	1200	RB	HF	4	3.0	20.0	16.3	16.1	10	9.9	3.0	9.0	2.0	6.2	.	.	2610	.
940605	1300	RB	HS	8	.	27.0	16.5	16.3	20	9.5	12.1	13.7	8.5	9.5	.	.	165	75
940605	1430	RB	ME	5	0.5	25.0	17.6	17.3	20	9.7	4.3	4.7	2.9	3.1	.	.	1961	.
940605	1600	RB	LE	4	-1.0	22.0	18.6	18.4	15	9.4	0.2	0.6	0.0	0.4	.	.	1473	.
940605	1730	RB	LE	3	.	19.0	19.1	18.9	20	10.0	0.3	0.1	0.2	0.0	.	.	1104	.
940605	1900	RB	LE	2	-1.7	18.0	18.6	18.4	23	9.1	0.0	0.4	0.0	0.2	.	.	980	.
940605	2030	RB	LE	.	-1.8	16.0	17.9	17.9	25	8.8	0.2	0.2	0.1	0.1	.	.	855	.
940605	2200	RB	LE	2	-2.0	11.0	17.1	17.1	.	8.9	0.1	0.1	0.1	0.1	.	.	591	.
940606	0	RB	MF	8	2.8	8.0	16.3	16.2	.	9.5	4.9	5.1	3.0	3.4	.	.	1637	1847
940606	120	RB	HS	7	3.5	6.0	15.7	15.1	.	9.4	11.4	18.2	15.4	13.3	.	.	664	1035
940606	300	RB	ME	5	0.4	6.0	15.6	15.7	.	9.3	8.5	8.0	9.5	5.5	.	.	1866	.

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940606	430	RB	LE	4	-0.8	3.0	16.0	16.1	.	8.2	1.6	1.4	1.0	0.9	.	.	1739	.
940606	600	RB	LE	3	-1.2	8.0	15.8	15.5	10	8.1	0.1	0.4	0.0	0.1	.	.	1177	.
940606	730	RB	LE	3	-1.4	12.0	15.8	16.0	20	8.6	0.1	0.1	0.0	0.0	.	.	1012	.
940606	900	RB	LE	3	-1.7	16.0	16.6	16.7	20	8.8	0.0	0.0	0.0	0.0	.	.	785	.
940606	1030	RB	LE	4	-1.7	18.8	17.0	16.7	15	9.0	0.0	0.0	0.0	0.0	.	.	663	.
940606	1200	RB	LE	3	-2.0	21.0	17.8	17.3	20	9.0	0.0	0.0	0.0	0.0	.	.	743	.
940606	1245	RB	MF	5	2.9	21.0	16.3	15.9	5	9.2	9.5	11.2	6.7	7.8	1.2	1.0	3125	1217
940606	1400	RB	HS	7	3.0	21.0	16.3	16.1	5	9.2	15.9	17.7	11.2	12.7	0.1	0.1	808	936
940606	1530	RB	ME	5	0.0	20.0	17.8	17.8	5	10.0	5.8	6.1	3.8	4.2	0.8	0.7	1912	1994
940606	1700	RB	ME	5	-1.0	23.0	18.4	18.4	10	10.4	1.1	1.1	0.6	0.6	0.7	0.5	1492	1177
940606	1830	RB	LE	4	-1.4	21.0	18.6	18.5	10	9.4	0.0	0.0	0.0	0.0	0.4	0.3	1193	.
940606	2005	RB	LE	4	-1.7	17.0	18.3	18.2	15	9.2	0.0	0.0	0.0	0.0	0.4	0.3	911	.
940606	2130	RB	LE	2	-1.7	16.0	17.7	17.7	.	9.9	0.0	0.0	0.0	0.0	.	.	35	.
940606	2300	RB	LE	3	-2.0	15.0	17.4	17.2	.	9.4	0.0	0.0	0.0	0.0	.	.	427	.
940607	50	RB	MF	5	3.9	15.0	16.1	15.9	.	9.6	3.0	15.7	4.9	11.3	.	.	3555	2801
940607	200	RB	HS	10	5.5	15.0	15.4	15.1	.	9.4	18.2	23.5	13.3	17.5	.	.	547	830
940607	330	RB	ME	5	1.0	13.0	16.1	15.8	.	9.1	14.2	14.2	10.0	10.0	.	.	2068	.
940607	500	RB	LE	4	-0.3	14.0	16.2	16.1	.	9.4	5.0	4.8	3.4	3.3	.	.	1533	.
940607	630	RB	LE	4	-1.1	13.0	16.4	16.3	10	9.2	1.0	1.1	0.7	0.8	.	.	1030	.
940607	800	RB	LE	3	-1.4	13.0	16.4	16.2	10	8.9	0.5	0.4	0.3	0.3	.	.	888	.
940607	930	RB	LE	3	-1.5	14.0	16.2	16.4	10	8.8	0.2	0.2	0.1	0.1	.	.	626	.
940607	1105	RB	LE	4	-1.7	15.0	16.8	16.2	10	8.6	0.2	0.0	0.2	0.0	.	.	740	.
940607	1330	RB	MF	6	3.9	15.0	15.0	14.3	5	9.6	15.9	15.7	11.5	11.4	.	.	2419	2828
940607	1430	RB	HS	8	5.9	16.0	15.1	14.8	15	9.0	19.1	20.8	14.0	15.7	.	.	1216	.
940607	1600	RB	ME	5	1.0	16.0	15.5	15.3	5	9.0	11.3	11.3	7.8	8.0	.	.	2092	2344
940607	1730	RB	LE	4	-0.5	16.0	16.0	16.1	10	9.2	3.2	3.6	2.2	2.5	.	.	1997	.
940607	1900	RB	LE	3	-1.0	15.0	16.5	16.5	10	9.3	1.0	1.8	0.7	1.2	.	.	1099	.
940607	2030	RB	LE	3	-1.5	15.0	16.8	16.8	10	8.9	0.3	0.3	0.1	0.2	.	.	949	.
940607	2200	RB	LE	2	-1.7	14.1	16.5	.	.	9.0	0.2	.	0.0	.	.	.	1061	.
940607	2330	RB	LE	3	-1.7	14.0	16.3	16.0	.	9.1	0.0	0.1	0.0	0.0	.	.	636	.
940608	125	RB	MF	5	4.1	13.0	15.1	15.0	.	9.2	6.9	15.4	4.7	11.3	.	.	2385	2590
940608	230	RB	HS	9	5.4	13.0	14.6	14.2	.	8.2	21.0	24.3	15.7	18.8	.	.	698	458
940608	400	RB	ME	6	1.6	13.0	14.9	14.9	.	8.5	16.2	16.1	11.9	11.8	.	.	1865	2535
940608	530	RB	LE	4	-0.1	13.0	15.6	15.4	10	9.2	4.8	5.1	3.3	3.4	.	.	1553	.
940608	700	RB	LE	4	-0.8	14.0	15.6	15.6	5	9.2	1.0	1.0	0.6	0.6	.	.	1393	.
940608	830	RB	LE	5	-1.2	15.0	15.7	15.4	10	8.8	0.5	0.3	0.4	0.2	.	.	1444	.
940608	1000	RB	LE	3	-1.3	19.0	15.9	15.8	10	9.2	0.0	0.0	0.0	0.0	.	.	1074	.
940608	1130	RB	LE	4	-1.6	21.0	15.8	16.2	15	8.3	0.0	0.0	0.0	0.0	.	.	1129	.
940608	1315	RB	LE	3	-1.6	17.0	16.6	16.5	20	9.5	0.0	0.0	0.0	0.0	.	.	2167	.
940608	1410	RB	MF	9	4.1	16.0	15.6	15.6	5	9.3	13.8	15.8	9.7	11.5	.	.	1493	1552

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940608	1520	RB	HS	8	4.3	14.0	15.1	14.9	5	8.6	19.8	21.4	14.7	16.0	.	.	1334	1585
940608	1655	RB	ME	6	1.0	14.0	15.9	16.1	5	.	9.1	9.3	6.3	6.4	.	.	2080	2018
940608	1830	RB	LE	5	-0.4	13.0	16.4	16.4	5	9.2	0.9	1.0	0.5	0.7	.	.	1869	.
940608	2000	RB	LE	3	-0.9	12.0	15.7	15.8	10	9.7	0.3	0.2	0.1	0.0	.	.	1464	.
940608	2130	RB	LE	3	-1.1	8.0	15.4	15.4	10	9.4	0.1	0.1	0.1	0.0	.	.	1328	.
940608	2300	RB	LE	3	-1.4	6.0	15.3	15.2	.	9.2	0.0	0.1	0.0	0.0	.	.	1147	.
940609	30	RB	LE	3	.	5.0	15.4	15.4	.	8.6	0.2	0.1	0.2	0.0	.	.	1093	.
940609	215	RB	MF	15	4.9	5.0	14.0	14.0	.	8.8	14.2	15.9	10.5	11.9	.	.	1910	1933
940609	300	RB	HS	10	7.0	4.0	13.5	13.2	.	8.2	22.3	22.5	17.4	17.4	.	.	29	798
940609	430	RB	ME	7	2.7	4.0	13.8	13.8	.	10.3	15.1	15.1	11.5	11.4	.	.	2189	1629
940609	600	RB	LE	4	0.4	5.0	14.2	14.3	5	9.1	3.2	3.3	2.3	2.4	.	.	2148	.
940609	730	RB	LE	4	0.5	7.0	14.3	14.5	10	9.2	0.4	0.2	0.3	0.1	.	.	1518	.
940609	900	RB	LE	3	-1.0	9.0	14.3	14.3	20	9.4	0.0	0.0	0.0	0.0	.	.	525	.
940609	1030	RB	LE	.	-1.2	16.0	15.0	14.8	20	9.0	0.0	0.3	0.0	0.2	.	.	1168	.
940609	1200	RB	LE	3	-1.7	20.0	15.3	15.1	30	10.0	0.1	0.0	0.1	0.0	.	.	742	.
940609	1430	RB	MF	5	3.5	15.0	15.7	15.3	10	9.3	10.2	12.2	7.3	8.6	.	.	1947	1700
940609	1530	RB	HS	7	5.7	19.0	15.8	15.0	10	8.8	19.9	21.3	14.6	15.9	.	.	690	820
940609	1700	RB	ME	5	1.5	20.0	16.1	16.0	5	9.3	10.6	10.8	7.4	7.5	.	.	2028	.
940609	1830	RB	LE	4	0.0	17.0	16.8	16.8	10	9.2	1.8	2.2	1.3	1.5	.	.	1628	.
940609	2000	RB	LE	3	-0.7	15.4	15.8	15.9	10	10.0	0.2	0.2	0.1	0.1	.	.	2086	.
940609	2137	RB	LE	4	-1.1	12.5	15.5	15.4	15	9.7	0.1	0.1	0.1	0.1	.	.	1373	.
940609	2200	RB	LE	3	-1.3	.	15.4	15.3	.	9.5	0.1	0.1	0.0	0.0	.	.	1095	.
940610	30	RB	LE	3	-1.5	9.0	15.3	15.3	.	9.4	0.0	0.0	0.0	0.0	.	.	107	.
940610	230	RB	MF	13	4.0	10.0	15.5	15.2	.	9.3	7.8	10.3	5.5	7.3	.	.	2343	1894
940610	350	RB	HS	10	6.2	6.0	13.8	13.6	.	9.2	22.2	23.6	17.2	18.4	.	.	348	720
940610	530	RB	ME	6	1.9	4.0	14.6	14.7	5	9.2	12.3	12.4	8.8	9.0	.	.	1957	1841
940610	710	RB	LE	4	0.0	6.0	14.8	15.0	10	8.2	2.4	2.6	1.7	1.8	.	.	1659	.
940610	830	RB	LE	4	-0.6	9.0	15.2	15.2	10	9.2	0.3	0.3	0.1	0.2	.	.	1370	.
940610	1000	RB	LE	3	-1.0	.	15.8	15.3	15	10.0	0.0	0.0	0.0	0.0	.	.	957	.
940610	1130	RB	LE	3	-1.2	19.0	16.1	15.8	20	10.3	0.0	0.0	0.0	0.0	.	.	376	.
940610	1300	RB	LE	4	-1.3	21.0	16.2	16.1	25	9.6	0.0	0.0	0.0	0.0	.	.	302	.
940610	1500	RB	MF	5	3.5	21.0	16.2	16.2	5	10.0	6.0	12.4	4.1	8.8	.	.	1033	1096
940610	1630	RB	HS	9	5.0	17.0	15.9	15.1	10	9.1	20.0	22.6	14.5	17.1	.	.	1387	1413
940610	1800	RB	ME	6	1.5	18.0	16.3	16.4	5	9.3	12.0	12.5	8.3	8.7	.	.	1883	1768
940610	1930	RB	LE	5	0.0	16.0	16.9	17.0	10	9.8	3.7	3.6	2.4	2.3	.	.	1449	.
940610	2100	RB	LE	4	-0.7	12.0	16.0	15.8	10	9.6	0.3	0.3	0.1	0.2	.	.	868	.
940610	2230	RB	LE	3	-1.1	7.5	15.1	15.2	.	9.8	0.1	0.2	0.0	0.1	.	.	270	.
940611	0	RB	LE	3	-1.3	3.0	14.7	14.7	.	9.8	0.0	0.1	0.0	0.0	.	.	776	.
940611	130	RB	LE	3	-1.4	2.0	14.5	14.5	.	10.1	0.0	0.0	0.0	0.0	.	.	741	.
940611	330	RB	MF	6	5.8	2.0	14.0	13.9	.	8.6	17.2	19.2	13.0	14.7	.	.	2367	2181

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940611	430	RB	HS	10	5.9	2.0	13.7	13.8	.	9.0	22.1	24.6	17.1	19.3	.	.	1182	1249
940611	600	RB	ME	7	2.4	2.0	13.8	14.0	5	9.4	15.8	15.7	11.8	11.7	.	.	3160	1642
940611	730	RB	LE	5	0.4	5.0	14.3	14.3	5	8.6	5.8	5.9	4.0	4.0	.	.	1454	.
940611	900	RB	LE	4	-0.5	9.0	14.5	14.2	10	9.2	1.3	1.5	0.9	0.9	.	.	1364	.
940611	1030	RB	LE	3	-0.9	22.0	15.4	15.0	10	9.8	0.2	0.1	0.1	0.0	.	.	882	.
940611	1200	RB	LE	3	-1.2	25.0	15.7	15.8	10	9.8	0.1	0.0	0.0	0.0	.	.	458	.
940611	1330	RB	LE	3	-1.3	25.0	16.7	16.7	10	10.0	0.2	0.2	0.0	0.0	.	.	.	.
940611	1600	RB	MF	7	5.7	22.0	17.7	17.0	5	8.6	13.5	18.2	9.1	12.8	.	.	428	1081
940611	1730	RB	HS	10	6.0	26.8	17.0	16.2	10	8.6	23.4	25.6	16.7	18.8	.	.	1703	1690
940611	1900	RB	ME	5	1.0	20.0	18.2	18.2	5	9.0	13.1	12.8	8.8	8.7	.	.	1931	.
940611	2030	RB	LE	4	-0.3	17.0	18.7	18.7	5	9.0	4.1	4.3	2.6	2.7	.	.	1645	.
940611	2200	RB	LE	3	-1.0	14.0	17.9	18.1	.	8.8	0.8	0.9	0.5	0.5	.	.	1347	.
940611	2330	RB	LE	3	-1.2	12.0	17.0	17.4	.	9.3	0.3	0.4	0.1	0.2	.	.	942	.
940612	110	RB	LE	3	-1.4	10.0	16.7	17.0	.	9.2	0.1	0.1	0.1	0.1	.	.	788	.
940612	230	RB	LE	2	-1.6	10.0	16.2	16.3	.	8.2	0.1	0.1	0.0	0.1	.	.	790	.
940612	410	RB	MF	14	4.4	8.0	16.0	16.0	.	8.0	16.8	18.0	12.1	12.8	.	.	1501	1504
940612	515	RB	HS	10	6.2	7.6	14.2	14.4	10	7.8	24.5	26.0	18.7	20.1	.	.	464	587
940612	700	RB	ME	6	1.2	9.4	15.5	15.5	5	7.9	17.0	17.3	12.3	12.6	.	.	2943	1850
940612	830	RB	LE	4	0.0	17.0	16.2	16.2	10	9.3	6.5	6.8	4.4	4.6	.	.	1258	.
940612	1000	RB	LE	4	-0.6	21.0	16.7	16.6	10	8.9	1.6	2.2	1.1	1.4	.	.	762	.
940612	1130	RB	LE	3	-1.0	21.0	17.3	17.1	10	9.4	0.5	0.4	0.2	0.2	.	.	133	.
940612	1300	RB	LE	3	-1.2	22.0	18.1	18.0	10	9.7	0.2	0.3	0.1	0.2	.	.	114	.
940612	1430	RB	LE	3	-1.4	21.0	18.8	18.5	10	9.7	0.1	0.1	0.0	0.0	.	.	189	.
940612	1630	RB	MF	5	3.3	21.0	18.9	18.7	5	9.4	12.8	14.8	8.4	9.8	.	.	2066	.
940612	1730	RB	HS	9	4.3	20.0	17.2	16.8	15	9.1	25.7	26.6	18.5	19.3	.	.	1318	1162
940612	1900	RB	ME	6	1.5	17.0	18.3	18.3	10	9.5	18.5	18.5	12.6	12.7	.	.	1946	1739
940612	2115	RB	LE	4	-0.4	15.0	19.2	19.2	10	8.8	4.7	5.4	3.0	3.3	.	.	1660	.
940612	2230	RB	LE	3	-0.9	12.0	18.7	18.8	.	8.4	1.7	1.9	1.2	1.2	.	.	1220	.
940613	0	RB	LE	3	-1.2	12.0	18.2	18.3	.	8.4	0.4	0.5	0.2	0.3	.	.	1087	.
940613	130	RB	LE	3	-1.5	12.0	17.7	17.8	.	8.4	0.2	0.2	0.0	0.0	.	.	847	.
940613	300	RB	LE	3	-1.5	11.5	17.4	17.4	.	8.3	0.1	0.3	0.0	0.1	.	.	684	.
940613	440	RB	MF	15	4.1	10.0	16.7	16.6	.	8.2	16.0	17.4	11.3	12.3	.	.	3275	2806
940613	610	RB	HS	8	5.0	10.0	15.8	15.4	10	8.2	24.4	26.1	18.2	19.7	.	.	1615	1783
940613	730	RB	ME	6	1.6	14.8	16.3	16.1	5	9.4	19.0	19.0	13.6	13.7	.	.	2159	1853
940613	900	RB	LE	4	0.0	15.0	16.8	16.8	10	8.0	8.7	8.9	5.9	6.0	.	.	1659	.
940613	1030	RB	LE	4	-0.6	16.0	17.2	17.3	10	8.7	2.8	3.6	1.8	2.5	.	.	1154	.
940613	1200	RB	LE	3	-1.0	16.0	17.0	17.3	10	8.8	1.1	1.3	0.7	0.8	.	.	888	.
940613	1330	RB	LE	3	-1.2	18.0	17.5	17.4	10	8.7	0.2	0.6	0.1	0.4	.	.	560	.
940613	1500	RB	LE	3	-1.4	21.0	17.9	17.6	15	8.7	0.2	0.3	0.1	0.2	.	.	387	.
940613	1715	RB	MF	5	3.6	22.0	17.1	17.2	5	8.9	17.3	18.0	12.3	12.6	.	.	2275	2387

Appendix 2 (continued).

DATE	TIME	LOC	TIDE	DEPTH	RSTAGE	ATEMP	SWTEMP	BWTEMP	SECCHI	DO	SCOND	BCOND	SSAL	BSAL	SWVEL	BWVEL	SREV	BREV
940613	1810	RB	HS	8	4.8	18.8	16.2	16.2	20	8.8	25.5	26.2	18.8	19.4	.	.	404	387
940613	1930	RB	ME	.	1.8	17.5	17.0	17.0	5	9.1	19.2	19.6	13.4	13.9	.	.	1927	.
940613	2100	RB	LE	.	0.9	17.2	17.7	17.7	10	9.2	10.0	10.4	6.8	7.0	.	.	1414	.
940613	2230	RB	LE	.	-0.7	13.0	18.1	18.1	.	8.2	3.3	4.1	2.2	2.7	.	.	1402	.
940614	0	RB	LE	.	-1.0	14.0	18.1	18.1	.	8.3	1.1	1.6	0.8	1.1	.	.	1331	.
940614	130	RB	LE	.	-1.3	13.0	18.1	18.2	.	8.4	0.4	0.7	0.3	0.5	.	.	629	.
940614	315	RB	LE	.	-1.5	14.0	17.7	17.4	.	8.8	0.3	0.4	0.3	0.2	.	.	857	.
940614	420	RB	LE	.	-1.6	14.0	17.4	17.3	.	7.8	0.2	0.3	0.2	0.3	.	.	955	.
940614	530	RB	MF	.	4.4	14.0	16.8	16.8	5	8.5	20.2	20.2	15.0	14.6	.	.	4023	4147
940614	656	RB	HS	.	4.9	13.5	16.0	15.5	5	8.5	25.3	27.0	19.0	20.4	.	.	1520	1129
940614	830	RB	ME	.	1.4	13.5	17.0	16.9	5	8.4	17.3	17.4	12.2	12.5	.	.	2216	1904
940614	930	RB	LE	.	0.3	17.0	17.0	17.0	10	8.4	9.9	10.0	6.7	6.8	.	.	1235	.
940614	1100	RB	LE	.	-0.6	19.0	17.5	17.1	20	8.7	1.6	3.2	0.9	2.1	.	.	1232	.
940614	1230	RB	LE	.	-0.9	20.0	17.7	17.7	15	9.1	0.0	1.1	0.0	0.8	.	.	216	.
940614	1400	RB	LE	.	-1.2	21.0	17.8	17.8	10	9.4	0.0	0.3	0.0	0.1	.	.	767	.
940614	1530	RB	LE	.	-1.3	20.0	18.1	18.1	15	9.1	0.0	0.0	0.0	0.0	.	.	323	0
940614	1930	RB	HS	.	4.6	17.0	17.2	17.1	15	9.1	23.7	26.6	16.7	19.1	.	.	937	2532
940614	2100	RB	ME	.	0.9	17.4	18.0	18.1	.	8.8	13.5	13.8	9.1	9.4	.	.	1455	.
940614	2230	RB	LE	.	-0.2	14.5	18.4	18.4	.	9.6	2.8	3.5	2.0	2.4	.	.	1759	.
940614	2355	RB	LE	.	-0.6	15.0	18.1	18.2	.	8.7	0.6	1.0	0.5	0.8	.	.	1561	.
940615	130	RB	LE	.	-1.0	15.0	17.8	17.9	.	8.5	0.1	0.2	0.0	0.1	.	.	1219	.
940615	255	RB	LE	.	-1.1	14.5	17.0	17.7	.	8.4	0.2	0.3	0.1	0.3	.	.	1084	.
940615	430	RB	LE	.	-1.3	15.5	17.4	17.5	.	8.6	0.1	0.0	0.0	0.0	.	.	1392	.
940615	620	RB	MF	.	4.3	14.5	17.6	17.6	5	8.1	15.5	16.5	10.7	11.7	.	.	1423	1173

Appendix 3. In situ water quality of the Stewiacke River, Nova Scotia, during spring 1994 recorded by a Hydrolab unit mounted at the tide mark on right bank.

