



1-2004

Ambient Rivers and Shellfish Tissue Monitoring in New Hampshire Estuarine Watersheds 2003

Natalie Landry
New Hampshire Department of Environmental Services

Phil Trowbridge
NH Department of Environmental Services

Follow this and additional works at: <https://scholars.unh.edu/prep>



Part of the [Marine Biology Commons](#)

Recommended Citation

Landry, Natalie and Trowbridge, Phil, "Ambient Rivers and Shellfish Tissue Monitoring in New Hampshire Estuarine Watersheds 2003" (2004). *PREP Reports & Publications*. 288.
<https://scholars.unh.edu/prep/288>

This Report is brought to you for free and open access by the Institute for the Study of Earth, Oceans, and Space (EOS) at University of New Hampshire Scholars' Repository. It has been accepted for inclusion in PREP Reports & Publications by an authorized administrator of University of New Hampshire Scholars' Repository. For more information, please contact Scholarly.Communication@unh.edu.

Ambient Rivers and Shellfish Tissue Monitoring in New Hampshire Estuarine Watersheds 2003

A Final Report to

The New Hampshire Estuaries Project

Submitted by

Natalie Landry

Phil Trowbridge

New Hampshire Department of Environmental Services

29 Hazen Drive

Concord, NH 03301

January 2004

This project was funded in part by a grant from the New Hampshire Estuaries Project
as authorized by the U.S. Environmental Protection Agency
pursuant to Section 320 of the Clean Water Act.



TABLE OF CONTENTS

TABLE OF CONTENTS	1
EXECUTIVE SUMMARY	2
LIST OF TABLES.....	2
INTRODUCTION	3
PROJECT GOALS AND OBJECTIVES.....	3
SITE SELECTION AND METHODS.....	4
FIELD AND LABORATORY DATA.....	8
RECOMMENDATIONS	10
REFERENCES	10
APPENDIX A - AMBIENT RIVER SITE MAPS	13
APPENDIX B - GULFWATCH SITE MAPS	14
APPENDIX C - AMBIENT RIVER DATA FOR COASTAL TRIBUTARIES.....	15
APPENDIX D - GULFWATCH PHYSICAL DATA 2003.....	16

EXECUTIVE SUMMARY

The Department of Environmental Services received funding from the New Hampshire Estuaries Project (NHEP) to conduct monitoring activities in 2003. The activities involved water monitoring in tidal tributaries and contaminant analyses of mussel tissue. These monitoring activities were completed with the overall purpose of improving the understanding of water quality trends and the concentrations of toxic contaminants in shellfish tissue. The Department of Environmental Services, in cooperation with the University of New Hampshire Jackson Estuarine Lab and others, completed all tasks as planned. This report includes the sample collection information, field data, and laboratory data, with the exception of contaminant concentration data for shellfish tissue. The data for the mussel tissue contaminants will be available at a later date. Data summaries and interpretations will come at a later time in other New Hampshire Department of Environmental Services and New Hampshire Estuaries publications.

LIST OF TABLES

Table 1	Sampling locations for ambient river monitoring 2003.....	5
Table 2	Sampling dates for ambient river monitoring 2003	5
Table 3	Gulfwatch mussel sampling sites and funding sources for 2003.....	6
Table 4	Inorganic and organic contaminants analyzed in shellfish tissues for the New Hampshire Gulfwatch Program.....	7
Table 5	Field duplicate dates and sampling locations	8
Table 6	Field analytical QC sample table.....	9
Table 7	Field problems encountered during the 2003 field season.	9

INTRODUCTION

On March 19, 2003, the New Hampshire Governor and the Executive Council approved a memorandum of agreement (MOA) between the Department of Environmental Services (DES) and the Office of State Planning (OSP) to implement aspects of the New Hampshire Estuaries Project *Management Plan* (NHEP, 2000) and *Monitoring Plan* (Trowbridge, 2002). This report covers the following monitoring aspects in the MOA:

1. Ambient River Monitoring of Coastal Tributaries
2. Gulfwatch Monitoring: Toxic Contaminant Monitoring of Shellfish Tissue

The NHEP accomplishes its monitoring program by promoting cooperation by all agencies and organizations who participate in monitoring activities, in order to maximize the usefulness of current monitoring efforts (Jones and Langan, 2001). The monitoring activities listed above are enhancements of existing monitoring programs. DES is responsible for the ambient rivers monitoring program and works in concert with the University of New Hampshire and the Gulf of Maine Council to monitor toxic contaminants through the Gulfwatch mussel monitoring program. These efforts were recommended in the *Monitoring Plan* as necessary actions to fill data and/or information gaps.

The purpose of this report is to provide a record of completed monitoring activities and the associated raw data. All data collected under these monitoring activities will be provided to the NHEP Coastal Scientist (Phil Trowbridge) for synthesis and interpretation. The NHEP Coastal Scientist will manage the data presented in this Final Report and will make conclusions under separate cover at a later time.

PROJECT GOALS AND OBJECTIVES

The overall goal of the NHEP monitoring program is to develop a better understanding of the status and trends of estuarine environmental quality using scientifically credible information. The *Monitoring Plan* was also developed to evaluate the success of the NHEP *Management Plan* objectives and this was accomplished by converting the *Management Plan* objectives into monitoring questions.

The *Monitoring Plan* questions that pertain, at least in part, to the activities listed above are as follows:

Ambient River Monitoring of Coastal Tributaries

1. Have the fecal coliform, enterococci, and *E. coli* levels changed significantly over time?
2. Has dry weather bacterial contamination changed significantly over time?

3. Has wet weather bacterial contamination changed significantly over time?
4. Have levels of dissolved and particulate nitrogen and phosphorus significantly changed over time?
5. Have surface tidal or freshwaters shown a significant change in turbidity over time?
6. Do any surface tidal or freshwaters show less than 75% saturation of dissolved oxygen? For what period of time?

Gulfwatch Monitoring: Toxic Contaminant Monitoring of Shellfish Tissue

1. Are shellfish, lobsters, finfish, and other seafood species from New Hampshire coastal waters fit for human consumption?
2. Have the concentrations of toxic contaminants in estuarine biota significantly changed over time?

SITE SELECTION AND METHODS

Ambient River Monitoring of Coastal Tributaries

Initial site selection for ambient tributary monitoring was based six existing DES Ambient River Monitoring Program sites at the Great Bay Estuary tidal dams on the Exeter, Lamprey, Oyster, Bellamy, Cocheco and Salmon Falls Rivers. Two new sites were established on the freshwater portions of two Little Harbor tributaries, Berry's Brook and Sagamore Creek. These two new site locations were added to broaden the spatial coverage of the ambient monitoring to ensure adequate coverage of tributaries that discharge into shellfish growing waters. An additional Great Bay Estuary site was established on the Winnicut River at the tidal dam in March 2002. This new site was added because the Winnicut River is a significant tributary to Great Bay that was not currently monitored for water quality. The relatively rural watershed has experienced recent and continuing development that could impact the quality of the water flowing into Great Bay; in addition, the tidal dam has been identified as a potential site for fish passage restoration.

Field and laboratory methods were conducted in accordance with the DES Ambient River Monitoring Program standard procedures. Samples were collected from the freshwater portion of the rivers at the downstream side of road crossings (except at Berry's Brook where the sampling location is on the upstream side) using a sampling bucket and rope. Field measurements were made for dissolved oxygen, temperature, conductivity, pH, and turbidity. River water was poured into sampling containers for laboratory analysis for TKN, ammonia, nitrate/nitrite, total phosphorus, biological oxygen demand, *E. coli*, and chlorophyll-a. Samples were transported to and analyzed by the DES Laboratory Services Unit and the Limnology Laboratory.

The DES Watershed Assistance Staff, with assistance from New Hampshire Coastal Program staff, collected samples on a pre-scheduled monthly basis from March through December 2003 at nine sampling locations. Due to the expanded quality assurance requirements of the Ambient River Monitoring Program in 2003 and the delivery time limitations of the Laboratory Services

Unit, the sampling was conducted over a two day period beginning in April. The sites and sampling dates are listed below in tables 1 and 2, respectively.

Table 1 Sampling locations for ambient river monitoring 2003

<u>Site Identification</u>	<u>River</u>	<u>Town</u>
05-Ber	Berry's Brook	Rye
05-Sag	Sagamore Creek	Portsmouth
02-Wnc	Winnicut River	Greenland
09-Ext	Exeter River	Exeter
05-Lmp	Lamprey River	Newmarket
05-Oys	Oyster River	Durham
05-Blm	Bellamy River	Dover
07-Cch	Cochecho River	Dover
05-Sfr	Salmon Falls River	Rollinsford

Table 2 Sampling dates for ambient river monitoring 2003

<u>Date Sampled</u>	<u>Sampling Locations</u>
March 19	05-Ber, 05-Sag, 02-Wnc, 09-Ext, 05-Lmp, 05-Oys, 05-Blm, 07-Cch, 05-Sfr
April 23	05-Ber, 05-Sag, 02-Wnc, 09-Ext, 05-Lmp, 05-Oys
April 24	05-Blm, 07-Cch, 05-Sfr
May 20	05-Ber, 05-Sag, 02-Wnc, 09-Ext, 05-Lmp, 05-Oys, 05-Blm
May 22	07-Cch, 05-Sfr
June 19	05-Ber, 05-Sag
June 20	05-Ber, 05-Sag (<i>E. coli</i> only)
June 30	02-Wnc, 09-Ext, 05-Lmp, 05-Oys, 05-Blm, 07-Cch, 05-Sfr
July 22	09-Ext, 05-Lmp, 05-Oys, 05-Blm, 07-Cch, 05-Sfr
July 24	05-Ber, 05-Sag, 02-Wnc
August 19	09-Ext, 05-Lmp, 05-Oys, 05-Blm, 07-Cch, 05-Sfr
August 20	05-Ber, 05-Sag, 02-Wnc, 05-Lmp (DO&Temp only),
September 16	05-Ber, 05-Sag, 02-Wnc, 09-Ext,
September 29	05-Lmp, 05-Oys, 05-Blm, 07-Cch, 05-Sfr
October 28	05-Ber, 05-Sag, 02-Wnc, 09-Ext, 05-Lmp
October 30	05-Oys, 05-Blm, 07-Cch, 05-Sfr
November 18	05-Ber, 05-Sag, 02-Wnc, 09-Ext, 05-Lmp
November 19	05-Oys, 05-Blm, 07-Cch, 05-Sfr
December 10	05-Ber, 05-Sag, 09-Ext, 05-Lmp
December 16	02-Wnc, 05-Oys, 05-Blm, 07-Cch, 05-Sfr

Gulfwatch Monitoring: Toxic Contaminant Monitoring of Shellfish Tissue

In 1991 the Gulf of Maine Council initiated a toxic contaminant monitoring program using the blue mussel as an indicator species. Each year, two sites in New Hampshire waters were monitored as part of this Gulf of Maine-wide program. In 1998, New Hampshire increased the spatial coverage of sampling locations by collecting mussels at six to eight sites each year. In

2001, New Hampshire again expanded Gulfwatch by collecting oysters and clams in Great Bay and Hampton Harbor, respectively. The purpose of the additional indicators was to collect data from other species that were harvested for human consumption. Samples were collected again in 2002, including oyster, clam and mussel collection at eight sampling locations.

In 2003, the NHEP funded the analytical costs of three mussel sites under the NH Gulfwatch Program (table 3). The sites were located at Hampton/Seabrook Harbor, Dover Point, and South Mill Pond. Two other sites were also monitored with support from the Gulf of Maine Council. These sites were located at Little Harbor and Clark’s Cove.

On 10/1/03 and 10/2/03, DES managed the collection of mussel samples from the five sites. New Hampshire Coastal Program and Estuaries Project staff, in addition to community volunteers, assisted DES staff with the sample collection and laboratory preparation. The sites are listed in table 3. Maps for each site are provided in Appendix B. All shellfish were measured, shucked and prepared for transport within 24 hours of collection.

The sets of samples to be analyzed for inorganic contaminants were delivered to the State of Maine Health and Environment Testing Laboratory in Augusta, Maine. The mussels prepared for organic contaminant analysis were delivered to the Environment Canada, ECB Laboratory in Moncton, New Brunswick.

