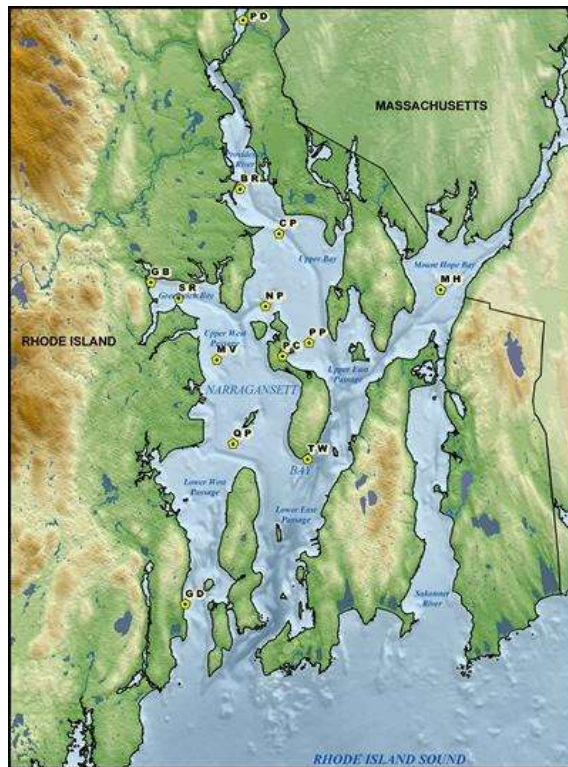


Recovery of Data from the Narragansett Bay Project, 1985-1992

User's Manual and CD-ROM

November 2014



www.narrbay.org

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List of Acronyms

CRC	Coastal Resources Center
EDC	Environmental Data Center
EPA	U.S. Environmental Protection Agency
NBDS	Narragansett Bay Data System
NBP	Narragansett Bay Project
NBEP	Narragansett Bay Estuarine Program
ODES	Ocean Data Evaluation System
RIDEM	Rhode Island Department of Environmental Management
RIGIS	Rhode Island Geographic Information System
URI	University of Rhode Island

I. Introduction

The intensive data collection phase of the Narragansett Bay Project (NBP) ran from 1985 to 1992 and included a wide range of scientific, management, and policy studies. Several of these studies included long-term data sets going back many years before 1985; for example, the University of Rhode Island's (URI) Graduate School of Oceanography fish trawl study included a time series that began in 1959. The NBP is now called the Narragansett Bay Estuarine Program (NBEP). Their website is www.nbep.org.

This CD contains NBP data files and reports from the 1985-1992 studies to the extent we were able to recover them.

Five data systems are relevant to the user curious about NBP data and reports:

A. Narragansett Bay Data System

The Narragansett Bay Data System (NBDS), funded by the NBP, had compiled the NBP 1985-1992 water quality data into a FOCUS relational database management system, and had begun on the biological data. The effort was discontinued in July 1992 when the NBP was de-funded. All NBDS data files, original diskettes and tapes from Principal Investigators, electronic backups, reports, and data system documentation were put into 33 boxes and moved to the Records Storage Room of the Rhode Island Department of Environmental Management (RIDEM) in Providence, RI.

B. Environmental Data Center GIS database

Some of the data collected by the NBP had been copied to the University of Rhode Island's (URI) Environmental Data Center (EDC) for entry into their Geographic Information System. The EDC obtained additional GIS data layers from the Rhode Island Geographic Information System (RIGIS).

C. U.S. Environmental Protection Agency's Ocean Data Evaluation System

In the 1980s, the U.S. Environmental Protection Agency's (EPA) National Estuary Program hired SCI Data Systems, Inc. to put data files into a SAS data set format database called the Ocean Data Evaluation System (ODES), stored at EPA's National Computer Center. Some of the NBP data files were copied to this system. This effort was discontinued in 1992. In 2012, the National Computer Center took the files offline, copied them to backup tapes, and sent the tapes to the National Estuary Program for archival.

D. Bay Bib

The first Bay Bib (Bibliography) was published by Pell Library of URI's Graduate School of Oceanography in 1979. The second one, funded by the Narragansett Bay Project, updated the original Bib through 1988 and was published in 1991. Printed copies of both are in Pell Library

and the EPA Narragansett Library. The NBEP has the 1991 Bay Bib online in PDF format, but not the 1979 Bay Bib.

E. Narragansett Bay National Estuarine Research Reserve: Data Rescue Manual and CD-ROM, May 2000

In the late 1990s the Coastal Resources Center (CRC) and the Environmental Data Center of URI received a grant from the Narragansett Bay National Estuarine Research Reserve to recover NBP data to the extent possible. They published a manual and CD in 2000 (Lee et al. 2000).

This effort recovered data from two sources: (1) Excel files on 3-1/2 in. IBM diskettes from the RIDEM Records Storage Room and (2) backup GIS files from the Environmental Data Center. The EDC maintained an active archival system and was able to recover the majority of the NBP GIS files.

II. 2014 Recovery of data from the 1985-1992 Narragansett Bay Project studies

In 2012, EPA's Atlantic Ecology Division (AED) began a new research project on Narragansett Bay that included a comprehensive historical trends component. Hence, AED needed access to as much historical Narragansett Bay data as were available. We knew that more data files than Lee et al. (2000) had been able to recover were in storage at the RI DEM Records Storage Room (e.g., data files on 5-1/4 in. IBM floppy diskettes, Macintosh diskettes, and 9-track tapes). Therefore, we decided to attempt a more comprehensive data rescue to complement the earlier effort.

The original data files and data backups from the 1985-1992 Narragansett Bay Project had been sitting in boxes in the Records Storage Room in the basement of the RIDEM building in Providence since 1992 (contents of the room had changed locations at least once). Most of the data files were in Excel format on IBM and Macintosh floppy diskettes, both 3-1/2 and 5-1/4 in. There were also data files on 9-track tapes in IBM, VMS, and PRIMOS operating system format in various software formats including SAS, ASCII text and various proprietary backup software formats.

With the help of Chris Deacutis (NBEP), we retrieved from the RIDEM Records Storage Room as many data media as possible from the 19 NBDS boxes that could still be found (out of the original 33 boxes stored there). At one point, the NBEP had hired a person to convert the VAX FOCUS water quality database to a PC FOCUS version. Other than that, in the intervening 20 years, RIDEM had not been able to maintain an active archive (continually migrating the data files to up-to-date media using up-to-date software on computers with up-to-date operating systems). Hence, we were not sure what data files we would be able to access from the data media or, if we could access them, whether we could convert them to a format readable by current software and operating systems.

Additionally, the principal author (SH) had kept backup copies of the original Principal Investigator data files that had been stored in the RIDEM Records Storage Room, and we found in these backup copies some data files that we were not able to find in the RIDEM Records

Storage Room. Like the RIDEM files, these files had not been actively archived, and we were not sure how much of the data we could still retrieve and read.