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1	940522	2130	0.6	17.4	0.0	10.82	112.9	7.05
2	940522	2150	1.5	13.5	0.2	11.85	113.8	7.68
3	940522	2200	2.0	13.5	0.2	12.05	115.9	7.04
4	940522	2215	1.8	13.6	0.2	12.03	115.8	7.01
5	940522	2230	2.0	13.6	0.2	12.04	116.0	7.00
6	940522	2245	1.9	13.7	0.2	12.02	115.9	6.99
7	940522	2305	1.8	13.7	0.2	12.02	115.9	6.99
8	940522	2315	3.8	13.7	0.2	12.07	116.4	6.81
9	940522	2330	7.8	13.7	0.3	11.72	113.0	7.55
10	940522	2345	9.9	13.3	2.5	11.24	109.2	7.81
11	940523	0	11.1	12.8	4.8	10.60	103.2	7.71
12	940523	15	12.5	12.3	7.1	10.06	98.2	7.69
13	940523	30	13.3	12.0	8.9	9.62	94.4	7.68
14	940523	45	13.6	11.9	10.6	9.18	90.9	7.70
15	940523	100	13.4	11.9	11.7	8.80	87.7	7.72
16	940523	115	12.7	11.8	12.7	8.48	84.9	7.70
17	940523	130	11.8	12.0	13.6	8.16	82.5	7.70
18	940523	145	10.8	12.1	14.2	7.81	79.5	7.75
19	940523	200	9.8	12.1	14.9	7.51	76.7	7.76
20	940523	215	9.0	12.2	15.9	7.17	73.9	7.76
21	940523	230	8.3	12.3	16.4	6.96	72.0	7.76
22	940523	245	7.7	12.4	15.8	6.74	69.8	7.76
23	940523	300	7.0	12.6	15.4	6.61	68.4	7.76
24	940523	315	6.5	12.6	14.4	6.42	66.2	7.76
25	940523	330	6.1	12.7	13.3	6.20	63.5	7.77
26	940523	345	5.7	12.9	11.8	5.94	60.5	7.77
27	940523	400	5.2	12.9	10.2	5.69	57.4	7.78
28	940523	415	4.8	13.1	8.2	5.77	57.7	7.69
29	940523	430	4.5	13.1	6.8	6.18	61.4	7.70
30	940523	445	4.2	13.1	5.7	6.32	62.3	7.72
31	940523	500	3.9	13.3	4.6	6.71	65.9	7.79
32	940523	515	3.7	13.3	3.7	7.13	69.8	7.87
33	940523	530	3.5	13.4	3.1	8.45	82.5	7.89
34	940523	545	3.2	13.5	2.6	9.35	91.2	7.94
35	940523	600	3.1	13.6	2.3	9.84	95.9	7.95
36	940523	615	2.9	13.6	2.0	10.11	98.4	7.99
37	940523	630	2.8	13.7	1.8	10.28	100.1	7.98
38	940523	645	2.7	13.7	1.5	10.46	101.7	7.96
39	940523	700	2.5	13.7	1.3	10.58	102.8	7.96
40	940523	715	2.4	13.7	1.3	10.62	103.1	7.93
41	940523	730	2.4	13.6	1.1	10.73	103.9	7.90
42	940523	745	2.3	13.6	1.0	10.79	104.4	7.91
43	940523	800	2.2	13.5	1.0	10.86	104.9	7.89

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
44	940523	815	2.1	13.5	0.9	10.88	105.1	7.88
45	940523	830	2.1	13.5	0.9	10.89	104.9	7.87
46	940523	845	2.1	13.5	0.8	10.91	105.1	7.87
47	940523	900	1.9	13.4	0.8	10.94	105.2	7.86
48	940523	915	2.0	13.4	0.8	10.92	105.0	7.86
49	940523	930	2.0	13.5	0.7	10.93	105.3	7.87
50	940523	945	1.9	13.4	0.7	10.92	105.0	7.87
51	940523	1000	1.9	13.4	0.7	11.07	106.4	7.86
52	940523	1015	1.9	13.4	0.6	11.13	107.0	7.87
53	940523	1030	1.8	13.4	0.6	11.15	107.2	7.87
54	940523	1045	1.8	13.4	0.6	11.17	107.3	7.85
55	940523	1100	1.7	13.4	0.6	11.17	107.3	7.86
56	940523	1115	1.8	13.4	0.6	11.19	107.5	7.86
57	940523	1130	1.6	13.4	0.5	11.15	107.2	7.86
58	940523	1145	1.8	13.5	0.5	11.15	107.3	7.86
59	940523	1200	5.9	14.1	0.4	11.13	108.6	8.18
60	940523	1215	8.8	14.2	0.6	10.61	103.8	8.09
61	940523	1230	10.7	13.5	0.7	10.14	97.7	7.87
62	940523	1245	11.7	12.7	1.0	9.89	93.9	7.83
63	940523	1300	12.5	12.4	1.7	9.68	91.5	7.79
64	940523	1315	13.0	12.1	2.5	9.44	89.2	7.75
65	940523	1330	12.9	12.0	3.2	9.21	87.2	7.73
66	940523	1345	12.2	12.0	3.8	8.99	85.4	7.73
67	940523	1400	11.4	12.4	4.6	8.76	84.3	7.62
68	940523	1415	10.4	12.7	5.7	8.97	87.6	7.61
69	940523	1430	9.6	12.6	6.3	9.54	93.4	7.61
70	940523	1440	8.7	12.9	6.7	9.86	97.4	7.60
71	940523	1455	8.0	13.1	7.0	10.01	99.4	7.60
72	940523	1520	7.2	13.4	7.1	10.09	100.9	7.59
73	940523	1530	6.8	13.6	7.1	10.02	100.7	7.59
74	940523	1545	6.2	13.9	7.1	9.95	100.6	7.60
75	940523	1600	5.8	14.1	7.0	9.94	100.9	7.61
76	940523	1615	5.3	14.2	6.8	9.95	101.1	7.62
77	940523	1630	4.9	14.3	6.5	10.01	101.9	7.66
78	940523	1645	4.5	14.5	6.0	9.93	101.0	7.70
79	940523	1705	4.2	14.5	5.4	10.03	101.8	7.75
80	940523	1710	3.9	14.6	4.7	10.00	101.2	7.91
81	940523	1730	3.7	14.6	4.1	10.09	101.7	7.96
82	940523	1745	3.5	14.5	3.6	10.23	102.7	8.02
83	940523	1800	3.3	14.4	3.1	10.55	105.3	8.04
84	940523	1815	3.2	14.3	2.7	10.55	104.8	8.07
85	940523	1830	3.1	14.2	2.4	10.63	105.2	8.10
86	940523	1845	0.2	14.1	0.9	7.80	76.3	7.86
87	940523	1900	0.2	13.5	0.5	11.94	115.0	6.97
88	940523	1915	0.1	15.1	0.3	11.52	114.6	6.97
89	940523	1930	0.1	14.4	0.3	11.70	114.8	6.97

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
90	940523	1945	0.2	13.9	0.3	11.84	114.7	6.96
91	940523	2000	0.1	13.4	0.3	11.98	115.0	6.96
92	940523	2015	0.3	12.9	0.3	12.13	115.2	6.96
93	940523	2030	1.2	13.8	0.3	11.83	114.5	7.40
94	940523	2045	1.2	13.7	0.3	11.84	114.4	7.35
95	940523	2100	1.0	13.7	0.3	11.82	114.2	7.33
96	940523	2115	1.0	13.7	0.3	11.78	113.8	7.31
97	940523	2130	0.9	13.7	0.3	11.75	113.5	7.28
98	940523	2145	1.0	13.7	0.3	11.77	113.6	7.26
99	940523	2200	0.9	13.7	0.3	11.75	113.4	7.25
100	940523	2215	0.9	13.7	0.2	11.69	113.0	7.22
101	940523	2230	0.8	13.8	0.2	11.67	112.9	7.20
102	940523	2245	0.8	13.7	0.2	11.69	113.0	7.29
103	940523	2300	0.8	13.8	0.2	11.65	112.7	7.26
104	940523	2310	0.7	13.9	0.2	11.62	112.6	7.26
105	940523	2330	0.7	13.9	0.2	11.62	112.6	7.24
106	940523	2345	0.7	13.9	0.2	11.62	112.6	7.23
107	940524	0	0.7	13.9	0.2	11.58	112.4	7.23
108	940524	15	4.5	13.7	0.5	11.49	111.2	7.44
109	940524	30	7.9	13.5	10.0	10.89	111.2	7.81
110	940524	45	9.4	12.6	41.4	9.28	113.2	7.82
111	940524	100	10.9	12.1	47.4	9.18	114.9	7.83
112	940524	115	12.2	12.0	45.3	9.33	115.1	7.84
113	940524	130	13.0	11.7	53.9	8.91	115.5	7.83
114	940524	145	13.0	11.7	73.8	7.92	116.2	7.83
115	940524	200	12.8	11.7	63.5	8.45	116.1	7.84
116	940524	215	12.2	11.7	53.7	8.97	116.0	7.83
117	940524	230	11.0	12.0	50.9	8.93	114.0	7.80
118	940524	245	10.0	11.9	38.4	9.71	114.5	7.81
119	940524	300	8.9	11.9	50.2	9.03	114.7	7.80
120	940524	315	8.0	12.0	42.9	9.37	113.9	7.80
121	940524	330	7.4	12.1	45.3	9.13	113.0	7.79
122	940524	345	6.6	12.2	46.1	9.02	112.3	7.78
123	940524	400	6.0	12.3	33.8	9.69	111.9	7.77
124	940524	415	5.6	12.4	35.2	9.52	111.2	7.77
125	940524	430	5.2	12.6	24.2	10.09	110.3	7.77
126	940524	445	4.6	12.6	26.5	9.91	110.0	7.78
127	940524	500	4.2	12.7	19.9	10.25	109.4	7.79
128	940524	515	3.9	12.9	15.4	10.45	108.9	7.81
129	940524	530	3.5	12.9	12.3	10.62	108.6	7.84
130	940524	545	3.2	13.1	9.2	10.76	108.3	7.79
131	940524	600	2.9	13.1	6.7	10.92	108.4	7.84
132	940524	615	2.8	13.3	5.1	10.96	108.1	7.87
133	940524	630	2.4	13.4	3.9	11.01	108.0	7.89
134	940524	645	2.3	13.5	2.9	11.05	108.1	7.91
135	940524	700	2.2	13.7	2.2	11.10	108.4	7.92

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
136	940524	715	2.1	13.8	1.7	11.13	108.6	7.92
137	940524	730	1.9	13.9	1.4	11.13	108.5	7.89
138	940524	745	1.8	13.9	1.2	11.14	108.7	7.88
139	940524	800	1.8	14.1	1.0	11.17	109.2	7.84
140	940524	815	1.7	14.1	0.9	11.17	109.3	7.81
141	940524	830	1.4	14.2	0.7	11.17	109.4	7.69
142	940524	845	1.6	14.1	0.8	11.23	109.7	7.70
143	940524	900	1.4	14.3	0.6	11.19	109.8	7.62
144	940524	915	1.3	14.4	0.6	11.18	109.8	7.58
145	940524	930	1.2	14.4	0.6	11.20	110.0	7.55
146	940524	945	1.2	14.5	0.5	11.21	110.3	7.50
147	940524	1000	1.1	14.5	0.5	11.23	110.6	7.49
148	940524	1015	1.1	14.5	0.7	11.28	111.3	7.43
149	940524	1030	1.2	14.7	0.5	11.25	111.1	7.43
150	940524	1045	1.1	14.7	0.5	11.28	111.5	7.39
151	940524	1100	1.1	14.8	0.6	11.30	112.0	7.38
152	940524	1115	1.0	14.9	0.5	11.30	112.1	7.38
153	940524	1130	1.0	15.0	0.6	11.28	112.3	7.46
154	940524	1150	0.9	15.7	1.5	11.10	112.6	7.46
155	940524	1200	0.9	16.3	2.0	10.90	112.5	7.48
156	940524	1215	1.0	17.3	2.8	10.54	111.5	7.45
157	940524	1230	0.9	17.1	3.2	9.57	101.0	7.75
158	940524	1247	2.4	16.9	1.2	9.14	94.9	7.81
159	940524	1300	6.6	15.0	2.2	11.24	113.0	7.81
160	940524	1319	8.4	13.7	29.1	9.87	114.0	7.81
161	940524	1335	9.6	12.9	44.9	9.21	115.3	7.82
162	940524	1345	10.9	12.5	41.3	9.54	115.9	7.83
163	940524	1400	12.0	12.2	55.2	8.82	116.3	7.84
164	940524	1415	12.2	12.0	59.4	8.69	117.1	7.84
165	940524	1430	12.0	12.0	59.9	8.69	117.5	7.83
166	940524	1440	11.3	12.4	42.9	9.63	117.9	7.84
167	940524	1500	10.5	13.1	49.3	9.08	117.3	7.82
168	940524	1515	9.4	12.8	57.0	8.70	117.3	7.83
169	940524	1530	8.5	12.9	47.5	9.19	117.2	7.81
170	940524	1545	7.5	13.1	53.9	8.77	116.7	7.81
171	940524	1600	7.0	13.4	41.0	9.43	116.6	7.81
172	940524	1615	6.3	13.7	33.8	9.80	116.4	7.81
173	940524	1630	5.7	13.9	42.8	9.18	115.9	7.80
174	940524	1645	5.5	14.1	26.9	10.03	115.3	7.79
175	940524	1700	4.9	14.3	27.6	9.93	114.9	7.81
176	940524	1715	4.6	14.5	26.7	9.91	114.5	7.82
177	940524	1730	4.1	14.7	17.4	10.39	114.0	7.83
178	940524	1745	3.7	14.9	15.1	10.47	113.7	7.87
179	940524	1800	3.4	15.1	11.6	10.63	113.5	7.90
180	940524	1815	3.0	15.3	8.9	10.74	113.1	7.92
181	940524	1830	2.8	15.3	6.5	10.87	112.9	7.91

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
182	940524	1845	2.6	15.4	4.6	10.95	112.6	7.94
183	940524	1900	2.6	15.4	3.4	11.00	112.3	7.96
184	940524	1915	2.2	15.3	2.3	11.09	112.4	7.96
185	940524	1930	2.1	15.3	1.9	11.09	111.9	7.96
186	940524	1945	2.0	15.1	1.5	11.18	112.3	7.95
187	940524	2000	1.8	15.1	1.3	11.19	112.0	7.92
188	940524	2015	1.8	14.9	1.2	11.23	112.0	7.90
189	940524	2028	1.7	14.8	1.0	11.29	112.2	7.86
190	940524	2045	1.7	14.7	0.9	11.31	112.0	7.83
191	940524	2100	1.6	14.5	0.8	11.35	112.0	7.69
192	940524	2115	1.5	14.5	0.7	11.38	112.0	7.65
193	940524	2130	1.5	14.4	0.6	11.39	112.0	7.63
194	940524	2145	1.5	14.3	0.6	11.43	112.0	7.59
195	940524	2200	1.6	14.3	0.5	11.45	112.1	7.57
196	940524	2215	1.4	14.2	0.5	11.48	112.2	7.55
197	940524	2230	1.4	14.1	0.5	11.49	112.1	7.52
198	940524	2245	1.5	14.1	0.4	11.51	112.3	7.50
199	940524	2300	1.4	14.1	0.4	11.53	112.4	7.48
200	940524	2315	1.3	14.0	0.4	11.56	112.4	7.47
201	940524	2325	1.4	14.0	0.4	11.53	112.1	7.44
202	940524	2345	1.3	13.9	0.4	11.57	112.4	7.42
203	940525	0	1.3	13.9	0.4	11.59	112.5	7.40
204	940525	15	1.3	13.9	0.4	11.63	112.8	7.39
205	940525	30	1.3	13.9	0.4	11.61	112.6	7.38
206	940525	45	1.2	13.9	0.3	11.61	112.6	7.36
207	940525	100	2.4	13.9	0.3	11.65	113.1	7.32
208	940525	115	7.1	13.5	1.5	11.37	110.1	7.84
209	940525	135	9.5	13.0	18.7	10.51	112.1	7.83
210	940525	145	11.3	12.2	45.5	9.19	114.0	7.83
211	940525	200	12.4	11.8	48.3	9.20	115.2	7.84
212	940525	215	13.5	11.6	55.5	8.85	115.5	7.86
213	940525	230	14.2	11.5	54.6	9.00	116.5	7.86
214	940525	245	14.3	11.4	54.2	9.04	116.6	7.86
215	940525	300	13.5	11.4	74.6	7.94	116.4	7.86
216	940525	315	12.8	11.4	59.1	8.77	116.6	7.86
217	940525	330	11.7	11.6	57.9	8.64	114.5	7.83
218	940525	345	10.5	11.5	61.1	8.53	115.2	7.83
219	940525	400	9.7	11.6	47.2	9.28	114.9	7.81
220	940525	415	8.7	11.7	47.3	9.20	114.4	7.81
221	940525	435	7.9	11.8	47.7	9.10	113.6	7.81
222	940525	445	7.1	11.9	48.6	8.96	112.7	7.79
223	940525	500	6.5	12.1	36.5	9.57	111.8	7.79
224	940525	515	5.9	12.1	37.6	9.42	111.0	7.78
225	940525	530	5.4	12.3	38.3	9.29	110.3	7.78
226	940525	545	5.1	12.4	29.9	9.72	109.6	7.78
227	940525	555	4.6	12.5	26.0	9.86	108.9	7.79

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
228	940525	615	4.2	12.6	21.0	10.11	108.6	7.81
229	940525	630	3.9	12.7	17.7	10.25	108.0	7.83
230	940525	645	3.6	12.9	14.5	10.39	107.6	7.86
231	940525	700	3.3	12.9	11.9	10.55	107.7	7.88
232	940525	715	3.0	13.1	9.5	10.68	107.7	7.91
233	940525	730	2.8	13.2	7.4	10.85	108.3	7.89
234	940525	745	2.7	13.4	5.7	10.89	108.0	7.92
235	940525	800	2.4	13.5	4.6	10.97	108.4	7.93
236	940525	815	2.4	13.7	3.9	11.01	108.6	7.93
237	940525	830	2.2	13.8	3.3	11.06	109.0	7.93
238	940525	850	2.1	13.9	2.7	11.10	109.4	7.94
239	940525	900	2.0	14.1	2.4	11.09	109.5	7.95
240	940525	915	1.9	14.2	2.1	11.15	110.1	7.93
241	940525	930	1.8	14.3	1.8	11.14	110.1	7.93
242	940525	945	1.8	14.5	1.7	11.15	110.5	7.92
243	940525	1000	1.7	14.5	1.6	11.15	110.6	7.91
244	940525	1015	1.7	14.6	1.5	11.15	110.7	7.89
245	940525	1030	1.7	14.7	1.4	11.16	111.0	7.86
246	940525	1045	1.6	14.8	1.4	11.18	111.3	7.84
247	940525	1100	1.6	14.8	1.3	11.20	111.5	7.82
248	940525	1115	1.5	14.8	1.2	11.20	111.5	7.81
249	940525	1130	1.5	14.8	1.2	11.22	111.6	7.78
250	940525	1145	1.6	14.8	1.2	11.26	112.0	7.77
251	940525	1200	1.4	14.8	1.1	11.25	111.8	7.75
252	940525	1215	1.4	14.8	1.1	11.25	111.8	7.73
253	940525	1230	1.4	14.8	1.1	11.23	111.6	7.70
254	940525	1245	1.3	14.8	1.0	11.22	111.5	7.69
255	940525	1300	1.4	14.8	1.0	11.22	111.5	7.67
256	940525	1315	1.3	14.7	1.0	11.30	112.1	7.64
257	940525	1330	1.2	14.7	0.9	11.30	112.1	7.63
258	940525	1345	4.1	14.7	1.1	11.35	112.5	7.64
259	940525	1405	7.5	13.6	10.4	11.05	113.3	7.84
260	940525	1415	9.2	12.6	30.3	10.10	114.8	7.83
261	940525	1430	10.8	12.1	45.8	9.32	115.6	7.84
262	940525	1445	11.7	11.7	59.2	8.70	116.6	7.85
263	940525	1500	12.5	11.5	53.3	9.15	117.4	7.87
264	940525	1515	12.7	11.5	49.6	9.38	117.6	7.87
265	940525	1530	12.1	11.4	65.1	8.52	117.7	7.87
266	940525	1545	11.4	11.5	47.0	9.52	117.5	7.87
267	940525	1600	10.5	11.9	47.3	9.34	116.4	7.85
268	940525	1615	9.4	11.7	50.6	9.19	116.6	7.84
269	940525	1630	8.5	11.9	48.6	9.26	116.5	7.84
270	940525	1645	7.6	12.0	52.7	8.96	115.8	7.83
271	940525	1700	6.9	12.1	39.9	9.66	115.5	7.82
272	940525	1715	6.2	12.3	40.2	9.53	114.6	7.81
273	940525	1730	5.8	12.4	41.5	9.38	114.0	7.80

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
274	940525	1745	5.3	12.6	29.9	10.02	113.5	7.80
275	940525	1800	4.8	12.7	31.4	9.86	113.2	7.80
276	940525	1815	4.3	12.9	31.2	9.76	112.3	7.81
277	940525	1830	3.9	13.1	21.1	10.33	112.0	7.83
278	940525	1845	3.6	13.2	18.1	10.42	111.1	7.84
279	940525	1900	3.3	13.3	14.9	10.56	110.8	7.87
280	940525	1915	3.0	13.5	11.8	10.69	110.3	7.89
281	940525	1930	2.7	13.5	9.1	10.89	110.4	7.82
282	940525	1945	2.6	13.5	7.2	10.96	110.0	7.83
283	940525	2000	2.4	13.5	5.7	11.04	109.7	7.81
284	940525	2015	2.1	13.4	4.5	11.15	109.8	7.78
285	940525	2030	2.1	13.3	3.7	11.20	109.5	7.72
286	940525	2045	2.0	13.7	3.1	11.10	109.0	7.92
287	940525	2100	1.8	13.5	2.6	11.16	109.0	7.85
288	940525	2115	1.8	13.5	2.2	11.19	109.0	7.86
289	940525	2130	1.7	13.2	1.9	11.35	109.5	7.70
290	940525	2145	1.5	12.7	1.8	11.53	109.9	7.58
291	940525	2200	1.6	12.5	1.6	11.67	110.6	7.55
292	940525	2215	1.5	12.7	1.3	11.60	110.3	7.58
293	940525	2230	1.5	12.6	1.3	11.62	110.1	7.50
294	940525	2245	1.5	12.6	1.2	11.58	109.8	7.50
295	940525	2300	1.4	11.9	1.2	11.86	110.6	7.27
296	940525	2312	1.4	11.6	1.2	11.94	110.6	7.20
297	940525	2330	1.4	12.1	1.0	11.76	110.0	7.27
298	940525	2345	1.4	11.4	1.0	12.01	110.6	7.12
299	940526	0	1.2	11.9	0.9	11.84	110.3	7.23
300	940526	15	1.2	12.6	0.8	11.64	109.9	7.39
301	940526	30	1.3	12.9	0.8	11.53	109.6	7.48
302	940526	45	1.2	12.9	0.7	11.52	109.7	7.49
303	940526	100	1.2	12.9	0.7	11.55	109.9	7.49
304	940526	115	1.1	12.9	0.7	11.59	110.1	7.45
305	940526	130	1.1	12.9	0.6	11.59	110.1	7.45
306	940526	145	1.1	12.9	0.6	11.60	110.1	7.45
307	940526	200	5.3	12.9	1.0	11.63	110.7	7.72
308	940526	215	8.4	12.4	17.4	10.63	110.9	7.81
309	940526	230	10.4	11.7	34.9	9.81	112.8	7.84
310	940526	245	11.8	11.3	50.4	9.13	114.7	7.86
311	940526	300	13.3	11.1	48.8	9.33	115.5	7.86
312	940526	315	14.2	11.0	53.2	9.13	116.0	7.87
313	940526	330	14.5	11.0	53.1	9.14	116.0	7.87
314	940526	345	14.4	10.9	54.5	9.09	116.3	7.87
315	940526	400	13.5	10.9	69.2	8.29	116.5	7.87
316	940526	415	12.5	11.0	60.9	8.70	116.0	7.87
317	940526	430	11.3	11.1	61.3	8.54	114.6	7.84
318	940526	445	10.2	11.1	63.1	8.46	114.8	7.84
319	940526	500	9.2	11.2	49.9	9.15	114.3	7.83