Table 3 Gulfwatch mussel sampling sites and funding sources for 2003

Funding Source	Sampling Location	Site ID	Latitude (decimal degrees)	Longitude (decimal degree)
NHEP	Dover Point	NHDP	43.1196 N	-70.8267 W
NHEP	Hampton Harbor	NHHS	42.8972 N	-70.8164 W
GOMC	Little Harbor	NHLH	43.0581 N	-70.7154 W
NHEP	South Mill Pond	NHSM	43.0729 N	-70.7489 W
GOMC	Clark’s Cove	MECC	43.0774 N	-70.7244 W

Several annual data reports on the results of the Gulf of Maine-wide Gulfwatch program have been published (Chase, et al., 1998; Chase et al., 1997; Chase et al., 1996a; Chase et al., 1996b), as well as a New Hampshire Gulfwatch report for the 1998 results (Jones and Landry, 2000). A review of the results, program and logistics of the first five years of the Gulfwatch Program was published in 1998 (Jones et al., 1998), and an in-depth analysis of scientific findings for the first seven years has been published (Chase et al., 2001). The use of the Gulfwatch approach for a smaller area like coastal New Hampshire has also been analyzed (Jones et al, 2001).

All field sampling was conducted as outlined in Sowles et al. (1997). Collection times were set to avoid collecting during or shortly after periods when stormwater runoff and wave re-suspension of bottom sediment could result in enhanced uptake and accumulation of sediment in the mussel gut. At each site, mussels were collected from four discrete areas within a segment of the shoreline that was representative of local water quality. Using a ruler to measure length, 45-

50 mussels of 50-60 mm shell length were collected. The mussels were cleaned of all sediment, epibiota, and other accretions in clean seawater from the collection site, placed in clean containers, and then transported to the lab in coolers with ice packs. Prior to shucking, mussels were thoroughly rewashed to minimize tissue contamination from any remaining surface debris, and residual seawater was drained from the shells.

In the laboratory, individual mussel lengths, widths and heights (as defined by Seed, 1968) were determined to the nearest 0.1 mm using calipers. Using plastic or stainless steel wedges, mussels were shucked directly into appropriately prepared Mason jars for metal and organic analysis, respectively (for details see Sowles et al., 1997). Composite samples (20 mussels/composite; 4 composites/station) were capped, labeled and stored at -15 degrees Celsius.

The analytical procedures used, followed those reported for the previous years (Sowles et al., 1994, 1996; Chase et al., 1996a, b, 1997, 1998). Table 4 contains a summary of trace metal (inorganic) and organic compounds that will be analyzed by the two laboratories.

Table 4 Inorganic and organic contaminants analyzed in shellfish tissues for the New Hampshire Gulfwatch Program

INORGANIC CONTAMINANTS									
Metals									
Ag	Al	Cd	Cr	Cu	Fe	Hg	Ni	Pb	Zn
ORGANIC CONTAMINANTS									
<u>Aromatic Hydrocarbons</u>	<u>Chlorinated Pesticides</u>		<u>PCB Congeners</u>						
Naphthalene	Hexachlorobenzene (HCB)		PCB 8						
1-Methylnaphthalene	gamma-hexachlorocyclohexane		PCB 18						
2-Methynaphthalene	Heptachlor		PCB 28						
Biphenyl	Heptachlor epoxide		PCB 29						
2,6-Dimethylnaphthalene	Aldrin		PCB 44						
Acenaphthylene	Mirex		PCB 50						
Acenaphthene	cis-Chlordane		PCB 52						
2,3,5-Trimethylnaphthalene	trans-Nonachlor		PCB 52						
Fluorene	Dieldrin		PCB 66						
Phenanthrene	Alpha-endosulfan		PCB 77						
Anthracene	beta-Endosulfan		PCB 87						
1-Methylphenanthrene	<u>DDT and Homologues</u>		PCB 101						
Flouranthene	2,4'-DDE		PCB 105						
Pyrene	2,4'-DDD		PCB 118						
Benzo [a] anthracene	2,4'-DDT		PCB 126						
			PCB 128						
			PCB 138						

Chrysene	4,4'-DDE	PCB 153
Benzo [b] flouranthene	4,4'-DDD	PCB 169
Benzo [k] flouranthene	4,4'-DDT	PCB 170
Benzo [a] pyrene		PCB 180
Benzo [e] pyrene		PCB 187
Perylene		PCB 195
Indeno [1,2,3-cd] pyrene		PCB 206
Dibenzo [a,h] anthracene		PCB 209
Benzo [g,h,l] perylene		

FIELD AND LABORATORY DATA

Ambient River Monitoring of Coastal Tributaries

Ambient river data for 2003 are in Appendix C. The data are organized by sampling site and date. Access to the data will soon be available at the DES website, which can be accessed by selecting the environmental monitoring database at <http://www.des.state.nh.us/OneStop/>.

Duplicate measures of field parameters were collected once per month at one of the nine sampling locations (see table 5) as required by the Quality Assurance Project Plan (Piszczek, 2002). Data retention for water quality assessment purposes is contingent on compliance with a parameter-specific relative percent difference (RPD) as described in the QAPP and table 6. Several data did not comply with the RPD and this is noted in the data tables (Appendix C). Duplicate sample analyses of laboratory parameters were not measured during the 2003 season based on budgetary limitations.

Table 5 Field duplicate dates and sampling locations

Date	Sampling location
3/19/03	07-Cch
4/24/03	05-Sfr
5/20/03	05-Oys
6/30/03	05-Oys
7/24/03	05-Sag
8/19/03	07-Cch
9/29/03	05-Oys
10/30/03	05-Oys
11/18/03	05-Sag
12/16/03	07-Cch

Table 6 Field analytical QC sample table.

Water Quality Parameter	QC Check	QC Acceptance Limit
Dissolved Oxygen	Field duplicate; Measurement replicate	RPD < 5%
Temperature	Field duplicate; Measurement replicate	RPD < 5%
pH	Field duplicate; measurement replicate	RPD < 0.2 std units
Specific Conductance	Field duplicate; measurement replicate	RPD < 5%
Turbidity	Field duplicate; measurement replicate	RPD < 5%

Certain problems were encountered during the field work that resulted in no changes to the sample collection methods or analytical analyses while other issues did result in changes (table 7). The most frequent change occurred when the field pH meter would not calibrate. In these cases, the water samples were analyzed for pH in the DES Laboratory Services Unit.

Table 7 Field problems encountered during the 2003 field season.

Date	Site	Issue
03/19/03	05-Ber All sites 02-Wnc 05-Oys	Sample collected downstream side of bridge due to ice cover upstream. The field pH meter would not calibrate. pH analyzed in the laboratory. Ice cover above dam. Made a hole in the ice to collect sample. Field data lost.
4/24/03	05-Oys	No water temperature measured.
5/20/03	05-Oys	Preserved nutrient bottle overfilled.
6/19/03	05-Ber, 05-Sag	The field pH meter would not calibrate. pH analyzed in the laboratory.
7/22/03	All sites 05-Blm	The field pH meter would not calibrate. pH analyzed in the laboratory. Preserved nutrient bottle slightly overfilled.
8/19/03	05-Lmp	Dissolved oxygen meter would not calibrate.
10/28/03	02-Wnc	Drawdown in progress. Sample collected slightly upstream of usual site at dam.
10/30/03	07-Cch	Preserved nutrient bottle slightly overfilled.
11/19/03	All sites	Turbidity not measured in the field. Measured in the laboratory.
12/16/03	02-Wnc All sites	River was frozen. No sample was collected. The field pH meter would not calibrate. pH analyzed in the laboratory.

Gulfwatch Monitoring: Toxic Contaminant Monitoring of Shellfish Tissue

Physical data on the mussels were transferred from hard copy datasheets to Excel spreadsheets. Data entry was checked twice for transcription errors following DES protocols. The physical data for the samples are provided in Appendix D. The original datasheets will be kept on file at DES.

The laboratory results have not yet been received from the two laboratories. The 2003 Gulfwatch data are expected in December 2005. Once the data are received, a report will be written for all NH Gulfwatch data. The report will discuss the status and trends of toxic contaminants found in

mussel tissue for estuarine waters. Emphasis will be placed on the potential impact of risks associated with contaminants found in the shellfish growing waters.

RECOMMENDATIONS

Ambient River Monitoring of Coastal Tributaries

The following recommendations pertain to the ambient river monitoring of coastal tributaries.

1. Monitoring should continue on a monthly basis at the nine coastal river sites to establish trends in ambient river quality. Baseline conditions and trends will be important in regards to monitoring the success of the NHEP *Management Plan* implementation.
2. Steps should be taken to ensure all agencies and organizations that are interested in the data have access to it. DES plans to add environmental monitoring data to the OneStop web-based program on the DES website.
3. Duplicates of laboratory parameters should be added in 2004 to comply with the quality assurance project plan.
4. DES should consider modifying the RPD for dissolved oxygen and possibly pH to be less stringent. The coordinator of the Ambient Rivers Monitoring Program is currently considering these changes.

Gulfwatch Monitoring: Toxic Contaminant Monitoring of Shellfish Tissue

The following recommendations pertain to the New Hampshire Gulfwatch program.

1. The NHEP should consider increasing the funds for Gulfwatch monitoring to cover the costs of price increases at the contract laboratories.
2. The Gulf of Maine Council Environmental Quality Monitoring Committee should continue to explore other laboratories in an effort to expedite the analyses of the shellfish tissue.
3. The *New Hampshire Estuaries Project Monitoring Plan* recommends annual mussel sampling at three locations (Portsmouth Harbor, Great Bay and Hampton/Seabrook Harbor) and semi-annual clam and oyster sampling at Hampton/Seabrook Harbor and Great Bay, respectively. The annual mussel monitoring appears to be funded through 2004 but, the oyster and clam monitoring support is unknown at this time.

REFERENCES

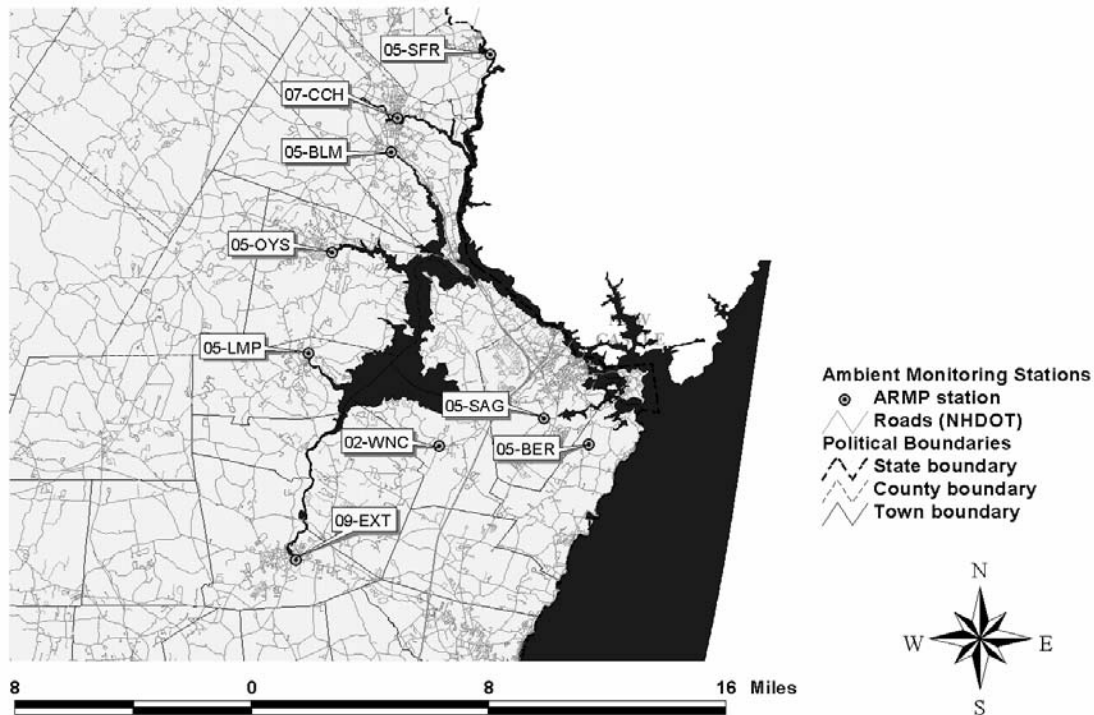
Chase, M., P. Hennigar, J. Sowles, S. Jones, R. Crawford, G. Harding, J. Pederson, C. Krahforst, D. Taylor and K. Coombs. 1998. *Evaluation of Gulfwatch 1997- Seventh Year of the Gulf of Maine Environmental Monitoring Plan*. The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta, ME. 122pp.