We had available 148 diskettes (3-1/2 in.), 100 diskettes (5-1/4 in.), and 14 tapes (9-track). All the IBM 3-1/2 in. diskettes were processed by AED. The others were sent out to companies that had the necessary hardware and software to attempt a recovery. The Macintosh 3-1/2 in. diskettes and all the 5-1/4 in. floppy diskettes were sent to Retrofloppy (Cary, NC). The 9-track tapes were sent to Disc Interchange Service Company (Westford, MA).

From the 4,307 files we had available from all data media, we were able to retrieve 3,029 un-corrupted files, about 70%. That included 73% of the files on the IBM 3-1/2 in. diskettes, 52% of the files on the Macintosh diskettes, and 85% of the files on the 5-1/4 in. diskettes. From the 9-track tapes, we were only able to retrieve and read data files that were in IBM text format. Of the 3,029 retrieved files, we were able to convert 2,301 (76%) to a format that could be read with modern hardware and software, an effective recovery rate of a little over half of what we had available. While a few of the data files on the enclosed CD are duplicates of the Lee et al. (2000) CD, we recovered many data files that are not on the Lee et al. (2000) CD.

No attempt was made during this project to recover any of the ArcInfo GIS data files, as most of those had been recovered previously and are available on the Lee et al. (2000) CD-ROM or through URI's EDC. Nor did we try to recover data from the NBDS FOCUS water quality database because we had successfully retrieved the same data from the original Principal Investigator diskettes and tapes. Likewise, we did not try to recover any data from the EPA ODES SAS data set tapes because the NPB data on those tapes are backups of what we were able to retrieve from other sources. There are, however, on those tapes non-NBP data sets from Narragansett Bay.

We also obtained electronic copies of the NBP study reports from the NBEP website and from the stored data files and put those on the CD. These study reports can serve as metadata for the study data files on the CD-ROM. We did not try to recover the original metadata from the NBDS.

The accompanying CD-ROM is not a complete collection of all data collected by the NBP, 1985-1992. Our data recovery effort, like all such efforts, was limited by (1) the ability to find and access non-corrupted files, and (2) the money and resources to retrieve and read files from a disparate collection of data media created by a disparate collection of hardware, operating systems, and software.

A. Narragansett Bay Project data

Disks were assigned sequential numbers and data files from each disk were copied to a folder on the CD named by NBP Study ID and disk number. Data files were linked to an NBP study and the data can be tracked to the original disk, if necessary. Disk numbers were retained as multiple disks may have identical files. Disks and files were evaluated for readability and usability, not scientific content. We did not evaluate from these files the completeness of the data generated from a study. Documents were reviewed to link the document to a specific study so the user can evaluate the scientific content of the related data files.

B. Narragansett Bay Project reports

The study reports serve as a source of metadata for the study data files. The PDF reports are available on this CD, listed by NBP Study ID. Pell Library has printed copies of all the NBP reports in the Narragansett Bay Collection of the Special Collections room. These are cataloged by the URI HELIN searchable catalog. Many of the reports can be viewed online. The EPA Library at AED also has print versions of most of these reports. Additionally, most of the NBP reports are digitized as PDF files on the NBEP website (www.nbep.org).

III. Archives for data and documentation

All available original data media, backups, electronic reports, Narragansett Bay Data System files, and documentation (including both media containing data files we were able to read and media containing data files we were not able to retrieve or read) are now archived in the Records Storage Room of EPA, Atlantic Ecology Division, 27 Tarzwell Drive, Narragansett, RI. This archive includes data files and documentation that were previously stored in the Records Storage Room of the RI Department of Environmental Management. For access to the archives, contact the Records Manager of the EPA Lab at 401-782-3000. There may be additional NBP data files stored in the RI DEM Records Storage Room that we were not able to find. Additionally, the backup tapes of SAS data sets from EPA's National Computer Center are being held at EPA's National Estuary Program in Washington, D.C.

IV. How to use the CD

The accompanying CD contains all the NBP data files and reports that we were able to retrieve, along with files to enable the user to find studies of interest. All data files are in the `Original_Study_data` folder.

To find a study of interest and the related data and documents, open the `NBP_Data_Inventory.xlsx` file and review the information in the 'List of Studies' tab. Relate the Study ID in this worksheet to the Study ID in the 'Data location by Study' tab to find the number and type of files and the location of data files and documents under the 'Files available', 'Data Location' and 'Document Location' columns, respectively.

Alternatively, open the `NBP_Studies_linked_to_reports.xlsx` file. Peruse entries in the 'List of Studies' tab under the 'Study Name' column and note the Study ID. If the scientific report has associated data, the 'Document Location' would start with 'Original_Study_Data'. If so, open the `NBP_Data_Inventory.xlsx` file and find the Study ID in the 'Data location by Study' tab to find the number, type and location of data files and documents. (Two exceptions where we could not discern which data files went with each study: (1) Study ID 000005 and Study ID 000006 are under Study ID 000005_6; and (2) Study ID 000008 and Study ID 000009 are under Study ID 000008_9). If the scientific report does not have associated data, the 'Document Location' would start with 'Documents_without_data' and only the report would be available.

Data tracking

NBP_Data_Inventory.xlsx: A list of NBP studies and the location of data files and documents are shown in the 'List of Studies' and 'Data Location by Study' tabs, respectively. The information in the 'Data Location by Study' tab is outlined below:

Study ID: the Narragansett Bay Project Study ID (000***), a six digit number, as identified on the disk. Field is 'No_StudyID' if a Study ID was not on the disk. The Study ID and a brief description are shown in the 'List of Studies¹' tab.

Disk #: an assigned, sequential tracking number.

Study/Disk Name: Brief description as copied from the disk.

Principal Investigator: Principal Investigator for the study. Principal Investigator and organization are shown in the 'Principal Investigators²' tab.

Files available: Number and type of data files.

Data Location: Location of data files.

Document Location: Location of scientific report, including the NBP Study ID, e.g., 000001 and electronic file name, e.g., NBP-89-16.pdf.

Document tracking

NBP_Studies_linked_to_reports.xlsx: Comprehensive list of NBP scientific studies, related documents, if found, and document location.

Study ID: the Narragansett Bay Project Study ID, e.g. 000001, a six digit number

Study Name: Brief study name assigned by NBP

Principal Investigator: Scientist responsible for scientific study

Organization Code: Organization conducting study

Begin Date: Date (YYYYMMDD) study started

End Date: Date (YYYYMMDD) study ended

Document Name: Name of report submitted to NBP

Document File Name: Electronic file name (*.pdf)

Document Location: Document location with the last folder named for the Study ID, e.g.,

Original Study_Data\Study ID 000001

Note: Principal Investigator and their affiliation appear in the 'Principal Investigators (1)' tab.
Resolution of Organization Code appears in the 'Organization Codes (2)' tab.