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
320	940526	515	8.4	11.3	50.5	9.07	113.9	7.83
321	940526	530	7.0	11.5	49.1	9.06	113.3	7.81
322	940526	545	6.3	11.5	34.3	9.86	112.5	7.81
323	940526	600	5.6	11.6	34.3	9.80	111.8	7.80
324	940526	615	5.0	11.7	26.8	10.18	111.1	7.79
325	940526	630	4.4	11.8	23.4	10.29	110.1	7.79
326	940526	645	4.0	11.9	21.4	10.32	109.4	7.79
327	940526	700	3.6	12.0	18.9	10.43	109.0	7.81
328	940526	715	3.2	12.1	16.9	10.50	108.7	7.82
329	940526	730	2.8	12.2	14.6	10.61	108.4	7.84
330	940526	745	2.6	12.3	12.8	10.69	108.1	7.86
331	940526	800	2.4	12.4	11.0	10.82	108.4	7.88
332	940526	815	3.0	12.4	10.1	10.85	108.3	7.90
333	940526	830	2.9	12.5	8.2	10.98	108.4	7.91
334	940526	845	0.3	13.9	0.0	12.13	117.5	7.75
335	940526	900	0.3	12.4	0.0	12.63	118.3	7.86
336	940526	1230	0.2	12.9	0.0	12.83	121.4	6.77
337	940526	1300	0.8	13.1	0.8	11.96	114.3	7.28
338	940526	1315	0.8	13.1	0.9	11.86	113.5	7.28
339	940526	1330	0.8	13.3	0.9	11.75	112.9	7.30
340	940526	1345	0.9	13.4	0.9	11.68	112.5	7.28
341	940526	1400	0.7	13.5	0.9	11.65	112.4	7.27
342	940526	1415	0.8	13.5	0.9	11.65	112.4	7.24
343	940526	1430	1.7	13.5	0.9	11.67	112.7	7.20
344	940526	1445	5.5	13.3	1.3	11.51	111.0	7.56
345	940526	1505	7.9	12.6	7.0	11.55	113.6	7.75
346	940526	1515	9.8	12.1	11.5	11.55	115.4	7.78
347	940526	1530	10.9	11.8	17.9	11.26	116.5	7.79
348	940526	1545	12.0	11.5	15.5	11.61	117.5	7.81
349	940526	1600	12.4	11.5	16.4	11.58	117.9	7.81
350	940526	1615	12.3	11.5	16.8	11.57	118.0	7.81
351	940526	1630	11.5	11.5	9.6	12.13	118.2	7.82
352	940526	1645	10.5	12.0	14.1	11.55	117.1	7.80
353	940526	1700	9.4	11.8	13.9	11.64	117.4	7.79
354	940526	1715	8.4	11.9	15.0	11.49	117.0	7.78
355	940526	1730	7.5	12.1	14.6	11.40	116.1	7.78
356	940526	1745	6.7	12.2	11.7	11.48	115.2	7.78
357	940526	1800	6.0	12.4	11.3	11.41	114.5	7.76
358	940526	1815	5.5	12.5	8.9	11.49	114.0	7.76
359	940526	1830	4.8	12.6	9.1	11.37	113.2	7.76
360	940526	1845	4.2	12.9	6.0	11.45	112.4	7.77
361	940526	1900	3.8	13.0	6.7	11.29	111.7	7.78
362	940526	1915	3.4	13.1	4.3	11.36	111.0	7.80
363	940526	1930	2.9	13.2	3.3	11.37	110.6	7.81
364	940526	1945	2.8	13.3	2.3	11.41	110.5	7.76
365	940526	2000	2.4	13.3	1.7	11.43	110.3	7.73

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
366	940526	2015	2.2	13.2	1.4	11.50	110.6	7.68
367	940526	2030	2.1	13.1	1.1	11.57	110.9	7.53
368	940526	2045	1.9	13.1	0.9	11.58	110.9	7.48
369	940526	2100	1.8	13.0	0.7	11.67	111.2	7.43
370	940526	2115	1.7	12.9	0.6	11.72	111.5	7.39
371	940526	2130	1.5	12.9	0.5	11.75	111.5	7.36
372	940526	2145	1.4	12.9	0.5	11.77	111.7	7.35
373	940526	2200	1.4	12.8	0.4	11.82	112.0	7.33
374	940526	2215	1.3	12.7	0.4	11.90	112.4	7.31
375	940526	2230	1.3	12.7	0.3	11.92	112.6	7.28
376	940526	2245	1.2	12.6	0.3	11.99	113.1	7.28
377	940526	2300	1.1	12.6	0.2	12.03	113.4	7.25
378	940526	2315	1.1	12.6	0.2	12.10	113.9	7.23
379	940526	2330	1.1	12.6	0.2	12.14	114.2	7.23
380	940526	2345	0.9	12.6	0.2	12.16	114.4	7.20
381	940527	0	1.0	12.6	0.2	12.18	114.6	7.20
382	940527	15	0.9	12.6	0.2	12.20	114.8	7.17
383	940527	30	0.9	12.6	0.1	12.24	115.1	7.17
384	940527	45	0.9	12.6	0.1	12.26	115.3	7.14
385	940527	100	0.9	12.6	0.1	12.28	115.5	7.12
386	940527	115	0.8	12.6	0.1	12.30	115.7	7.11
387	940527	130	0.8	12.6	0.1	12.30	115.7	7.09
388	940527	145	0.7	12.6	0.1	12.34	116.0	7.09
389	940527	200	0.7	12.6	0.1	12.34	116.0	7.08
390	940527	215	0.7	12.6	0.1	12.36	116.2	7.06
391	940527	230	0.7	12.6	0.1	12.34	116.0	7.05
392	940527	245	1.8	12.6	0.1	12.31	115.9	7.02
393	940527	300	5.9	12.2	0.4	12.10	113.1	7.37
394	940527	315	8.7	12.1	6.8	11.57	112.4	7.74
395	940527	330	10.6	11.9	11.0	11.52	114.2	7.81
396	940527	345	12.2	11.5	12.5	11.67	115.9	7.81
397	940527	400	13.2	11.4	13.3	11.70	116.4	7.82
398	940527	415	13.8	11.3	13.8	11.78	117.3	7.83
399	940527	430	14.0	11.2	14.5	11.78	117.6	7.84
400	940527	445	13.5	11.2	14.1	11.80	117.6	7.83
401	940527	500	12.6	11.2	16.8	11.63	117.8	7.82
402	940527	515	11.4	11.5	14.4	11.57	116.2	7.81
403	940527	530	10.2	11.4	15.3	11.57	116.6	7.81
404	940527	545	8.9	11.5	15.3	11.45	115.7	7.80
405	940527	600	8.0	11.6	15.2	11.41	115.5	7.79
406	940527	615	7.2	11.7	12.9	11.47	114.7	7.79
407	940527	630	6.4	11.8	11.2	11.48	113.8	7.78
408	940527	645	5.7	11.9	9.8	11.49	113.2	7.78
409	940527	700	5.0	12.0	8.0	11.53	112.4	7.78
410	940527	715	4.4	12.1	6.4	11.56	111.8	7.79
411	940527	730	4.0	12.2	5.0	11.58	111.4	7.80

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
412	940527	745	3.5	12.2	3.8	11.67	111.4	7.82
413	940527	800	3.2	12.3	2.6	11.74	111.5	7.81
414	940527	815	2.9	12.3	1.8	11.80	111.5	7.81
415	940527	830	2.7	12.4	1.3	11.86	111.8	7.70
416	940527	845	2.4	12.4	1.0	11.94	112.3	7.66
417	940527	900	2.2	12.4	0.8	11.96	112.6	7.62
418	940527	915	2.1	12.4	0.6	11.97	112.6	7.57
419	940527	930	1.9	12.4	0.5	12.00	112.8	7.53
420	940527	945	1.8	12.4	0.4	12.02	113.0	7.48
421	940527	955	1.7	12.4	0.4	12.06	113.1	7.43
422	940527	1015	1.6	12.4	0.4	12.06	113.1	7.39
423	940527	1030	1.5	12.4	0.4	12.08	113.2	7.35
424	940527	1045	1.4	12.3	0.4	12.12	113.5	7.31
425	940527	1100	1.4	12.3	0.4	12.10	113.3	7.27
426	940527	1113	1.3	12.3	0.4	12.12	113.5	7.23
427	940527	1130	1.2	12.3	0.4	12.14	113.7	7.20
428	940527	1145	1.2	12.3	0.4	12.14	113.7	7.17
429	940527	1200	1.1	12.3	0.4	12.14	113.7	7.14
430	940527	1215	1.1	12.3	0.5	12.16	113.9	7.10
431	940527	1230	1.1	12.3	0.5	12.18	114.0	7.09
432	940527	1245	1.1	12.3	0.5	12.17	114.0	7.07
433	940527	1255	1.1	12.2	0.5	12.21	114.1	7.06
434	940527	1315	1.0	12.2	0.5	12.21	114.1	7.04
435	940527	1330	1.0	12.2	0.5	12.21	114.1	7.03
436	940527	1345	1.0	12.2	0.5	12.19	114.0	7.01
437	940527	1400	1.0	12.2	0.5	12.22	114.3	7.01
438	940527	1415	0.9	12.2	0.5	12.22	114.3	7.01
439	940527	1430	0.9	12.2	0.5	12.26	114.7	6.99
440	940527	1445	0.9	12.2	0.5	12.24	114.5	6.99
441	940527	1500	0.9	12.1	0.5	12.29	114.8	6.98
442	940527	1515	0.9	12.1	0.5	12.29	114.8	6.98
443	940527	1530	4.0	12.2	0.5	12.18	114.0	7.09
444	940527	1540	6.8	12.3	1.0	11.83	111.2	7.45
445	940527	1600	8.9	12.2	6.2	11.72	113.6	7.74
446	940527	1615	10.4	12.0	10.5	11.58	114.8	7.79
447	940527	1630	11.5	11.7	14.6	11.46	115.8	7.81
448	940527	1645	12.3	11.6	14.6	11.52	116.2	7.83
449	940527	1655	12.2	11.5	14.8	11.57	116.6	7.84
450	940527	1715	11.8	11.5	15.1	11.55	116.6	7.84
451	940527	1730	11.0	11.7	11.2	11.76	116.4	7.84
452	940527	1745	10.0	11.8	10.9	11.74	116.1	7.82
453	940527	1800	8.9	11.7	11.5	11.73	116.4	7.82
454	940527	1815	7.9	11.9	11.4	11.56	115.0	7.82
455	940527	1830	7.1	12.0	9.1	11.67	114.6	7.81
456	940527	1845	6.3	12.1	7.9	11.69	114.1	7.81
457	940527	1900	5.7	12.1	6.4	11.73	113.7	7.80

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
458	940527	1915	5.1	12.2	5.2	11.74	113.1	7.80
459	940527	1930	4.6	12.2	3.9	11.82	112.9	7.79
460	940527	1945	4.2	12.2	2.4	11.87	112.3	7.67
461	940527	1955	3.7	12.1	1.4	11.97	112.4	7.61
462	940527	2015	3.4	12.1	1.0	12.11	113.2	7.52
463	940527	2030	3.1	12.1	0.7	12.15	113.4	7.42
464	940527	2045	2.8	12.0	0.5	12.27	114.2	7.35
465	940527	2100	2.6	12.0	0.4	12.34	114.8	7.29
466	940527	2115	2.4	12.0	0.3	12.34	114.8	7.25
467	940527	2130	2.2	12.0	0.3	12.39	115.1	7.22
468	940527	2145	2.0	12.0	0.2	12.41	115.3	7.19
469	940527	2200	1.9	11.9	0.2	12.44	115.4	7.17
470	940527	2215	1.8	11.9	0.2	12.42	115.2	7.16
471	940527	2230	1.7	11.9	0.2	12.47	115.5	7.14
472	940527	2245	1.6	11.8	0.2	12.46	115.2	7.13
473	940527	2300	1.6	11.8	0.2	12.46	115.2	7.11
474	940527	2315	1.5	11.7	0.1	12.47	115.1	7.09
475	940527	2330	1.5	11.7	0.1	12.46	114.8	7.08
476	940527	2345	1.5	11.6	0.1	12.47	114.7	7.06
477	940528	0	1.4	11.6	0.1	12.45	114.5	7.05
478	940528	15	1.4	11.5	0.1	12.48	114.6	7.02
479	940528	30	1.4	11.5	0.1	12.51	114.7	7.01
480	940528	45	1.4	11.5	0.1	12.51	114.7	7.01
481	940528	100	1.3	11.4	0.1	12.54	114.8	6.99
482	940528	115	1.3	11.3	0.1	12.57	114.9	6.98
483	940528	130	1.3	11.3	0.1	12.60	115.0	6.97
484	940528	145	1.3	11.2	0.1	12.65	115.2	6.94
485	940528	200	1.3	11.2	0.0	12.63	115.1	6.94
486	940528	215	1.3	11.1	0.0	12.66	115.1	6.93
487	940528	230	1.3	11.1	0.0	12.66	115.1	6.94
488	940528	245	1.3	11.1	0.0	12.68	115.2	6.92
489	940528	300	1.3	11.1	0.0	12.66	115.0	6.91
490	940528	320	1.3	11.0	0.0	12.69	115.1	6.91
491	940528	330	1.3	10.9	0.0	12.70	115.0	6.91
492	940528	345	4.5	11.3	0.2	12.43	113.5	7.10
493	940528	400	7.4	11.3	0.4	12.31	112.6	7.34
494	940528	410	9.4	11.2	5.2	11.99	112.9	7.76
495	940528	430	11.3	11.1	7.3	11.98	113.9	7.82
496	940528	445	12.5	10.9	11.1	11.91	115.5	7.85
497	940528	500	13.3	10.7	12.2	11.90	115.9	7.86
498	940528	515	13.7	10.6	12.7	11.99	116.9	7.86
499	940528	530	13.4	10.6	14.4	11.84	116.7	7.86
500	940528	545	12.7	10.6	16.0	11.72	116.7	7.86
501	940528	600	11.8	10.8	12.3	11.81	115.2	7.86
502	940528	620	10.5	10.7	13.3	11.82	115.9	7.85
503	940528	630	9.4	10.8	10.4	11.95	115.2	7.85

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
504	940528	645	8.5	10.9	10.6	11.85	114.6	7.84
505	940528	700	7.7	10.9	9.0	11.91	114.1	7.82
506	940528	715	6.9	11.0	7.0	11.99	113.7	7.82
507	940528	730	6.2	11.1	5.6	11.99	112.9	7.82
508	940528	745	5.6	11.1	4.1	12.12	113.0	7.82
509	940528	800	5.0	11.1	2.9	12.18	112.7	7.72
510	940528	810	4.5	11.1	1.9	12.21	112.4	7.69
511	940528	830	4.1	11.1	1.0	12.37	113.0	7.65
512	940528	845	3.7	11.1	0.7	12.45	113.6	7.57
513	940528	900	3.4	11.0	0.4	12.54	114.0	7.51
514	940528	915	3.1	11.0	0.3	12.59	114.4	7.44
515	940528	935	3.0	11.0	0.2	12.66	114.9	7.36
516	940528	945	2.7	11.1	0.2	12.69	115.4	7.33
517	940528	1000	2.6	11.1	0.1	12.74	115.8	7.28
518	940528	1015	2.4	11.1	0.1	12.73	115.9	7.25
519	940528	1030	2.3	11.3	0.1	12.71	116.1	7.21
520	940528	1045	2.2	11.3	0.1	12.69	116.0	7.19
521	940528	1100	2.1	11.4	0.1	12.70	116.3	7.16
522	940528	1115	2.0	11.5	0.1	12.69	116.3	7.13
523	940528	1130	1.9	11.6	0.1	12.67	116.5	7.10
524	940528	1145	1.9	11.7	0.1	12.65	116.7	7.07
525	940528	1200	1.8	11.8	0.1	12.64	116.8	7.07
526	940528	1215	1.8	11.9	0.1	12.63	117.0	7.04
527	940528	1230	1.7	12.0	0.1	12.64	117.3	7.01
528	940528	1245	1.7	12.1	0.1	12.62	117.5	6.99
529	940528	1300	1.6	12.2	0.1	12.61	117.6	6.99
530	940528	1315	1.5	12.3	0.1	12.63	118.0	6.96
531	940528	1330	1.7	12.4	0.1	12.59	118.0	6.96
532	940528	1345	1.6	12.5	0.1	12.62	118.4	6.95
533	940528	1400	1.6	12.6	0.1	12.59	118.3	6.95
534	940528	1415	1.5	12.6	0.1	12.60	118.6	6.94
535	940528	1430	1.5	12.8	0.1	12.55	118.6	6.93
536	940528	1445	1.5	12.9	0.1	12.56	118.9	6.93
537	940528	1500	1.5	12.9	0.1	12.58	119.0	6.92
538	940528	1515	1.4	12.9	0.1	12.57	119.1	6.92
539	940528	1525	1.4	12.9	0.1	12.59	119.3	6.91
540	940528	1545	1.4	13.0	0.1	12.56	119.2	6.91
541	940528	1600	1.4	13.1	0.1	12.60	119.8	6.90
542	940528	1615	1.4	13.1	0.1	12.58	119.8	6.91
543	940528	1630	5.3	13.7	0.2	12.23	118.1	7.21
544	940528	1645	7.8	14.1	0.7	12.24	119.4	7.42
545	940528	1700	9.3	13.7	5.2	12.10	120.6	7.77
546	940528	1715	10.6	13.5	7.5	12.05	121.1	7.83
547	940528	1730	11.4	13.0	5.3	12.42	121.9	7.86
548	940528	1745	11.8	12.9	12.8	11.86	121.5	7.87
549	940528	1800	11.5	12.7	12.3	12.03	122.5	7.87

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
550	940528	1815	10.8	12.8	16.7	11.65	122.2	7.87
551	940528	1830	10.0	13.3	8.9	12.06	121.8	7.87
552	940528	1845	9.1	13.3	9.3	12.04	122.0	7.87
553	940528	1900	8.2	13.5	8.7	12.00	121.7	7.87
554	940528	1915	7.3	13.6	5.4	12.21	121.4	7.86
555	940528	1930	6.5	13.7	6.3	12.08	121.1	7.85
556	940528	1945	5.9	13.8	4.3	12.16	120.6	7.84
557	940528	2005	5.2	13.8	3.3	12.18	120.1	7.74
558	940528	2015	4.6	13.9	2.1	12.19	119.5	7.71
559	940528	2030	4.4	13.8	1.2	12.25	119.2	7.68
560	940528	2045	3.9	13.7	0.6	12.31	119.0	7.61
561	940528	2100	3.5	13.5	0.4	12.37	119.1	7.54
562	940528	2115	3.2	13.4	0.3	12.45	119.4	7.47
563	940528	2135	2.8	13.2	0.2	12.58	120.0	7.39
564	940528	2145	2.6	13.1	0.1	12.63	120.3	7.33
565	940528	2205	2.4	13.1	0.1	12.68	120.5	7.28
566	940528	2215	2.4	13.1	0.1	12.68	120.5	7.24
567	940528	2230	2.2	13.0	0.1	12.74	121.0	7.20
568	940528	2245	2.1	13.0	0.1	12.76	121.2	7.19
569	940528	2300	2.1	13.0	0.0	12.78	121.4	7.17
570	940528	2315	2.0	12.9	0.0	12.83	121.6	7.14
571	940528	2330	1.9	12.9	0.0	12.85	121.8	7.15
572	940528	2345	1.8	12.9	0.0	12.88	121.9	7.14
573	940529	0	1.8	12.9	0.0	12.88	121.9	7.11
574	940529	15	1.8	12.9	0.0	12.88	121.9	7.09
575	940529	30	1.7	12.8	0.0	12.91	122.0	7.09
576	940529	45	1.7	12.8	0.0	12.91	122.0	7.07
577	940529	100	1.6	12.7	0.0	12.95	122.1	7.07
578	940529	115	1.6	12.6	0.0	12.96	122.0	7.06
579	940529	130	1.6	12.6	0.0	12.96	122.0	7.03
580	940529	145	1.5	12.6	0.0	12.99	122.1	7.03
581	940529	200	1.5	12.5	0.0	13.00	122.0	7.01
582	940529	215	1.5	12.5	0.0	13.00	122.0	7.01
583	940529	230	1.5	12.4	0.0	13.03	122.1	6.99
584	940529	245	1.5	12.4	0.0	13.03	122.1	6.98
585	940529	300	1.4	12.4	0.0	13.02	121.8	6.99
586	940529	315	1.4	12.3	0.0	13.05	121.9	6.98
587	940529	330	1.4	12.2	0.0	13.05	121.7	6.98
588	940529	345	1.4	12.2	0.0	13.05	121.7	6.97
589	940529	400	1.4	12.1	0.0	13.07	121.5	6.98
590	940529	415	1.4	12.0	0.0	13.07	121.3	6.97
591	940529	430	1.4	11.9	0.0	13.10	121.3	6.95
592	940529	445	4.5	12.1	0.1	12.77	118.9	7.17
593	940529	500	7.5	12.1	0.1	12.67	118.0	7.34
594	940529	515	9.4	12.1	3.7	12.30	117.0	7.76
595	940529	530	10.6	11.9	7.5	12.10	117.6	7.85

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
596	940529	545	11.5	11.7	12.2	11.89	118.3	7.87
597	940529	600	12.2	11.5	12.2	12.00	118.9	7.88
598	940529	615	12.2	11.3	15.2	11.86	119.2	7.89
599	940529	630	11.7	11.3	13.5	12.00	119.4	7.89
600	940529	645	10.9	11.5	11.9	11.93	118.1	7.89
601	940529	700	9.9	11.5	9.2	12.18	118.4	7.88
602	940529	715	9.0	11.6	8.6	12.23	118.7	7.89
603	940529	730	8.0	11.7	8.4	12.15	118.2	7.88
604	940529	745	7.3	11.8	6.0	12.27	117.7	7.87
605	940529	800	6.5	11.9	5.7	12.25	117.5	7.78
606	940529	815	5.9	11.9	4.7	12.28	117.2	7.78
607	940529	830	5.3	11.9	3.4	12.38	117.2	7.78
608	940529	845	4.7	11.9	2.3	12.45	117.0	7.77
609	940529	900	4.3	11.9	1.5	12.54	117.2	7.74
610	940529	915	3.8	11.9	0.9	12.60	117.4	7.71
611	940529	930	3.4	11.9	0.5	12.69	117.8	7.68
612	940529	945	3.1	11.9	0.3	12.75	118.2	7.61
613	940529	1000	2.9	11.8	0.2	12.82	118.6	7.53
614	940529	1015	2.6	11.9	0.2	12.80	118.5	7.46
615	940529	1030	2.5	11.9	0.1	12.84	118.9	7.42
616	940529	1045	2.3	11.9	0.1	12.90	119.5	7.34
617	940529	1100	2.2	12.0	0.1	12.89	119.6	7.29
618	940529	1115	2.1	12.0	0.1	12.93	120.0	7.25
619	940529	1130	2.0	12.1	0.1	12.92	120.1	7.23
620	940529	1145	1.9	12.2	0.1	12.91	120.4	7.20
621	940529	1200	1.8	12.2	0.1	12.91	120.4	7.18
622	940529	1215	1.8	12.3	0.1	12.92	120.7	7.17
623	940529	1230	1.8	12.4	0.1	12.89	120.6	7.17
624	940529	1245	1.8	12.4	0.1	12.91	120.8	7.14
625	940529	1300	1.7	12.4	0.1	12.90	120.9	7.14
626	940529	1315	1.6	12.4	0.1	12.91	121.0	7.12
627	940529	1330	1.6	12.6	0.1	12.89	121.2	7.11
628	940529	1345	1.5	12.6	0.1	12.89	121.2	7.11
629	940529	1400	1.5	12.7	0.1	12.89	121.6	7.08
630	940529	1415	1.4	12.9	0.1	12.86	121.7	7.06
631	940529	1430	1.4	12.9	0.1	12.87	122.0	7.03
632	940529	1445	1.4	13.1	0.1	12.84	122.2	7.05
633	940529	1500	1.4	13.2	0.1	12.85	122.5	7.01
634	940529	1515	1.3	13.5	0.1	12.81	122.9	7.05
635	940529	1530	1.2	13.5	0.1	12.76	122.6	7.00
636	940529	1545	1.3	13.5	0.1	12.78	122.8	6.99
637	940529	1600	1.2	13.6	0.1	12.77	122.9	7.00
638	940529	1615	1.2	13.7	0.1	12.75	123.0	6.97
639	940529	1630	1.1	13.7	0.1	12.76	122.9	6.98
640	940529	1645	1.2	13.7	0.0	12.74	122.8	6.97
641	940529	1700	1.1	13.7	0.0	12.74	122.8	6.98