- Chase, M., S. Jones, P. Hennigar, J Sowles, G. Harding, K. Freeman, P. Wells, C Krahforst, R. Crawford, J. Pederson, and D. Taylor. 2001. *Gulfwatch: Monitoring Spatial and Temporal Patterns of Trace Metal and Organic Contaminants in the Gulf of Maine (1991-1997) with the Blue Mussel, Mytilus edulis L.*
- Chase, M., S. Jones, P. Hennigar, Sowles, K. Coombs, J. R. Crawford, G. Harding, J. Pederson and D. Taylor. 1997. *Evaluation of Gulfwatch 1996- Sixth Year of the Gulf of Maine Environmental Monitoring Plan.* The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta, ME. 122 pp.
- Chase, M., S. Jones, Sowles, J., P. Hennigar, G. Harding, R. Crawford, J. Pederson, K. Coombs, D. Taylor, and W. Robinson. 1996a. *Evaluation of Gulfwatch 1995- Fifth Year of the Gulf of Maine Environmental Monitoring Plan.* The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta ME.
- Chase, M., S. Jones, Sowles, J., P. Hennigar, G. Harding, R. Crawford, J. Pederson, K. Coombs, D. Taylor, and W. Robinson. 1996b. *Evaluation of Gulfwatch 1994- Fourth Year of the Gulf of Maine Environmental Monitoring Plan.* The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta ME.
- Jones, S. H., M. Chase, J. Sowles, P. Hennigar, N. Landry, P.G Wells, G.C.H. Harding, C. Krahforst, and G.L. Brun. 2001. *Monitoring for toxic contaminants in Mytilus edulis from New Hampshire and the Gulf of Maine.* J. Shellfish Res.
- Jones, S. and N. Landry. 2000. *The New Hampshire Gulfwatch Program: 1998 A Part of the Eighth Year of the Gulf of Maine Environmental Monitoring Plan.*
- Jones, S. H. and R. Langan. 2001. *New Hampshire Estuaries Monitoring Plan.* New Hampshire Estuaries Project, Office of State Planning, Portsmouth, NH.
- Jones et al. 1998. *Evaluation of Gulfwatch 1997. The Gulf of Maine Council on the Marine Environment.*
- Landry, Natalie and Stephen H. Jones. 2001. *Toxic Contaminant Monitoring at Shellfish Growing Water Sites in New Hampshire: 2000. A Report to the New Hampshire Estuaries Project.* Department of Environmental Services, Concord, NH. Report number R-WD-01-11.
- Lobel, P.B., S.P. Belkhode, S.E. Jackson and H.P. Longerich, 1991. *Sediment in the intestinal tract: A potentially serious source of error in aquatic biological monitoring programs.* Mar. Environ. Res. 31: 163-174.
- NHEP. 2000. *New Hampshire Estuaries Project Management Plan.* New Hampshire Estuaries Project, Office of State Planning. Portsmouth, New Hampshire.

- Robinson, W.E., D.K. Ryan and G.T. Wallace, 1993. *Gut Contents: A significant contaminant of Mytilus edulis whole body metal concentrations*. Arch. Environ. Contam. Toxicol. 25: 415-421.
- Piszczek, P. 2002. *Ambient River Monitoring Program Quality Assurance Project Plan*. NH Department of Environmental Services, Water Division-Watershed Management Bureau, Concord, NH.
- Seed, R., 1968. *Factors influencing shell shape in the mussel Mytilus edulis*. J. Mar. Biol. Ass. U.K. 48: 561-584/
- Sowles, J.R. Crawford, J. Machell, G. Atkinson, P. Hennigar, S. Jones, J. Pederson, and K. Coombs. 1994. *Evaluation of Gulfwatch: 1992 Pilot Project of the Gulf of Maine Marine Environmental Monitoring Plan*. The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta, ME.
- Sowles, J., R. Crawford, J. Machell, P. Hennigar, S. Jones, J. Pederson, K. Coombs, G. Atkinson, D. Taylor, G. Harding, M. Chase, and W. Robinson. 1996. *Evaluation of Gulfwatch 1993- Third Year of the Gulf of Maine Environmental Monitoring Plan*. The Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta, ME. 128p.
- Sowles, J., R. Crawford, P. Hennigar, G. Harding, S. Jones, M.E. Chase, W. Robinson, J. Pederson, K. Coombs, D. Taylor, and K. Freeman, 1997. *Gulfwatch project standard procedures: field and laboratory Gulfwatch implementation period 1993-2001*. Gulf of Maine Council on the Marine Environment, State Planning Office, Augusta, ME.
- Trowbridge, P. 2002. *New Hampshire Estuaries Project Monitoring Plan*. New Hampshire Department of Environmental Services, Concord, NH.

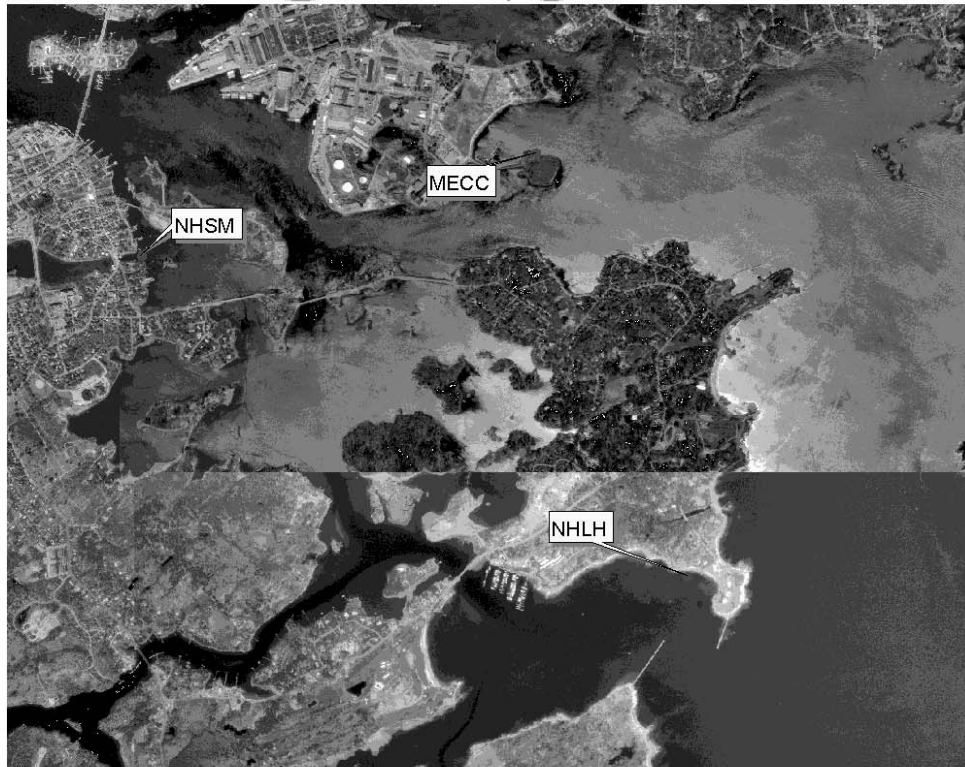
APPENDIX A - AMBIENT RIVER SITE MAPS

NHDES Enhanced Ambient Rivers Monitoring Program Tidal Tributary Monitoring Stations

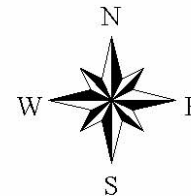


APPENDIX B - GULFWATCH SITE MAPS

Gulfwatch 2003 Stations Near Portsmouth NH



Political Boundaries
State boundary
County boundary
Town boundary
Text Town Names

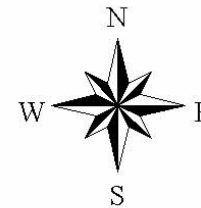


0.9 0 0.9 1.8 Miles

2003 Gulfwatch Station at Dover Point, Dover NH



Political Boundaries
--- State boundary
--- County boundary
--- Town boundary
Text Town Names

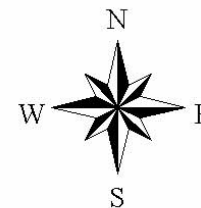


0.9 0 0.9 1.8 Miles

2003 Gulfwatch Station at Hampton/Seabrook Harbor, Hampton, NH



Political Boundaries
--- State boundary
--- County boundary
--- Town boundary
Text Town Names



0.9 0 0.9 1.8 Miles

APPENDIX C - AMBIENT RIVER DATA FOR COASTAL TRIBUTARIES

Berry's Brook at Sagamore Ave, Rye, 05-BER

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	9:31	2.4	<	MG/L	0.31	MG/M3	7.36	MG/L	52	%
ROUTINE SAMPLE	4/23/2003	13:25	2.4	<	MG/L	1.64	MG/M3	8.28	MG/L	72.3	%
FIELD DUPLICATE	4/23/2003	13:25	nd		MG/L	nd	MG/M3	8.31	MG/L	72.7	%
ROUTINE SAMPLE	5/20/2003	9:32	2.4	<	MG/L	1.23	UG/L	5.75	MG/L	57.3	%
ROUTINE SAMPLE	6/19/2003	13:55	2.4	<	MG/L	1.26	MG/M3	nd	nd	61.5	%
ROUTINE SAMPLE	7/24/2003	9:28	3.96		MG/L	5.28	MG/M3	1.59	MG/L	18.1	%
ROUTINE SAMPLE	8/20/2003	9:30	2.88		MG/L	1.99	MG/M3	1.22	MG/L	13.6	%
ROUTINE SAMPLE	9/16/2003	9:10	2.4	<	MG/L	9.65	UG/L	5.55	MG/L	59	%
ROUTINE SAMPLE	10/28/2003	9:30	2.4	<	MG/L	0.92	UG/L	4.99	MG/L	45.2	%
ROUTINE SAMPLE	11/18/2003	9:30	2.4	<	MG/L	0.5	UG/L	10.43	MG/L	74.5	%
ROUTINE SAMPLE	12/10/2003	9:30	2.4	<	MG/L	0.71	UG/L	8.77	MG/L	60.8	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	9:31	10	<	CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	4/23/2003	13:25	60		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	5/20/2003	9:32	80		CTS/100ML	0.2	<	MG/L	0.9	MG/L
ROUTINE SAMPLE	6/19/2003	13:55	nd		CTS/100ML	0.2	<	MG/L	0.9	MG/L
ROUTINE SAMPLE	6/20/2003	8:55	180		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	7/24/2003	9:28	110		CTS/100ML	0.2	<	MG/L	1.5	MG/L
ROUTINE SAMPLE	8/20/2003	9:30	DELETE		CTS/100ML	0.2	<	MG/L	1.6	MG/L
ROUTINE SAMPLE	9/16/2003	9:10	750		CTS/100ML	0.2	<	MG/L	1.2	MG/L
ROUTINE SAMPLE	10/28/2003	9:30	270		CTS/100ML	0.2	<	MG/L	1.1	MG/L
ROUTINE SAMPLE	11/18/2003	9:30	30		CTS/100ML	0.2	<	MG/L	0.8	MG/L
ROUTINE SAMPLE	12/10/2003	9:30	30		CTS/100ML	0.2	<	MG/L	0.6	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUAL	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	9:31	0.05	<	MG/L	5.9	UNITS	0.011	MG/L	175.1	US/CM
ROUTINE SAMPLE	4/23/2003	13:25	0.05		MG/L	6.44	UNITS	0.02	MG/L	194.5	US/CM
FIELD DUPLICATE	4/23/2003	13:25	nd		MG/L	6.19	UNITS	nd	MG/L	195.9	US/CM

ROUTINE SAMPLE	5/20/2003	9:32	0.05	<	MG/L	6.4	UNITS	0.025	MG/L	223.7	US/CM
ROUTINE SAMPLE	6/19/2003	13:55	0.05	<	MG/L	6.5	UNITS	0.027	MG/L	221	US/CM
ROUTINE SAMPLE	7/24/2003	9:28	0.05	<	MG/L	6.4	UNITS	0.063	MG/L	275.1	US/CM
ROUTINE SAMPLE	8/20/2003	9:30	0.05	<	MG/L	6.46	UNITS	0.056	MG/L	344.2	US/CM
ROUTINE SAMPLE	9/16/2003	9:10	0.05	<	MG/L	6.47	UNITS	0.065	MG/L	302.4	US/CM
ROUTINE SAMPLE	10/28/2003	9:30	0.05	<	MG/L	5.97	UNITS	0.022	MG/L	261.6	US/CM
ROUTINE SAMPLE	11/18/2003	9:30	0.05		MG/L	6.85	UNITS	0.012	MG/L	154.5	US/CM
ROUTINE SAMPLE	12/10/2003	9:30	0.05	<	MG/L	7.22	UNITS	0.013	MG/L	178.9	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	9:31	1.2	DEG C	1	<	MG/L	0.1	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	13:25	9.3	DEG C	1	<	MG/L	0.5	NTU	OVERCAST
FIELD DUPLICATE	4/23/2003	13:25	9.6	DEG C	nd		MG/L	0.35	NTU	
ROUTINE SAMPLE	5/20/2003	9:32	15.3	DEG C	3.5		MG/L	0.75	NTU	CLEAR, WARM, NO WIND
ROUTINE SAMPLE	6/19/2003	13:55	18.9	DEG C	1	<	MG/L	0.8	NTU	CLOUDS, SLIGHT BREEZE
ROUTINE SAMPLE	6/20/2003	8:55	nd	DEG C	nd		MG/L	nd	NTU	OVERCAST
ROUTINE SAMPLE	7/24/2003	9:28	21	DEG C	8		MG/L	4.6	NTU	
ROUTINE SAMPLE	8/20/2003	9:30	20.8	DEG C	2.5		MG/L	4.4	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	9/16/2003	9:10	18.5	DEG C	9.5		MG/L	5.2	NTU	
ROUTINE SAMPLE	10/28/2003	9:30	11	DEG C	8.5		MG/L	0.55	NTU	CLEAR
ROUTINE SAMPLE	11/18/2003	9:30	1.7	DEG C	1.5		MG/L	0.3	NTU	SUNNY, CLEAR
ROUTINE SAMPLE	12/10/2003	9:30	0.6	DEG C	1.5		MG/L	0.86	NTU	OVERCAST

