Final Report

IDENTIFICATION AND COLLECTION
OF HISTORICAL DATA FOR
BUZZARDS BAY, MASSACHUSETTS

VOLUME II
APPENDIX IV: COMPLETED BUZZARDS BAY
INTERVIEW SHEETS

to

U.S. ENVIRONMENTAL PROTECTION AGENCY

December 13, 1986

Contract No. 68-03-3319
Work Assignment 23 - Task A

by

Betsy Brown and Judith A. Gale
BATTELLE
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397 Washington Street
Duxbury, MA 02332
FOREWORD

In 1984, Buzzards Bay was one of four estuaries in the country chosen to be part of the National Estuary Program. The Buzzards Bay Project was initiated in 1985 to protect water quality and the health of living resources in the bay by identifying resource management problems, investigating the causes of these problems, and recommending actions that will protect valuable resources from further environmental degradation. This multi-year project, jointly managed by United States Environmental Protection Agency and the Massachusetts Executive Office of Environmental Affairs, utilizes the efforts of local, state, and federal agencies, the academic community and local interest groups in developing a Master Plan that will ensure an acceptable and sustainable level of environmental quality for Buzzards Bay.

The Buzzards Bay Project is focusing on three priority problems: closure of shellfish beds, contamination of fish and shellfish by toxic metals and organic compounds, and high nutrient input and the potential pollutant effects. By early 1990, the Buzzards Bay Project will develop a Comprehensive Conservation and Management Plan to address the Project’s overall objectives: to develop recommendations for regional water quality management that are based on sound information, to define the regulatory and management structure necessary to implement the recommendations, and to educate and involve the public in formulating and implementing these recommendations.

The Buzzards Bay Project has funded a variety of tasks that are intended to improve our understanding of the input, fate and effects of contaminants in coastal waters. The Project will identify and evaluate historic information as well as generate new data to fill information gaps. The results of these Project tasks are published in this Technical Series on Buzzards Bay.
This report represents the technical results of an investigation funded by the Buzzards Bay Project. The results and conclusions contained herein are those of the author(s). These conclusions have been reviewed by competent outside reviewers and found to be reasonable and legitimate based on the available data. The Management Committee of the Buzzards Bay Project accepts this report as technically sound and complete. The conclusions do not necessarily represent the recommendations of the Buzzards Bay Project. Final recommendations for resource management actions will be based upon the results of this and other investigations.

David Fierra, Chairman, Management Committee
Environmental Protection Agency

Thomas Bigford
National Oceanic and Atmospheric Administration

Steve Bliven
Massachusetts Office of Coastal Zone Management

Leigh Bridges
Massachusetts Division of Marine Fisheries

Jack Clarke
Cape Cod Planning and Economic Development Commission

Richard Delaney
Massachusetts Office of Coastal Zone Management

Meriel Hardin
Massachusetts Department of Environmental Quality Engineering

Dr. Russell Isaac
Massachusetts Division of Water Pollution Control

Dr. Susan Peterson
President, Coalition for Buzzards Bay

Dr. Don Phelps
Environmental Protection Agency

Ted Pratt
Chairman, Buzzards Bay Citizens Advisory Committee

Stephen Smith
Southeast Regional Planning and Economic Development District

Bruce Tripp
Massachusetts Executive Office of Environmental Affairs
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INTRODUCTION

All interviews conducted during the project were documented on Buzzards Bay Information Sheets. This appendix contains copies of each of the information sheets. The sheets are organized into five categories based on the type of information or data that was discussed during the interview:

1) Lobster Landings
2) Water Quality and Nutrients
3) Water Quality and Nutrients and Toxic Substances in Organisms and Sediments.
4) Toxic Substances in Organisms and Sediments
5) Other

Within each category, information sheets are filed alphabetically by the name of the person interviewed.