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
642	940529	1715	1.9	13.7	0.0	12.80	123.3	6.93
643	940529	1730	5.6	14.7	0.1	12.54	123.5	7.32
644	940529	1745	7.7	14.7	0.8	12.53	124.1	7.57
645	940529	1800	8.9	14.1	4.0	12.39	123.5	7.85
646	940529	1815	9.9	13.9	7.2	12.19	123.4	7.88
647	940529	1830	10.5	13.3	11.3	12.05	123.6	7.88
648	940529	1845	10.5	13.1	11.1	12.14	123.8	7.90
649	940529	1900	9.9	13.1	13.2	11.97	123.7	7.89
650	940529	1915	9.2	13.7	11.0	12.01	123.8	7.91
651	940529	1930	8.5	13.9	7.6	12.19	123.8	7.91
652	940529	1945	7.7	13.8	9.0	12.12	123.8	7.90
653	940529	2000	6.8	13.9	5.3	12.39	124.0	7.90
654	940529	2015	6.3	14.1	5.5	12.30	123.6	7.80
655	940529	2030	5.8	14.1	4.8	12.33	123.5	7.80
656	940529	2040	5.2	14.3	4.0	12.32	123.2	7.80
657	940529	2100	4.5	14.4	2.8	12.35	123.0	7.80
658	940529	2115	4.0	14.5	1.8	12.37	122.6	7.80
659	940529	2130	3.6	14.5	1.1	12.40	122.4	7.77
660	940529	2145	3.3	14.3	0.7	12.44	122.0	7.74
661	940529	2200	3.1	14.2	0.4	12.49	122.0	7.68
662	940529	2215	2.8	14.1	0.3	12.52	121.9	7.62
663	940529	2230	2.7	13.9	0.2	12.56	121.9	7.54
664	940529	2245	2.5	13.9	0.1	12.63	122.3	7.50
665	940529	2300	2.4	13.9	0.1	12.63	122.3	7.45
666	940529	2315	2.3	13.8	0.1	12.67	122.4	7.40
667	940529	2330	2.2	13.8	0.1	12.67	122.4	7.35
668	940529	2345	1.9	13.7	0.1	12.73	122.9	7.32
669	940530	0	2.0	13.7	0.1	12.73	122.9	7.30
670	940530	15	2.0	13.7	0.0	12.75	123.0	7.26
671	940530	30	1.9	13.7	0.0	12.77	123.2	7.25
672	940530	45	1.8	13.7	0.0	12.79	123.4	7.24
673	940530	100	1.7	13.8	0.0	12.76	123.3	7.21
674	940530	115	1.7	13.7	0.0	12.81	123.6	7.20
675	940530	130	1.6	13.7	0.0	12.81	123.6	7.19
676	940530	145	1.5	13.7	0.0	12.84	123.9	7.17
677	940530	200	1.4	13.7	0.0	12.84	123.9	7.16
678	940530	215	1.3	13.7	0.0	12.89	124.2	7.12
679	940530	230	1.4	13.5	0.1	12.89	123.8	7.14
680	940530	245	1.4	13.5	0.0	12.87	123.7	7.13
681	940530	300	1.4	13.4	0.1	12.93	123.8	7.12
682	940530	315	1.4	13.5	0.1	12.92	123.9	7.13
683	940530	330	1.3	13.4	0.1	12.93	123.8	7.11
684	940530	345	1.3	13.3	0.1	12.96	123.9	7.10
685	940530	400	1.3	13.3	0.1	12.94	123.8	7.09
686	940530	415	1.3	13.0	0.1	13.06	124.0	7.07
687	940530	430	1.3	13.3	0.1	12.97	123.8	7.11

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
688	940530	445	1.3	13.1	0.1	13.03	123.9	7.06
689	940530	500	1.3	12.7	0.1	13.15	124.1	7.02
690	940530	515	1.3	12.9	0.1	13.06	123.8	7.05
691	940530	530	1.2	12.9	0.1	13.07	123.7	7.03
692	940530	545	4.3	13.3	0.1	12.64	120.9	7.20
693	940530	600	6.9	13.3	0.2	12.48	119.5	7.33
694	940530	615	8.4	13.1	2.6	12.28	118.6	7.64
695	940530	630	9.3	12.6	7.5	12.09	119.1	7.87
696	940530	645	10.0	12.4	7.6	12.19	119.8	7.88
697	940530	700	10.3	12.1	10.2	12.09	120.0	7.89
698	940530	715	10.1	12.0	13.6	11.91	120.4	7.90
699	940530	735	9.4	12.0	13.4	11.96	120.7	7.90
700	940530	745	8.7	12.5	7.9	12.12	119.5	7.82
701	940530	800	7.9	12.4	8.3	12.15	119.7	7.80
702	940530	815	7.2	12.4	8.7	12.11	119.8	7.81
703	940530	830	6.5	12.6	6.4	12.20	119.4	7.81
704	940530	845	5.9	12.6	5.9	12.23	119.2	7.80
705	940530	905	5.2	12.7	4.8	12.24	118.9	7.80
706	940530	915	4.7	12.8	3.6	12.31	119.0	7.80
707	940530	930	4.2	12.9	2.6	12.35	118.7	7.79
708	940530	945	3.8	12.9	1.7	12.42	118.7	7.78
709	940530	1000	3.4	12.9	1.1	12.48	118.9	7.73
710	940530	1015	3.1	12.9	0.7	12.55	119.2	7.70
711	940530	1030	2.8	12.8	0.4	12.64	119.7	7.65
712	940530	1045	2.6	12.7	0.3	12.72	120.1	7.62
713	940530	1100	2.4	12.6	0.2	12.76	120.2	7.56
714	940530	1115	2.3	12.6	0.1	12.85	120.9	7.51
715	940530	1130	2.1	12.5	0.1	12.90	121.1	7.45
716	940530	1145	2.1	12.4	0.1	12.97	121.6	7.39
717	940530	1205	2.0	12.4	0.1	12.95	121.4	7.33
718	940530	1215	1.8	12.4	0.1	12.99	121.8	7.30
719	940530	1230	1.8	12.4	0.0	12.99	121.8	7.28
720	940530	1245	1.8	12.4	0.0	12.99	121.8	7.25
721	940530	1300	1.7	12.4	0.0	12.99	121.8	7.23
722	940530	1315	1.6	12.5	0.0	13.04	122.4	7.20
723	940530	1330	1.6	12.6	0.0	13.01	122.3	7.19
724	940530	1340	1.5	12.6	0.0	13.01	122.3	7.17
725	940530	1400	1.5	12.6	0.0	13.03	122.5	7.15
726	940530	1415	1.4	12.6	0.0	13.02	122.5	7.14
727	940530	1430	1.4	12.6	0.1	13.00	122.4	7.14
728	940530	1445	1.4	12.6	0.0	13.00	122.4	7.11
729	940530	1500	1.4	12.8	0.1	12.97	122.5	7.11
730	940530	1515	1.3	12.9	0.0	12.94	122.4	7.11
731	940530	1530	1.3	12.8	0.0	12.93	122.2	7.09
732	940530	1545	1.1	12.8	0.0	12.95	122.3	7.09
733	940530	1600	1.2	12.9	0.0	12.92	122.3	7.08

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
734	940530	1615	1.1	12.9	0.0	12.90	122.1	7.07
735	940530	1625	1.2	12.9	0.0	12.92	122.3	7.07
736	940530	1645	1.1	12.9	0.1	12.92	122.3	7.06
737	940530	1700	1.2	12.9	0.0	12.90	122.1	7.05
738	940530	1715	1.2	12.9	0.0	12.88	121.9	7.05
739	940530	1730	1.0	12.9	0.1	12.87	122.0	7.02
740	940530	1745	1.0	12.9	0.0	12.85	121.8	7.04
741	940530	1800	1.0	12.9	0.1	12.85	121.8	7.03
742	940530	1815	1.9	12.9	0.0	12.92	122.3	6.98
743	940530	1830	5.1	14.0	0.1	12.62	122.5	7.30
744	940530	1840	7.1	14.3	0.7	12.58	123.4	7.57
745	940530	1900	8.0	13.9	6.0	12.36	124.1	7.79
746	940530	1915	8.7	13.7	5.4	12.42	123.9	7.82
747	940530	1930	8.9	13.6	10.2	12.08	123.7	7.90
748	940530	1945	8.9	13.5	11.8	11.99	123.7	7.88
749	940530	2000	8.1	13.4	12.0	12.04	124.2	7.83
750	940530	2015	7.5	13.7	6.7	12.34	124.1	7.84
751	940530	2030	6.7	13.8	7.1	12.29	124.0	7.84
752	940530	2045	6.2	13.8	8.3	12.21	124.2	7.84
753	940530	2100	5.6	13.9	5.9	12.35	123.9	7.83
754	940530	2115	4.9	13.9	5.4	12.37	123.7	7.82
755	940530	2135	4.5	13.9	4.3	12.41	123.5	7.83
756	940530	2145	4.1	14.0	3.1	12.46	123.2	7.82
757	940530	2200	3.5	14.0	2.0	12.53	123.0	7.80
758	940530	2215	3.4	14.0	1.3	12.54	122.7	7.77
759	940530	2230	3.0	13.9	0.8	12.56	122.1	7.72
760	940530	2245	2.8	13.7	0.6	12.56	121.6	7.66
761	940530	2300	2.6	13.6	0.4	12.58	121.3	7.61
762	940530	2310	2.3	13.4	0.3	12.65	121.4	7.54
763	940530	2330	2.0	13.3	0.2	12.66	121.0	7.48
764	940530	2345	2.0	13.1	0.1	12.74	121.4	7.43
765	940531	0	1.9	13.1	0.1	12.77	121.4	7.39
766	940531	15	1.8	13.1	0.1	12.77	121.4	7.36
767	940531	30	1.8	13.0	0.1	12.82	121.7	7.32
768	940531	45	1.7	13.0	0.1	12.84	121.9	7.30
769	940531	100	1.6	13.0	0.1	12.80	121.5	7.28
770	940531	115	1.5	13.0	0.1	12.80	121.5	7.25
771	940531	125	1.4	13.0	0.1	12.84	121.9	7.24
772	940531	145	1.4	13.1	0.1	12.77	121.4	7.23
773	940531	200	1.4	13.1	0.1	12.81	121.8	7.22
774	940531	215	1.3	13.1	0.1	12.78	121.7	7.20
775	940531	230	1.3	13.2	0.0	12.83	122.3	7.21
776	940531	245	1.2	13.2	0.1	12.81	122.2	7.18
777	940531	300	1.2	13.3	0.0	12.76	122.0	7.20
778	940531	315	1.1	13.4	0.0	12.78	122.4	7.18
779	940531	330	1.1	13.4	0.1	12.78	122.4	7.17

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
780	940531	345	1.1	13.5	0.0	12.77	122.5	7.19
781	940531	400	1.1	13.5	0.0	12.78	122.8	7.17
782	940531	415	1.1	13.5	0.0	12.76	122.6	7.16
783	940531	430	1.0	13.5	0.0	12.74	122.4	7.15
784	940531	445	1.0	13.5	0.0	12.76	122.6	7.16
785	940531	500	1.0	13.5	0.1	12.74	122.4	7.16
786	940531	515	0.9	13.5	0.1	12.74	122.4	7.16
787	940531	530	0.9	13.6	0.0	12.73	122.5	7.15
788	940531	545	0.9	13.5	0.1	12.74	122.4	7.16
789	940531	600	0.9	13.6	0.0	12.72	122.3	7.14
790	940531	615	0.9	13.6	0.1	12.71	122.3	7.14
791	940531	630	0.8	13.6	0.1	12.71	122.3	7.14
792	940531	645	4.2	13.7	0.1	12.54	120.8	7.25
793	940531	700	6.3	13.5	0.7	12.42	119.7	7.47
794	940531	710	7.4	13.3	3.1	12.28	119.7	7.71
795	940531	730	8.3	13.0	5.8	12.21	120.1	7.88
796	940531	745	8.7	12.9	9.8	12.02	120.8	7.81
797	940531	800	8.8	12.6	10.6	12.06	121.3	7.81
798	940531	815	8.5	12.6	12.1	11.95	121.2	7.82
799	940531	835	7.8	12.7	8.7	12.23	121.7	7.83
800	940531	845	7.2	13.1	7.2	12.23	121.7	7.85
801	940531	900	6.5	13.1	8.2	12.21	122.2	7.84
802	940531	915	5.9	13.2	5.9	12.36	122.2	7.83
803	940531	930	5.2	13.3	6.4	12.24	121.8	7.84
804	940531	945	4.6	13.5	5.2	12.29	121.8	7.84
805	940531	1000	4.2	13.6	4.0	12.35	121.8	7.84
806	940531	1020	3.7	13.7	2.9	12.40	121.8	7.84
807	940531	1030	3.2	13.9	1.9	12.43	121.9	7.83
808	940531	1045	2.8	14.1	1.3	12.46	122.0	7.82
809	940531	1100	2.7	14.2	0.9	12.51	122.6	7.79
810	940531	1115	2.5	14.4	0.6	12.56	123.4	7.77
811	940531	1130	2.3	14.5	0.4	12.63	124.1	7.73
812	940531	1145	2.0	14.6	0.3	12.62	124.3	7.69
813	940531	1200	2.0	14.7	0.2	12.65	124.8	7.64
814	940531	1215	1.8	14.8	0.2	12.68	125.3	7.60
815	940531	1230	1.5	14.9	0.1	12.68	125.6	7.56
816	940531	1245	1.6	15.0	0.1	12.65	125.5	7.51
817	940531	1300	1.5	15.1	0.1	12.67	125.9	7.48
818	940531	1315	1.4	15.2	0.1	12.64	125.9	7.44
819	940531	1330	1.2	15.3	0.1	12.64	126.2	7.41
820	940531	1345	1.1	15.4	0.1	12.63	126.3	7.39
821	940531	1400	1.1	15.5	0.1	12.61	126.5	7.37
822	940531	1415	1.0	15.5	0.1	12.63	126.7	7.33
823	940531	1430	1.0	15.7	0.1	12.62	127.0	7.31
824	940531	1445	1.0	15.7	0.1	12.60	126.9	7.29
825	940531	1500	0.9	15.9	0.1	12.54	126.7	7.28

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
826	940531	1515	0.9	15.8	0.1	12.57	126.8	7.27
827	940531	1530	0.9	15.9	0.1	12.53	126.8	7.25
828	940531	1545	0.8	16.0	0.1	12.52	126.9	7.23
829	940531	1600	0.8	16.1	0.1	12.51	127.0	7.21
830	940531	1615	0.7	16.1	0.1	12.47	126.7	7.22
831	940531	1630	0.7	16.3	0.1	12.43	126.7	7.22
832	940531	1645	0.6	16.3	0.1	12.43	126.7	7.21
833	940531	1700	0.6	16.3	0.1	12.41	126.6	7.20
834	940531	1715	0.6	16.3	0.1	12.39	126.4	7.20
835	940531	1725	0.6	16.3	0.1	12.39	126.4	7.19
836	940531	1745	0.6	16.3	0.1	12.36	126.1	7.19
837	940531	1800	0.6	16.4	0.1	12.33	126.0	7.19
838	940531	1815	0.6	16.4	0.1	12.33	126.0	7.19
839	940531	1830	0.6	16.3	0.1	12.34	125.9	7.18
840	940531	1845	0.5	16.3	0.1	12.31	125.5	7.18
841	940531	1855	0.5	16.3	0.1	12.31	125.5	7.17
842	940531	1915	3.0	16.7	0.1	12.44	127.8	7.26
843	940531	1930	5.5	17.1	0.2	12.18	126.5	7.47
844	940531	1945	6.8	17.7	1.4	12.11	128.1	7.72
845	940531	1955	7.6	17.1	4.7	12.07	128.6	7.83
846	940531	2015	8.0	16.7	7.9	11.88	128.0	7.93
847	940531	2030	7.9	16.3	9.2	11.85	127.8	7.83
848	940531	2040	7.6	16.2	10.3	11.76	127.3	7.83
849	940531	2100	7.0	16.3	12.4	11.64	127.9	7.84
850	940531	2115	6.4	16.6	7.2	11.91	127.6	7.85
851	940531	2130	5.8	16.7	6.9	11.83	126.9	7.85
852	940531	2145	5.1	16.8	7.9	11.78	127.3	7.85
853	940531	2200	4.5	16.9	5.1	12.00	127.7	7.84
854	940531	2215	4.0	17.0	5.8	11.95	128.1	7.85
855	940531	2230	3.6	17.1	3.9	12.00	127.4	7.86
856	940531	2245	3.2	17.1	2.6	11.99	126.3	7.86
857	940531	2300	2.7	17.1	1.8	11.98	125.7	7.83
858	940531	2315	2.4	17.0	1.2	12.00	125.0	7.81
859	940531	2330	2.2	16.8	0.8	12.03	124.6	7.77
860	940531	2345	2.0	16.6	0.6	12.03	123.8	7.73
861	940601	0	1.8	16.3	0.4	12.15	124.2	7.67
862	940601	15	1.7	16.1	0.3	12.17	123.8	7.62
863	940601	30	1.6	16.0	0.2	12.22	124.0	7.56
864	940601	45	1.5	15.9	0.1	12.29	124.3	7.52
865	940601	100	1.3	15.7	0.1	12.35	124.5	7.49
866	940601	115	1.3	15.7	0.1	12.39	124.8	7.46
867	940601	130	1.2	15.6	0.1	12.46	125.2	7.42
868	940601	145	1.2	15.6	0.1	12.48	125.4	7.41
869	940601	200	1.1	15.6	0.1	12.48	125.4	7.39
870	940601	215	1.1	15.6	0.1	12.49	125.5	7.38
871	940601	230	1.0	15.6	0.1	12.53	125.9	7.36

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
872	940601	245	0.9	15.5	0.1	12.52	125.6	7.33
873	940601	300	0.9	15.5	0.1	12.55	125.7	7.32
874	940601	315	0.9	15.5	0.1	12.49	125.3	7.31
875	940601	330	0.9	15.5	0.1	12.47	125.1	7.30
876	940601	345	0.8	15.5	0.1	12.49	125.2	7.29
877	940601	400	0.9	15.5	0.1	12.50	125.5	7.28
878	940601	415	0.8	15.5	0.1	12.51	125.4	7.27
879	940601	430	0.6	15.5	0.1	12.50	125.5	7.28
880	940601	445	0.7	15.7	0.1	12.44	125.4	7.29
881	940601	500	0.7	15.7	0.1	12.44	125.4	7.29
882	940601	515	0.7	15.6	0.1	12.46	125.2	7.26
883	940601	530	0.6	15.7	0.1	12.43	125.1	7.26
884	940601	545	0.6	15.7	0.1	12.43	125.1	7.26
885	940601	600	0.6	15.7	0.1	12.42	125.2	7.25
886	940601	615	0.6	15.8	0.1	12.40	125.1	7.25
887	940601	630	0.6	15.8	0.1	12.41	125.3	7.24
888	940601	645	0.4	15.9	0.1	12.39	125.2	7.24
889	940601	700	0.4	15.8	0.1	12.41	125.3	7.23
890	940601	715	0.6	15.9	0.1	12.40	125.3	7.24
891	940601	730	0.6	15.9	0.1	12.40	125.4	7.24
892	940601	745	3.4	15.4	0.1	12.40	124.1	7.32
893	940601	800	5.4	15.1	0.2	12.28	122.1	7.39
894	940601	815	6.5	15.1	2.20	12.01	120.9	7.69
895	940601	830	6.9	15.0	5.70	11.73	120.5	7.79
896	940601	845	7.2	14.9	7.00	11.72	121.0	7.81
897	940601	900	7.1	14.8	9.20	11.62	121.4	7.82
898	940601	915	6.7	14.7	9.90	11.64	122.0	7.82
899	940601	930	6.1	14.9	8.70	11.74	122.6	7.84
900	940601	945	5.5	15.1	8.50	11.78	123.4	7.86
901	940601	1000	4.9	15.3	5.50	12.01	123.9	7.86
902	940601	1015	4.3	15.4	6.30	11.87	123.4	7.86
903	940601	1030	3.8	15.5	4.40	11.93	122.9	7.86
904	940601	1045	3.3	15.7	4.00	11.99	123.5	7.88
905	940601	1100	3.0	15.8	2.90	12.05	123.7	7.88
906	940601	1115	2.6	15.9	1.90	12.14	124.2	7.87
907	940601	1130	2.3	16.1	1.30	12.20	124.7	7.87
908	940601	1145	2.0	16.3	0.90	12.23	125.3	7.86
909	940601	1200	1.8	16.4	0.60	12.27	125.8	7.86
910	940601	1215	1.6	16.7	0.40	12.29	126.6	7.85
911	940601	1230	1.5	16.9	0.30	12.31	127.2	7.80
912	940601	1245	1.3	17.1	0.20	12.28	127.5	7.77
913	940601	1300	1.2	17.3	0.20	12.26	127.7	7.73
914	940601	1315	1.1	17.5	0.10	12.22	127.7	7.70
915	940601	1330	1.0	17.6	0.10	12.20	127.9	7.67
916	940601	1345	0.9	17.7	0.10	12.18	128.1	7.62
917	940601	1405	0.9	17.9	0.10	12.16	128.2	7.60

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
918	940601	1415	0.8	18.0	0.10	12.15	128.3	7.56
919	940601	1430	0.8	18.0	0.10	12.13	128.2	7.55
920	940601	1445	0.7	18.3	0.10	12.01	127.6	7.53
921	940601	1500	0.7	18.3	0.10	12.01	127.6	7.49
922	940601	1515	0.6	18.3	0.10	12.00	127.5	7.49
923	940601	1525	0.6	18.2	0.10	12.01	127.4	7.46
924	940601	1545	0.5	18.3	0.10	11.96	127.2	7.42
925	940601	1600	0.1	18.4	0.00	12.00	127.8	7.38
926	940601	1615	0.1	21.1	0.00	11.06	124.3	7.68
927	940601	1630	0.2	24.9	0.00	9.85	119.1	7.35
928	940601	1655	0.4	18.5	0.17	.	130.0	7.31
929	940601	1715	0.4	18.5	0.18	.	128.6	7.31
930	940601	1730	0.4	18.5	0.18	.	127.6	7.31
931	940601	1745	0.4	18.5	0.17	.	127.4	7.29
932	940601	1800	0.4	18.5	0.18	.	126.8	7.28
933	940601	1815	0.4	18.5	0.18	.	126.8	7.27
934	940601	1825	0.3	18.4	0.16	.	126.6	7.26
935	940601	1845	0.3	18.3	0.17	.	126.4	7.25
936	940601	1900	0.3	18.3	0.18	.	126.2	7.25
937	940601	1915	0.3	18.3	0.18	.	126.0	7.25
938	940601	1930	0.3	18.2	0.17	.	126.0	7.22
939	940601	1945	0.3	18.1	0.15	.	125.8	7.25
940	940601	2000	0.2	18.1	0.17	.	125.6	7.24
941	940601	2015	3.2	18.7	0.23	.	126.6	7.43
942	940601	2025	5.1	19.0	0.43	.	126.4	7.64
943	940601	2045	6.4	19.2	4.65	.	128.5	7.89
944	940601	2100	6.7	18.5	13.12	.	128.8	7.86
945	940601	2115	7.0	18.1	15.70	.	128.3	7.86
946	940601	2130	6.9	17.9	15.38	.	128.1	7.86
947	940601	2145	6.2	17.8	19.51	.	128.1	7.85
948	940601	2200	5.7	18.2	12.56	.	128.7	7.87
949	940601	2215	5.0	18.3	11.98	.	128.6	7.88
950	940601	2230	4.5	18.4	12.34	.	128.1	7.88
951	940601	2245	4.0	18.5	8.57	.	127.9	7.87
952	940601	2300	3.4	18.7	9.46	.	127.9	7.89
953	940601	2315	2.9	18.8	6.79	.	127.2	7.89
954	940601	2330	2.6	18.9	4.95	.	126.6	7.89
955	940601	2345	2.2	18.8	3.30	.	125.6	7.86
956	940602	0	1.9	18.8	2.26	.	124.7	7.84
957	940602	15	1.7	18.7	1.58	.	124.1	7.81
958	940602	30	1.5	18.5	1.11	.	123.4	7.76
959	940602	45	1.4	18.3	0.76	.	123.2	7.71
960	940602	100	1.2	18.2	0.57	.	122.9	7.66
961	940602	115	1.1	18.1	0.41	.	123.4	7.59
962	940602	130	1.0	17.9	0.34	.	123.6	7.56
963	940602	145	0.8	17.9	0.28	.	123.6	7.53