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND	COND	SPECIFIC CONDUCTANCE
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN	TEMP	TEMPERATURE WATER
DO	DISSOLVED OXYGEN	TSS	TOTAL SUSPENDED SOLIDS
DO SAT	DISSOLVED OXYGEN SATURATION	TURB	TURBIDITY
DELETED	LAB ACCIDENT		
EC	ESCHERICHIA COLI		
NITR	NITROGEN AMMONIA		
TKN	NITROGEN KJELDAHL		
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE		
NO2NO3	NITROGEN NITRATE + NITRITE		
P	PHOSPHORUS AS P		
QUAL	QUALIFIER		

Sagamore Creek at Peverly Hill Road, Portsmouth, 05-Sag

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	9:55	2.4	<	MG/L	0.57	MG/L	11.37	MG/L	81.5	%
ROUTINE SAMPLE	4/23/2003	12:46	2.4	<	MG/L	2.56	UG/L	10.41	MG/L	91.6	%
ROUTINE SAMPLE	5/20/2003	9:59	2.4	<	MG/L	2.54	UG/L	11.08	MG/L	119.3	%
ROUTINE SAMPLE	6/19/2003	14:27	2.4	<	MG/L	1.82	UG/L	8.24	MG/L	93.8	%
ROUTINE SAMPLE	6/20/2003	9:10	nd		MG/L	nd	UG/L	nd	MG/L	nd	%
ROUTINE SAMPLE	7/24/2003	9:48	2.8		MG/L	3.41	MG/M3	5.68	MG/L	65.6	%
FIELD DUPLICATE	7/24/2003	9:48	nd		MG/L	nd	MG/M3	5.53	MG/L	64	%
ROUTINE SAMPLE	8/20/2003	10:00	2.4	<	MG/L	2.51	MG/M4	6.04	MG/L	71.1	%
ROUTINE SAMPLE	9/16/2003	9:31	2.4	<	MG/L	4.88	UG/L	6.94	MG/L	76.7	%
ROUTINE SAMPLE	10/28/2003	10:10	2.6		MG/L	4.74	UG/L	9.22	MG/L	86.1	%
ROUTINE SAMPLE	11/18/2003	10:03	2.4	<	MG/L	1.64	UG/L	13.04	MG/L	101.2	%
FIELD DUPLICATE	11/18/2003	10:03	nd		MG/L	nd	UG/L	13.12	MG/L	102.4	%
ROUTINE SAMPLE	12/10/2003	9:59	2.4	<	MG/L	2.37	UG/L	11.75	MG/L	82.9	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	9:55	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	4/23/2003	12:46	270		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	5/20/2003	9:59	30		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	6/19/2003	14:27	nd		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	6/20/2003	9:10	80		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	7/24/2003	9:48	150		CTS/100ML	0.2	<	MG/L	0.5	MG/L
FIELD DUPLICATE	7/24/2003	9:48	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	8/20/2003	10:00	DELETE		CTS/100ML	0.2	<	MG/L	1.2	MG/L
ROUTINE SAMPLE	9/16/2003	9:31	430		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	10/28/2003	10:10	350		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	11/18/2003	10:03	10		CTS/100ML	0.2	<	MG/L	0.6	MG/L
FIELD DUPLICATE	11/18/2003	10:03	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	12/10/2003	9:59	50		CTS/100ML	0.2	<	MG/L	0.7	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUAL	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	9:55	0.21		MG/L	7.3	UNITS	0.046	MG/L	576	US/CM
ROUTINE SAMPLE	4/23/2003	12:46	0.1		MG/L	7.36	UNITS	0.032	MG/L	581	US/CM
ROUTINE SAMPLE	5/20/2003	9:59	0.05	<	MG/L	7.8	UNITS	0.021	MG/L	1034	US/CM
ROUTINE SAMPLE	6/19/2003	14:27	0.05	<	MG/L	7.7	UNITS	0.016	MG/L	1125	US/CM
ROUTINE SAMPLE	6/20/2003	9:10	nd		MG/L	nd	UNITS	nd	MG/L	nd	US/CM
ROUTINE SAMPLE	7/24/2003	9:48	0.05	<	MG/L	7.5	UNITS	0.014	MG/L	1447	US/CM
FIELD DUPLICATE	7/24/2003	9:48	nd		MG/L	nd	UNITS	nd	MG/L	1455	US/CM
ROUTINE SAMPLE	8/20/2003	10:00	0.05	<	MG/L	6.59	UNITS	0.009	MG/L	1260	US/CM
ROUTINE SAMPLE	9/16/2003	9:31	0.05	<	MG/L	7.07	UNITS	0.022	MG/L	1694	US/CM
ROUTINE SAMPLE	10/28/2003	10:10	0.06		MG/L	6.4	UNITS	0.043	MG/L	942	US/CM
ROUTINE SAMPLE	11/18/2003	10:03	0.05	<	MG/L	6.99	UNITS	0.023	MG/L	930	US/CM
FIELD DUPLICATE	11/18/2003	10:03	nd		MG/L	7.16	UNITS	nd	MG/L	944	US/CM
ROUTINE SAMPLE	12/10/2003	9:59	0.1		MG/L	7.28	UNITS	0.018	MG/L	799	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	9:55	1.7	DEG C	11.5	MG/L	22	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	12:46	9.9	DEG C	7	MG/L	12	NTU	OVERCAST
ROUTINE SAMPLE	5/20/2003	9:59	18.8	DEG C	3.5	MG/L	4.3	NTU	CLEAR, WARM, NO WIND
ROUTINE SAMPLE	6/19/2003	14:27	21.8	DEG C	1.5	MG/L	2.8	NTU	SOME CLOUDS, SLIGHT BREEZE
ROUTINE SAMPLE	6/20/2003	9:10	nd	DEG C	nd	MG/L	nd	NTU	OVERCAST
ROUTINE SAMPLE	7/24/2003	9:48	22.6	DEG C	4	MG/L	0.95	NTU	
FIELD DUPLICATE	7/24/2003	9:48	22.6	DEG C	nd	MG/L	0.95	NTU	
ROUTINE SAMPLE	8/20/2003	10:00	23.6	DEG C	1	MG/L	0.8	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	9/16/2003	9:31	20.3	DEG C	3	MG/L	2.4	NTU	
ROUTINE SAMPLE	10/28/2003	10:10	12.1	DEG C	19	MG/L	19	NTU	CLEAR
ROUTINE SAMPLE	11/18/2003	10:03	4.8	DEG C	5	MG/L	2.9	NTU	SUNNY, CLEAR
FIELD DUPLICATE	11/18/2003	10:03	4.8	DEG C	nd	MG/L	3	NTU	
ROUTINE SAMPLE	12/10/2003	9:59	1.2	DEG C	4	MG/L	5.52	NTU	OVERCAST

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN

DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Winnicut River at Rt. 33 Bridge, Greenland, 02-WNC

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	10:30	2.4	<	MG/L	0.69	MG/M3	10.82	MG/L	77.8	%
ROUTINE SAMPLE	4/23/2003	11:40	2.4	<	MG/L	2.54	UG/L	9.17	MG/L	79.6	%
ROUTINE SAMPLE	5/20/2003	10:20	2.4	<	MG/L	3.27	UG/L	7.97	MG/L	84.5	%
ROUTINE SAMPLE	6/30/2003	9:50	2.4	<	MG/L	3.82	MG/M3	3.68	MG/L	43.3	%
ROUTINE SAMPLE	7/24/2003	10:24	2.76		MG/L	26.19	MG/M3	5.12	MG/L	59.9	%
ROUTINE SAMPLE	8/20/2003	8:56	2.4	<	MG/L	2.89	MG/M3	2.05	MG/L	23.7	%
ROUTINE SAMPLE	9/16/2003	10:05	2.4	<	MG/L	10.76	UG/L	7.48	MG/L	82.6	%
ROUTINE SAMPLE	10/28/2003	10:40	2.4	<	MG/L	3.63	UG/L	8.06	MG/L	75.4	%
ROUTINE SAMPLE	11/18/2003	10:44	2.4	<	MG/L	1.47	UG/L	10.08	MG/L	74.7	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUALIFIER	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	10:30	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	4/23/2003	11:40	120		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	5/20/2003	10:20	30		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	6/30/2003	9:50	150		CTS/100ML	0.2	<	MG/L	0.8	MG/L
ROUTINE SAMPLE	7/24/2003	10:24	140		CTS/100ML	0.2	<	MG/L	0.8	MG/L
ROUTINE SAMPLE	8/20/2003	8:56	DELETE		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	9/16/2003	10:05	300		CTS/100ML	0.2	<	MG/L	0.8	MG/L
ROUTINE SAMPLE	10/28/2003	10:40	120		CTS/100ML	0.2		MG/L	1.2	MG/L
ROUTINE SAMPLE	11/18/2003	10:44	40		CTS/100ML	0.2	<	MG/L	0.8	MG/L

No December data-river was frozen

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUALIFIER	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	10:30	0.34		MG/L	6.7	UNITS	0.025	MG/L	69.8	US/CM
ROUTINE SAMPLE	4/23/2003	11:40	0.22		MG/L	6.37	UNITS	0.026	MG/L	229.7	US/CM
ROUTINE SAMPLE	5/20/2003	10:20	0.05	<	MG/L	7.1	UNITS	0.029	MG/L	311.8	US/CM
ROUTINE SAMPLE	6/30/2003	9:50	0.07		MG/L	7	UNITS	0.06	MG/L	311.1	US/CM
ROUTINE SAMPLE	7/24/2003	10:24	0.06		MG/L	7.3	UNITS	0.056	MG/L	411.1	US/CM

ROUTINE SAMPLE	8/20/2003	8:56	0.05	<	MG/L	6.59	UNITS	0.073	MG/L	427.5	US/CM
ROUTINE SAMPLE	9/16/2003	10:05	0.05	<	MG/L	6.8	UNITS	0.03	MG/L	418.2	US/CM
ROUTINE SAMPLE	10/28/2003	10:40	0.05		MG/L	6.38	UNITS	0.043	MG/L	355.6	US/CM
ROUTINE SAMPLE	11/18/2003	10:44	0.15		MG/L	7.13	UNITS	0.023	MG/L	214.4	US/CM

No December data-river was frozen

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	10:30	1.8	DEG C	2.5		MG/L	3.5	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	11:40	9.2	DEG C	1		MG/L	3.4	NTU	OVERCAST
ROUTINE SAMPLE	5/20/2003	10:20	18.2	DEG C	2		MG/L	2.1	NTU	SUNNY, WARM, NO WIND
ROUTINE SAMPLE	6/30/2003	9:50	25.5	DEG C	3.5		MG/L	4.1	NTU	CLOUDY, HUMID
ROUTINE SAMPLE	7/24/2003	10:24	23.5	DEG C	2.5		MG/L	2.7	NTU	
ROUTINE SAMPLE	8/20/2003	8:56	23.4	DEG C	2.5		MG/L	1.8	NTU	CLEAR, CALM
ROUTINE SAMPLE	9/16/2003	10:05	20.3	DEG C	1.5		MG/L	1.4	NTU	RAIN
ROUTINE SAMPLE	10/28/2003	10:40	12.3	DEG C	7.5		MG/L	4.6	NTU	CLEAR
ROUTINE SAMPLE	11/18/2003	10:44	3	DEG C	1	<	MG/L	2.9	NTU	SUNNY, CLEAR

No December data-river was frozen

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN
DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Exeter River at the Hight Street Bridge, Exeter, 09-EXT