NBP_Reports_linked_to_electronic_files.docx: List of NBP scientific and management reports by report number. The NBP report number is followed by the authors and report name. The report location and electronic file name follow. Scientific reports with associated data would have the report location as 'Original_Study_Data' followed by the NBP Study ID, e.g., Original_Study_Data\Study ID 000056, and are listed in NBP_Studies_linked_to_reports.xlsx. Management reports and studies without data are in the Documents_without_data folder.

Printed versions of all these files can be found in the following sections.

Acknowledgements

Thanks to Chris Deacutis for helping retrieve the original data media from the RIDEM Records Storage Room. Also thanks to Chris, along with John Kiddon, Marty Chintala, and Joe Livolsi, for helpful reviews of a draft of this document and CD. The front cover map is courtesy of the University of Rhode Island's Environmental Data Center. Although research described in this article has been wholly funded by the U.S. Environmental Protection Agency and has been technically reviewed at the Atlantic Ecology Division, it has not been subjected to Agency-level review. Therefore, it does not necessarily reflect the views of the Agency. This manuscript is contribution number ORD-010354 of the Atlantic Ecology Division of the United States Environmental Protection Agency, Office of Research and Development, National Health Effects Environmental Research Laboratory. Mention of trade names does not constitute endorsement or recommendation for use.

References

Lee, V., D. Bonneau, S. Adamowicz, A. Beck, R. Greene, C. Deacutis, and C. Damon. 2000. Narragansett Bay National Estuarine Research Reserve: Data Rescue Manual and CD-ROM. Coastal Resources Center and Environmental Data Center, University of Rhode Island, Narragansett, RI. 18 p. + app.

V. Data Inventory of NBP Studies

The searchable Data Directory from the NBDS was used to create an inventory of NBP data files and reports - [NBP_Data_Inventory.xlsx](#).

There are three tabs in the spreadsheet:

- List of Studies

- Data Location by Study - Each row of information is presented on 2 pages by Study ID and

- Disk # to make the copy more readable

- Principal Investigators

List of Studies

Study ID	Study Name	Brief Study Description
000001	SPRAY	Sampling in the Seekonk and Providence Rivers for trace metals and nutrients
000002	HYDROX	Water quality sampling in the Seekonk and Providence Rivers
000003	SINBADD	Sampling in Narragansett Bay for trace metals, water quality and nutrients
000004	Quahog status	Status of the hard clam (<i>Mercenaria</i>) in the Providence River and Mount Hope Bay
000005_6	Microbial indicators - water	Microbial indicators in Upper Narragansett Bay and Providence River
000005_6	Microbial indicators - shellfish	Microbial indicators in shellfish, water and sediment from Upper Narragansett Bay conditional shellfish areas
000007	Blackstone River	One-dimensional water quality model for the Blackstone River
000008_9	Brown tide-survey of env. conditions	Environmental conditions and plankton dynamics during an annual cycle characterized by brown tide
000008_9	Phytopl. dynamic-eutrophication gradient	Environmental conditions and plankton dynamics along a eutrophication gradient during an annual cycle
000010	Winter flounder juveniles	Growth and biochemical composition of juvenile, young-of-year winter flounder
000014	ISDS - phosphorus	Phosphorus loadings to groundwater from suburban land uses
000015	Surface-water runoff to Narragansett Bay	Estimation of surface water runoff
000016	Winter flounder - water quality	Winter flounder contaminant and pathological survey
000018	Mt. Hope Bay sanitary survey	Mt. Hope Bay sanitary survey: microbiological
000025	Characterization: fish trends	Historical data assessment: finfishes
000027	Characterization: zooplankton	Zooplankton and ichthyoplankton historical survey (Part 1)
000028	Characterization: ichthyoplankton	Zooplankton and ichthyoplankton historical survey (Part 2)

000029	Characterization: metals	Distribution of trace metals in water column, sediments and shellfish
000030	Characterization: phytoplankton	Review of Narragansett Bay phytoplankton data
000031	Characterization: benthos	Benthic communities survey
000032	Characterization: climate	Aspects of climate
000034	Characterization: PCBs	Review of Polychlorinated Biphenyl data in water, atmosphere, sediment and biota
000035	Hunt R. watershed	Land Use map of Hunt-Potowomut River watershed
000038	Sediments study	Assessment of organic contaminants in sediments and hard shell clams
000042	REMOTS sediment quality survey	Sediment quality survey
000045	Sediment transport	Sediment transport study
000048	Wet weather study	Problem assessment, source identification, ranking of wet weather discharges to Providence & Seekonk Rivers
000049	Habitat inventory/resource mapping	Habitat Inventory/Resource Mapping
000051	SQUIRT	Late summer water quality in Seekonk River/Providence River/Upper Narragansett Bay
000056	PHCs in Narragansett Bay	Organic contaminants in sewage, sediment, quahogs (Mercenaria)
000080	Monitoring Inventory	Monitoring Inventory of studies on Narragansett Bay
000095	Sanitary Shoreline Surveys	DEM shellfish water quality/fecal coliform surveys

Principal Investigators

Principal Investigator	Organization
Bender, M	URI, Graduate School of Oceanography, Narragansett, RI
Buckley, L	National Oceanic and Atmospheric Administration, Narragansett, RI
Cabelli, V	University of Rhode Island, Dept. of Microbiology, Kingston, RI
Davis, W	US Environmental Protection Agency, Narragansett, RI
Doering, P	URI, Graduate School of Oceanography, Narragansett, RI
Durbin, A	URI, Graduate School of Oceanography, Narragansett, RI
Fitzgerald, W	Department of Marine Sciences and Marine Sciences Institute, Univ. of Connecticut, Groton, CT
Frithsen, J	URI, Graduate School of Oceanography, Narragansett, RI
Garvin, L	IEP, Inc., Northborough, MA
Germano, J	Science Applications International Corporation, Newport, RI
Gold, A	URI, Department of Natural Resources Sciences, Kingston, RI
Hale, S	Narragansett Bay Project, Providence, RI
Hinga, K	URI, Graduate School of Oceanography, Narragansett, RI
Jeffries, P	URI, Graduate School of Oceanography, Narragansett, RI
King, J	URI, Graduate School of Oceanography, Narragansett, RI
Latimer, J	URI, Graduate School of Oceanography, Narragansett, RI
Michelman, M	URI, Graduate School of Oceanography, Narragansett, RI
Migliore, J	Rhode Island Department of Environmental Management, Providence, RI
Pilson, M	URI, Graduate School of Oceanography, Narragansett, RI
Pratt, S	URI, Graduate School of Oceanography, Narragansett, RI
Quinn, J	URI, Graduate School of Oceanography, Narragansett, RI
Ries, K	US Geological Survey, Boston, MA
Rines, H	URI, Graduate School of Oceanography, Narragansett, RI
Saila, S	URI, Graduate School of Oceanography, Narragansett, RI
Smayda, T	URI, Graduate School of Oceanography, Narragansett, RI
Wright, R	University of Rhode Island, Dept. of Civil Engineering, Kingston, RI