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
964	940602	200	0.8	17.8	0.24	.	124.1	7.50
965	940602	215	0.7	17.7	0.22	.	124.0	7.47
966	940602	230	0.7	17.7	0.22	.	124.4	7.44
967	940602	245	0.6	17.6	0.21	.	124.5	7.41
968	940602	300	0.5	17.7	0.18	.	124.9	7.40
969	940602	315	0.5	17.7	0.15	.	125.3	7.40
970	940602	330	0.4	17.7	0.14	.	125.3	7.38
971	940602	345	0.3	17.7	0.14	.	125.1	7.37
972	940602	400	0.3	17.7	0.13	.	125.4	7.35
973	940602	415	0.3	17.7	0.13	.	125.3	7.34
974	940602	430	0.3	17.7	0.12	.	125.7	7.33
975	940602	445	0.2	17.8	0.12	.	125.4	7.33
976	940602	500	0.2	17.8	0.12	.	125.4	7.32
977	940602	515	0.2	17.9	0.12	.	125.3	7.31
978	940602	530	0.1	17.9	0.13	.	125.7	7.28
979	940602	545	0.0	17.9	0.15	.	125.7	7.30
980	940602	600	0.0	17.7	0.22	.	124.6	7.26
981	940602	615	0.0	17.5	0.29	.	124.9	7.21
982	940602	630	0.0	17.5	0.29	.	124.4	7.23
983	940602	645	0.0	17.3	0.36	.	124.5	7.18
984	940602	700	-0.1	17.6	0.30	.	124.5	7.22
985	940602	715	-0.1	17.8	0.27	.	125.1	7.22
986	940602	730	-0.1	17.9	0.21	.	125.2	7.22
987	940602	745	-0.1	18.2	0.17	.	126.0	7.24
988	940602	800	-0.1	18.2	0.17	.	125.7	7.24
989	940602	815	-0.1	18.2	0.19	.	125.4	7.23
990	940602	830	0.3	18.3	0.19	.	126.1	7.20
991	940602	845	3.1	18.1	0.24	.	121.5	7.36
992	940602	905	4.9	17.9	0.35	.	121.0	7.51
993	940602	915	5.8	17.7	5.08	.	120.1	7.76
994	940602	930	6.2	17.5	8.99	.	120.6	7.81
995	940602	945	6.3	17.1	15.77	.	121.6	7.81
996	940602	1000	6.1	17.3	16.23	.	121.7	7.83
997	940602	1015	5.4	17.1	15.85	.	122.2	7.82
998	940602	1030	4.8	17.3	13.81	.	124.0	7.85
999	940602	1045	4.4	17.8	11.08	.	125.4	7.91
1000	940602	1100	3.9	18.0	9.33	.	125.3	7.92
1001	940602	1115	3.4	18.1	10.39	.	124.6	7.91
1002	940602	1130	2.9	18.3	7.73	.	124.4	7.93
1003	940602	1145	2.6	18.5	5.96	.	124.8	7.95
1004	940602	1205	2.2	18.7	4.48	.	125.1	7.96
1005	940602	1215	1.9	18.9	2.97	.	125.5	7.95
1006	940602	1230	1.7	18.9	2.03	.	126.0	7.95
1007	940602	1245	1.5	19.0	1.43	.	126.4	7.93
1008	940602	1300	1.4	19.1	1.05	.	126.7	7.93
1009	940602	1315	1.1	19.2	0.81	.	127.0	7.93

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1010	940602	1330	1.2	19.3	0.58	.	127.6	7.90
1011	940602	1345	1.0	19.4	0.46	.	127.9	7.86
1012	940602	1400	0.9	19.5	0.35	.	128.3	7.80
1013	940602	1415	0.8	19.6	0.30	.	128.8	7.77
1014	940602	1430	0.7	19.6	0.25	.	128.8	7.72
1015	940602	1445	0.6	19.8	0.23	.	129.1	7.69
1016	940602	1500	0.6	19.9	0.21	.	129.4	7.67
1017	940602	1515	0.6	19.9	0.19	.	129.1	7.61
1018	940602	1530	0.5	20.1	0.19	.	129.4	7.60
1019	940602	1545	0.4	20.1	0.18	.	129.3	7.60
1020	940602	1600	0.3	20.1	0.17	.	129.0	7.54
1021	940602	1615	0.3	20.1	0.16	.	128.7	7.49
1022	940602	1630	0.3	20.1	0.16	.	128.8	7.50
1023	940602	1645	0.2	20.1	0.16	.	128.7	7.46
1024	940602	1700	0.2	20.1	0.16	.	128.2	7.44
1025	940602	1715	0.2	20.1	0.15	.	128.2	7.43
1026	940602	1730	0.2	20.1	0.15	.	128.0	7.42
1027	940602	1745	0.2	20.1	0.15	.	127.8	7.40
1028	940602	1805	0.1	20.0	0.15	.	126.9	7.41
1029	940602	1815	0.1	19.9	0.15	.	127.1	7.38
1030	940602	1830	0.1	19.9	0.15	.	127.2	7.38
1031	940602	1845	0.1	19.7	0.19	.	127.3	7.36
1032	940602	1900	0.1	19.7	0.14	.	127.3	7.37
1033	940602	1915	0.1	19.6	0.14	.	127.1	7.37
1034	940602	1935	0.0	19.5	0.14	.	127.0	7.35
1035	940602	1945	0.0	19.3	0.16	.	126.8	7.35
1036	940602	2000	0.0	19.3	0.14	.	126.6	7.36
1037	940602	2015	0.0	19.1	0.15	.	126.1	7.34
1038	940602	2030	0.0	19.0	0.16	.	125.4	7.35
1039	940602	2045	0.0	18.9	0.16	.	125.5	7.34
1040	940602	2100	1.4	19.0	0.16	.	125.8	7.37
1041	940602	2115	4.0	18.9	0.27	.	122.5	7.57
1042	940602	2130	5.6	19.1	1.61	.	123.8	7.86
1043	940602	2145	6.4	18.8	8.57	.	126.1	7.93
1044	940602	2200	6.7	18.1	18.49	.	126.0	7.88
1045	940602	2215	6.7	17.9	19.29	.	125.1	7.88
1046	940602	2230	6.4	17.8	20.83	.	124.7	7.88
1047	940602	2245	5.9	17.7	17.77	.	125.5	7.88
1048	940602	2300	5.3	17.9	13.74	.	125.6	7.90
1049	940602	2315	4.8	18.0	13.06	.	125.3	7.91
1050	940602	2330	4.2	18.0	14.26	.	125.1	7.90
1051	940602	2345	3.7	18.1	9.52	.	125.0	7.91
1052	940603	5	3.2	18.3	10.31	.	124.6	7.92
1053	940603	15	2.8	18.3	7.73	.	124.0	7.92
1054	940603	30	2.4	18.4	5.71	.	123.4	7.93
1055	940603	45	2.1	18.5	3.90	.	122.5	7.92

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1056	940603	100	1.8	18.5	2.92	.	121.6	7.92
1057	940603	115	1.6	18.4	2.28	.	121.1	7.90
1058	940603	130	1.5	18.3	1.60	.	120.5	7.88
1059	940603	145	1.3	18.2	1.09	.	120.2	7.85
1060	940603	200	1.1	18.2	0.78	.	120.2	7.82
1061	940603	215	1.0	18.1	0.60	.	120.4	7.77
1062	940603	230	0.9	18.1	0.44	.	120.5	7.72
1063	940603	245	0.8	18.0	0.36	.	120.6	7.69
1064	940603	300	0.7	18.0	0.32	.	120.6	7.65
1065	940603	315	0.7	17.9	0.27	.	120.9	7.63
1066	940603	330	0.6	17.9	0.24	.	121.4	7.59
1067	940603	345	0.6	17.9	0.22	.	121.4	7.56
1068	940603	400	0.5	17.9	0.20	.	121.8	7.52
1069	940603	415	0.5	17.8	0.18	.	121.9	7.50
1070	940603	430	0.4	17.8	0.17	.	122.0	7.47
1071	940603	445	0.4	17.7	0.16	.	122.1	7.44
1072	940603	500	0.3	17.7	0.16	.	121.8	7.43
1073	940603	515	0.3	17.7	0.15	.	121.7	7.41
1074	940603	530	0.3	17.7	0.16	.	121.2	7.40
1075	940603	545	0.3	17.5	0.17	.	121.7	7.37
1076	940603	600	0.3	17.5	0.18	.	121.5	7.37
1077	940603	615	0.3	17.5	0.17	.	121.5	7.37
1078	940603	630	0.3	17.4	0.19	.	121.2	7.35
1079	940603	645	0.2	17.4	0.17	.	121.4	7.35
1080	940603	700	0.2	17.3	0.19	.	121.6	7.31
1081	940603	715	0.2	17.3	0.18	.	121.2	7.31
1082	940603	730	0.0	17.2	0.18	.	121.1	7.32
1083	940603	745	0.1	17.3	0.18	.	121.1	7.32
1084	940603	800	0.1	17.3	0.16	.	121.2	7.29
1085	940603	815	0.1	17.1	0.18	.	121.4	7.30
1086	940603	830	0.1	17.1	0.17	.	121.4	7.29
1087	940603	845	0.1	17.2	0.15	.	121.3	7.31
1088	940603	900	0.1	17.1	0.16	.	121.4	7.28
1089	940603	915	0.1	17.1	0.17	.	121.6	7.29
1090	940603	930	0.4	17.1	0.16	.	121.7	7.29
1091	940603	945	3.1	16.8	0.24	.	118.1	7.43
1092	940603	1000	4.7	16.6	0.39	.	117.7	7.55
1093	940603	1010	5.6	16.3	4.48	.	117.4	7.78
1094	940603	1030	5.9	16.1	9.17	.	117.7	7.85
1095	940603	1045	6.0	15.8	11.65	.	118.7	7.85
1096	940603	1100	5.8	15.7	12.66	.	119.4	7.88
1097	940603	1115	5.3	15.6	14.37	.	119.5	7.86
1098	940603	1130	4.6	15.7	14.61	.	120.5	7.88
1099	940603	1145	4.2	15.8	9.97	.	121.1	7.91
1100	940603	1200	3.8	15.9	10.65	.	120.9	7.92
1101	940603	1215	3.3	15.9	8.91	.	120.6	7.92

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1102	940603	1230	2.9	16.0	6.71	.	120.3	7.94
1103	940603	1245	2.5	16.1	5.33	.	120.9	7.96
1104	940603	1300	2.2	16.1	4.01	.	121.2	7.96
1105	940603	1315	2.0	16.2	2.98	.	121.3	7.96
1106	940603	1330	1.8	16.3	2.21	.	121.5	7.97
1107	940603	1345	1.6	16.4	1.66	.	121.9	7.97
1108	940603	1400	1.4	16.5	1.17	.	122.6	7.97
1109	940603	1415	1.2	16.7	0.85	.	122.9	7.96
1110	940603	1430	1.2	16.8	0.64	.	123.2	7.94
1111	940603	1445	1.0	17.0	0.49	.	124.0	7.92
1112	940603	1500	0.9	17.1	0.40	.	124.1	7.89
1113	940603	1515	0.9	17.2	0.34	.	124.7	7.87
1114	940603	1530	0.8	17.4	0.30	.	125.3	7.86
1115	940603	1545	0.7	17.5	0.26	.	125.7	7.83
1116	940603	1600	0.7	17.5	0.24	.	125.5	7.81
1117	940603	1615	0.6	17.7	0.22	.	125.6	7.79
1118	940603	1630	0.5	17.7	0.21	.	125.9	7.76
1119	940603	1645	0.6	17.8	0.20	.	125.8	7.75
1120	940603	1700	0.5	17.9	0.18	.	125.5	7.71
1121	940603	1715	0.5	17.9	0.18	.	125.7	7.71
1122	940603	1730	0.4	17.9	0.17	.	126.1	7.68
1123	940603	1745	0.4	17.9	0.17	.	125.2	7.68
1124	940603	1800	0.3	17.9	0.16	.	125.2	7.65
1125	940603	1815	0.2	17.9	0.16	.	125.4	7.64
1126	940603	1830	0.2	17.9	0.17	.	125.2	7.64
1127	940603	1845	0.2	17.9	0.16	.	125.3	7.60
1128	940603	1900	0.2	17.9	0.15	.	125.0	7.59
1129	940603	1915	0.2	17.8	0.18	.	124.7	7.55
1130	940603	1930	0.2	17.7	0.20	.	124.1	7.52
1131	940603	1945	0.2	17.7	0.17	.	123.9	7.50
1132	940603	2000	0.2	17.6	0.16	.	123.8	7.49
1133	940603	2015	0.2	17.5	0.20	.	123.4	7.46
1134	940603	2030	0.3	17.4	0.23	.	123.1	7.41
1135	940603	2045	0.2	17.5	0.19	.	122.7	7.41
1136	940603	2100	0.3	17.4	0.20	.	122.2	7.40
1137	940603	2115	0.3	17.3	0.18	.	122.0	7.37
1138	940603	2130	0.3	17.2	0.16	.	121.3	7.38
1139	940603	2145	0.3	17.1	0.14	.	120.7	7.38
1140	940603	2200	2.8	17.3	0.16	.	121.2	7.44
1141	940603	2215	4.5	17.1	0.23	.	120.5	7.65
1142	940603	2230	5.9	16.7	4.80	.	123.7	7.92
1143	940603	2245	6.4	16.2	10.51	.	124.2	7.91
1144	940603	2300	6.4	15.8	13.78	.	123.9	7.89
1145	940603	2315	6.4	15.5	15.90	.	123.6	7.88
1146	940603	2330	6.0	15.6	15.64	.	123.3	7.89
1147	940603	2345	5.4	15.5	16.36	.	124.1	7.90

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1148	940604	0	4.8	15.7	12.76	.	124.2	7.91
1149	940604	15	4.4	15.8	13.20	.	123.9	7.91
1150	940604	30	3.9	15.9	11.50	.	123.9	7.92
1151	940604	45	3.4	16.0	10.10	.	123.8	7.92
1152	940604	100	3.0	16.1	8.42	.	123.5	7.92
1153	940604	115	2.6	16.2	6.57	.	122.8	7.94
1154	940604	130	2.3	16.3	4.90	.	121.8	7.95
1155	940604	140	2.0	16.4	3.42	.	121.2	7.94
1156	940604	200	1.8	16.5	2.54	.	120.1	7.94
1157	940604	215	1.6	16.5	1.82	.	119.6	7.91
1158	940604	230	1.4	16.5	1.29	.	118.9	7.88
1159	940604	245	1.3	16.5	0.93	.	118.4	7.85
1160	940604	300	1.2	16.5	0.68	.	117.7	7.80
1161	940604	315	1.1	16.5	0.51	.	117.1	7.77
1162	940604	330	1.0	16.5	0.41	.	116.7	7.71
1163	940604	345	0.9	16.5	0.33	.	116.7	7.66
1164	940604	400	0.9	16.5	0.27	.	116.4	7.61
1165	940604	415	0.9	16.5	0.25	.	116.3	7.59
1166	940604	430	0.8	16.5	0.22	.	116.1	7.55
1167	940604	445	0.8	16.5	0.19	.	116.1	7.50
1168	940604	500	0.7	16.5	0.18	.	115.8	7.50
1169	940604	515	0.7	16.5	0.17	.	115.6	7.47
1170	940604	530	0.8	16.4	0.16	.	115.7	7.44
1171	940604	545	0.7	16.4	0.15	.	115.5	7.42
1172	940604	555	0.7	16.4	0.15	.	115.5	7.41
1173	940604	615	0.7	16.3	0.14	.	115.6	7.38
1174	940604	630	0.6	16.3	0.14	.	116.0	7.37
1175	940604	645	0.6	16.3	0.14	.	115.9	7.35
1176	940604	700	0.6	15.9	0.18	.	116.6	7.32
1177	940604	715	0.6	16.1	0.15	.	116.4	7.34
1178	940604	730	0.5	16.0	0.16	.	117.4	7.32
1179	940604	745	0.5	16.1	0.15	.	117.1	7.31
1180	940604	800	0.5	16.1	0.13	.	118.1	7.33
1181	940604	815	0.5	15.8	0.18	.	119.2	7.30
1182	940604	830	0.5	16.0	0.17	.	119.5	7.33
1183	940604	845	0.4	15.7	0.21	.	120.2	7.30
1184	940604	900	0.5	16.0	0.18	.	119.8	7.33
1185	940604	915	0.5	16.1	0.18	.	120.5	7.32
1186	940604	930	0.5	16.1	0.19	.	120.2	7.32
1187	940604	945	0.5	16.3	0.20	.	120.3	7.29
1188	940604	1000	0.5	16.3	0.20	.	121.1	7.29
1189	940604	1015	0.5	16.6	0.19	.	121.4	7.31
1190	940604	1030	0.7	16.7	0.18	.	122.3	7.31
1191	940604	1045	3.5	16.7	0.25	.	122.9	7.52
1192	940604	1100	4.8	16.5	0.39	.	123.3	7.73
1193	940604	1115	5.7	15.9	5.47	.	122.9	7.91

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1194	940604	1130	5.9	15.6	8.34	.	123.3	7.91
1195	940604	1145	5.8	15.5	13.94	.	123.1	7.90
1196	940604	1200	5.4	15.4	16.99	.	123.4	7.90
1197	940604	1215	4.8	15.4	14.78	.	124.6	7.91
1198	940604	1230	4.4	16.1	11.67	.	130.3	8.03
1199	940604	1245	4.0	16.1	12.24	.	129.3	8.03
1200	940604	1300	3.6	16.3	8.10	.	128.1	8.02
1201	940604	1315	3.2	16.5	7.44	.	128.5	8.04
1202	940604	1330	2.7	16.9	5.74	.	129.1	8.07
1203	940604	1345	2.4	17.1	4.40	.	129.8	8.10
1204	940604	1400	2.1	17.3	3.26	.	129.9	8.13
1205	940604	1410	1.9	17.4	2.47	.	129.9	8.15
1206	940604	1430	1.7	17.5	1.90	.	129.4	8.15
1207	940604	1445	1.5	17.8	1.39	.	129.5	8.16
1208	940604	1500	1.4	17.9	1.02	.	129.5	8.15
1209	940604	1515	1.4	18.1	0.74	.	129.5	8.14
1210	940604	1530	1.3	18.1	0.60	.	129.5	8.12
1211	940604	1545	1.2	18.2	0.50	.	129.2	8.08
1212	940604	1600	1.1	18.3	0.40	.	129.4	8.05
1213	940604	1615	1.0	18.4	0.35	.	129.5	8.01
1214	940604	1630	1.0	18.3	0.31	.	129.2	7.98
1215	940604	1645	0.9	18.3	0.28	.	128.9	7.92
1216	940604	1700	0.8	18.4	0.25	.	129.0	7.89
1217	940604	1715	0.8	18.3	0.23	.	128.6	7.82
1218	940604	1730	0.7	18.5	0.22	.	128.7	7.80
1219	940604	1745	0.7	18.4	0.21	.	129.0	7.75
1220	940604	1800	0.7	18.5	0.20	.	128.7	7.71
1221	940604	1815	0.7	18.5	0.20	.	128.7	7.68
1222	940604	1830	0.6	18.5	0.19	.	128.9	7.65
1223	940604	1845	0.6	18.4	0.22	.	128.5	7.58
1224	940604	1900	0.6	18.4	0.19	.	128.0	7.58
1225	940604	1915	0.5	18.3	0.24	.	127.3	7.50
1226	940604	1930	0.5	18.1	0.26	.	126.3	7.47
1227	940604	1945	0.4	18.1	0.26	.	125.8	7.46
1228	940604	2000	0.5	18.1	0.27	.	125.4	7.45
1229	940604	2015	0.5	18.0	0.26	.	124.8	7.43
1230	940604	2030	0.6	17.9	0.26	.	124.7	7.39
1231	940604	2045	0.6	17.8	0.27	.	123.9	7.38
1232	940604	2100	0.6	17.7	0.25	.	123.8	7.37
1233	940604	2115	0.5	17.7	0.23	.	123.6	7.35
1234	940604	2137	0.7	17.7	0.24	.	123.2	7.35
1235	940604	2145	0.6	17.7	0.17	.	123.4	7.32
1236	940604	2200	0.7	17.5	0.14	.	122.7	7.34
1237	940604	2215	0.7	17.2	0.13	.	122.2	7.32
1238	940604	2230	0.7	16.9	0.12	.	121.7	7.30
1239	940604	2245	0.7	17.0	0.13	.	121.4	7.25

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1240	940604	2300	3.7	16.9	0.26	.	120.8	7.47
1241	940604	2315	5.5	17.1	0.96	.	122.3	7.62
1242	940604	2330	6.5	16.9	8.20	.	126.3	7.89
1243	940604	2345	7.0	16.6	12.45	.	126.6	7.89
1244	940605	0	7.1	16.1	15.96	.	126.4	7.88
1245	940605	15	6.9	16.0	15.55	.	126.4	7.88
1246	940605	30	6.3	15.9	19.11	.	126.4	7.88
1247	940605	45	5.7	15.9	19.00	.	126.9	7.89
1248	940605	100	5.3	16.1	17.45	.	126.5	7.89
1249	940605	115	4.7	16.2	12.40	.	126.1	7.91
1250	940605	130	4.2	16.3	13.12	.	126.0	7.90
1251	940605	145	3.7	16.3	9.74	.	125.4	7.91
1252	940605	200	3.3	16.4	10.80	.	124.8	7.90
1253	940605	215	3.0	16.5	8.12	.	124.2	7.92
1254	940605	230	2.6	16.5	6.07	.	122.9	7.93
1255	940605	245	2.3	16.5	4.46	.	122.0	7.92
1256	940605	300	2.2	16.5	3.37	.	121.4	7.92
1257	940605	315	2.0	16.5	2.54	.	120.3	7.92
1258	940605	330	1.8	16.5	1.96	.	119.6	7.90
1259	940605	345	1.7	16.5	1.42	.	119.0	7.86
1260	940605	400	1.6	16.4	1.10	.	118.6	7.83
1261	940605	415	1.5	16.4	0.84	.	118.1	7.79
1262	940605	430	1.4	16.5	0.64	.	117.5	7.74
1263	940605	445	1.3	16.5	0.55	.	117.3	7.70
1264	940605	500	1.3	16.5	0.48	.	117.1	7.65
1265	940605	515	1.2	16.5	0.40	.	117.0	7.61
1266	940605	530	1.3	16.5	0.35	.	117.0	7.58
1267	940605	545	1.3	16.5	0.31	.	116.6	7.53
1268	940605	600	1.1	16.5	0.28	.	116.6	7.50
1269	940605	615	1.2	16.5	0.26	.	116.7	7.48
1270	940605	630	1.1	16.6	0.24	.	116.8	7.46
1271	940605	645	1.1	16.6	0.23	.	117.3	7.44
1272	940605	700	1.1	16.6	0.21	.	117.7	7.43
1273	940605	715	1.1	16.7	0.21	.	118.1	7.41
1274	940605	730	1.1	16.7	0.20	.	118.5	7.40
1275	940605	745	0.9	16.6	0.23	.	119.4	7.38
1276	940605	800	0.9	16.7	0.22	.	119.6	7.38
1277	940605	815	0.8	16.9	0.23	.	120.4	7.37
1278	940605	830	0.9	17.0	0.22	.	120.7	7.37
1279	940605	845	0.9	17.1	0.20	.	120.7	7.40
1280	940605	900	0.7	17.1	0.63	.	121.8	7.22
1281	940605	915	0.9	16.8	3.82	.	124.6	7.37
1282	940605	930	0.9	17.3	0.32	.	124.2	7.69
1283	940605	945	0.9	17.1	4.65	.	125.9	7.30
1284	940605	1000	0.7	17.3	6.51	.	126.9	7.25
1285	940605	1015	0.8	17.8	1.63	.	124.9	7.43