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	11:01	2.4	<	MG/L	0.88	MG/M3	12.33	MG/L	89.7	%
ROUTINE SAMPLE	4/23/2003	11:10	2.4	<	MG/L	1.64	UG/L	9.39	MG/L	83.7	%
ROUTINE SAMPLE	5/20/2003	10:52	2.4	<	MG/L	1.8	UG/L	8.26	MG/L	88.2	%
ROUTINE SAMPLE	6/30/2003	10:31	2.4	<	MG/L	8.39	MG/M3	4.91	MG/L	59.6	%
ROUTINE SAMPLE	7/22/2003	10:25	2.4	<	MG/L	14.27	UG/L	7.46	MG/L	88.3	%
ROUTINE SAMPLE	8/19/2003	9:32	2.4	<	MG/L	4.2	UG/L	4.55	MG/L	53.2	%
ROUTINE SAMPLE	9/16/2003	10:37	2.4	<	MG/L	17.9	UG/L	7.72	MG/L	88.2	%
ROUTINE SAMPLE	10/28/2003	11:20	2.4	<	MG/L	1.45	UG/L	8.67	MG/L	79.5	%
ROUTINE SAMPLE	11/18/2003	11:30	2.4	<	MG/L	0.9	UG/L	13.3	MG/L	100.3	%
ROUTINE SAMPLE	12/10/2003	10:47	2.4	<	MG/L	1.07	UG/L	11.98	MG/L	82.4	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	11:01	10		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	4/23/2003	11:10	180		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	5/20/2003	10:52	10		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	6/30/2003	10:31	60		CTS/100ML	0.2	<	MG/L	0.61	MG/L
ROUTINE SAMPLE	7/22/2003	10:25	30		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	8/19/2003	9:32	20		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	9/16/2003	10:37	680		CTS/100ML	0.2	<	MG/L	1.5	MG/L
ROUTINE SAMPLE	10/28/2003	11:20	100		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	11/18/2003	11:30	40		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	12/10/2003	10:47	10	<	CTS/100ML	0.2	<	MG/L	0.4	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUAL	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	11:01	0.21		MG/L	6.5	UNITS	0.018	MG/L	100.7	US/CM
ROUTINE SAMPLE	4/23/2003	11:10	0.09		MG/L	6.19	UNITS	0.2	MG/L	128.3	US/CM
ROUTINE SAMPLE	5/20/2003	10:52	0.06		MG/L	6.9	UNITS	0.02	MG/L	158.8	US/CM
ROUTINE SAMPLE	6/30/2003	10:31	0.18		MG/L	6.9	UNITS	0.052	MG/L	202.4	US/CM
ROUTINE SAMPLE	7/22/2003	10:25	0.05	<	MG/L	7.1	UNITS	0.04	MG/L	225.5	US/CM

ROUTINE SAMPLE	8/19/2003	9:32	0.08		MG/L	6.62	UNITS	0.058	MG/L	208	US/CM
ROUTINE SAMPLE	9/16/2003	10:37	0.05	<	MG/L	6.63	UNITS	0.047	MG/L	220.8	US/CM
ROUTINE SAMPLE	10/28/2003	11:20	0.05		MG/L	6.27	UNITS	0.029	MG/L	186.2	US/CM
ROUTINE SAMPLE	11/18/2003	11:30	0.07		MG/L	7.26	UNITS	0.019	MG/L	111.8	US/CM
ROUTINE SAMPLE	12/10/2003	10:47	0.15		MG/L	7.5	UNITS	0.011	MG/L	113.6	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	11:01	2.1	DEG C	4		MG/L	2.6	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	11:10	10.3	DEG C	2.5		MG/L	2.6	NTU	OVERCAST
ROUTINE SAMPLE	5/20/2003	10:52	18.4	DEG C	2		MG/L	1.8	NTU	CLEAR, WARM, NO WIND
ROUTINE SAMPLE	6/30/2003	10:31	25.3	DEG C	1.5		MG/L	4.6	NTU	CLOUDY, HUMID
ROUTINE SAMPLE	7/22/2003	10:25	24.5	DEG C	3		MG/L	3.1	NTU	OVERCAST, SHOWER
ROUTINE SAMPLE	8/19/2003	9:32	25.1	DEG C	3.5		MG/L	2.4	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	9/16/2003	10:37	21.1	DEG C	2		MG/L	2.2	NTU	RAIN
ROUTINE SAMPLE	10/28/2003	11:20	11.6	DEG C	4		MG/L	3	NTU	CLEAR
ROUTINE SAMPLE	11/18/2003	11:30	3.6	DEG C	1	<	MG/L	1.86	NTU	SUNNY, CLEAR
ROUTINE SAMPLE	12/10/2003	10:47	3	DEG C	1		MG/L	1.73	NTU	OVERCAST

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN
DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Lamprey River at Rt. 108 Bridge, Newmarket, 05-LMP

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	11:55	2.4	<	MG/L	0.9	MG/M3	12.89	MG/L	92.8	%
ROUTINE SAMPLE	4/23/2003	10:27	2.4	<	MG/L	1.64	MG/M3	10.62	MG/L	94.7	%
ROUTINE SAMPLE	5/20/2003	12:17	2.4	<	MG/L	3.08	UG/L	9.61	MG/L	100.8	%
ROUTINE SAMPLE	6/30/2003	11:08	2.4	<	MG/L	6.73	MG/M3	7.93	MG/L	99.4	%
ROUTINE SAMPLE	7/22/2003	10:59	2.4	<	MG/L	31.34	UG/L	83.5	MG/L	101	%
ROUTINE SAMPLE	8/19/2003	10:23	2.4	<	MG/L	3.48	UG/L	nd	MG/L	nd	%
ROUTINE SAMPLE	8/20/2003	11:50	nd		MG/L	nd	UG/L	7.59	MG/L	95.6	%
ROUTINE SAMPLE	9/29/2003	11:13	2.4	<	MG/L	2.35	UG/L	8.97	MG/L	97.4	%
ROUTINE SAMPLE	10/28/2003	12:09	2.4	<	MG/L	1.47	UG/L	10.59	MG/L	97.8	%
ROUTINE SAMPLE	11/18/2003	12:47	2.4	<	MG/L	1.09	UG/L	13.34	MG/L	102.8	%
ROUTINE SAMPLE	12/10/2003	11:45	2.4	<	MG/L	0.9	UG/L	13.98	MG/L	96.5	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	11:55	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	4/23/2003	10:27	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	5/20/2003	12:17	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	6/30/2003	11:08	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	7/22/2003	10:59	10		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	8/19/2003	10:23	10		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	8/20/2003	11:50	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	9/29/2003	11:13	30		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	10/28/2003	12:09	20		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	11/18/2003	12:47	10		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	12/10/2003	11:45	20		CTS/100ML	0.2	<	MG/L	0.3	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUAL	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	11:55	0.31		MG/L	6.8	UNITS	0.021	MG/L	94	US/CM
ROUTINE SAMPLE	4/23/2003	10:27	0.13		MG/L	6.46	UNITS	0.014	MG/L	105.5	US/CM
ROUTINE SAMPLE	5/20/2003	12:17	0.05	<	MG/L	6.9	UNITS	0.018	MG/L	119	US/CM
ROUTINE SAMPLE	6/30/2003	11:08	0.15		MG/L	7.3	UNITS	0.028	MG/L	171.4	US/CM

ROUTINE SAMPLE	7/22/2003	10:59	0.1	MG/L	7.3	UNITS	0.048	MG/L	183.9	US/CM
ROUTINE SAMPLE	8/19/2003	10:23	0.08	MG/L	6.55	UNITS	0.026	MG/L	158.6	US/CM
ROUTINE SAMPLE	8/20/2003	11:50	nd	MG/L	nd	UNITS	nd	MG/L	nd	US/CM
ROUTINE SAMPLE	9/29/2003	11:13	0.07	MG/L	6.35	UNITS	0.021	MG/L	188.1	US/CM
ROUTINE SAMPLE	10/28/2003	12:09	0.05	MG/L	6.23	UNITS	0.019	MG/L	124.9	US/CM
ROUTINE SAMPLE	11/18/2003	12:47	0.06	MG/L	7.27	UNITS	0.019	MG/L	68.5	US/CM
ROUTINE SAMPLE	12/10/2003	11:45	0.15	MG/L	7.52	UNITS	0.01	MG/L	73.4	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	11:55	1.1	DEG C	3		MG/L	2	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	10:27	10.3	DEG C	1	<	MG/L	1.2	NTU	OVERCAST
ROUTINE SAMPLE	5/20/2003	12:17	17.8	DEG C	2		MG/L	1.4	NTU	SUNNY, CLEAR, NO WIND
ROUTINE SAMPLE	6/30/2003	11:08	27	DEG C	1	<	MG/L	1.8	NTU	PARTLY CLOUDY, HUMID
ROUTINE SAMPLE	7/22/2003	10:59	24.6	DEG C	4.5		MG/L	3.3	NTU	OVERCAST, WINDY
ROUTINE SAMPLE	8/19/2003	10:23	nd	DEG C	1	<	MG/L	1.5	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	8/20/2003	11:50	27.5	DEG C	nd		MG/L	nd	NTU	
ROUTINE SAMPLE	9/29/2003	11:13	19.4	DEG C	2		MG/L	1.3	NTU	PARTLY CLOUDY
ROUTINE SAMPLE	10/28/2003	12:09	11.8	DEG C	6		MG/L	2.5	NTU	CLEAR
ROUTINE SAMPLE	11/18/2003	12:47	4.5	DEG C	2		MG/L	1.48	NTU	SUNNY, CLEAR
ROUTINE SAMPLE	12/10/2003	11:45	0.5	DEG C	1		MG/L	1.04	NTU	OVERCAST

LEDGEND

BOD	BIOCHEMICAL OXYGEN DEMAND	TSS	TOTAL SUSPENDED SOLIDS
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN	TURB	TURBIDITY
DO	DISSOLVED OXYGEN		
DO SAT	DISSOLVED OXYGEN SATURATION		
DELETED	LAB ACCIDENT		
EC	ESCHERICHIA COLI		
NITR	NITROGEN AMMONIA		
TKN	NITROGEN KJELDAHL		
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE		
NO2NO3	NITROGEN NITRATE + NITRITE		
P	PHOSPHORUS AS P		
QUAL	QUALIFIER		
COND	SPECIFIC CONDUCTANCE		
TEMP	TEMPERATURE WATER		