Not all interviews resulted in identification of data sets. In some cases, the contact person was not aware of any relevant data sets; in other cases, contacts informed project staff of data sets with which we were already familiar. This overlapping of information indicated that most of the relevant research had been identified. The information sheets, therefore, simply document the process by which data sets were identified; only some, but not all, correspond to a high or low priority data set.
1. LOBSTER LANDINGS
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon and Judith Gale
Date: November 6 & 7, 1985 and January 22, 1986, respectively

1. Citation Number: 7
2. Program Title: State Lobster Landing Data
3. Cognizant Individual: Charles Anderson
   Cat Cove Marine Lab
   92 Fort Avenue
   Salem, MA 01970
5. Phone(s): (617)745-3107
   (617)727-3958
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Commonwealth of Massachusetts and
   U.S. National Marine Fisheries Service
10. Address:
11. Phone(s):
12. Study Topic:

   On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other

   Code: 1
13. Study Subtopic: None
   Code: 0
14. Comments on the Study:
15. Program Start Date: 1968
16. Program End Date: On-going
17. Other Date Information: Data in some form has been collected
   since the 1800's. Published as annual state lobster statistic only
   since 1968.
18. Level of Effort: Part of a $100,000 annual operating budget.
   Amount: About 17% of operating budget.
   Code: 1
19. Program Duration: On-going, >3 years anticipated.
   Code: 5
20. Form of Data: Catch reports by fishermen
   Code: 1
21. Data Location: Cat Cove Marine Lab
   annually.
   Code: 3
23. Data Restrictions: Individual catch reports confidential. Annual
   summary data available.
   Code: 0

IV-3
24. Region of Buzzards Bay Covered: Wherever commercial lobisting is conducted.

25. Purpose of Program: To provide a statistical database for the development and monitoring of a management plan for the entire U.S. east coast lobster fishery by the New England and Mid-Atlantic Fisheries Management Councils.
   Code: 2

26. Program Description:
   A. Sampling Frequency Annually
      Code: 5
   B. Quality Assurance/Qulaity Control Annual audit of 10% of fishermen submitting reports. Require substantiation of data with tax returns, dealer slips or log books.
      Code: 2
   C. Pollutant Source N/A
      Code: 0
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

   1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

- 0 1 2 3 Petroleum Hydrocarbons
- 0 1 2 3 PAHs
- 0 1 2 3 PCBs
- 0 1 2 3 Pesticides
- 0 1 2 3 Lead
- 0 1 2 3 Mercury
- 0 1 2 3 Cadmium
- 0 1 2 3 Chromium
- 0 1 2 3 Other metals
- 0 1 2 3 Other

1 Biology
Specifics (0 = unspecified; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

- 0 1 2 3 Microorganisms/Pathogens
- 0 1 2 3 Phytoplankton/Microphytes
- 0 1 2 3 Macrophytes
- 0 1 2 3 Zooplankton
- 0 1 2 3 Benthos
- 0 1 2 3 Nekton
- 0 1 2 3 Birds
- 0 1 2 3 Reptiles/Mammals
- 0 1 2 3 Parasites
- 0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Throughout the data collection period (1968 to present), a number of changes have been made in the categories of data collected. Most of the changes occurred between the annual reports of 1979 and 1980.

According to Charles Anderson, it would be difficult for someone not thoroughly familiar with the data to construct a time series (1968 to present) because of these changes. Mr. Anderson indicated that even for someone who is familiar with the data, it would present a time-consuming task.

According to Mr. Anderson, licensing requirements were changed at some point, perhaps in the mid 1970's. It was in response to these changes in licensing that data categories were changed. Based on the introductions to the 1979 and 1980 reports, it appears that license categories in 1979 were: 1) full time commercial, 2) seasonal commercial, and 3) commercial, and in 1980 were: 1) coastal commercial, 2) offshore commercial, 3) seasonal commercial, and 4) non-commercial.
Between 1979 and 1980, the following changes were made in data categories:

1. Total numbers by category (e.g., number of fishermen, number of pots fished, value of pots fished, etc.) were changed to two categories beginning in 1980 (number inside 69oW, 41oN and outside 69oW, 41oN). When asked if the sum inside/outside would be equivalent to the numbers pre-1980, Mr. Anderson said he thought not, but a definite answer would require further study (not possible at this time).