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1286	940605	1030	0.8	17.9	1.20	.	125.1	7.37
1287	940605	1045	0.9	18.1	1.55	.	125.6	7.35
1288	940605	1100	0.8	18.4	0.57	.	125.4	7.44
1289	940605	1115	0.8	18.7	0.29	.	125.7	7.36
1290	940605	1130	2.4	18.1	0.28	.	128.4	7.50
1291	940605	1145	4.4	17.5	0.39	.	126.7	7.66
1292	940605	1200	5.7	16.8	3.31	.	127.5	7.85
1293	940605	1215	6.0	16.4	7.85	.	127.7	7.92
1294	940605	1230	6.0	16.3	12.32	.	128.1	7.92
1295	940605	1245	5.7	16.2	15.94	.	128.0	7.91
1296	940605	1300	5.1	16.2	15.14	.	128.2	7.91
1297	940605	1315	4.6	16.6	15.68	.	131.7	7.98
1298	940605	1330	4.2	16.7	11.59	.	132.6	8.01
1299	940605	1345	3.8	16.8	10.93	.	132.8	8.02
1300	940605	1400	3.4	16.9	11.25	.	132.2	8.03
1301	940605	1415	3.0	17.1	7.83	.	132.1	8.04
1302	940605	1430	2.6	17.4	5.73	.	131.9	8.06
1303	940605	1445	2.3	17.7	4.37	.	132.0	8.08
1304	940605	1500	2.0	17.8	3.21	.	131.5	8.09
1305	940605	1515	1.9	17.9	2.50	.	131.1	8.10
1306	940605	1530	1.8	18.1	1.85	.	130.9	8.10
1307	940605	1545	1.7	18.3	1.32	.	130.3	8.08
1308	940605	1600	1.5	18.4	1.04	.	130.0	8.05
1309	940605	1615	1.5	18.5	0.83	.	129.3	8.03
1310	940605	1630	1.4	18.7	0.66	.	129.4	8.01
1311	940605	1645	1.3	18.7	0.56	.	129.2	7.98
1312	940605	1700	1.2	18.8	0.48	.	129.2	7.96
1313	940605	1715	1.1	18.9	0.42	.	128.8	7.93
1314	940605	1730	1.1	18.9	0.37	.	128.4	7.89
1315	940605	1745	1.0	18.9	0.34	.	128.2	7.86
1316	940605	1800	1.0	18.9	0.32	.	128.0	7.82
1317	940605	1815	0.9	18.9	0.29	.	127.6	7.77
1318	940605	1830	0.9	18.8	0.27	.	127.9	7.74
1319	940605	1845	0.8	18.7	0.26	.	127.2	7.70
1320	940605	1900	0.8	18.7	0.26	.	126.9	7.66
1321	940605	1915	0.8	18.6	0.24	.	126.5	7.62
1322	940605	1930	0.8	18.5	0.30	.	126.2	7.58
1323	940605	1945	0.7	18.3	0.30	.	125.9	7.55
1324	940605	2000	0.7	18.2	0.32	.	125.4	7.52
1325	940605	2015	0.7	18.2	0.26	.	125.0	7.51
1326	940605	2030	0.6	17.9	0.36	.	124.2	7.45
1327	940605	2045	0.6	18.0	0.22	.	124.5	7.46
1328	940605	2100	0.6	17.7	0.31	.	123.7	7.39
1329	940605	2115	0.7	17.6	0.30	.	123.0	7.37
1330	940605	2130	0.7	17.4	0.33	.	122.6	7.37
1331	940605	2145	0.7	17.3	0.21	.	122.3	7.37

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1332	940605	2200	0.9	17.2	0.14	.	121.7	7.37
1333	940605	2215	0.7	17.0	0.12	.	121.8	7.30
1334	940605	2230	0.6	16.9	0.13	.	121.5	7.32
1335	940605	2245	0.8	16.9	0.13	.	121.1	7.33
1336	940605	2300	0.8	16.7	0.12	.	120.7	7.31
1337	940605	2315	0.9	16.7	0.00	.	119.8	7.30
1338	940605	2330	0.8	16.5	0.00	.	119.8	7.28
1339	940605	2345	2.7	16.8	0.24	.	121.9	7.37
1340	940606	0	4.9	16.5	0.32	.	121.3	7.62
1341	940606	15	6.3	16.5	7.32	.	124.7	7.83
1342	940606	30	6.8	16.1	14.42	.	125.7	7.88
1343	940606	45	7.1	15.7	16.29	.	126.1	7.86
1344	940606	100	6.9	15.5	18.33	.	126.2	7.86
1345	940606	120	6.4	15.5	20.71	.	125.8	7.88
1346	940606	130	5.8	15.5	21.35	.	126.7	7.87
1347	940606	145	5.4	15.6	15.06	.	126.2	7.89
1348	940606	200	4.8	15.7	14.73	.	125.7	7.88
1349	940606	215	4.3	15.7	16.29	.	125.5	7.89
1350	940606	230	3.8	15.8	11.93	.	125.1	7.88
1351	940606	245	3.3	15.9	12.32	.	124.8	7.88
1352	940606	300	3.0	15.9	9.66	.	124.2	7.89
1353	940606	315	2.6	16.1	7.62	.	123.0	7.91
1354	940606	330	2.4	16.1	5.90	.	122.1	7.92
1355	940606	345	2.2	16.1	4.39	.	121.6	7.92
1356	940606	400	2.0	16.1	3.45	.	120.8	7.92
1357	940606	415	1.8	16.1	2.61	.	120.3	7.91
1358	940606	430	1.6	16.1	1.97	.	119.7	7.89
1359	940606	445	1.6	16.0	1.52	.	119.3	7.87
1360	940606	500	1.5	16.0	1.18	.	119.0	7.85
1361	940606	515	1.4	16.0	0.91	.	118.6	7.81
1362	940606	530	1.3	16.0	0.72	.	118.3	7.77
1363	940606	545	1.2	16.0	0.61	.	118.1	7.74
1364	940606	600	1.2	16.0	0.54	.	118.3	7.70
1365	940606	615	1.2	16.0	0.46	.	118.1	7.66
1366	940606	630	1.1	16.1	0.38	.	118.0	7.62
1367	940606	645	1.1	16.1	0.36	.	118.0	7.59
1368	940606	700	1.0	16.1	0.33	.	118.0	7.56
1369	940606	715	0.9	16.1	0.31	.	118.7	7.55
1370	940606	730	0.9	16.1	0.30	.	118.4	7.54
1371	940606	745	1.0	16.1	0.31	.	119.2	7.51
1372	940606	800	1.0	16.1	0.33	.	119.7	7.48
1373	940606	815	0.9	16.2	0.33	.	120.4	7.47
1374	940606	830	0.8	16.3	0.33	.	120.3	7.47
1375	940606	845	0.8	16.3	0.38	.	121.4	7.44
1376	940606	900	0.8	16.3	0.34	.	121.5	7.44
1377	940606	915	0.7	16.6	0.31	.	121.9	7.45
1378	940606	930	0.6	16.6	0.32	.	122.1	7.44

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1379	940606	945	0.6	16.7	0.29	.	122.2	7.46
1380	940606	1000	0.6	16.7	0.28	.	122.8	7.45
1381	940606	1015	0.6	16.9	0.31	.	123.3	7.44
1382	940606	1030	0.6	17.0	0.34	.	123.5	7.44
1383	940606	1045	0.6	17.1	0.27	.	124.0	7.44
1384	940606	1100	0.6	17.2	0.18	.	124.7	7.43
1385	940606	1115	0.6	17.3	0.15	.	124.8	7.42
1386	940606	1130	0.6	17.4	0.15	.	125.0	7.43
1387	940606	1145	0.6	17.5	0.00	.	124.9	7.44
1388	940606	1200	0.6	17.9	0.00	.	125.5	7.43
1389	940606	1215	1.1	17.8	0.20	.	126.6	7.44
1390	940606	1230	4.0	17.3	0.47	.	126.6	7.71
1391	940606	1245	5.4	16.9	3.00	.	127.6	7.83
1392	940606	1300	5.9	16.3	8.94	.	128.8	7.90
1393	940606	1315	6.1	16.3	9.47	.	128.8	7.91
1394	940606	1330	5.9	16.1	12.09	.	129.4	7.89
1395	940606	1345	5.3	16.3	19.31	.	130.6	7.92
1396	940606	1400	4.7	16.2	17.31	.	131.1	7.92
1397	940606	1415	4.4	16.6	8.43	.	133.8	7.97
1398	940606	1430	3.9	16.9	14.68	.	134.3	8.00
1399	940606	1445	3.4	17.1	12.86	.	134.3	8.00
1400	940606	1500	3.0	17.4	13.06	.	133.9	8.00
1401	940606	1515	2.6	17.6	8.91	.	133.2	8.01
1402	940606	1530	2.3	17.7	7.40	.	133.4	8.04
1403	940606	1545	2.0	17.8	5.84	.	132.1	8.05
1404	940606	1600	1.8	17.9	4.39	.	131.7	8.06
1405	940606	1615	1.7	18.0	3.26	.	130.7	8.07
1406	940606	1630	1.5	18.1	2.45	.	130.2	8.08
1407	940606	1645	1.4	18.2	1.88	.	129.9	8.09
1408	940606	1700	1.2	18.4	1.52	.	129.6	8.09
1409	940606	1715	1.1	18.5	1.21	.	129.0	8.08
1410	940606	1730	1.1	18.6	0.96	.	128.7	8.06
1411	940606	1745	1.0	18.7	0.81	.	128.2	8.04
1412	940606	1800	0.9	18.7	0.68	.	127.7	8.02
1413	940606	1815	0.8	18.7	0.60	.	127.5	7.98
1414	940606	1830	0.8	18.7	0.53	.	127.1	7.95
1415	940606	1845	0.7	18.7	0.47	.	127.2	7.92
1416	940606	1900	0.7	18.7	0.43	.	126.7	7.89
1417	940606	1915	0.6	18.7	0.40	.	126.7	7.86
1418	940606	1930	0.6	18.6	0.37	.	126.5	7.83
1419	940606	1945	0.6	18.5	0.34	.	126.1	7.80
1420	940606	2005	0.6	18.5	0.33	.	126.0	7.77
1421	940606	2015	0.6	18.3	0.31	.	125.4	7.74
1422	940606	2030	0.4	18.3	0.30	.	125.1	7.71
1423	940606	2045	0.4	18.2	0.32	.	125.0	7.66
1424	940606	2100	0.4	18.0	0.37	.	124.5	7.60

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1425	940606	2115	0.3	18.0	0.32	.	124.6	7.62
1426	940606	2130	0.3	17.9	0.37	.	124.1	7.58
1427	940606	2145	0.4	17.9	0.28	.	124.3	7.58
1428	940606	2200	0.5	17.7	0.28	.	124.3	7.55
1429	940606	2215	0.5	17.7	0.18	.	124.1	7.55
1430	940606	2230	0.3	17.5	0.13	.	123.4	7.52
1431	940606	2245	0.3	17.3	0.13	.	123.4	7.48
1432	940606	2300	0.3	17.3	0.13	.	122.8	7.49
1433	940606	2315	0.4	17.3	0.00	.	122.2	7.47
1434	940606	2330	0.4	17.1	0.00	.	121.5	7.47
1435	940606	2345	0.4	16.9	0.00	.	120.9	7.46
1436	940607	0	0.4	16.6	0.00	.	120.8	7.45
1437	940607	15	0.4	16.3	0.00	.	119.1	7.44
1438	940607	30	3.4	16.9	0.41	.	121.3	7.65
1439	940607	50	5.5	17.0	2.40	.	122.4	7.77
1440	940607	100	6.8	16.6	13.13	.	123.5	7.84
1441	940607	115	7.4	16.1	20.20	.	124.6	7.83
1442	940607	130	7.5	15.9	21.53	.	125.5	7.85
1443	940607	145	7.5	15.7	27.59	.	126.1	7.85
1444	940607	200	7.0	15.6	25.20	.	126.8	7.85
1445	940607	215	6.3	15.7	22.61	.	126.8	7.86
1446	940607	230	5.8	15.8	14.41	.	126.3	7.86
1447	940607	245	5.3	15.9	22.80	.	125.5	7.85
1448	940607	300	4.6	15.9	16.27	.	125.1	7.85
1449	940607	315	4.0	16.1	17.99	.	124.4	7.85
1450	940607	330	3.5	16.1	16.39	.	124.2	7.85
1451	940607	345	3.1	16.2	14.28	.	123.3	7.85
1452	940607	400	2.7	16.3	13.40	.	122.4	7.85
1453	940607	415	2.4	16.4	9.61	.	121.7	7.86
1454	940607	430	2.1	16.5	9.31	.	120.9	7.88
1455	940607	445	1.9	16.5	6.98	.	120.6	7.90
1456	940607	500	1.6	16.5	5.67	.	119.8	7.92
1457	940607	515	1.5	16.5	4.51	.	119.1	7.91
1458	940607	530	1.3	16.5	3.59	.	118.8	7.92
1459	940607	545	1.2	16.5	2.85	.	118.8	7.93
1460	940607	600	1.1	16.5	2.25	.	118.4	7.94
1461	940607	615	1.0	16.5	1.79	.	118.1	7.94
1462	940607	630	0.9	16.5	1.42	.	118.1	7.92
1463	940607	645	0.9	16.5	1.14	.	118.0	7.92
1464	940607	700	0.9	16.5	0.93	.	118.0	7.89
1465	940607	715	0.9	16.5	0.79	.	117.8	7.87
1466	940607	730	0.7	16.5	0.67	.	118.2	7.85
1467	940607	745	0.7	16.5	0.58	.	117.8	7.82
1468	940607	800	0.6	16.5	0.52	.	118.4	7.80
1469	940607	815	0.6	16.4	0.44	.	118.6	7.80
1470	940607	830	0.6	15.9	0.63	.	119.7	7.76

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1471	940607	845	0.5	15.9	0.55	.	119.8	7.67
1472	940607	900	0.4	15.9	0.51	.	119.8	7.56
1473	940607	915	0.5	15.9	0.49	.	119.6	7.52
1474	940607	930	0.4	16.0	0.48	.	119.3	7.52
1475	940607	945	0.3	16.1	0.43	.	119.0	7.51
1476	940607	1000	0.3	15.9	0.40	.	119.6	7.47
1477	940607	1015	0.1	16.1	0.36	.	119.3	7.47
1478	940607	1030	0.2	16.0	0.35	.	119.7	7.47
1479	940607	1045	0.2	16.3	0.31	.	119.8	7.52
1480	940607	1105	0.2	16.4	0.29	.	120.2	7.56
1481	940607	1115	0.0	16.4	0.28	.	120.0	7.55
1482	940607	1130	0.0	16.5	0.27	.	119.6	7.54
1483	940607	1145	0.0	16.5	0.25	.	119.8	7.53
1484	940607	1200	0.2	16.6	0.24	.	120.1	7.53
1485	940607	1215	0.2	16.6	0.24	.	120.4	7.52
1486	940607	1230	0.1	16.6	0.23	.	120.6	7.52
1487	940607	1245	0.2	16.7	0.24	.	120.6	7.51
1488	940607	1300	3.4	16.3	0.79	.	121.4	7.77
1489	940607	1315	5.1	16.0	3.39	.	121.4	7.79
1490	940607	1330	6.2	15.7	10.70	.	121.6	7.81
1491	940607	1345	6.6	15.5	17.14	.	122.6	7.82
1492	940607	1400	6.7	15.3	19.67	.	123.4	7.82
1493	940607	1415	6.3	15.2	21.22	.	124.0	7.84
1494	940607	1430	5.8	15.3	23.12	.	124.6	7.85
1495	940607	1445	5.2	15.3	22.53	.	124.8	7.86
1496	940607	1500	4.7	15.5	17.02	.	125.9	7.88
1497	940607	1515	4.1	15.5	17.17	.	125.5	7.88
1498	940607	1530	3.6	15.5	18.28	.	124.8	7.87
1499	940607	1545	3.1	15.6	14.19	.	124.7	7.86
1500	940607	1600	2.6	15.7	14.50	.	124.5	7.88
1501	940607	1615	2.2	15.8	10.78	.	124.1	7.89
1502	940607	1630	2.0	15.9	10.17	.	123.9	7.91
1503	940607	1645	1.7	16.1	8.19	.	123.4	7.94
1504	940607	1700	1.5	16.1	6.41	.	123.3	7.97
1505	940607	1715	1.3	16.2	5.26	.	123.2	7.99
1506	940607	1730	1.2	16.3	4.12	.	122.7	8.00
1507	940607	1745	1.0	16.3	3.29	.	122.7	8.02
1508	940607	1800	0.9	16.4	2.57	.	122.0	8.04
1509	940607	1815	0.8	16.5	2.03	.	121.6	8.04
1510	940607	1830	0.7	16.6	1.62	.	121.3	8.04
1511	940607	1845	0.6	16.6	1.27	.	121.1	8.04
1512	940607	1900	0.6	16.7	1.05	.	120.8	8.03
1513	940607	1915	0.5	16.7	0.86	.	120.4	8.01
1514	940607	1930	0.4	16.8	0.74	.	120.1	7.99
1515	940607	1945	0.4	16.8	0.61	.	120.3	7.94
1516	940607	2000	0.3	16.7	0.55	.	119.9	7.89

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1517	940607	2015	0.3	16.6	0.50	.	120.1	7.80
1518	940607	2030	0.2	16.4	0.44	.	120.0	7.69
1519	940607	2045	0.2	16.5	0.40	.	120.3	7.70
1520	940607	2100	0.2	16.4	0.39	.	120.7	7.66
1521	940607	2115	0.2	16.4	0.36	.	120.0	7.67
1522	940607	2130	0.1	16.5	0.34	.	120.1	7.68
1523	940607	2145	0.1	16.3	0.33	.	119.7	7.67
1524	940607	2200	0.1	16.3	0.32	.	120.0	7.62
1525	940607	2215	0.2	16.3	0.30	.	119.6	7.59
1526	940607	2230	0.1	16.3	0.29	.	120.0	7.59
1527	940607	2245	0.2	16.1	0.30	.	119.9	7.54
1528	940607	2300	0.1	16.1	0.29	.	120.1	7.53
1529	940607	2315	0.0	15.9	0.29	.	120.3	7.52
1530	940607	2330	0.1	15.9	0.28	.	119.9	7.50
1531	940607	2345	0.1	16.0	0.26	.	120.0	7.50
1532	940608	0	0.1	16.1	0.25	.	119.7	7.53
1533	940608	15	0.1	15.9	0.26	.	119.7	7.47
1534	940608	30	0.0	15.8	0.26	.	119.9	7.46
1535	940608	45	0.1	15.7	0.26	.	119.7	7.42
1536	940608	100	1.5	16.2	0.28	.	120.6	7.55
1537	940608	115	4.6	16.1	1.03	.	119.4	7.81
1538	940608	125	6.2	15.6	10.66	.	119.3	7.79
1539	940608	145	7.1	15.3	17.63	.	120.6	7.80
1540	940608	200	7.8	15.1	19.41	.	121.4	7.83
1541	940608	215	8.0	14.9	19.77	.	122.3	7.82
1542	940608	230	7.7	14.8	21.19	.	123.0	7.84
1543	940608	245	7.2	14.7	28.20	.	123.8	7.84
1544	940608	300	6.7	14.9	20.60	.	123.2	7.85
1545	940608	315	6.1	15.1	20.88	.	121.6	7.84
1546	940608	330	5.4	15.0	22.26	.	122.5	7.83
1547	940608	345	4.7	15.1	17.45	.	122.0	7.83
1548	940608	400	4.1	15.2	17.42	.	121.2	7.83
1549	940608	415	3.5	15.2	17.77	.	120.9	7.83
1550	940608	430	3.1	15.3	13.47	.	120.0	7.83
1551	940608	445	2.8	15.4	12.86	.	119.6	7.84
1552	940608	500	2.4	15.5	10.85	.	118.9	7.85
1553	940608	515	2.1	15.6	9.21	.	118.6	7.88
1554	940608	530	2.0	15.7	7.34	.	118.0	7.91
1555	940608	545	1.7	15.7	5.73	.	117.8	7.94
1556	940608	600	1.6	15.7	4.41	.	117.4	7.94
1557	940608	615	1.4	15.7	3.40	.	117.2	7.96
1558	940608	630	1.3	15.7	2.61	.	116.9	7.99
1559	940608	645	1.2	15.8	1.98	.	116.6	7.99
1560	940608	700	1.1	15.7	1.54	.	116.7	7.99
1561	940608	715	1.0	15.7	1.16	.	116.4	7.98
1562	940608	730	0.9	15.7	0.93	.	116.4	7.96

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1563	940608	745	0.8	15.7	0.73	.	116.6	7.93
1564	940608	800	0.8	15.7	0.61	.	116.6	7.89
1565	940608	815	0.7	15.7	0.50	.	116.9	7.86
1566	940608	830	0.6	15.8	0.44	.	117.0	7.83
1567	940608	845	0.6	15.8	0.39	.	117.0	7.80
1568	940608	900	0.7	15.8	0.36	.	117.2	7.79
1569	940608	915	0.5	15.9	0.34	.	117.2	7.77
1570	940608	930	0.5	15.9	0.31	.	117.8	7.74
1571	940608	945	0.4	15.9	0.30	.	118.2	7.72
1572	940608	1000	0.4	16.0	0.28	.	118.3	7.70
1573	940608	1015	0.4	16.0	0.29	.	119.0	7.67
1574	940608	1030	0.3	16.1	0.29	.	119.2	7.64
1575	940608	1045	0.3	16.1	0.25	.	119.3	7.64
1576	940608	1100	0.3	16.2	0.25	.	119.6	7.61
1577	940608	1115	0.2	16.3	0.29	.	120.8	7.54
1578	940608	1130	0.2	16.5	0.29	.	121.2	7.54
1579	940608	1145	0.2	16.6	0.28	.	121.6	7.52
1580	940608	1200	0.2	16.7	0.29	.	122.0	7.49
1581	940608	1215	0.1	16.7	0.28	.	122.2	7.49
1582	940608	1230	0.1	16.8	0.28	.	122.7	7.47
1583	940608	1245	0.1	16.9	0.29	.	122.4	7.46
1584	940608	1300	0.2	16.8	0.28	.	122.9	7.44
1585	940608	1315	0.2	16.7	0.25	.	122.6	7.46
1586	940608	1330	1.1	16.7	0.17	.	123.7	7.47
1587	940608	1345	4.0	16.9	0.69	.	122.5	7.77
1588	940608	1400	5.7	16.3	7.58	.	123.3	7.78
1589	940608	1410	6.6	16.0	13.37	.	124.0	7.85
1590	940608	1430	7.1	15.5	16.19	.	124.1	7.83
1591	940608	1445	7.2	15.3	17.31	.	124.4	7.83
1592	940608	1500	7.1	15.3	19.73	.	124.6	7.85
1593	940608	1520	6.5	15.3	24.13	.	125.1	7.86
1594	940608	1530	6.0	15.7	19.12	.	126.1	7.91
1595	940608	1545	5.4	15.7	11.84	.	126.4	7.89
1596	940608	1600	4.8	15.7	18.71	.	126.1	7.88
1597	940608	1615	4.2	15.9	16.81	.	126.0	7.89
1598	940608	1630	3.7	16.0	12.34	.	125.9	7.91
1599	940608	1645	3.3	16.1	12.07	.	125.3	7.91
1600	940608	1655	3.0	16.3	8.90	.	125.1	7.94
1601	940608	1715	2.6	16.4	6.99	.	124.4	7.97
1602	940608	1730	2.3	16.5	5.16	.	123.9	8.00
1603	940608	1745	2.0	16.6	3.63	.	123.3	8.01
1604	940608	1800	1.9	16.6	2.33	.	122.5	8.03
1605	940608	1815	1.6	16.6	1.59	.	122.1	8.01
1606	940608	1830	1.6	16.5	1.12	.	121.5	7.97
1607	940608	1845	1.4	16.5	0.76	.	121.3	7.91
1608	940608	1900	1.3	16.3	0.59	.	121.3	7.84