Oyster River at the Rt. 108 Bridge and Mill Pond, Durham, 05-OYS

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	12:18	2.4	<	MG/L	1.07	MG/M3	dl	MG/L	dl	%
ROUTINE SAMPLE	4/23/2003	10:05	2.4	<	MG/L	2.39	UG/L	10.78	MG/L	95.5	%
ROUTINE SAMPLE	5/20/2003	12:40	2.4	<	MG/L	2.92	UG/L	9.52	MG/L	105.7	%
FIELD DUPLICATE	5/20/2003	12:40	nd		MG/L	nd	UG/L	9.03	MG/L	98.2	%
ROUTINE SAMPLE	6/30/2003	11:30	2.4	<	MG/L	10.05	MG/M3	7.96	MG/L	97.2	%
FIELD DUPLICATE	6/30/2003	11:30	nd		MG/L	nd	MG/M3	7.96	MG/L	97.1	%
ROUTINE SAMPLE	7/22/2003	11:20	2.4	<	MG/L	2.27	UG/L	9.29	MG/L	111.4	%
ROUTINE SAMPLE	8/19/2003	11:00	2.4	<	MG/L	6	UG/L	6.42	MG/L	76.7	%
ROUTINE SAMPLE	9/29/2003	10:35	2.4	<	MG/L	5.83	UG/L	7.97	MG/L	82.6	%
FIELD DUPLICATE	9/29/2003	10:35	nd		MG/L	nd	UG/L	7.99	MG/L	83.6	%
ROUTINE SAMPLE	10/30/2003	10:20	2.5		MG/L	2.73	UG/L	11.33	MG/L	104.4	%
FIELD DUPLICATE	10/30/2003	10:20	nd		MG/L	nd	UG/L	10.84	MG/L	100.1	%
ROUTINE SAMPLE	11/19/2003	0:00	na		MG/L	1.82	UG/L	na	MG/L	na	%
ROUTINE SAMPLE	12/16/2003	9:10	2.4	<	MG/L	1.26	UG/L	13.37	MG/L	91.9	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	12:18	10		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	4/23/2003	10:05	30		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	5/20/2003	12:40	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L
FIELD DUPLICATE	5/20/2003	12:40	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	6/30/2003	11:30	40		CTS/100ML	0.2	<	MG/L	0.6	MG/L
FIELD DUPLICATE	6/30/2003	11:30	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	7/22/2003	11:20	10		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	8/19/2003	11:00	10		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	9/29/2003	10:35	30		CTS/100ML	0.2	<	MG/L	0.6	MG/L
FIELD DUPLICATE	9/29/2003	10:35	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	10/30/2003	10:20	560		CTS/100ML	0.2	<	MG/L	0.9	MG/L
FIELD DUPLICATE	10/30/2003	10:20	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	11/19/2003	0:00	na		CTS/100ML	na		MG/L	na	MG/L
ROUTINE SAMPLE	12/16/2003	9:10	20		CTS/100ML	0.2	<	MG/L	0.3	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	12:18	0.54	MG/L	6.9	UNITS	0.04	MG/L	dl	US/CM
ROUTINE SAMPLE	4/23/2003	10:05	0.18	MG/L	6.44	UNITS	0.024	MG/L	156.4	US/CM
ROUTINE SAMPLE	5/20/2003	12:40	0.07	MG/L	7.3	UNITS	0.028	MG/L	183.5	US/CM
FIELD DUPLICATE	5/20/2003	12:40	nd	MG/L	nd	UNITS	nd	MG/L	176.6	US/CM
ROUTINE SAMPLE	6/30/2003	11:30	0.18	MG/L	7.4	UNITS	0.043	MG/L	279.2	US/CM
FIELD DUPLICATE	6/30/2003	11:30	nd	MG/L	nd	UNITS	nd	MG/L	280.2	US/CM
ROUTINE SAMPLE	7/22/2003	11:20	0.07	MG/L	7.7	UNITS	0.037	MG/L	295.5	US/CM
ROUTINE SAMPLE	8/19/2003	11:00	0.16	MG/L	6.91	UNITS	0.036	MG/L	342.8	US/CM
ROUTINE SAMPLE	9/29/2003	10:35	0.16	MG/L	6.5	UNITS	0.032	MG/L	208.2	US/CM
FIELD DUPLICATE	9/29/2003	10:35	nd	MG/L	6.54	UNITS	nd	MG/L	207.5	US/CM
ROUTINE SAMPLE	10/30/2003	10:20	0.13	MG/L	6.33	UNITS	0.092	MG/L	113.3	US/CM
FIELD DUPLICATE	10/30/2003	10:20	nd	MG/L	6.35	UNITS	nd	MG/L	113.7	US/CM
ROUTINE SAMPLE	11/19/2003	0:00	na	MG/L	na	UNITS	na	MG/L	na	US/CM
ROUTINE SAMPLE	12/16/2003	9:10	0.24	MG/L	8.26	UNITS	0.017	MG/L	83.8	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	12:18	dl	DEG C	6	MG/L	dl	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/23/2003	10:05	nd	DEG C	3.5	MG/L	3.8	NTU	OVERCAST
ROUTINE SAMPLE	5/20/2003	12:40	20.5	DEG C	3.5	MG/L	2.9	NTU	SUNNY, CLEAR, NO WIND
FIELD DUPLICATE	5/20/2003	12:40	19.5	DEG C	nd	MG/L	2.8	NTU	SUNNY, CLEAR, NO WIND
ROUTINE SAMPLE	6/30/2003	11:30	25.3	DEG C	2.5	MG/L	3.5	NTU	PARTLY CLOUDY
FIELD DUPLICATE	6/30/2003	11:30	25.5	DEG C	nd	MG/L	3.5	NTU	PARTLY CLOUDY
ROUTINE SAMPLE	7/22/2003	11:20	24.4	DEG C	4.5	MG/L	3.1	NTU	OVERCAST
ROUTINE SAMPLE	8/19/2003	11:00	24.2	DEG C	1	MG/L	2.6	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	9/29/2003	10:35	17.4	DEG C	2	MG/L	5.5	NTU	CLOUDY
FIELD DUPLICATE	9/29/2003	10:35	17.7	DEG C	nd	MG/L	5.6	NTU	
ROUTINE SAMPLE	10/30/2003	10:20	11.8	DEG C	16	MG/L	24	NTU	PARTLY CLOUDY, WINDY
FIELD DUPLICATE	10/30/2003	10:20	11.9	DEG C	nd	MG/L	24	NTU	
ROUTINE SAMPLE	11/19/2003	0:00	na	DEG C	na	MG/L	na	NTU	
ROUTINE SAMPLE	12/16/2003	9:10	0.3	DEG C	3.5	MG/L	3.9	NTU	PARTLY CLOUDY

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
dl	DATA LOST
DO	DISSOLVED OXYGEN
DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
na	ANAYSES NOT YET COMPLETED BY LAB
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Bellamy River at Rt. 108 Bridge, Dover, 05-BLM

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	12:41	2.4	<	MG/L	0.88	MG/M3	12	MG/L	89.4	%
ROUTINE SAMPLE	4/24/2003	9:45	2.4	<	MG/L	2.94	UG/L	10.68	MG/L	92.8	%
ROUTINE SAMPLE	5/20/2003	13:13	2.4	<	MG/L	6.59	UG/L	9.4	MG/L	112.1	%
ROUTINE SAMPLE	6/30/2003	12:08	2.4	<	MG/L	8.18	MG/M3	8.44	MG/L	105.7	%
ROUTINE SAMPLE	7/22/2003	11:43	2.4	<	MG/L	9.84	UG/L	8.65	MG/L	105.9	%
ROUTINE SAMPLE	8/19/2003	11:25	2.4	<	MG/L	8.01	UG/L	8.1	MG/L	98.5	%
ROUTINE SAMPLE	9/29/2003	10:06	2.4	<	MG/L	6.02	UG/L	8.1	MG/L	86.6	%
ROUTINE SAMPLE	10/30/2003	9:16	2.4	<	MG/L	6.4	UG/L	10.4	MG/L	93.7	%
ROUTINE SAMPLE	11/19/2003	10:04	2.4	<	MG/L	3.63	UG/L	12.26	MG/L	94.8	%
ROUTINE SAMPLE	12/16/2003	9:52	2.4	<	MG/L	1.97	UG/L	13.33	MG/L	93.4	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	12:41	30		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	4/24/2003	9:45	60		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	5/20/2003	13:13	5	<	CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	6/30/2003	12:08	20		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	7/22/2003	11:43	10	<	CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	8/19/2003	11:25	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	9/29/2003	10:06	10		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	10/30/2003	9:16	170		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	11/19/2003	10:04	40		CTS/100ML	0.2	<	MG/L	1.6	MG/L
ROUTINE SAMPLE	12/16/2003	9:52	20		CTS/100ML	0.2	<	MG/L	0.4	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUALIFIER	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	12:41	0.18		MG/L	6.8	UNITS	0.023	MG/L	91	US/CM
ROUTINE SAMPLE	4/24/2003	9:45	0.07		MG/L	6.9	UNITS	0.016	MG/L	81.9	US/CM
ROUTINE SAMPLE	5/20/2003	13:13	0.05	<	MG/L	7.1	UNITS	0.022	MG/L	120.5	US/CM
ROUTINE SAMPLE	6/30/2003	12:08	0.07		MG/L	7.2	UNITS	0.045	MG/L	164.5	US/CM
ROUTINE SAMPLE	7/22/2003	11:43	0.05	<	MG/L	7.3	UNITS	0.036	MG/L	262.3	US/CM

ROUTINE SAMPLE	8/19/2003	11:25	0.05	<	MG/L	7.01	UNITS	0.032	MG/L	218.8	US/CM
ROUTINE SAMPLE	9/29/2003	10:06	0.05	<	MG/L	6.48	UNITS	0.019	MG/L	134.7	US/CM
ROUTINE SAMPLE	10/30/2003	9:16	0.05	<	MG/L	6.33	UNITS	0.039	MG/L	111.7	US/CM
ROUTINE SAMPLE	11/19/2003	10:04	0.05	<	MG/L	7.39	UNITS	0.018	MG/L	73.5	US/CM
ROUTINE SAMPLE	12/16/2003	9:52	0.08		MG/L	6.7	UNITS	0.014	MG/L	66.1	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	12:41	2.2	DEG C	2		MG/L	3.7	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/24/2003	9:45	9.2	DEG C	1	<	MG/L	2	NTU	
ROUTINE SAMPLE	5/20/2003	13:13	25.2	DEG C	3		MG/L	2	NTU	CLEAR, SUNNY, BREEZE
ROUTINE SAMPLE	6/30/2003	12:08	26.6	DEG C	1		MG/L	3.7	NTU	CLOUDY, BREEZY
ROUTINE SAMPLE	7/22/2003	11:43	25.8	DEG C	4		MG/L	2.9	NTU	OVERCAST, WINDY
ROUTINE SAMPLE	8/19/2003	11:25	27.1	DEG C	2		MG/L	2.6	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	9/29/2003	10:06	18.6	DEG C	1		MG/L	3.1	NTU	CLOUDY
ROUTINE SAMPLE	10/30/2003	9:16	10.7	DEG C	5		MG/L	7.4	NTU	CLEAR, BREEZY
ROUTINE SAMPLE	11/19/2003	10:04	4.8	DEG C	2		MG/L	2.9	NTU	OVERCAST
ROUTINE SAMPLE	12/16/2003	9:52	1	DEG C	2		MG/L	1.9	NTU	PARTLY CLOUDY

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN
DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Cocheco River at the Rt. 9 Bridge (Central Avenue), Dover, 07-CCH

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS
ROUTINE SAMPLE	3/19/2003	13:37	2.4	<	MG/L	1.26	MG/M3	14.82	MG/L	107.7
FIELD DUPLICATE	3/19/2003	13:37	nd		MG/L	nd	MG/M4	14.63	MG/L	102.3
ROUTINE SAMPLE	4/24/2003	10:05	2.4	<	MG/L	1.99	UG/L	12.12	MG/L	105
ROUTINE SAMPLE	5/22/2003	9:30	2.4	<	MG/L	2.7	MG/M3	8.92	MG/L	91.5
ROUTINE SAMPLE	6/30/2003	12:58	2.4	<	MG/L	11.47	MG/M3	8.4	MG/L	105.3
ROUTINE SAMPLE	7/22/2003	12:35	2.4	<	MG/L	13.69	UG/L	9.44	MG/L	113.6
ROUTINE SAMPLE	8/19/2003	12:25	2.4	<	MG/L	3.27	UG/L	7.37	MG/L	94.3
FIELD DUPLICATE	8/19/2003	12:25	nd		MG/L	nd	UG/L	6.88	MG/L	84.4
ROUTINE SAMPLE	9/29/2003	9:42	2.4	<	MG/L	1.99	UG/L	8.82	MG/L	92
ROUTINE SAMPLE	10/30/2003	8:48	2.4	<	MG/L	2.7	UG/L	13.26	MG/L	118.7
ROUTINE SAMPLE	11/19/2003	10:33	2.4	<	MG/L	0.88	UG/L	13.61	MG/L	100.3
ROUTINE SAMPLE	12/16/2003	10:40	2.4	>	MG/L	1.23	UG/L	14.05	MG/L	97.1
FIELD DUPLICATE	12/16/2003	10:40	nd		MG/L	nd	UG/L	14.75	MG/L	101.4