VI. Narragansett Bay Project reports (numeric listing), January 1994

- NBP-87-01** Brown, Kossin, & Ward (Brown University). *Narragansett Bay Issue Assessment: Public Perceptions*. 89 pp. [Documents_without_data\NBP-87-01.pdf](#)
- NBP-87-02** Keating (Tillinghast, Collins & Graham). *Report on Goals for the Future of Narragansett Bay*. 53 pp. [Documents_without_data\NBP-87-02.pdf](#)
- NBP-88-03** Quinn, Latimer, Carey, Ellis, & Zheng (URI). *Development of a One-Dimensional Water Quality Model for the Blackstone River; Part 1: Chemical Monitoring of Pollutants in the Blackstone River*. 181 pp. Online file damaged 88-03.pdf.
- NBP-88-04** Quinn, Latimer, Ellis, Leblanc, & Zheng (URI). *Analyses of Archived Water Samples for Organic Pollutants*. 99 pp. [Documents_without_data\NBP-88-04.pdf](#)
- NBP-88-05** Pruell, Norwood, Bowen, Palmquist, & Fluck (EPA-ERL). *Organic Contaminants in Quahogs, *Mercenaria*, Collected from Narragansett Bay*. 50 pp.
[Original_Study_Data\Study ID 000056\NBP-88-05.pdf](#)
- NBP-88-06** Deacutis, C. (RIDEM). *Bathing Beach Monitoring for New Indicators*. 44 pp.
[Documents_without_data\Study000011\NBP-88-06.pdf](#)
- NBP-88-07** Pratt, S. D. (URI). *Status of the Hard Clam Fishery in Narragansett Bay*. 94 pp.
[Documents_without_data\NBP-88-07.pdf](#)
- NBP-88-08** Pratt, Martin, & Saila (URI). *Status of the Hard Clam, *Mercenaria*, in the Providence River and Mount Hope Bay*. 89 pp. [Original_Study_Data\Study ID 000004\NBP-88-08.pdf](#)
- NBP-88-09** Myers (Ehrenfeld & Associates). *Governance of Non-Point Source Inputs to Narragansett Bay: A Plan for Coordinated Action*. 265 pp. [Documents_without_data\NBP-88-09.pdf](#)
- NBP-88-10** Wright (URI). *Development of a One-Dimensional Water Quality Model for the Blackstone River; Part 2: Mathematical Modeling*. 160 pp.
[Original_Study_Data\Study ID 000007\NBP-88-10.pdf](#)
- NBP-88-11** Rippey & Watkins (FDA, Northeast Technical Services Unit). *Mt. Hope Bay Sanitary Survey: Microbiological; 1986-1987*. 99 pp.
[Original_Study_Data\Study ID 000018\NBP-88-11.pdf](#)
- NBP-88-12** Spaulding, White, Heinmiller, Simoneau, Liang, & Choi (URI). *Circulation Dynamics in Mt. Hope Bay & the Lower Taunton River*. 143pp.
[Documents_without_data\Study000020\NBP-88-12.pdf](#)
- NBP-88-12A** Vandal & Fitzgerald (UConn). *Mercury in the Waters of Narragansett Bay*. 35 pp.
[Original_Study_Data\Study ID 000003\NBP-88-12A.pdf](#)
- NBP-88-13** Smayda (URI). *Environmental Conditions & Plankton Dynamics in Narragansett Bay During An Annual Cycle Characterized By Brown-Tide*. 148 pp.
[Original_Study_Data\Study ID 000008_9\NBP-88-13.pdf](#)

- NBP-89-14** Buckley & Caldarone (National Marine Fisheries Service). *Recent Growth and Biochemical Composition of Juvenile, Young-of-Year Winter Flounder from Different Areas of Narragansett Bay*. 51 pp. [Original_Study_Data\Study ID 000010\NBP-89-14.pdf](#)
- NBP-89-15** Jeffries, Hale, & Keller (URI). *Historical Data Assessment: Finfishes of the Narragansett Bay Area: Report 1988*. 430 pp. [Original_Study_Data\Study ID 000025\NBP-89-15.pdf](#)
- NBP-89-16** Doering, Pilson, & Oviatt (URI). *Monitoring of the Providence & Seekonk Rivers for Trace Metals & Associated Parameters (SPRAY)*. 70 pp.
[Original_Study_Data\Study ID 000001\NBP-89-16.pdf](#)
- NBP-89-17** Gold & Loomis (URI). *Phosphorus Loadings to the Groundwater from Suburban Land Uses: A Preliminary Analysis*. 41 pp. [Original_Study_Data\Study ID 000014\NBP-89-17.pdf](#)
- NBP-89-18** Durbin & Durbin (URI). *Zooplankton and Ichthyoplankton in Narragansett Bay: Status and Trends; Part 1: Zooplakton*. 126 pp.
[Original_Study_Data\Study ID 000027\NBP-89-18.pdf](#)
- NBP-89-19** Quinn (URI). *A Review of the Major Research Studies on Petroleum Hydrocarbons & Polycyclic Aromatic Hydrocarbons in Narragansett Bay*. 235 pp.
[Documents_without_data\Study000033\NBP-89-19.pdf](#)
- NBP-89-20** Latimer (URI). *A Review of Major Research Done in Rhode Island on Polychlorinated Biphenyls in Water, Atmosphere, Sediment, & Biota*. 151 pp.
[Original_Study_Data\Study ID 000034\NBP-89-20.pdf](#)
- NBP-89-21** Hinga, Lewis, Rice, Dadey, Keller (URI). *A Review of Narragansett Bay Phytoplankton Data: Status & Trends*. 245 pp. [Original_Study_Data\Study ID 000030\NBP-89-21.pdf](#)
- NBP-89-22** Pilson & Hunt (URI). *Water Quality Survey of Narragansett Bay: A Summary of Results from the SINBADD 1985-1986*. 125 pp.
[Original_Study_Data\Study ID 000003\NBP-89-22.pdf](#)
- NBP-89-23** Germano & Rhoads (Science Applications International Corp.). *Narragansett Bay Sediment Quality Survey: August 1988*. 171 pp.
[Original_Study_Data\Study ID 000042\NBP-89-23.pdf](#)
- NBP-89-24** Doering, Oviatt, & Pilson (URI). *SPRAY Cruise Dissolved Oxygen and Chlorophyll (HYDROX)*. 95 pp. [Original_Study_Data\Study ID 000002\NBP-89-24.pdf](#)
- NBP-89-25** Bender, Kester, Cullen, Quinn, King, Phelps, & Hunt (URI). *Distribution of Trace Metals in the Water Column, Sediments, and Shellfish of Narragansett Bay*. 127 pp. + Appendix 109 pp.
[Original_Study_Data\Study ID 000029\NPD-89-25.pdf](#)
- NBP-90-26** Beach & Hittinger (Thibault/Bubly Associates). *Trace Metals in Quahog Clams from Narragansett Bay*. 32 pp. [Documents_without_data\NBP-89-26.pdf](#)
- NBP-90-27** Durbin & Durbin (URI). *Zooplankton and Ichthyoplankton in Narragansett Bay: Status and Trends; Part 2: Ichthyoplankton*. 80 pp.
[Original_Study_Data\Study ID 000028\NBP-90-27.pdf](#)