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1609	940608	1915	1.2	16.2	0.46	.	121.1	7.77
1610	940608	1930	1.1	16.1	0.38	.	121.0	7.71
1611	940608	1945	1.0	16.1	0.34	.	120.9	7.67
1612	940608	2000	1.0	16.0	0.30	.	120.7	7.62
1613	940608	2015	0.9	15.9	0.27	.	120.7	7.58
1614	940608	2030	0.9	15.8	0.25	.	120.8	7.54
1615	940608	2045	0.9	15.7	0.23	.	120.7	7.51
1616	940608	2100	0.8	15.7	0.22	.	120.4	7.49
1617	940608	2115	0.8	15.7	0.21	.	120.4	7.46
1618	940608	2130	0.8	15.6	0.20	.	120.5	7.44
1619	940608	2145	0.8	15.6	0.19	.	120.5	7.42
1620	940608	2200	0.8	15.6	0.19	.	120.5	7.41
1621	940608	2215	0.8	15.6	0.18	.	120.7	7.39
1622	940608	2230	0.8	15.6	0.18	.	120.9	7.38
1623	940608	2245	0.7	15.6	0.18	.	120.7	7.38
1624	940608	2300	0.6	15.5	0.18	.	121.0	7.37
1625	940608	2315	0.6	15.6	0.17	.	121.2	7.36
1626	940608	2330	0.6	15.6	0.17	.	121.4	7.36
1627	940608	2345	0.6	15.6	0.17	.	121.7	7.35
1628	940609	0	0.6	15.5	0.19	.	122.0	7.33
1629	940609	15	0.6	15.5	0.18	.	122.1	7.34
1630	940609	30	0.6	15.3	0.19	.	122.8	7.32
1631	940609	45	0.6	15.5	0.18	.	122.4	7.33
1632	940609	100	0.6	15.6	0.16	.	122.4	7.33
1633	940609	115	0.6	15.3	0.19	.	123.1	7.30
1634	940609	130	0.6	15.2	0.20	.	122.8	7.29
1635	940609	145	4.1	15.1	0.54	.	119.8	7.51
1636	940609	200	6.3	15.0	2.17	.	119.1	7.61
1637	940609	215	7.6	14.7	10.60	.	119.7	7.79
1638	940609	230	8.4	14.4	20.20	.	120.9	7.81
1639	940609	245	8.7	14.3	19.37	.	121.4	7.83
1640	940609	300	9.0	14.1	22.91	.	122.3	7.84
1641	940609	315	8.5	14.1	20.66	.	122.9	7.85
1642	940609	330	7.7	14.1	23.85	.	122.9	7.85
1643	940609	345	7.3	14.3	19.67	.	121.6	7.87
1644	940609	400	6.6	14.2	17.30	.	121.9	7.85
1645	940609	415	5.8	14.2	19.22	.	121.7	7.85
1646	940609	430	5.3	14.3	17.34	.	120.9	7.85
1647	940609	445	4.5	14.3	17.49	.	120.3	7.85
1648	940609	500	4.0	14.4	12.34	.	119.8	7.87
1649	940609	515	3.6	14.5	10.11	.	119.2	7.88
1650	940609	530	3.2	14.5	8.80	.	118.9	7.90
1651	940609	545	2.8	14.5	6.48	.	118.6	7.93
1652	940609	600	2.7	14.6	4.56	.	118.5	7.96
1653	940609	615	2.4	14.7	3.03	.	118.4	7.99
1654	940609	630	2.1	14.7	1.95	.	119.0	8.01

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1655	940609	645	2.0	14.7	1.44	.	119.2	7.99
1656	940609	700	2.0	14.7	0.99	.	119.8	7.96
1657	940609	715	1.8	14.7	0.76	.	120.3	7.93
1658	940609	730	1.5	14.7	0.55	.	121.0	7.88
1659	940609	745	1.4	14.7	0.44	.	121.7	7.82
1660	940609	800	1.4	14.7	0.37	.	122.0	7.79
1661	940609	815	1.2	14.7	0.32	.	122.4	7.76
1662	940609	830	1.2	14.7	0.30	.	122.6	7.72
1663	940609	845	1.1	14.7	0.28	.	122.6	7.70
1664	940609	900	1.2	14.7	0.26	.	123.2	7.67
1665	940609	915	1.0	14.7	0.25	.	123.5	7.65
1666	940609	930	0.3	15.0	0.18	.	130.6	7.50
1667	940609	945	0.3	15.2	0.18	.	127.3	7.44
1668	940609	1115	0.8	15.2	0.10	9.75	97.1	7.50
1669	940609	1130	0.7	15.3	0.10	9.71	96.9	7.42
1670	940609	1145	0.7	15.5	0.10	9.64	96.6	7.41
1671	940609	1200	0.7	15.7	0.10	9.59	96.5	7.37
1672	940609	1215	0.7	15.7	0.10	9.56	96.3	7.35
1673	940609	1230	0.6	15.6	0.10	9.56	96.1	7.33
1674	940609	1245	0.6	15.8	0.10	9.52	96.1	7.32
1675	940609	1300	0.6	15.8	0.10	9.50	95.8	7.30
1676	940609	1315	0.6	15.7	0.10	9.50	95.6	7.29
1677	940609	1330	0.6	15.7	0.10	9.46	95.4	7.27
1678	940609	1345	0.6	15.7	0.10	9.49	95.7	7.27
1679	940609	1400	0.5	15.7	0.10	9.50	95.6	7.25
1680	940609	1415	3.0	16.1	0.10	9.49	96.4	7.39
1681	940609	1430	5.3	16.3	0.30	9.34	95.4	7.74
1682	940609	1445	6.6	15.9	3.80	9.45	97.8	7.88
1683	940609	1500	7.2	15.5	6.00	9.38	97.6	7.87
1684	940609	1515	7.5	15.4	10.50	9.15	97.6	7.86
1685	940609	1530	7.4	15.3	8.60	9.32	98.0	7.87
1686	940609	1545	7.1	15.2	10.90	9.16	97.5	7.87
1687	940609	1600	6.4	15.5	12.90	9.09	98.5	7.90
1688	940609	1615	5.8	15.8	9.50	9.30	99.4	7.94
1689	940609	1630	5.2	16.0	6.10	9.43	99.2	7.94
1690	940609	1645	4.6	16.1	10.10	9.16	98.9	7.92
1691	940609	1700	4.0	16.2	7.50	9.29	98.9	7.94
1692	940609	1715	3.5	16.3	7.70	9.26	99.0	7.94
1693	940609	1730	3.1	16.5	4.7	9.35	98.4	7.97
1694	940609	1745	2.7	16.7	4.1	9.31	98.1	7.97
1695	940609	1800	2.4	16.8	3.0	9.30	97.6	8.00
1696	940609	1815	2.2	16.9	2.0	9.31	97.2	8.01
1697	940609	1830	2.0	16.9	1.4	9.28	96.6	8.03
1698	940609	1845	1.8	16.9	0.9	9.24	95.9	8.01
1699	940609	1900	1.6	16.7	0.6	9.24	95.4	7.97
1700	940609	1915	1.5	16.7	0.4	9.24	95.2	7.90

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1701	940609	1930	1.4	16.5	0.3	9.24	94.8	7.84
1702	940609	1945	1.2	16.4	0.3	9.25	94.7	7.77
1703	940609	2000	1.2	16.3	0.2	9.24	94.4	7.70
1704	940609	2015	1.1	16.2	0.2	9.27	94.4	7.67
1705	940609	2030	1.0	16.1	0.2	9.26	94.2	7.63
1706	940609	2045	0.9	16.1	0.1	9.27	94.1	7.60
1707	940609	2100	0.9	15.9	0.1	9.30	94.1	7.56
1708	940609	2115	0.9	15.9	0.1	9.33	94.3	7.52
1709	940609	2137	0.8	15.8	0.1	9.35	94.4	7.49
1710	940609	2145	0.8	15.7	0.1	9.37	94.5	7.47
1711	940609	2200	0.8	15.7	0.1	9.39	94.5	7.44
1712	940609	2215	0.7	15.6	0.1	9.46	95.1	7.42
1713	940609	2230	0.7	15.6	0.1	9.47	95.1	7.41
1714	940609	2245	0.7	15.6	0.1	9.48	95.3	7.40
1715	940609	2300	0.7	15.5	0.1	9.54	95.7	7.38
1716	940609	2315	0.7	15.5	0.1	9.54	95.7	7.37
1717	940609	2330	0.6	15.5	0.1	9.55	95.9	7.36
1718	940609	2345	0.7	15.5	0.1	9.57	96.0	7.35
1719	940610	0	0.7	15.5	0.1	9.58	96.1	7.35
1720	940610	15	0.7	15.6	0.1	9.59	96.3	7.33
1721	940610	30	0.6	15.6	0.1	9.60	96.5	7.33
1722	940610	45	0.5	15.6	0.1	9.62	96.7	7.33
1723	940610	100	0.6	15.6	0.1	9.62	96.7	7.33
1724	940610	115	0.6	15.6	0.1	9.64	96.9	7.32
1725	940610	130	0.6	15.6	0.1	9.68	97.3	7.32
1726	940610	145	0.6	15.6	0.1	9.69	97.4	7.32
1727	940610	200	0.6	15.6	0.1	9.70	97.5	7.32
1728	940610	215	2.9	15.5	0.1	9.68	97.0	7.38
1729	940610	230	5.6	15.5	0.3	9.28	93.1	7.70
1730	940610	245	7.2	15.5	5.0	8.98	92.7	7.79
1731	940610	300	8.1	15.1	10.0	8.80	93.1	7.82
1732	940610	315	8.7	14.8	11.9	8.82	93.7	7.83
1733	940610	330	8.8	14.5	11.7	8.94	94.4	7.84
1734	940610	345	8.7	14.5	12.5	8.93	94.6	7.84
1735	940610	400	8.2	14.4	14.8	8.87	95.2	7.86
1736	940610	415	7.5	14.6	13.3	8.89	94.8	7.87
1737	940610	430	6.8	14.7	11.4	8.90	93.9	7.87
1738	940610	445	6.1	14.6	12.0	8.88	94.0	7.86
1739	940610	500	5.4	14.8	10.2	8.91	93.7	7.86
1740	940610	515	4.8	14.9	10.4	8.84	93.2	7.86
1741	940610	530	4.3	14.9	7.3	9.00	93.1	7.86
1742	940610	545	3.8	15.0	7.4	8.92	92.5	7.87
1743	940610	600	3.4	15.0	5.9	8.97	92.3	7.88
1744	940610	615	3.1	15.1	4.6	9.00	91.9	7.91
1745	940610	630	2.8	15.1	3.6	9.02	91.7	7.93
1746	940610	645	2.5	15.1	2.8	9.09	91.8	7.96

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1747	940610	700	2.3	15.1	2.0	9.17	92.2	7.99
1748	940610	710	2.1	15.1	1.4	9.23	92.5	8.02
1749	940610	730	2.0	15.1	1.0	9.30	93.1	8.03
1750	940610	745	1.8	15.2	0.7	9.39	93.9	8.03
1751	940610	800	1.7	15.2	0.5	9.48	94.7	8.01
1752	940610	815	1.6	15.3	0.4	9.54	95.3	8.00
1753	940610	830	1.5	15.3	0.3	9.59	95.9	7.97
1754	940610	845	1.4	15.5	0.2	9.64	96.7	7.93
1755	940610	900	1.4	15.5	0.2	9.68	97.2	7.88
1756	940610	915	1.3	15.6	0.2	9.70	97.5	7.87
1757	940610	930	1.3	15.7	0.1	9.73	98.0	7.83
1758	940610	945	1.2	15.8	0.1	9.73	98.2	7.81
1759	940610	1000	1.2	15.9	0.1	9.74	98.4	7.78
1760	940610	1015	1.1	15.9	0.1	9.77	98.9	7.75
1761	940610	1030	1.0	16.0	0.1	9.79	99.2	7.72
1762	940610	1045	1.0	16.1	0.1	9.81	99.5	7.70
1763	940610	1100	1.0	16.1	0.1	9.81	99.7	7.68
1764	940610	1115	0.9	16.1	0.1	9.83	99.9	7.65
1765	940610	1130	0.9	16.2	0.1	9.80	99.8	7.64
1766	940610	1145	0.9	16.3	0.1	9.79	99.9	7.62
1767	940610	1200	0.9	16.3	0.1	9.82	100.2	7.60
1768	940610	1215	0.8	16.4	0.1	9.79	100.1	7.59
1769	940610	1230	0.8	16.4	0.1	9.79	100.1	7.57
1770	940610	1245	0.8	16.5	0.1	9.75	100.0	7.56
1771	940610	1300	0.8	16.5	0.1	9.76	100.1	7.54
1772	940610	1315	0.7	16.6	0.1	9.73	99.9	7.53
1773	940610	1330	0.7	16.7	0.1	9.74	100.3	7.51
1774	940610	1345	0.7	16.7	0.1	9.72	100.0	7.49
1775	940610	1400	0.7	16.7	0.1	9.69	99.7	7.47
1776	940610	1415	0.7	16.8	0.1	9.67	99.7	7.46
1777	940610	1430	0.7	16.7	0.1	9.68	99.6	7.43
1778	940610	1445	2.1	16.9	0.1	9.65	99.6	7.43
1779	940610	1500	5.1	17.4	0.5	9.38	98.1	7.79
1780	940610	1515	6.7	16.9	4.2	9.39	99.3	7.88
1781	940610	1530	7.7	16.3	4.4	9.49	99.4	7.88
1782	940610	1545	8.2	16.0	11.5	9.12	99.1	7.88
1783	940610	1600	8.3	15.8	14.2	9.00	99.0	7.89
1784	940610	1615	8.1	15.5	15.0	9.00	98.9	7.88
1785	940610	1630	7.4	15.6	9.8	9.36	99.8	7.89
1786	940610	1645	6.8	16.1	12.9	9.20	101.0	7.92
1787	940610	1700	6.3	16.3	10.8	9.30	101.2	7.94
1788	940610	1715	5.6	16.3	7.4	9.44	100.6	7.92
1789	940610	1730	5.0	16.4	10.4	9.26	100.8	7.93
1790	940610	1745	4.4	16.5	8.3	9.30	100.2	7.94
1791	940610	1800	4.0	16.7	8.7	9.24	100.1	7.94
1792	940610	1815	3.6	16.8	6.1	9.38	100.3	7.95

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1793	940610	1830	3.2	16.9	5.6	9.35	99.9	7.96
1794	940610	1845	2.9	17.0	4.1	9.40	99.7	7.98
1795	940610	1900	2.6	17.1	3.7	9.36	99.2	8.00
1796	940610	1915	2.4	17.1	2.8	9.35	98.6	8.02
1797	940610	1930	2.3	17.1	2.1	9.32	97.8	8.03
1798	940610	1945	2.1	17.0	1.5	9.31	97.2	8.06
1799	940610	2000	2.0	16.9	1.0	9.32	96.9	8.07
1800	940610	2015	1.9	16.8	0.7	9.27	96.0	8.06
1801	940610	2030	1.7	16.7	0.5	9.30	95.9	8.04
1802	940610	2045	1.6	16.5	0.4	9.29	95.3	8.02
1803	940610	2100	1.6	16.4	0.3	9.30	95.2	7.98
1804	940610	2115	1.5	16.3	0.3	9.28	94.7	7.95
1805	940610	2130	1.4	16.1	0.2	9.32	94.8	7.89
1806	940610	2145	1.4	16.0	0.2	9.32	94.6	7.86
1807	940610	2200	1.3	15.9	0.2	9.37	94.7	7.82
1808	940610	2215	1.3	15.8	0.1	9.33	94.2	7.79
1809	940610	2230	1.2	15.7	0.1	9.38	94.6	7.76
1810	940610	2245	1.2	15.6	0.1	9.40	94.5	7.73
1811	940610	2300	1.2	15.5	0.1	9.39	94.3	7.71
1812	940610	2315	1.2	15.5	0.1	9.40	94.2	7.68
1813	940610	2330	1.2	15.4	0.1	9.42	94.3	7.66
1814	940610	2345	1.2	15.3	0.1	9.47	94.6	7.63
1815	940611	0	1.2	15.3	0.1	9.47	94.5	7.62
1816	940611	15	1.1	15.2	0.1	9.49	94.6	7.60
1817	940611	30	1.1	15.1	0.1	9.52	94.7	7.58
1818	940611	45	1.0	15.1	0.1	9.53	94.7	7.56
1819	940611	100	1.0	15.0	0.1	9.57	94.9	7.55
1820	940611	115	1.0	15.0	0.1	9.58	95.1	7.53
1821	940611	130	1.0	14.9	0.1	9.62	95.3	7.51
1822	940611	145	1.1	14.9	0.1	9.65	95.5	7.50
1823	940611	200	1.0	14.8	0.1	9.66	95.4	7.48
1824	940611	215	1.0	14.8	0.1	9.67	95.6	7.47
1825	940611	230	1.0	14.7	0.1	9.70	95.6	7.47
1826	940611	245	1.0	14.7	0.1	9.71	95.8	7.45
1827	940611	300	4.2	14.9	0.3	9.44	93.5	7.53
1828	940611	315	6.7	15.1	1.4	9.18	92.1	7.69
1829	940611	330	8.0	15.0	6.3	9.01	92.9	7.80
1830	940611	345	9.0	14.7	5.7	9.24	94.2	7.82
1831	940611	400	9.3	14.4	13.1	8.94	94.9	7.84
1832	940611	415	9.4	14.2	14.7	8.95	95.5	7.85
1833	940611	430	9.4	14.2	14.2	8.97	95.4	7.85
1834	940611	445	8.4	14.1	16.1	8.93	96.0	7.87
1835	940611	500	7.7	14.3	14.2	8.85	94.4	7.87
1836	940611	515	7.1	14.3	12.9	8.99	95.0	7.87
1837	940611	530	6.4	14.3	12.3	9.01	94.9	7.87
1838	940611	545	5.8	14.4	11.8	8.97	94.4	7.87

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1839	940611	600	5.3	14.4	11.9	8.94	94.2	7.86
1840	940611	615	4.8	14.5	8.6	9.07	93.7	7.86
1841	940611	630	4.2	14.5	8.6	9.01	93.3	7.85
1842	940611	645	3.8	14.5	8.9	8.95	92.9	7.87
1843	940611	700	3.4	14.6	5.9	9.08	92.5	7.88
1844	940611	715	3.4	14.6	5.1	9.09	92.3	7.90
1845	940611	730	3.0	14.6	4.4	9.14	92.3	7.92
1846	940611	745	2.8	14.7	3.4	9.17	92.2	7.96
1847	940611	800	2.7	14.7	2.7	9.22	92.3	8.00
1848	940611	815	2.4	14.7	2.0	9.32	92.9	8.03
1849	940611	830	2.3	14.7	1.5	9.36	93.0	8.06
1850	940611	845	2.1	14.7	1.2	9.41	93.5	8.10
1851	940611	900	2.2	14.8	0.9	9.45	93.8	8.12
1852	940611	915	2.0	14.9	0.7	9.49	94.3	8.13
1853	940611	930	1.8	15.0	0.6	9.54	94.9	8.14
1854	940611	945	1.8	15.1	0.4	9.58	95.4	8.14
1855	940611	1000	1.7	15.2	0.4	9.63	96.1	8.14
1856	940611	1015	1.6	15.3	0.3	9.64	96.5	8.14
1857	940611	1030	1.5	15.5	0.3	9.67	97.0	8.12
1858	940611	1045	1.4	15.6	0.2	9.70	97.5	8.09
1859	940611	1100	1.5	15.8	0.2	9.69	97.8	8.09
1860	940611	1115	1.4	15.9	0.2	9.72	98.3	8.07
1861	940611	1130	1.4	16.1	0.2	9.75	99.0	8.06
1862	940611	1145	1.3	16.2	0.1	9.75	99.3	8.04
1863	940611	1200	1.3	16.5	0.1	9.75	99.9	8.02
1864	940611	1215	1.2	16.6	0.1	9.75	100.1	8.00
1865	940611	1230	1.2	16.7	0.1	9.78	100.7	7.98
1866	940611	1245	1.2	16.8	0.1	9.73	100.3	7.96
1867	940611	1300	1.1	16.9	0.1	9.75	100.8	7.95
1868	940611	1315	1.0	17.1	0.1	9.76	101.2	7.92
1869	940611	1330	1.0	17.2	0.1	9.71	100.9	7.90
1870	940611	1345	1.0	17.5	0.1	9.69	101.3	7.88
1871	940611	1400	0.9	17.6	0.1	9.69	101.5	7.84
1872	940611	1415	0.9	17.5	0.1	9.70	101.5	7.83
1873	940611	1430	1.1	17.7	0.1	9.66	101.5	7.80
1874	940611	1445	1.0	17.9	0.1	9.64	101.7	7.77
1875	940611	1500	1.0	18.2	0.1	9.61	101.9	7.75
1876	940611	1515	1.0	18.1	0.1	9.63	101.9	7.74
1877	940611	1530	3.0	18.5	0.1	9.58	102.2	7.77
1878	940611	1545	5.8	19.1	0.9	9.30	101.0	7.98
1879	940611	1600	7.2	18.1	6.3	9.40	103.3	7.92
1880	940611	1615	8.0	17.3	10.0	9.25	102.3	7.88
1881	940611	1630	8.4	16.9	14.3	9.03	101.6	7.88
1882	940611	1645	8.3	16.6	15.4	8.99	101.3	7.87
1883	940611	1700	8.0	16.5	15.3	9.09	102.1	7.89
1884	940611	1715	7.2	16.6	17.1	9.03	102.8	7.90

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1885	940611	1730	6.7	17.1	14.0	9.21	103.8	7.92
1886	940611	1745	6.0	17.4	12.2	9.32	104.7	7.94
1887	940611	1800	5.4	17.4	13.3	9.21	104.1	7.92
1888	940611	1815	4.7	17.7	11.6	9.23	104.0	7.94
1889	940611	1830	4.3	17.9	9.3	9.35	104.1	7.95
1890	940611	1845	4.0	18.1	11.1	9.19	103.9	7.95
1891	940611	1900	3.6	18.3	8.1	9.38	104.6	7.97
1892	940611	1915	3.3	18.5	6.4	9.37	103.8	7.98
1893	940611	1930	3.0	18.6	6.0	9.32	103.3	7.99
1894	940611	1945	2.8	18.7	3.9	9.36	102.6	8.00
1895	940611	2000	2.6	18.7	3.8	9.30	102.0	8.02
1896	940611	2015	2.4	18.8	3.0	9.27	101.3	8.04
1897	940611	2030	2.2	18.8	2.4	9.19	100.1	8.07
1898	940611	2045	2.1	18.7	1.8	9.18	99.5	8.08
1899	940611	2100	2.0	18.7	1.4	9.16	98.9	8.10
1900	940611	2115	1.9	18.6	1.1	9.13	98.2	8.11
1901	940611	2130	1.8	18.5	0.8	9.11	97.6	8.13
1902	940611	2145	1.8	18.4	0.7	9.10	97.3	8.12
1903	940611	2200	1.7	18.3	0.5	9.07	96.6	8.13
1904	940611	2215	1.6	18.1	0.4	9.08	96.4	8.12
1905	940611	2230	1.5	18.0	0.3	9.05	95.8	8.11
1906	940611	2245	1.5	17.9	0.3	9.03	95.4	8.08
1907	940611	2300	1.5	17.8	0.3	9.02	95.1	8.07
1908	940611	2315	1.5	17.7	0.2	9.03	95.0	8.05
1909	940611	2330	1.5	17.7	0.2	9.01	94.7	8.03
1910	940611	2345	1.4	17.6	0.2	9.02	94.6	8.00
1911	940612	0	1.3	17.5	0.2	9.03	94.5	7.98
1912	940612	15	1.3	17.4	0.2	9.07	94.7	7.97
1913	940612	30	1.3	17.3	0.2	9.04	94.2	7.94
1914	940612	45	1.1	17.3	0.2	9.04	94.2	7.92
1915	940612	100	1.1	17.1	0.2	9.06	94.1	7.88
1916	940612	110	1.1	17.1	0.1	9.08	94.1	7.86
1917	940612	130	1.1	17.0	0.1	9.08	94.1	7.83
1918	940612	145	1.2	16.9	0.1	9.09	94.0	7.80
1919	940612	200	1.0	16.9	0.1	9.10	93.9	7.79
1920	940612	215	1.1	16.8	0.1	9.13	94.1	7.77
1921	940612	230	1.1	16.7	0.1	9.11	93.8	7.74
1922	940612	245	1.1	16.7	0.1	9.13	93.9	7.72
1923	940612	300	1.1	16.6	0.1	9.14	93.8	7.70
1924	940612	315	1.1	16.6	0.1	9.15	93.9	7.68
1925	940612	330	1.1	16.5	0.1	9.17	94.0	7.66
1926	940612	345	4.9	16.9	0.5	8.82	91.4	7.76
1927	940612	400	7.1	16.9	3.8	8.67	91.6	7.74
1928	940612	410	8.2	16.4	10.4	8.62	93.8	7.80
1929	940612	430	9.2	15.7	12.8	8.79	95.6	7.82
1930	940612	445	9.4	15.3	15.4	8.73	95.8	7.83