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	13:37	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L
FIELD DUPLICATE	3/19/2003	13:37	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	4/24/2003	10:05	20		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	5/22/2003	9:30	30		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	6/30/2003	12:58	120		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	7/22/2003	12:35	40		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	8/19/2003	12:25	80		CTS/100ML	0.2	<	MG/L	0.4	MG/L
FIELD DUPLICATE	8/19/2003	12:25	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	9/29/2003	9:42	30		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	10/30/2003	8:48	390		CTS/100ML	0.2	<	MG/L	0.6	MG/L
ROUTINE SAMPLE	11/19/2003	10:33	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	12/16/2003	10:40	70		CTS/100ML	0.2	<	MG/L	0.3	MG/L
FIELD DUPLICATE	12/16/2003	10:40	nd		CTS/100ML	nd		MG/L	nd	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	13:37	0.53	MG/L	6.8	UNITS	0.031	MG/L	121.3	US/CM
FIELD DUPLICATE	3/19/2003	13:37	nd	MG/L	nd	UNITS	nd	MG/L	120.7	US/CM
ROUTINE SAMPLE	4/24/2003	10:05	0.41	MG/L	6.9	UNITS	0.021	MG/L	113.5	US/CM
ROUTINE SAMPLE	5/22/2003	9:30	0.37	MG/L	7	UNITS	0.029	MG/L	121.4	US/CM
ROUTINE SAMPLE	6/30/2003	12:58	0.76	MG/L	7.4	UNITS	0.09	MG/L	218	US/CM
ROUTINE SAMPLE	7/22/2003	12:35	1.16	MG/L	7.8	UNITS	0.073	MG/L	292.9	US/CM
ROUTINE SAMPLE	8/19/2003	12:25	0.57	MG/L	6.75	UNITS	0.085	MG/L	188.4	US/CM
FIELD DUPLICATE	8/19/2003	12:25	nd	MG/L	6.98	UNITS	nd	MG/L	185.7	US/CM
ROUTINE SAMPLE	9/29/2003	9:42	0.53	MG/L	6.46	UNITS	0.072	MG/L	160.5	US/CM
ROUTINE SAMPLE	10/30/2003	8:48	0.13	MG/L	6.59	UNITS	0.051	MG/L	108.7	US/CM
ROUTINE SAMPLE	11/19/2003	10:33	0.32	MG/L	7.52	UNITS	0.023	MG/L	72.6	US/CM
ROUTINE SAMPLE	12/16/2003	10:40	0.28	MG/L	6.6	UNITS	0.041	MG/L	55.1	US/CM
FIELD DUPLICATE	12/16/2003	10:40	nd	MG/L	nd	UNITS	nd	MG/L	54.3	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	13:37	2.3	DEG C	2.5		MG/L	5	NTU	CLEAR, SLIGHT BREEZE
FIELD DUPLICATE	3/19/2003	13:37	0.8	DEG C	nd		MG/L	5.9	NTU	
ROUTINE SAMPLE	4/24/2003	10:05	9	DEG C	1	<	MG/L	2.5	NTU	
ROUTINE SAMPLE	5/22/2003	9:30	16.4	DEG C	3.5		MG/L	2.1	NTU	OVERCAST, WINDY
ROUTINE SAMPLE	6/30/2003	12:58	26.7	DEG C	3		MG/L	3.5	NTU	CLOUDY, BREEZY
ROUTINE SAMPLE	7/22/2003	12:35	24.7	DEG C	4		MG/L	3.4	NTU	OVERCAST
ROUTINE SAMPLE	8/19/2003	12:25	25.8	DEG C	1	<	MG/L	2	NTU	CLEAR, SLIGHT BREEZE
FIELD DUPLICATE	8/19/2003	12:25	25.7	DEG C	nd		MG/L	2	NTU	
ROUTINE SAMPLE	9/29/2003	9:42	17.4	DEG C	2		MG/L	3.5	NTU	CLOUDY
ROUTINE SAMPLE	10/30/2003	8:48	10.4	DEG C	12.5		MG/L	11	NTU	CLEAR, BREEZY
ROUTINE SAMPLE	11/19/2003	10:33	2.8	DEG C	3.5		MG/L	1.8	NTU	OVERCAST
ROUTINE SAMPLE	12/16/2003	10:40	0.3	DEG C	2		MG/L	1.8	NTU	PARTLY CLOUDY
FIELD DUPLICATE	12/16/2003	10:40	0.3	DEG C	nd		MG/L	1.8	NTU	PARTLY CLOUDY

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN

DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE
TEMP	TEMPERATURE WATER
TSS	TOTAL SUSPENDED SOLIDS
TURB	TURBIDITY

Salmon Falls River at Rt. 4, Rollinsford, 05-SFR

Note: Data not meeting RPD are shaded.

ACTIVITY CATEGORY	START DATE	START TIME	BOD RESULTS	BOD QUAL	BOD UNITS	CHL RESULTS	CHL UNITS	DO RESULTS	DO UNITS	DO SAT RESULTS	DO SAT UNITS
ROUTINE SAMPLE	3/19/2003	13:04	2.4	<	MG/L	0.86	MG/M3	12.55	MG/L	88.7	%
ROUTINE SAMPLE	4/24/2003	10:29	2.4	<	MG/L	2.02	UG/L	10.93	MG/L	92.9	%
FIELD DUPLICATE	4/24/2003	10:29	nd		MG/L	nd	UG/L	10.88	MG/L	92.5	%
ROUTINE SAMPLE	5/22/2003	9:30	2.4	<	MG/L	4.17	MG/M3	8.94	MG/L	91.8	%
ROUTINE SAMPLE	6/30/2003	12:40	5.5		MG/L	41.62	MG/M3	9.75	MG/L	123.2	%
ROUTINE SAMPLE	7/22/2003	12:11	2.4	<	MG/L	14.29	UG/L	7.97	MG/L	96.4	%
ROUTINE SAMPLE	8/19/2003	13:06	2.76		MG/L	18.65	UG/L	7.83	MG/L	102.5	%
ROUTINE SAMPLE	9/29/2003	9:04	2.4	<	MG/L	3.65	UG/L	7.77	MG/L	82.6	%
ROUTINE SAMPLE	10/30/2003	7:51	2.4	<	MG/L	1.99	UG/L	10.7	MG/L	95.5	%
ROUTINE SAMPLE	11/19/2003	10:50	2.4	<	MG/L	0.88	UG/L	13.01	MG/L	98.4	%
ROUTINE SAMPLE	12/16/2003	10:18	2.4	<	MG/L	1.26	UG/L	14.35	MG/L	98.6	%

ACTIVITY CATEGORY	START DATE	START TIME	EC RESULTS	EC QUAL	EC UNITS	NITR RESULTS	NITR QUAL	NITR UNITS	TKN RESULTS	TKN UNITS
ROUTINE SAMPLE	3/19/2003	13:04	5		CTS/100ML	0.2	<	MG/L	0.3	MG/L
ROUTINE SAMPLE	4/24/2003	10:29	50		CTS/100ML	0.2	<	MG/L	0.3	MG/L
FIELD DUPLICATE	4/24/2003	10:29	nd		CTS/100ML	nd		MG/L	nd	MG/L
ROUTINE SAMPLE	5/22/2003	9:30	10		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	6/30/2003	12:40	20		CTS/100ML	0.2	<	MG/L	1.3	MG/L
ROUTINE SAMPLE	7/22/2003	12:11	10	<	CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	8/19/2003	13:06	5		CTS/100ML	0.2	<	MG/L	0.7	MG/L
ROUTINE SAMPLE	9/29/2003	9:04	50		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	10/30/2003	7:51	250		CTS/100ML	0.2	<	MG/L	0.5	MG/L
ROUTINE SAMPLE	11/19/2003	10:50	10		CTS/100ML	0.2	<	MG/L	0.4	MG/L
ROUTINE SAMPLE	12/16/2003	10:18	10	<	CTS/100ML	0.2	<	MG/L	0.3	MG/L

ACTIVITY CATEGORY	START DATE	START TIME	NO2NO3 RESULTS	NO2NO3 QUAL	NO2NO3 UNITS	PH RESULTS	PH UNITS	P RESULTS	P UNITS	COND RESULTS	COND UNITS
ROUTINE SAMPLE	3/19/2003	13:04	0.24		MG/L	6.6	UNITS	0.044	MG/L	86.6	US/CM
ROUTINE SAMPLE	4/24/2003	10:29	0.13		MG/L	6.6	UNITS	0.021	MG/L	74.7	US/CM
FIELD DUPLICATE	4/24/2003	10:29	nd		MG/L	nd	UNITS	nd	MG/L	74.5	US/CM
ROUTINE SAMPLE	5/22/2003	9:30	0.15		MG/L	6.7	UNITS	0.024	MG/L	98	US/CM

ROUTINE SAMPLE	6/30/2003	12:40	0.15		MG/L	7.4	UNITS	0.075	MG/L	147.2	US/CM
ROUTINE SAMPLE	7/22/2003	12:11	0.26		MG/L	7.2	UNITS	0.056	MG/L	200.8	US/CM
ROUTINE SAMPLE	8/19/2003	13:06	0.15		MG/L	6.85	UNITS	0.036	MG/L	115.3	US/CM
ROUTINE SAMPLE	9/29/2003	9:04	0.22		MG/L	6.62	UNITS	0.024	MG/L	135.7	US/CM
ROUTINE SAMPLE	10/30/2003	7:51	0.08		MG/L	6.46	UNITS	0.026	MG/L	96	US/CM
ROUTINE SAMPLE	11/19/2003	10:50	0.05	<	MG/L	7.48	UNITS	0.011	MG/L	60.9	US/CM
ROUTINE SAMPLE	12/16/2003	10:18	0.1		MG/L	6.7	UNITS	0.018	MG/L	46.2	US/CM

ACTIVITY CATEGORY	START DATE	START TIME	TEMP RESULTS	TEMP UNITS	TSS RESULTS	TSS QUAL	TSS UNITS	TURB RESULTS	TURB UNITS	WEATHER COMMENTS RESULTS
ROUTINE SAMPLE	3/19/2003	13:04	1	DEG C	4		MG/L	2.3	NTU	CLEAR, SLIGHT BREEZE
ROUTINE SAMPLE	4/24/2003	10:29	8.3	DEG C	1	<	MG/L	0.95	NTU	
FIELD DUPLICATE	4/24/2003	10:29	8.2	DEG C	nd		MG/L	1.8	NTU	
ROUTINE SAMPLE	5/22/2003	9:30	16.6	DEG C	4.5		MG/L	1.5	NTU	OVERCAST, BREEZY
ROUTINE SAMPLE	6/30/2003	12:40	27.3	DEG C	6.5		MG/L	2.1	NTU	
ROUTINE SAMPLE	7/22/2003	12:11	25	DEG C	5.5		MG/L	2.6	NTU	PARTLY CLOUDY
ROUTINE SAMPLE	8/19/2003	13:06	29.2	DEG C	3.5		MG/L	1.9	NTU	CLEAR, BREEZY
ROUTINE SAMPLE	9/29/2003	9:04	18.5	DEG C	2		MG/L	2.3	NTU	CLOUDY
ROUTINE SAMPLE	10/30/2003	7:51	10.3	DEG C	2.5		MG/L	4	NTU	CLEAR, WINDY
ROUTINE SAMPLE	11/19/2003	10:50	3.7	DEG C	3		MG/L	1.5	NTU	OVERCAST
ROUTINE SAMPLE	12/16/2003	10:18	0.2	DEG C	2.5		MG/L	1.7	NTU	PARTLY CLOUDY

Legend

BOD	BIOCHEMICAL OXYGEN DEMAND
CHL	CHLOROPHYLL A, UNCORRECTED FOR PHEOPHYTIN
DO	DISSOLVED OXYGEN
DO SAT	DISSOLVED OXYGEN SATURATION
DELETED	LAB ACCIDENT
EC	ESCHERICHIA COLI
NITR	NITROGEN AMMONIA
TKN	NITROGEN KJELDAHL
nd	NO SAMPLE COLLECTED OR NO MEASUREMENT MADE
NO2NO3	NITROGEN NITRATE + NITRITE
P	PHOSPHORUS AS P
QUAL	QUALIFIER
COND	SPECIFIC CONDUCTANCE

TEMP
TSS
TURB

TEMPERATURE WATER
TOTAL SUSPENDED SOLIDS
TURBIDITY

APPENDIX D - GULFWATCH PHYSICAL DATA 2003

NH-GOM 2003 Sample Jar Data Summary

Indigenous Mussels			Autumn, 2003		GOM					
Site	Site #	Jar label	Location	TARE WEIGHT		TOTAL WEIGHT		TISSUE WEIGHT		
				ORGANICS	METALS	ORGANICS	METALS	ORGANICS	METALS	
Clark Cove on Seavey I. in Portsmouth Harbor, Maine	MECC-1	MECC1N031002	1	177.396	178.275	273.775	277.092	96.379	98.817	
	MECC-2	MECC2N021002	2	178.441	177.347	276.689	284.040	98.248	106.693	
	MECC-3	MECC3N031002	3	178.537	179.045	267.933	265.626	89.396	86.581	
	MECC-4	MECC4N031002	4	178.061	178.005	278.240	274.764	100.179	96.759	
South Mill Pond Portsmouth, New Hampshire	NHSM-1	NHSM1N031002	1	177.587	177.365	296.728	290.663	119.141	113.298	
	NHSM-2	NHSM2N031002	2	177.918	177.415	308.937	315.227	131.019	137.812	
	NHSM-3	NHSM3N031002	3	177.588	177.527	310.552	301.625	132.964	124.098	
	NHSM-4	NHSM4N031002	4	178.192	178.394	288.937	298.269	110.745	119.875	
Hampton- Seabrook Harbor Hampton, New Hampshire	NHHS-1	NHHS1N031001	1	177.873	178.147	288.839	298.243	110.966	120.096	
	NHHS-2	NHHS2N031001	2	177.572	177.579	273.317	293.618	95.745	116.039	
	NHHS-3	NHHS3N031001	3	178.875	177.525	296.510	304.880	117.635	127.355	
	NHHS-4	NHHS4N031001	4	177.827	178.441	299.627	313.782	121.800	135.341	
Dover Point Dover New Hampshire	NHDP-1	NHDP1N031001	1	177.960	177.381	269.627	260.952	91.667	83.571	
	NHDP-2	NHDP2N031001	2	178.052	177.453	271.743	282.436	93.691	104.983	
	NHDP-3	NHDP3N031001	3	177.484	178.947	263.385	270.221	85.901	91.274	
	NHDP-4	NHDP4N031001	4	177.526	177.415	272.827	267.438	95.301	90.023	
Little Harbor New Castle New Hampshire	NHLH-1	NHLH1N031001	1	179.040	177.158	259.200	261.943	80.160	84.785	
	NHLH-2	NHLH2N031001	2	177.310	177.982	248.605	248.146	71.295	70.164	
	NHLH-3	NHLH3N031001	3	177.770	178.144	256.632	256.333	78.862	78.189	
	NHLH-4	NHLH4N031001	4	177.524	177.376	249.935	262.084	72.411	84.708	