NBP-90-28 Frithsen (URI). *The Benthic Communities within Narragansett Bay*. 94 pp. + Appendices A & B 103 pp.; Appendix C available in office only.

[Original_Study_Data\Study ID 000031\NBP-90-28.pdf](#)

NBP-90-30 West (URI). *Qualitative & Quantitative Analysis of Shore & Near-shore Users of the Upper Narragansett Bay, Rhode Island*. 157 pp. and West & Snyder (URI). *Remote Sensing of Upper Narragansett Bay Using Spot-1 Imagery*. 22 pp. Report includes NBP-90-40.

[Documents_without_data\Study000022\NBP-90-30.pdf](#)

NBP-90-31 Hargraves (URI). *Characterization of "Brown-Tides" & Other Bloom Forming Picoalgae, & their Interactive Effects on Phytoplankton*. 42 pp.

[Documents_without_data\Study000037\NBP-90-31.pdf](#)

NBP-90-32 Cabelli (URI). *Microbial Indicator Levels in Shellfish, Water, & Sediments from Upper Narragansett Bay Conditional Shellfish Growing Area*. 67 pp.

[Original_Study_Data\Study ID 000005_6\NBP-90-32.pdf](#)

NBP-90-33 Cabelli (URI). *Microbial Indicator Levels in the Providence River and Upper Narragansett Bay*. 80 pp. [Original_Study_Data\Study ID 000005_6\NBP-90-33.pdf](#)

NBP-90-34 Kern (National Marine Fisheries Service). *Quahog Histopathology Studies*. 42 pp.

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NBP-90-35 Kumeakwa, Giliberto, Carlson, & Poirer (URI). *Towards the Management of Narragansett Bay: An Institutional Analysis*. 198 pp. [Documents_without_data\NBP-90-35.pdf](#)

NBP-90-36 Almeida & Fogarty (National Marine Fisheries Service). *Assessing the Effects of Pollutant Exposure on Estuarine Populations*. 30 pp.

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NBP-90-37 Brown, Goble, & Teitelbaum (Clark University). *Methodology for Assessing Hazards of Contaminants in Seafood*. 80 pp. [Documents_without_data\NBP-90-37.pdf](#)

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NBP-90-39 Ries, K. G. III (U.S.G.S.). *Estimation of Surface-Water Runoff to Narragansett Bay, Rhode Island & Massachusetts*. 115 pp. [Original_Study_Data\Study ID 000015\NBP-90-39.pdf](#)

NBP-90-40 This report has been incorporated within #NBP-90-30.

NBP-90-41 Hoffman (Narragansett Bay Project). *The First Year of the Narragansett Bay Project: Results and Recommendations*. 197 pp. [Documents_without_data\NBP-90-41.pdf](#)

NBP-90-42 Kremer (USC). *Improving An Estuarine Water Quality Ecosystem Model for Narragansett Bay*. 48 pp. User's Guide + Diskette for Mac Plus, SE or II with hard disk.

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NBP-90-43 Gold, Loomis, & Lamb (URI). *Field Evaluation of Nitrogen Removal from Septic Systems for Coastal Communities*. 35 pp. [Documents_without_data\Study000043\NBP-90-43.pdf](#)