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1931	940612	500	9.5	15.1	16.2	8.80	96.5	7.85
1932	940612	515	9.2	14.9	18.4	8.74	96.9	7.87
1933	940612	530	8.6	15.1	15.3	8.88	96.9	7.87
1934	940612	545	7.6	15.5	14.2	8.74	95.5	7.87
1935	940612	600	7.0	15.3	14.4	8.84	96.3	7.86
1936	940612	615	6.3	15.4	11.8	8.94	96.1	7.85
1937	940612	630	5.7	15.6	13.9	8.74	95.5	7.85
1938	940612	645	5.2	15.7	12.0	8.77	94.9	7.84
1939	940612	700	4.7	15.8	9.8	8.85	94.8	7.85
1940	940612	715	4.3	16.0	9.8	8.76	94.2	7.83
1941	940612	730	3.9	16.1	9.9	8.67	93.5	7.83
1942	940612	745	3.6	16.3	6.8	8.79	93.4	7.85
1943	940612	800	3.3	16.4	6.5	8.74	92.8	7.86
1944	940612	815	3.0	16.5	4.4	8.81	92.6	7.89
1945	940612	830	2.8	16.5	4.6	8.76	92.3	7.92
1946	940612	845	2.6	16.6	3.8	8.80	92.4	7.95
1947	940612	900	2.5	16.7	3.1	8.83	92.4	7.99
1948	940612	915	2.3	16.7	2.5	8.85	92.5	8.03
1949	940612	930	2.3	16.8	2.0	8.92	93.1	8.06
1950	940612	945	2.1	16.9	1.6	8.98	93.5	8.09
1951	940612	1000	2.0	16.9	1.3	8.99	93.6	8.11
1952	940612	1015	1.9	17.0	1.1	9.01	93.8	8.13
1953	940612	1030	1.8	17.1	0.9	9.03	94.2	8.13
1954	940612	1045	1.7	17.2	0.7	9.03	94.2	8.15
1955	940612	1100	1.6	17.3	0.6	9.07	94.7	8.15
1956	940612	1115	1.6	17.4	0.5	9.10	95.2	8.15
1957	940612	1130	1.6	17.5	0.5	9.12	95.5	8.14
1958	940612	1145	1.5	17.7	0.4	9.14	96.1	8.14
1959	940612	1200	1.4	17.8	0.4	9.13	96.2	8.13
1960	940612	1215	1.5	17.9	0.3	9.15	96.7	8.12
1961	940612	1230	1.5	18.0	0.3	9.20	97.3	8.11
1962	940612	1245	1.5	18.2	0.3	9.19	97.6	8.10
1963	940612	1300	1.4	18.3	0.2	9.20	98.0	8.09
1964	940612	1315	1.4	18.4	0.2	9.21	98.2	8.08
1965	940612	1330	1.3	18.5	0.2	9.21	98.4	8.05
1966	940612	1345	1.2	18.5	0.2	9.22	98.6	8.03
1967	940612	1400	1.2	18.7	0.2	9.23	98.9	8.01
1968	940612	1415	1.1	18.8	0.2	9.24	99.3	7.99
1969	940612	1430	1.1	18.9	0.2	9.26	99.6	7.98
1970	940612	1445	1.1	18.9	0.2	9.24	99.5	7.96
1971	940612	1500	1.2	18.9	0.2	9.25	99.7	7.94
1972	940612	1515	1.2	19.0	0.2	9.24	99.7	7.92
1973	940612	1530	1.2	19.1	0.1	9.25	100.1	7.90
1974	940612	1545	1.1	19.2	0.1	9.25	100.1	7.87
1975	940612	1600	1.1	19.3	0.1	9.23	100.1	7.86
1976	940612	1615	3.7	19.8	0.5	9.06	99.6	7.84

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
1977	940612	1630	6.1	19.8	1.9	8.96	99.3	7.94
1978	940612	1645	7.4	18.9	3.7	9.33	102.6	7.92
1979	940612	1700	8.0	18.1	12.5	8.93	101.8	7.88
1980	940612	1715	8.3	17.9	14.8	8.82	101.6	7.90
1981	940612	1730	8.1	17.3	15.8	8.82	101.1	7.88
1982	940612	1745	7.7	17.1	10.2	9.18	101.3	7.89
1983	940612	1800	7.0	17.5	17.3	8.86	102.8	7.91
1984	940612	1815	6.5	18.0	14.5	9.00	103.7	7.94
1985	940612	1830	5.8	18.2	11.7	9.12	103.8	7.95
1986	940612	1845	5.2	18.2	14.3	8.90	102.9	7.93
1987	940612	1900	4.6	18.4	10.4	9.08	102.9	7.93
1988	940612	1915	4.2	18.5	6.5	9.26	102.8	7.94
1989	940612	1930	3.8	18.7	11.9	8.91	102.6	7.94
1990	940612	1945	3.4	18.9	8.3	9.01	101.8	7.95
1991	940612	2000	3.1	19.0	7.2	8.98	101.1	7.95
1992	940612	2015	2.8	19.1	7.1	8.92	100.4	7.96
1993	940612	2030	2.7	19.1	4.1	8.98	99.4	7.96
1994	940612	2045	2.5	19.2	4.2	8.90	98.7	7.98
1995	940612	2100	2.4	19.2	3.6	8.88	98.2	7.99
1996	940612	2115	2.4	19.2	3.0	8.88	97.8	8.01
1997	940612	2130	2.2	19.2	2.4	8.86	97.3	8.03
1998	940612	2145	2.0	19.1	2.0	8.84	96.6	8.04
1999	940612	2200	2.0	19.1	1.6	8.82	96.1	8.05
2000	940612	2215	1.9	19.0	1.2	8.84	96.0	8.08
2001	940612	2230	1.8	19.0	1.0	8.81	95.5	8.08
2002	940612	2245	1.7	18.9	0.8	8.83	95.6	8.09
2003	940612	2300	1.7	18.8	0.7	8.85	95.4	8.10
2004	940612	2315	1.7	18.7	0.6	8.88	95.5	8.10
2005	940612	2330	1.6	18.7	0.5	8.89	95.4	8.10
2006	940612	2345	1.4	18.6	0.4	8.90	95.4	8.09
2007	940613	0	1.4	18.5	0.4	8.89	95.1	8.08
2008	940613	15	1.3	18.5	0.3	8.90	95.1	8.07
2009	940613	30	1.3	18.3	0.3	8.92	95.0	8.06
2010	940613	45	1.3	18.3	0.3	8.91	94.8	8.05
2011	940613	100	1.2	18.2	0.3	8.89	94.4	8.04
2012	940613	115	1.2	18.2	0.2	8.89	94.4	8.02
2013	940613	130	1.2	18.1	0.2	8.88	94.2	8.01
2014	940613	145	1.1	18.1	0.2	8.87	94.0	7.99
2015	940613	200	1.1	18.0	0.2	8.88	93.9	7.98
2016	940613	215	1.1	18.0	0.2	8.85	93.6	7.96
2017	940613	230	1.1	17.9	0.2	8.85	93.5	7.95
2018	940613	245	1.1	17.9	0.2	8.87	93.6	7.92
2019	940613	300	1.1	17.8	0.2	8.88	93.5	7.89
2020	940613	315	1.1	17.7	0.2	8.89	93.4	7.87
2021	940613	330	0.9	17.7	0.2	8.87	93.3	7.83
2022	940613	345	1.1	17.7	0.2	8.88	93.2	7.80

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
2023	940613	400	1.0	17.6	0.1	8.90	93.3	7.83
2024	940613	415	1.2	17.6	0.1	8.87	93.1	7.82
2025	940613	430	5.1	17.7	0.9	8.64	91.2	7.89
2026	940613	440	7.0	17.4	5.5	8.48	91.4	7.76
2027	940613	500	8.2	16.8	9.8	8.53	93.2	7.80
2028	940613	515	8.7	16.2	14.3	8.59	95.3	7.83
2029	940613	530	9.0	16.0	15.6	8.61	95.9	7.84
2030	940613	545	8.9	15.7	18.2	8.60	96.7	7.85
2031	940613	600	8.5	15.7	14.9	8.85	97.4	7.86
2032	940613	610	7.8	15.9	15.4	8.77	97.4	7.87
2033	940613	630	7.1	16.1	16.8	8.47	95.4	7.86
2034	940613	645	6.5	16.1	14.8	8.67	96.2	7.85
2035	940613	700	5.8	16.2	13.0	8.74	96.2	7.86
2036	940613	715	5.3	16.4	14.4	8.55	95.3	7.84
2037	940613	730	4.7	16.5	12.3	8.62	95.0	7.83
2038	940613	745	4.3	16.6	11.0	8.63	94.6	7.83
2039	940613	800	3.8	16.7	10.0	8.61	94.1	7.83
2040	940613	815	3.5	16.9	9.7	8.53	93.4	7.83
2041	940613	830	3.2	17.0	9.1	8.48	92.7	7.83
2042	940613	845	3.0	17.1	8.0	8.50	92.4	7.84
2043	940613	900	2.7	17.1	6.1	8.53	91.8	7.86
2044	940613	915	2.6	17.2	5.2	8.51	91.2	7.88
2045	940613	930	2.4	17.2	4.4	8.55	91.2	7.90
2046	940613	945	2.3	17.3	3.7	8.58	91.3	7.93
2047	940613	1000	2.1	17.3	3.0	8.64	91.6	7.97
2048	940613	1015	2.0	17.3	2.5	8.72	92.1	8.00
2049	940613	1030	2.0	17.3	2.0	8.71	91.7	8.02
2050	940613	1045	1.8	17.3	1.7	8.72	91.8	8.04
2051	940613	1100	1.7	17.3	1.4	8.75	91.9	8.06
2052	940613	1115	1.6	17.3	1.1	8.76	91.9	8.08
2053	940613	1130	1.6	17.3	0.9	8.77	91.9	8.09
2054	940613	1145	1.6	17.3	0.8	8.82	92.3	8.10
2055	940613	1200	1.5	17.3	0.7	8.85	92.5	8.11
2056	940613	1215	1.4	17.4	0.6	8.85	92.6	8.11
2057	940613	1230	1.3	17.4	0.5	8.83	92.3	8.12
2058	940613	1245	1.3	17.3	0.4	8.89	92.8	7.98
2059	940613	1300	1.2	17.3	0.4	8.91	93.1	7.95
2060	940613	1315	1.2	17.4	0.3	8.91	93.1	7.94
2061	940613	1330	1.2	17.4	0.3	8.93	93.4	7.89
2062	940613	1345	1.3	17.4	0.3	8.94	93.4	7.87
2063	940613	1400	1.2	17.4	0.3	8.97	93.8	7.79
2064	940613	1415	1.1	17.5	0.3	8.97	93.8	7.77
2065	940613	1430	1.1	17.7	0.2	8.92	93.8	7.81
2066	940613	1445	1.1	17.7	0.2	8.91	93.7	7.85
2067	940613	1500	1.1	17.9	0.2	8.84	93.3	7.84
2068	940613	1515	1.1	17.9	0.2	8.85	93.3	7.88

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
2069	940613	1530	1.1	17.9	0.2	8.84	93.4	7.85
2070	940613	1545	1.0	18.0	0.2	8.82	93.3	7.86
2071	940613	1600	1.0	18.1	0.2	8.83	93.5	7.82
2072	940613	1615	1.0	18.1	0.2	8.77	93.0	7.86
2073	940613	1630	0.9	18.1	0.2	8.76	92.9	7.82
2074	940613	1645	0.9	18.1	0.2	8.88	94.0	7.74
2075	940613	1700	4.4	18.3	0.9	8.73	93.3	7.96
2076	940613	1715	6.3	17.9	3.9	8.84	95.4	7.89
2077	940613	1730	7.4	17.3	9.1	8.83	97.1	7.85
2078	940613	1745	8.0	17.0	12.8	8.77	98.0	7.86
2079	940613	1800	8.1	16.7	16.3	8.70	98.8	7.85
2080	940613	1810	7.8	16.6	16.8	8.71	99.0	7.86
2081	940613	1830	7.3	16.5	12.4	8.98	99.2	7.87
2082	940613	1845	6.7	16.7	14.1	8.92	99.8	7.88
2083	940613	1900	6.1	17.0	13.5	8.85	99.3	7.89
2084	940613	1915	5.5	17.1	13.0	8.87	99.4	7.89
2085	940613	1930	4.9	17.1	14.7	8.81	99.8	7.88
2086	940613	1945	4.4	17.2	11.9	8.91	99.5	7.88
2087	940613	2000	3.9	17.3	11.8	8.87	99.2	7.88
2088	940613	2015	3.6	17.4	11.3	8.83	98.6	7.88
2089	940613	2030	3.2	17.5	8.0	8.92	98.0	7.89
2090	940613	2045	2.9	17.7	7.7	8.85	97.3	7.90
2091	940613	2100	2.7	17.8	7.3	8.77	96.4	7.91
2092	940613	2115	2.6	17.9	5.2	8.82	95.9	7.92
2093	940613	2130	2.5	17.9	4.6	8.80	95.4	7.94
2094	940613	2145	2.3	18.0	3.9	8.75	94.6	7.96
2095	940613	2200	2.2	18.1	3.3	8.75	94.4	7.98
2096	940613	2215	2.1	18.1	2.7	8.70	93.7	8.01
2097	940613	2230	1.9	18.1	2.2	8.67	93.0	8.01
2098	940613	2245	1.8	18.2	1.7	8.64	92.6	8.04
2099	940613	2300	1.7	18.2	1.4	8.63	92.3	8.06
2100	940613	2315	1.6	18.2	1.2	8.61	91.9	8.07
2101	940613	2330	1.5	18.2	0.9	8.61	91.8	8.07
2102	940613	2345	1.5	18.2	0.8	8.58	91.4	8.08
2103	940614	0	1.5	18.2	0.7	8.58	91.4	8.08
2104	940614	15	1.4	18.2	0.6	8.57	91.1	8.08
2105	940614	30	1.4	18.2	0.5	8.56	91.0	8.08
2106	940614	45	1.3	18.1	0.4	8.58	91.1	8.08
2107	940614	100	1.2	18.1	0.3	8.58	91.1	8.07
2108	940614	115	1.2	18.1	0.3	8.58	90.9	8.05
2109	940614	130	1.1	18.0	0.3	8.60	91.0	8.04
2110	940614	145	1.1	17.9	0.3	8.62	91.0	8.02
2111	940614	200	1.1	17.9	0.3	8.63	91.2	7.93
2112	940614	215	1.1	17.7	0.2	8.68	91.4	7.91
2113	940614	230	1.1	17.8	0.2	8.64	91.0	7.93
2114	940614	245	1.1	17.8	0.2	8.65	91.2	7.92

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
2115	940614	300	1.0	17.7	0.2	8.65	91.0	7.90
2116	940614	315	1.0	17.7	0.2	8.69	91.3	7.86
2117	940614	330	1.0	17.7	0.2	8.67	91.0	7.88
2118	940614	345	1.0	17.6	0.2	8.69	91.1	7.87
2119	940614	400	1.0	17.4	0.2	8.77	91.6	7.80
2120	940614	420	0.9	17.5	0.2	8.73	91.4	7.78
2121	940614	430	0.9	17.4	0.2	8.75	91.4	7.78
2122	940614	445	0.8	17.4	0.2	8.75	91.4	7.75
2123	940614	500	1.3	17.5	0.1	8.73	91.4	7.79
2124	940614	515	5.0	17.7	1.0	8.61	90.9	7.92
2125	940614	530	6.9	17.3	7.8	8.34	90.9	7.77
2126	940614	545	8.0	16.8	10.3	8.48	93.0	7.79
2127	940614	600	8.6	16.5	15.1	8.46	94.9	7.81
2128	940614	615	8.8	16.3	17.7	8.43	95.6	7.82
2129	940614	630	8.7	16.1	18.3	8.51	96.5	7.83
2130	940614	645	8.2	16.1	18.5	8.52	96.8	7.84
2131	940614	656	7.5	16.3	17.1	8.56	96.8	7.85
2132	940614	715	6.9	16.4	12.3	8.64	95.1	7.85
2133	940614	730	6.3	16.4	15.1	8.54	95.6	7.84
2134	940614	745	5.7	16.5	13.6	8.61	95.7	7.83
2135	940614	800	5.0	16.6	9.6	8.74	95.0	7.83
2136	940614	815	4.5	16.7	12.7	8.55	94.9	7.82
2137	940614	830	4.1	16.8	11.3	8.54	94.3	7.82
2138	940614	845	3.7	16.9	11.1	8.49	93.7	7.82
2139	940614	900	3.3	17.1	8.0	8.56	93.1	7.83
2140	940614	915	3.0	17.1	7.3	8.53	92.5	7.84
2141	940614	930	2.8	17.2	7.0	8.50	92.2	7.86
2142	940614	945	2.6	17.3	4.9	8.56	91.9	7.89
2143	940614	1000	2.4	17.4	4.5	8.53	91.4	7.92
2144	940614	1015	2.3	17.4	3.6	8.58	91.4	7.97
2145	940614	1030	2.1	17.5	2.9	8.59	91.4	8.00
2146	940614	1045	2.0	17.5	2.2	8.61	91.3	8.03
2147	940614	1100	2.0	17.6	1.8	8.65	91.6	8.06
2148	940614	1115	1.8	17.7	1.4	8.69	91.9	8.09
2149	940614	1130	1.8	17.7	1.1	8.63	91.2	8.11
2150	940614	1145	1.7	17.7	0.9	8.67	91.4	8.11
2151	940614	1200	1.6	17.7	0.8	8.69	91.5	8.12
2152	940614	1215	1.6	17.7	0.6	8.68	91.4	8.11
2153	940614	1230	1.5	17.7	0.5	8.72	91.9	8.10
2154	940614	1245	1.5	17.7	0.4	8.74	92.0	8.10
2155	940614	1300	1.5	17.8	0.4	8.77	92.5	8.09
2156	940614	1315	1.4	17.8	0.3	8.76	92.3	8.08
2157	940614	1330	1.3	17.9	0.3	8.76	92.4	8.07
2158	940614	1345	1.3	17.9	0.3	8.76	92.6	8.04
2159	940614	1400	1.2	17.9	0.2	8.79	92.8	8.01
2160	940614	1415	1.1	18.0	0.2	8.78	92.9	8.01

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
2161	940614	1430	1.1	18.1	0.2	8.78	93.0	7.96
2162	940614	1445	1.1	18.1	0.2	8.79	93.1	7.91
2163	940614	1500	1.1	18.1	0.2	8.79	93.2	7.89
2164	940614	1515	1.1	18.2	0.2	8.80	93.5	7.89
2165	940614	1530	1.0	18.2	0.2	8.83	93.7	7.86
2166	940614	1545	1.0	18.3	0.2	8.81	93.7	7.89
2167	940614	1600	1.0	18.3	0.2	8.83	94.0	7.85
2168	940614	1615	1.0	18.4	0.2	8.82	94.0	7.83
2169	940614	1630	1.0	18.4	0.1	8.81	93.9	7.82
2170	940614	1645	0.9	18.4	0.1	8.84	94.2	7.78
2171	940614	1700	0.9	18.5	0.1	8.84	94.4	7.76
2172	940614	1715	0.9	18.5	0.1	8.83	94.2	7.75
2173	940614	1730	1.4	18.5	0.1	8.82	94.1	7.76
2174	940614	1745	4.8	18.7	0.9	8.72	93.9	7.96
2175	940614	1800	6.6	18.4	7.0	8.63	95.9	7.88
2176	940614	1815	7.7	17.9	12.6	8.54	97.1	7.85
2177	940614	1830	8.3	17.6	13.9	8.62	98.1	7.85
2178	940614	1845	8.5	17.3	16.4	8.57	98.6	7.85
2179	940614	1900	8.3	17.2	15.5	8.68	99.0	7.85
2180	940614	1915	7.8	17.1	16.8	8.69	99.7	7.86
2181	940614	1930	7.1	17.4	14.0	8.79	99.8	7.87
2182	940614	1945	6.4	17.6	13.7	8.67	98.7	7.88
2183	940614	2000	5.9	17.6	11.9	8.77	98.7	7.87
2184	940614	2015	5.3	17.7	12.7	8.71	98.6	7.87
2185	940614	2030	4.7	17.8	12.4	8.68	98.3	7.86
2186	940614	2045	4.2	17.9	12.4	8.64	98.0	7.86
2187	940614	2100	3.8	18.0	9.1	8.74	97.4	7.87
2188	940614	2115	3.6	18.1	8.8	8.71	97.1	7.87
2189	940614	2130	3.2	18.2	6.2	8.78	96.6	7.89
2190	940614	2145	2.9	18.3	5.3	8.74	95.9	7.92
2191	940614	2200	2.7	18.3	4.3	8.72	95.2	7.95
2192	940614	2215	2.6	18.3	3.2	8.73	94.6	7.98
2193	940614	2230	2.4	18.3	2.5	8.73	94.2	8.01
2194	940614	2245	2.2	18.3	1.7	8.72	93.7	8.04
2195	940614	2300	2.1	18.3	1.3	8.71	93.3	8.05
2196	940614	2315	2.0	18.1	0.9	8.75	93.2	8.04
2197	940614	2330	1.9	18.2	0.7	8.71	92.7	8.07
2198	940614	2355	1.8	18.1	0.5	8.73	92.8	8.06
2199	940615	0	1.8	18.1	0.4	8.76	92.8	8.05
2200	940615	15	1.7	17.9	0.3	8.79	92.8	8.00
2201	940615	30	1.6	17.9	0.3	8.77	92.5	7.96
2202	940615	45	1.6	17.7	0.2	8.80	92.5	7.94
2203	940615	100	1.5	17.7	0.2	8.80	92.5	7.89
2204	940615	115	1.5	17.5	0.2	8.88	92.9	7.82
2205	940615	130	1.5	17.5	0.2	8.90	93.1	7.81
2206	940615	145	1.5	17.7	0.2	8.87	93.1	7.85

Appendix 3 (continued).

OBS	Date	Time	Depth (m)	Water temp (C)	Salinity (ppt)	D.O. (mg/L)	D.O. satura- tion(%)	pH
2207	940615	200	1.4	17.5	0.1	8.90	93.1	7.82
2208	940615	215	1.4	17.4	0.1	8.94	93.4	7.82
2209	940615	230	1.2	17.2	0.1	8.99	93.5	7.77
2210	940615	245	1.2	16.9	0.1	9.08	93.8	7.66
2211	940615	255	1.2	16.7	0.1	9.12	93.9	7.47
2212	940615	315	1.1	16.6	0.1	9.19	94.3	7.36
2213	940615	330	1.1	16.9	0.1	9.12	94.2	7.44
2214	940615	345	1.1	16.7	0.1	9.15	94.2	7.50
2215	940615	400	1.1	16.8	0.1	9.16	94.4	7.47
2216	940615	415	1.1	16.8	0.1	9.16	94.4	7.52
2217	940615	430	1.1	16.7	0.1	9.19	94.6	7.43
2218	940615	445	1.0	16.7	0.1	9.19	94.6	7.37
2219	940615	500	1.0	16.8	0.1	9.16	94.4	7.37
2220	940615	515	1.0	16.9	0.1	9.17	94.7	7.37
2221	940615	530	1.0	16.9	0.1	9.18	94.9	7.44
2222	940615	545	1.3	17.2	0.1	9.14	95.0	7.45
2223	940615	600	4.6	17.7	0.5	8.68	91.5	7.85
2224	940615	620	6.6	17.7	3.2	8.52	91.2	7.79
2225	940615	630	7.6	17.4	7.5	8.42	91.9	7.77
2226	940615	645	8.4	17.1	12.1	8.35	93.1	7.80
2227	940615	700	8.6	16.9	15.5	8.31	94.2	7.80
2228	940615	715	8.5	16.7	16.2	8.37	95.0	7.81
2229	940615	730	8.1	16.7	16.1	8.42	95.3	7.82
2230	940615	745	7.4	16.9	13.8	8.53	95.6	7.85
2231	940615	800	6.9	17.0	10.3	8.53	93.9	7.85
2232	940615	815	6.3	17.0	12.8	8.45	94.5	7.85
2233	940615	830	5.6	17.1	11.8	8.54	95.1	7.84
2234	940615	845	5.0	17.3	11.4	8.46	94.3	7.83
2235	940615	900	4.6	17.3	8.5	8.57	94.0	7.83
2236	940615	915	4.2	17.5	8.3	8.52	93.6	7.84
2237	940615	930	3.8	17.7	5.6	8.57	93.0	7.86
2238	940615	945	0.6	17.7	0.1	9.60	100.8	7.86
2239	940615	1000	0.7	19.7	0.0	8.72	95.3	7.63