MECC 2003 ORGANICS									
Indigenous	Mussels					Tared	Cumulative	Jar	
Site	#	Length (mm)	Length (mm)	Height (mm)	Width (mm)	Wet weight (g)	Wet weight (g)	Weight (g)	
MECC-1	1	51.5	11	54.5				177.396	
MECC-1	2	52.8	12	58.6					
MECC-1	3	55.0	13	56.0					
MECC-1	4	57.3	14	50.9					
MECC-1	5	51.3	15	58.2					
MECC-1	6	51.3	16	55.3					
MECC-1	7	56.6	17	52.2					
MECC-1	8	50.6	18	59.2					
MECC-1	9	56.2	19	54.7					
MECC-1	10	53.5	20	52.8					
	1-20 tot					96.379	273.775		
MECC-2	1	55.6	11	57.6				178.441	
MECC-2	2	53.7	12	54.1					
MECC-2	3	51.3	13	56.3					
MECC-2	4	57.0	14	53.7					
MECC-2	5	51.3	15	51.5					
MECC-2	6	51.9	16	55.0					
MECC-2	7	55.6	17	55.5					
MECC-2	8	51.4	18	56.4					
MECC-2	9	56.9	19	55.4					
MECC-2	10	57.8	20	51.4					
	1-20 total					98.248	276.689		
MECC-3	1	55.3	11	52.0				178.537	
MECC-3	2	50.9	12	51.5					
MECC-3	3	54.6	13	58.2					
MECC-3	4	52.0	14	51.3					
MECC-3	5	53.5	15	51.7					
MECC-3	6	51.9	16	54.9					
MECC-3	7	50.7	17	50.2					
MECC-3	8	54.3	18	53.1					
MECC-3	9	51.4	19	24.7					
MECC-3	10	53.2	20	54.2					
	1-20 total					89.396	267.933		
MECC-4	1	57.4	11	54.4				178.061	
MECC-4	2	54.2	12	53.3					
MECC-4	3	56.2	13	57.9					
MECC-4	4	55.9	14	53.9					
MECC-4	5	52.1	15	56.3					
MECC-4	6	57.6	16	56.6					
MECC-4	7	58.6	17	50.9					
MECC-4	8	56.9	18	56.9					
MECC-4	9	53.5	19	54.7					
MECC-4	10	58.0	20	54.6					
	1-20 total					100.179	278.240		

NHSM 2003 ORGANICS									
Indigenous	Mussels						Tared	Cumulative	Jar
Site	#	Length (mm)	Length	Height	Width	Wet weight	Wet weight	Wet weight	Weight
NHSM-1	1	57.2	11	58.0					177.587
NHSM-1	2	59.9	12	59.2					
NHSM-1	3	52.7	13	57.1					
NHSM-1	4	51.7	14	55.3					
NHSM-1	5	57.0	15	53.1					
NHSM-1	6	58.1	16	51.5					
NHSM-1	7	58.2	17	58.5					
NHSM-1	8	58.0	18	52.8					
NHSM-1	9	51.9	19	51.2					
NHSM-1	10	55.2	20	54.9					
	1-20 tot						119.141	296.728	
NHSM-2	1	54.1	11	58.6					177.918
NHSM-2	2	57.2	12	54.4					
NHSM-2	3	56.0	13	55.6					
NHSM-2	4	56.5	14	59.5					
NHSM-2	5	57.0	15	56.4					
NHSM-2	6	56.3	16	59.8					
NHSM-2	7	59.2	17	56.5					
NHSM-2	8	59.2	18	52.9					
NHSM-2	9	55.0	19	58.2					
NHSM-2	10	59.4	20	58.4					
	1-20 total						131.019	308.937	
NHSM-3	1	59.9	11	56.3					177.588
NHSM-3	2	59.6	12	57.6					
NHSM-3	3	58.3	13	57.7					
NHSM-3	4	59.3	14	57.5					
NHSM-3	5	54.3	15	57.9					
NHSM-3	6	56.1	16	53.7					
NHSM-3	7	58.8	17	58.8					
NHSM-3	8	56.4	18	59.6					
NHSM-3	9	57.8	19	59.5					
NHSM-3	10	58.2	20	58.0					
	1-20 total						132.964	310.552	
NHSM-4	1	59.6	11	54.7					178.192
NHSM-4	2	54.3	12	53.3					
NHSM-4	3	57.1	13	55.8					
NHSM-4	4	53.2	14	57.0					
NHSM-4	5	56.6	15	56.9					
NHSM-4	6	52.9	16	57.3					
NHSM-4	7	51.8	17	50.5					
NHSM-4	8	55.9	18	56.7					
NHSM-4	9	56.6	19	54.7					
NHSM-4	10	59.8	20	53.4					
	1-20 total						110.745	288.937	

	NHHS 2003 ORGANICS								
Indigenous	Mussels						Tared	Cumulative	Jar
Site	#	Length (mm)	Length (mm)	Height (mm)	Width (mm)		Wet weight (g)	Wet weight (g)	Weight (g)
NHHS-1	1	55.2	11	53.5					177.873
NHHS-1	2	55.0	12	58.8					
NHHS-1	3	53.9	13	53.9					
NHHS-1	4	54.3	14	53.5					
NHHS-1	5	54.2	15	53.3					
NHHS-1	6	52.1	16	51.0					
NHHS-1	7	57.1	17	54.7					
NHHS-1	8	54.8	18	58.6					
NHHS-1	9	59.5	19	56.7					
NHHS-1	10	53.6	20	57.4					
	1-20 tot						110.966	288.839	
NHHS-2	1	52.4	11	53.9					177.572
NHHS-2	2	50.4	12	56.0					
NHHS-2	3	55.5	13	54.4					
NHHS-2	4	56.0	14	50.9					
NHHS-2	5	54.3	15	52.9					
NHHS-2	6	56.7	16	53.5					
NHHS-2	7	54.2	17	52.2					
NHHS-2	8	50.3	18	52.8					
NHHS-2	9	52.4	19	54.6					
NHHS-2	10	50.4	20	54.6					
	1-20 total						95.745	273.317	
NHHS-3	1	50.6	11	58.6					178.875
NHHS-3	2	55.6	12	54.3					
NHHS-3	3	57.7	13	55.9					
NHHS-3	4	56.7	14	56.0					
NHHS-3	5	53.5	15	54.0					
NHHS-3	6	51.6	16	57.3					
NHHS-3	7	54.9	17	53.5					
NHHS-3	8	51.1	18	50.3					
NHHS-3	9	57.9	19	55.0					
NHHS-3	10	55.9	20	55.4					
	1-20 total						117.635	296.510	
NHHS-4	1	50.2	11	56.6					177.827
NHHS-4	2	53.9	12	56.1					
NHHS-4	3	54.4	13	57.5					
NHHS-4	4	56.6	14	51.7					
NHHS-4	5	55.1	15	54.2					
NHHS-4	6	52.8	16	50.3					
NHHS-4	7	57.9	17	57.0					
NHHS-4	8	55.0	18	50.1					
NHHS-4	9	52.9	19	54.9					
NHHS-4	10	53.7	20	56.1					
	1-20 total						121.800	299.627	

NHDP 2003 ORGANICS										
Indigenous	Mussels						Tared	Cumulative	Jar	
Site	#	Length (mm)	Length (mm)	Height (mm)	Width (mm)	Wet weight (g)	Wet weight (g)	Weight (g)		
NHDP-1	1	56.9	11	54.6				177.960		
NHDP-1	2	58.5	12	53.9						
NHDP-1	3	56.8	13	54.2						
NHDP-1	4	50.9	14	50.5						
NHDP-1	5	55.5	15	50.6						
NHDP-1	6	52.0	16	53.1						
NHDP-1	7	52.4	17	54.6						
NHDP-1	8	53.5	18	56.3						
NHDP-1	9	57.3	19	54.4						
NHDP-1	10	53.6	20	53.6						
	1-20 tot					91.667	269.627			
NHDP-2	1	53.9	11	53.9				178.052		
NHDP-2	2	57.8	12	53.2						
NHDP-2	3	53.5	13	54.5						
NHDP-2	4	56.2	14	50.0						
NHDP-2	5	56.6	15	54.3						
NHDP-2	6	52.9	16	50.6						
NHDP-2	7	54.2	17	57.5						
NHDP-2	8	52.4	18	52.8						
NHDP-2	9	54.9	19	54.8						
NHDP-2	10	54.2	20	51.0						
	1-20 total					93.691	271.743			
NHDP-3	1	53.3	11	51.5				177.484		
NHDP-3	2	57.9	12	50.1						
NHDP-3	3	53.9	13	53.0						
NHDP-3	4	51.1	14	54.3						
NHDP-3	5	53.0	15	53.0						
NHDP-3	6	55.0	16	50.3						
NHDP-3	7	56.7	17	55.3						
NHDP-3	8	57.2	18	54.6						
NHDP-3	9	50.9	19	54.1						
NHDP-3	10	52.0	20	59.4						
	1-20 total					85.901	263.385			
NHDP-4	1	54.7	11	55.2				177.526		
NHDP-4	2	52.8	12	51.8						
NHDP-4	3	55.4	13	52.6						
NHDP-4	4	58.1	14	53.4						
NHDP-4	5	53.4	15	53.6						
NHDP-4	6	53.3	16	58.0						
NHDP-4	7	55.1	17	53.5						
NHDP-4	8	51.8	18	54.3						
NHDP-4	9	60.0	19	56.8						
NHDP-4	10	52.5	20	56.3						
	1-20 total					95.301	272.827			

NHLH 2003 ORGANICS									
Indigenous	Mussels						Tared	Cumulative	Jar
Site	#	Length (mm)	Length (mm)	Height (mm)	Width (mm)	Wet weight (g)	Wet weight (g)	Wet weight (g)	Weight (g)
NHLH-1	1	54.2		58.0					179.040
NHLH-1	2	51.9		54.0					
NHLH-1	3	58.7		53.6					
NHLH-1	4	52.4		52.1					
NHLH-1	5	53.1		53.2					
NHLH-1	6	52.3		57.0					
NHLH-1	7	57.6		59.8					
NHLH-1	8	55.3		56.9					
NHLH-1	9	54.4		58.9					
NHLH-1	10	52.5		52.0					
	1-20 tot						80.160	259.200	
NHLH-2	1	56.5		58.2					177.310
NHLH-2	2	50.8		53.2					
NHLH-2	3	52.4		55.5					
NHLH-2	4	52.7		51.5					
NHLH-2	5	56.8		54.8					
NHLH-2	6	53.3		52.2					
NHLH-2	7	57.0		50.5					
NHLH-2	8	54.0		59.2					
NHLH-2	9	50.3		53.5					
NHLH-2	10	51.0		52.5					
	1-20 total						71.295	248.605	
NHLH-3	1	53.7		53.7					177.770
NHLH-3	2	56.5		58.0					
NHLH-3	3	57.2		56.5					
NHLH-3	4	53.1		58.8					
NHLH-3	5	57.7		58.5					
NHLH-3	6	58.0		53.0					
NHLH-3	7	59.5		56.0					
NHLH-3	8	53.2		57.6					
NHLH-3	9	50.9		56.0					
NHLH-3	10	57.0		52.9					
	1-20 total						78.862	256.632	
NHLH-4	1	59.7		52.6					177.524
NHLH-4	2	51.7		59.7					
NHLH-4	3	57.8		57.6					
NHLH-4	4	50.7		54.7					
NHLH-4	5	58.1		54.5					
NHLH-4	6	52.5		53.2					
NHLH-4	7	54.9		56.0					
NHLH-4	8	50.5		52.8					
NHLH-4	9	56.8		52.4					
NHLH-4	10	56.6		54.8					
	1-20 total						72.411	249.935	