- NBP-90-44** Groffman, Gold, Husband, Simmons, & Eddleman (URI). *An Investigation into Multiple Uses of Vegetated Buffer Strips - 1989*. 159 pp. This report has been superseded by NBP-91-63.
- NBP- 90-45** Needham & Robadue (URI). *Historical Review of Water Quality Management & Pollution Abatement in Narragansett Bay*. 114 pp. [Documents_without_data\NBP-90-45.pdf](#)
- NBP-90-46** Chang, P. W. (URI). *Etiology of Clam Leukemia*. 30 pp.
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- NBP-90-47** Roman, C. T. (Narragansett Bay Project). *Pathogens in Narragansett Bay: Issues, Inputs, and Improvement Options*. 65 pp. [Documents_without_data\NBP-90-47.pdf](#)
- NBP-90-48** Sutinen & Lee (URI). *Regulatory Compliance and Enforcement: Industrial Wastewater Pretreatment Programs in Rhode Island*. 43 pp.
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- NBP-90-49** Doering & Oviatt (URI). *Characterizing Late Summer Water Quality in the Seekonk River, Providence River, and Upper Narragansett Bay (SQUIRT)*. 62 pp; also data report: 175 pp. [Original_Study_Data\Study ID 000051\NBP-90-49.pdf](#)
- NBP-90-50** Walker (IEP, Inc.). *P8 Urban Catchment Model: User's Guide, Program Documentation, and Evaluation of Existing Models*. 109 pp. + Appendices. Software available upon request.
[Documents_without_data\NBP-90-50.pdf](#)
- NBP-91-51** Lee, Saila, & Wolke (URI). *Winter Flounder Contaminant and Pathological Survey: Narragansett Bay and Vicinity*. 65 pp. Includes Wolke & Recksiek (URI). *Narragansett Bay Winter Flounder Macrophage Aggregate Number Corrected for Age*. 15 pp and Haas, R.E. (URI). *Technical Report on Aging of Winter Flounder Otoliths from Rhode Island*. 28 pp. [Original_Study_Data\Study ID 000016\NBP-90-51.pdf](#)
- NBP-91-52** Nixon, S. W. (URI). *A History of Metal Inputs to Narragansett Bay*. 69 pp.
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- NBP-91-53** Horsley Witten Hegemann, Inc. *Evaluation of Critical Protection Area Delineation Technique*. 21 pp. [Documents_without_data\NBP-91-53.pdf](#)
- NBP-91-54** *Sewage Contamination/Pathogens "Briefing Paper" & Proceedings from Narragansett Bay Project Management Committee*. 88 pp. [Documents_without_data\NBP-91-54.pdf](#)
- NBP-91-55** Palmstrom, N. (IEP. Inc.). *Vegetated Buffer Strip Designation Method Guidance Manual*. 30 pp + Appendices 22 pp. [Documents_without_data\NBP-91-55.pdf](#)
- NBP-91-56** Gray, C. L. (RIDEM). *Winter Flounder (*Pseudopleuronectes americanus*) Species Profile*. 68 pp. [Documents_without_data\NBP-91-56.pdf](#)
- NBP-91-57** Gray, C. L. (RIDEM). *Bluefish (*Pomatomus saltatrix*) Species Profile*. 52 pp.
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- NBP-91-58** Metcalf & Eddy. *Narragansett Bay Combined Sewer Overflows*. 67 pp.
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- NBP-91-59** Metcalf & Eddy. *Narragansett Bay Regionalization Study*. 145 pp.
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- NBP-91-60** *Combined Sewer Overflows "Briefing Paper" & Proceedings from Narragansett Bay Project Management Committee*. 120 pp. [Documents_without_data\NBP-91-60.pdf](#)
- NBP-91-61** *Boater Waste Disposal "Briefing Paper" and Proceedings from Narragansett Bay Project Management Committee*. 63 pp. [Documents_without_data\NBP-91-61.pdf](#)
- NBP-91-62** *Health Risk From Chemically Contaminated Seafood "Briefing Paper" & Proceedings from Narragansett Bay Management Committee*. 41 pp.
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- NBP-91-63** Groffman, Gold, Husband, Simmons, & Eddleman (URI). *An Investigation into Multiple Uses of Vegetated Buffer Strips (1988-1989)*. 166 pp.
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- NBP-91-64** Pilson (URI). *Aspects of Climate Around Narragansett Bay*. 59 pp.
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- NBP-91-65** *Mount Hope Bay "Briefing Paper" and Proceedings from Narragansett Bay Management Committee*. 48 pp. [Documents_without_data\NBP-91-65.pdf](#)
- NBP-91-66** Nixon, S.W. (URI). *Recent Metal Inputs to Narragansett Bay*. 57 pp.
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- NBP-91-67** Wahle (Brown Univ.). *The American Lobster in Narragansett Bay: Patterns of Benthic Recruitment, Adult Populations and Fishing Effort*. 27 pp.
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- NBP-91-69** Keith, Davis, Paul (EPA-ERL). *Sediment Erodibility In Narragansett Bay, RI: A Method of Predicting Sediment Dynamics*. 58 pp.
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- NBP-91-70** Garvin, L. (IEP, Inc.). *Land Use Map of the Hunt-Potowomut River Watershed*. 56 pp.
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- NBP-91-71** Apogee Research. *Financing Volume I: An Inventory of Funding Sources for Cleanup and Maintenance of Narragansett Bay and Potential Funding Sources for a Statewide Water Quality Monitoring Program in Narragansett Bay*. 173 pp.
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- BP-91-72** Apogee Research. *Financing Volume II: Beneficiary-Based Financing for Local Enforcement of Soil Erosion, Sedimentation Control, and Stormwater Management Regulation; The Stormwater Management Utility: A Guide to Planning for the Narrow River Watershed, RI; and An Examination of the Financing of Improved Wastewater Treatment in Cranston, Warwick and West Warwick, RI.* 116 pp. [Documents_without_data\NBP-91-72.pdf](#)
- NBP-91-73** Petrocelli, Nacci, Comeleo, Sheehan, Greene, Lima, Charles & Morrison (SAIC/NBC/EPA-ERLN). *Effects of Chlorine on the Toxicity of a Wastewater Treatment Facility Effluent and Impacts on Receiving Waters.* 54 pp.
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- NBP-91-74** Morrison, G. (EPA-ERLN). *Report on Providence River Toxicity Testing: Wet/Dry Study.* 67 pp. [Documents_without_data\NBP-91-74.pdf](#)
- NBP-91-75** Jeon & Oviatt (URI). *A Review of Biological Effects of Toxic Pollutants on Organisms in Narragansett Bay.* 38 pp. [Documents_without_data\NBP-91-75.pdf](#)
- NBP-91-76** Gray, C.L. (RIDEM). *Scup (Stenotomus chrysops) Species Profile.* 38 pp.
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- NBP-91-77** Turner, Asselin, Feng, Puckett (ASA, Inc.). *Providence River Wet Weather Dye Study Data Report.* 85 pp. Copies of the Appendices are available for reference only at Pell Marine Library-GSO, EPA Region I Reference Library and the NBP office.
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- NBP-91-78** Turner, Puckett, Isaji, Feng (ASA, Inc.) *Providence River Wet Weather Current Meter Study Data Report.* 27 pp + Appendices 87 pp. [Documents_without_data\NBP-91-78.pdf](#)
- NBP-92-79** Gray, C.L. (RIDEM). *Alewife (Alosa pseudoharengus) Species Profile.* 45 pp.
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- NBP-92-81** Saila and Keller (URI). *Suggestions Regarding Management Planning For Some Vertebrate & Invertebrate Resources of Narragansett Bay.* 52 pp.
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- NBP-92-82** Buckley, Smigielski, Halavik, Caldarone, Burns, & Laurence (NOAA-NMFS). *Winter Flounder (Pseudopleuronectes americanus) Reproductive Success.* 19 pp.
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- NBP-92-83** Scott, Redmond, McKenna, & Robson (SAIC-EPA/ERLN). *Evaluation of the Relative Acute Toxicity of Nearshore Sediments in Narragansett Bay.* 37 pp.
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- NBP-92-84** Gray, C.L. (RIDEM). *Atlantic Menhaden (Brevoortia tyrannus) Species Profile.* 38 pp.
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- NBP-92-85** Wright, Runge, Lee, Chaudhury (URI). *Blackstone River 1990.* 77pp. + Appendices 133 pp.
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- NBP-92-86** Wright, R.M. et al. (URI). *Problem Assessment and Source Identification & Ranking of Wet Weather Discharges Entering the Providence & Seekonk Rivers*. Six Volumes includes bound Executive Summary. [Original_Study_Data\Study ID 000048\NBP-92-86.pdf](#)
- NBP-92-87** Smayda, T.J. (URI). *Survey of Environmental Conditions & Plankton Dynamics Along a Eutrophication Gradient in Narragansett Bay During An Annual Cycle*.
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- NBP-92-88** *Blackstone River "Briefing Paper" and Proceedings from Narragansett Bay Management Committee*. 122 pp. [Documents_without_data\NBP-92-88.pdf](#)
- NBP-92-89** *Critical Resource Area Protection "Briefing Paper" & Proceedings from Narragansett Bay Project Management Committee*. 138 pp. [Documents_without_data\NBP-92-89.pdf](#)
- NBP-92-90** *Science and the Narragansett Bay Comprehensive Conservation and Management Plan*. Abstracts from February 17, 1992 Symposium. 75 pp.
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- NBP-92-91** Gray, C.L. (RIDEM) *American Eel (Anquilla rostrata) Species Profile*. 53 pp.
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- NBP-92-92** Hazardous Waste Reduction Project. *Final Report on the Hazardous Waste Reduction Project & DEM's Pollution Prevention Program*. 146 pp.
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- NBP-92-93** The Land Management Project. *The Land Management Project Completion Report*. 71 pp.
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- NBP-92-96** Nowicki & McKenna (URI). *A Preliminary Assessment of Environmental Quality in Greenwich Bay*. 38 pp. [Documents_without_data\NBP-92-96.pdf](#)
- NBP-92-97** *Land Use as it Relates to Water Quality and Wildlife Habitat "Briefing Paper" and Proceedings from Narragansett Bay Project Management Committee*. 105 pp.
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- NBP-92-98** *Water Management: Supply, Use, & Treatment "Briefing Paper" & Proceedings from Narragansett Bay Project Management Committee*. 84 pp.
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- NBP-92-99** Michelman, M. *Monitoring Inventory*. 232 pp.
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- NBP-92-100** Latimer, Ellis, LeBlanc, and Quinn (URI). *Inputs of Organic Contaminants to Narragansett Bay Under Wet Weather Conditions*. 209 pp. + Appendices.
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- NBP-92-101** The Land Management Project. *Stormwater Basin Plants & Landscaping Guide: A Simple Guide for Designers and Communities*. 14 pp. See folder for NBP-92-93.
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- NBP-92-102** Dettmann, Brown, Warren, Fox, Kester (EPA/ERL-N-URI GSO). *A Steady-State Model of Dissolved Oxygen & Nitrogen in the Providence River-Seekonk River Estuary, Rhode Island*. 203 pp.
[Documents_without_data\Study000041\NBP-92-102.pdf](#)
- NBP-92-103** Gray, C.L. (RIDEM). *Weakfish (Cynoscion regalis) Species Profile*. 48 pp.
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- NBP-92-104** Gray, C.L. (RIDEM). *Tautog (Tautoga onitis) Species Profile*. 46 pp.
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- NBP-92-105** Brown, Goble, Mao (Clark University). *Assessment of Hazards of Contaminants in Seafood*. 34 pp. [Documents_without_data\NBP-92-105.pdf](#)
- NBP-92-106** Gray, C.L., (RIDEM). *Long-finned Squid (Loligo pealei) Species Profile*. 54 pp.
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- NBP-92-107** Hinga, K., (URI). *Contaminated Sediments in Narragansett Bay: Severity and Extent*. 98 pp.
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- NBP-92-108** Apogee Research, Inc., R. Ribb, A. Dixon. *CCMP Cost Estimation and Funding Report*. (Narragansett Bay Project). 40 pp. [Documents_without_data\NBP-92-108.pdf](#)
- NBP-92-109** Limno-Tech, Inc. *Providence & Seekonk Rivers and Upper Narragansett Bay Eutrophication Screening Analysis*. 36 pp. + Appendices. [Documents_without_data\NBP-92-109.pdf](#)
- NBP-92-110** Michelman, M. *Providence River Phytoplankton Kinetic Rates: Data Report #3 for Eutrophication Modeling*. 52 pp. [Documents_without_data\NBP-92-110.pdf](#)
- NBP-92-111** Quinn, Latimer, Leblanc, & Ellis. *Assessment of Organic Contaminants in Narragansett Bay Sediments and Hard Shell Clams*. 65 pp.
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- NBP-92-112** French, Rines, et al. *Habitat Inventory/Resource Mapping for Narragansett Bay and Associated Coastline*. Four Volumes + Maps. NOT AVAILABLE ONLINE; at PELL
- NBP-92-113** Gray, C.L., (RIDEM). *Short-finned Squid (Illex illecebrosus) Species Profile*. 54 pp.
NOT AVAILABLE ONLINE