2. Categorization of fishermen as regular/casual/other pre-1980 was changed to coastal/seasonal/offshore in 1980. Mr. Anderson indicated that in 1980 the "other" category (which was defined as non-commercial) was dropped (the annual report cited a loss of data in this year) and the "offshore" category was added. Thus a comparison may only be made between regular (pre-1980 reports) and coastal (1980 reports and later ones) and between casual (pre-1980) and seasonal (1980 and later). According to Mr. Anderson, data on offshore lobstering may not have been collected before 1980.

3. In 1980, categories of boats were changed from inboard/outboard and non-power to power/non-power. In this case the outboard data was added to the inboard data to create the power category found in reports beginning in 1980. It would therefore not be possible to meaningfully compare pre-1980 data on boats with data contained in reports issued after 1980.
2. WATER QUALITY AND NUTRIENTS
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<td><strong>3. Cognizant Individual:</strong></td>
<td>Neil Churchill</td>
</tr>
<tr>
<td><strong>4. Address:</strong></td>
<td>Massachusetts Division of Marine Fisheries 100 Cambridge Street Boston, MA 02202</td>
</tr>
<tr>
<td><strong>5. Phone(s):</strong></td>
<td>(617) 727-3194</td>
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<td>On-going research Lobster Landings Toxic substances in organisms and sediments Water quality and nutrient data Other: Code: 3</td>
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<td><strong>24. Region of Buzzards Bay Covered:</strong></td>
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<td><strong>25. Purpose of Program:</strong></td>
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C. Pollutant Source
   Code:
D. Parameters Measured

1. Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other:

1. Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1. Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 2 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals
   0 1 2 3  Other:
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<td>Other:</td>
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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Estuarine studies were conducted by the Division of Marine Fisheries in the 1960's and none have been done since then. The only estuary in Buzzards Bay studied as part of this program was the Westport River. We already have the report on the Westport River Estuary.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: October 30, 1985

1. Citation Number: 115
2. Program Title:
3. Cognizant Individual: Mr. W. Stephen Collings
4. Address: COMElectric
   2421 Cranberry Highway
   Wareham, MA 02571
   (617) 291-0950
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Same as above
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: Seasonal distribution and abundance of lobster larvae and ichthyoplankton
    Code: 3,4
13. Study Subtopic:
14. Comments on the Study:
15. Program Start Date: 1976
16. Program End Date: 1979
17. Other Date Information:
18. Level of Effort: $250,000 total
    Amount: $62,000/year
    Code: 2
19. Program Duration: Terminated, 4 years
    Code: 0
20. Form of Data: Magnetic Tape, on WHOI VAX
    Code: 8
21. Data Location: Woods Hole, MA
22. Data Availability: Need to discuss with Leigh Bridges of DMF
    Code: 0
23. Data Restrictions: Uncertain
    Code: 0
24. Region of Buzzards Bay Covered:
    1 Station in Cape Cod Bay
    3 Stations in Cape Cod Canal
    3 Stations in Buzzards Bay
25. Purpose of Program: Study of plankton in several stations to satisfy requirement for NPDES permit
    Code: 1
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
   D. Parameters Measured
      1 Physical Oceanography
      1 Water Quality
         Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
         0 1 2 Temperature
         0 1 2 Salinity/Conductivity
         0 1 2 Dissolved Oxygen
         0 1 2 pH
         0 1 2 Suspended Solids
         0 1 2 Nutrients
         0 1 2 Biological Oxygen Demand
         0 1 2 Turbidity
         0 1 2 Alkalinity
         0 1 2 Chlorophyll
         0 1 2 Other
      1 Sediment Characteristics
         Grain Size Distribution
         Mineral Composition
         Percent Organic Matter
         Sedimentation Rate
         Other
      1 Chemistry
         Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
         0 1 2 3 Petroleum Hydrocarbons
         0 1 2 3 PAHs
         0 1 2 3 PCBs
         0 1 2 3 Pesticides
         0 1 2 3 Lead
         0 1 2 3 Mercury
         0 1 2 3 Cadmium
         0 1 2 3 Chromium
         0 1 2 3 Other metals
         0 1 2 3 Other
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<td>Other</td>
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</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: This study is not directly related to the topic area of lobster landings and so will not be pursued further. The topic may prove useful in later characterization of Buzzards Bay. The report citation is:

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon and Betsy Brown
Date: November 21, 1985 and January 8, 1986, respectively

1. Citation Number: 19
2. Program Title: Disposal Area Monitoring and Observation System (DAMOS)
3. Cognizant Individual: Steven Congdon
4. Address: U.S. Army Corps of Engineers (ACOE) Regulatory Section 424 Trapelo Road Waltham, MA 02254 (617) 647-8056
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Same as above
10. Address:
11. Phone(s):
12. Study Topic: XX On-going research
Lobster Landings
Toxic substances in organisms and sediments
XX Water quality and nutrient data
XX Other: Mussel watch—mussels are hung one meter above the sediment
Code: 0,3,4
13. Study Subtopic: Water quality and nutrients
Code: 8
14. Comments on the Study: This program includes 10 disposal sites in New England. Only one site is located in Buzzards Bay and that is at Cleveland Ledge.
15. Program Start Date: 1977
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
Amount: $1 million in 1985 for the whole area
Code: 4
19. Program Duration: On-going
Code: 5
20. Form of Data: Hardcopy reports. Computer database system is not available to people outside ACOE.
Code: 1
21. Data Location: ACOE, Waltham, MA
22. Data Availability: Upon request, very little on Buzzards Bay.
Code: 2
23. Data Restrictions: None
Code: 0
24. Region of Buzzards Bay Covered: Cleveland Ledge disposal site outside the west end of the canal opening.

IV-14
25. Purpose of Program: To monitor fate and effects of dredge disposal material at specified dump sites.
   Code: 2,4

26. Program Description:
   A. Sampling Frequency: Irregular, depending on disposal activities.
   Code: 6
   B. Quality Assurance/Quality Control: Much of the work is subcontracted and QA/QC varies with firm. Congdon does not know the different QA/QC programs implemented by various subcontractors.
   Code: 3
   C. Pollutant Source Dredge Spoil Disposal
   Code: 5
   D. Parameters Measured

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<th>Physical Oceanography</th>
<th>Water Quality</th>
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<td>Temperature (Bathythermograph, CTD)</td>
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<td>Salinity/Conductivity</td>
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<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Nutrients (Nitrogen, Phosphorus)</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Turbidity (Plume Studies)</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1 2</td>
<td>Other: Chemical Oxygen Demand in sediments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>XX</th>
<th>Grain Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mineral Composition</td>
</tr>
<tr>
<td></td>
<td>Percent Organic Matter</td>
</tr>
<tr>
<td></td>
<td>Sedimentation Rate</td>
</tr>
</tbody>
</table>
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2* 3 Petroleum Hydrocarbons
0 1 2* 3 PAHs
0 1 2* 3 PCBs
0 1 2* 3 Pesticides
0 1 2* 3 Lead
0 1 2* 3 Mercury
0 1 2* 3 Cadmium
0 1 2* 3 Chromium
0 1 2* 3 Other metals: Cu, Arsenic, Zn, Mg, Ni
0 1 2* 3 Other: Oil and Grease

* Note: Not measured for Cleveland Ledge

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos: Recolonization Study
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other: "Mussel watch" - tissue analysis on mussels suspended one meter above sediment for contaminant uptake.