VII. Narragansett Bay Project studies linked to reports

A copy of the **NBP Studies linked to reports.xlsx** follows. The file is printed in segments for easier reading.

There are three tabs in the spreadsheet:

- List of Studies

- Principal Investigators

- Organization Codes

Principal Investigators

Principal Investigator (1)

Organization

Almeida, F	NOAA, National Marine Fisheries Service, Narragansett, RI
Bell, R	US Geological Survey, Boston, MA
Bender, M	URI, Graduate School of Oceanography, Narragansett, RI
Boehm, P	URI, Graduate School of Oceanography, Narragansett, RI
Bricker, S	URI, Graduate School of Oceanography, Narragansett, RI
Buckley, L	National Oceanic and Atmospheric Administration, Narragansett, RI
Cabelli, V	University of Rhode Island, Dept. of Microbiology, Kingston, RI
Chang, P	University of Rhode Island, Dept. of Fisheries Science and Technology, Kingston, RI
Chopy, D	Rhode Island Department of Environmental Management, Prov., RI
Cullen, J	URI, Graduate School of Oceanography, Narragansett, RI
Davis, W	US Environmental Protection Agency, Narragansett, RI
Deacutis, C	Rhode Island Department of Environmental Management, Providence, RI
Deason, E	URI, Graduate School of Oceanography, Narragansett, RI
Dettmann, E	US Environmental Protection Agency, ERL-N, Narr., RI
Doering, P	URI, Graduate School of Oceanography, Narragansett, RI
Dorfman, R	MA Department of Environmental Protection
Durbin, A	URI, Graduate School of Oceanography, Narragansett, RI
Durbin, E	URI, Graduate School of Oceanography, Narragansett, RI
Dwyer, R	URI, Graduate School of Oceanography, Narragansett, RI
Enser, R	Rhode Island Department of Environmental Management, Prov., RI
Faber, D	URI, Graduate School of Oceanography, Narragansett, RI
Farmer, F	National Aeronautics and Space Administration
Ferrara, R	URI, Graduate School of Oceanography, Narragansett, RI
Fogarty, M	NOAA, National Marine Fisheries Service, Narragansett, RI
French, D	Applied Sciences Associates, Narr., RI
Frithsen, J	URI, Graduate School of Oceanography, Narragansett, RI
Frolander, H	URI, Graduate School of Oceanography, Narragansett, RI
Furnas, M	URI, Graduate School of Oceanography, Narragansett, RI
Gaines, S	Brown University, Prov., RI
Gallagher, J	
Ganz, A	Rhode Island Department of Environmental Management, Prov., RI
Garvin, L	IEP, Inc., Northborough, MA
Germano, J	Science Applications International Corporation, Newport, RI
Gil, L	MA Department of Environmental Protection
Gleber, E	Rhode Island Department of Environmental Management, Prov., RI
Gold, A	URI, Department of Natural Resources Sciences, Kingston, RI
Goldberg, E	
Hale, S	Narragansett Bay Project, Providence, RI
Hargraves, P	URI, Graduate School of Oceanography, Narragansett, RI

Herman, S	URI, Graduate School of Oceanography, Narragansett, RI
Hinga, K	URI, Graduate School of Oceanography, Narragansett, RI
Hitchcock, G	URI, Graduate School of Oceanography, Narragansett, RI
Hoff, J	
Hoffman, E	URI, Graduate School of Oceanography, Narragansett, RI
Hubbard, J	National Oceanic and Atmospheric Administration, Washington, DC
Huebert, B	URI, Graduate School of Oceanography, Narragansett, RI
Hughes, J	URI, Graduate School of Oceanography, Narragansett, RI
Hulsizer, E	
Hyland, J	URI, Graduate School of Oceanography, Narragansett, RI
Jeffries, H	URI, Graduate School of Oceanography, Narragansett, RI
Keller, A	URI, Graduate School of Oceanography, Narragansett, RI
Kester, D	URI, Graduate School of Oceanography, Narragansett, RI
King, J	URI, Graduate School of Oceanography, Narragansett, RI
Kremer, J	URI, Graduate School of Oceanography, Narragansett, RI
Latimer, J	URI, Graduate School of Oceanography, Narragansett, RI
Leonard, D	National Oceanic and Atmospheric Administration, Washington, DC
Lynch, T	Rhode Island Department of Environmental Management, Prov., RI
Martin, J	URI, Graduate School of Oceanography, Narragansett, RI
McCown, S	National Oceanic and Atmospheric Administration, Washington, DC
Michaelman, M	URI, Graduate School of Oceanography, Narragansett, RI
Migliore, J	Rhode Island Department of Environmental Management, Prov., RI
Mitchell-Inn	URI, Graduate School of Oceanography, Narragansett, RI
Morrison, G	US Environmental Protection Agency, ERL-N, Narr., RI
Myers, A	US Environmental Protection Agency, ERL-N, Narr., RI
Newman, C	Rhode Island Department of Environmental Management, Prov., RI
O'Connor, T	National Oceanic and Atmospheric Administration, Washington, DC
O'Shea, L	MA Department of Environmental Protection
Oviatt, C	URI, Graduate School of Oceanography, Narragansett, RI
Phelps, D	US Environmental Protection Agency, ERL-N, Narr., RI
Pilson, M	URI, Graduate School of Oceanography, Narragansett, RI
Powell, C	Rhode Island Department of Environmental Management, Prov., RI
Pratt, D	URI, Graduate School of Oceanography, Narragansett, RI
Pratt, S	URI, Graduate School of Oceanography, Narragansett, RI
Pruell, R	URI, Graduate School of Oceanography, Narragansett, RI
Quinn, J	URI, Graduate School of Oceanography
Rahn, K	URI, Graduate School of Oceanography, Narragansett, RI
Ramsby, L	US Geological Survey, Boston, MA
Recksiek, C	University of Rhode Island, Dept. of Fisheries Science and Technology, Kingston, RI
Richardson, B	Rhode Island Department of Environmental Management, Prov., RI
Ries, K	US Geological Survey, Boston, MA
Rubinstein, N	Science Applications International Corporation, Newport, RI
Saila, S	URI, Graduate School of Oceanography, Narragansett, RI

Santschi, P	
Schimmel, S	US Environmental Protection Agency, ERL-N, Narr., RI
Scott, J	US Environmental Protection Agency, ERL-N, Narr., RI
Seavey, G	URI, Graduate School of Oceanography, Narragansett, RI
Sisson, R	Rhode Island Department of Environmental Management, Prov., RI
Smayda, T	URI, Graduate School of Oceanography, Narragansett, RI
Sosnowski, S	US Environmental Protection Agency, ERL-N, Narr., RI
Spaulding, M	University of Rhode Island, Ocean Engineering, Kingston, RI
Stickney, A	US Fish and Wildlife Service, Kingston, RI
Sutinen, J	University of Rhode Island, Dept. of Resource Economics, Kingston, RI
Swanson, C	Applied Sciences Associates, Narr., RI
Toner, R	Marine Research, Inc., Falmouth, MA
Turchetta, R	Rhode Island Department of Health, Prov., RI
Van Vleet, E	URI, Graduate School of Oceanography, Narragansett, RI
Vargo, G	URI, Graduate School of Oceanography, Narragansett, RI
Watkins, W	US Food and Drug Administration-Northeast, North Kingstown, RI
West, N	University of Rhode Island, Marine Affairs, Kingston, RI
Wright, R	University of Rhode Island, Dept. of Civil Engineering, Kingston, RI

Organization Codes

Organization Code (2)	Organization
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ASA	Applied Sciences Associates, Narr., RI
BRU	Brown University, Providence, RI
EPA_ERLN	US Environmental Protection Agency, Environmental Research Laboratory, Narragansett, RI
IEP	IEP, Inc., Northborough, MA
MADEP	Massachusetts Department of Environmental Protection, Boston, MA
MERL	Marine Ecosystem Research Laboroatory, Graduate School of Oceanography, URI , Narragansett, RI
MET&EDDY	Metcalf & Eddy
MRI	Marine Research, Inc., Falmouth, MA
NASA	National Aeronautics and Space Administration
NMFS_NAR	National Marine Fisheries Service, Narragansett, RI
NMFS_WH	National Marine Fisheries Service, Woods Hole, MA
NOAA	National Oceanic and Atmospheric Administration, Washington, DC
NOAA_NOS	National Oceanic and Atmospheric Administration, National Ocean Services
RIDEM	Rhode Island Department of Environmental Management, Providence, RI
RIDEM_FW	Rhode Island Department of Environmental Management, Fish and Wildlife Division, Providence, RI
RIDEM_WR	Rhode Island Department of Environmental Management, Water Resources Division, Providence, RI
RIDOH	Rhode Island Department of Health, Providence, RI
SAIC	Science Applications International Corporation, Newport, RI
URI_CVE	University of Rhode Island, Civil Engineering, Kingston, RI
URI_FST	University of Rhode Island, Aquaculture and Fisheries Technology, Kingston, RI
URI_GSO	University of Rhode Island, Graduate School of Oceanography, Narragansett, RI
URI_MAF	University of Rhode Island, Marine Affairs, Kingston, RI
URI_MIC	University of Rhode Island, Microbiology Department, Kingston, RI
URI_NRS	University of Rhode Island, Natural Resources Sciences Department, Kingston, RI
URI_OCE	University of Rhode Island, Ocean Engineering, Kingston, RI
URI_REN	University of Rhode Island, Environmental and Natural Resource Economics, Kingston, RI
USFDA_NE	US Food and Drug Administration, Northeast Division, North Kingstown, RI
USFWS	US Fish and Wildlife Service, Kingston, RI
USGS	US Geological Survey, Boston, MA