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports):

Analysis on mussel tissue: Cd, Cr, Co, Cu, Fe, Hg, Ni, Zn, Vn, PCB. This may not have been done on the Buzzards Bay site.

27. General Comments: The Cleveland Ledge disposal site is not used very often, therefore the parameters marked above may not have been measured. Bathymetric data is all that is available for Cleveland Ledge.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 6, 1986

1. Citation Number: 85
2. Program Title: Historical Changes in Eelgrass Populations in Buttermilk Bay
3. Cognizant Individual: Joseph Costa
4. Address: Boston University Marine Program
   Marine Biological Laboratory
   Woods Hole, MA 02543
5. Phone(s): (617) 548-3705 ext. 506
6. Performing Organization: B.U. Marine Program, B.U. Hydrogeology Department and the Barnstable County Health Officer
7. Address:
8. Phone(s):
10. Address: J.F. Kennedy Building
   Boston, MA
11. Phone(s): (617) 223-1429
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 3
13. Study Subtopic: Nutrients
    Code: 7
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration: On-going
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered
25. Purpose of Program
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:

IV-17
B. Quality Assurance/Quality Control
   Code:

C. Pollutant Source
   Code:

D. Parameters Measured

1 Physical Oceanography

1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
### General Comments

EPA is funding this research to document historical changes in eelgrass populations in Buttermilk Bay and investigate disturbances (e.g., hurricanes, nutrient loading) affecting eelgrass beds. Mr. Costa is testing the hypothesis that restricted flow and high nutrient levels are affecting eelgrass populations. He is collecting nutrient data for the Bay. EPA has details.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 6, 1986

1. Citation Number: 113
2. Program Title: 
3. Cognizant Individual: Mr. Martin Dowgert and Mr. Ira Somerset
4. Address: U.S. Food and Drug Administration
5. Phone(s): 
6. Performing Organization: Same as above
7. Address: 
8. Phone(s): 
9. Funding Organization: Same as above
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:
   Code: 3

13. Study Subtopic: Water quality
   Code: 6

14. Comments on the Study: 

15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: Three studies conducted in 1972, 1981, and 1985

18. Level of Effort: Unknown
   Amount: 
   Code: 0

   Code: 0

20. Form of Data: Hardcopy only
   Code: 1

21. Data Location: U.S. Food and Drug Administration, Boston, MA
22. Data Availability: Programs complete, data available
   Code: 2
23. Data Restrictions: Data not restricted
   Code: 1


25. Purpose of Program: To collect coliform bacteria data for classification of shellfish areas.
   Code: 4

26. Program Description:
   A. Sampling Frequency Irregularly
      Code: 6
   B. Quality Assurance/Quality Control U.S. FDA QA/QC program
      Code: 1
C. Pollutant Source  Municipal discharge
   Code:  3
D. Parameters Measured

1 Physical Oceanography
2 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other: Total and fecal coliform bacteria

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 2 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals
   0 1 2 3  Other:
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Dowgert indicated that he had data from three studies that he was going to include in the materials he sent. All of the studies were of coliform bacteria samples taken in Buzzards Bay. The 1972 data sent were contained in a report:


The other studies have not been published and raw data were provided in tabular form with little documentation.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 7, 1985

1. Citation Number: 6
2. Program Title: Massachusetts Coastal and Commercial Lobster Trap Sampling Program
3. Cognizant Individual: Mr. Bruce Estrella
4. Address: Massachusetts Division of Marine Fisheries
   449 Route 6A
   East Sandwich, MA 02537

5. Phone(s): (617) 888-1155
6. Performing Organization: Massachusetts Division of Marine Fisheries
7. Address: Same as above
8. Phone(s):
9. Funding Organization: Massachusetts Division of Marine Fisheries
10. Address: 100 Cambridge Street
    Saltenstall Building
    Boston, MA 02202
    (617) 727-3193

11. Phone(s):
12. Study Topic: ON-Going research: Temperature probe placed in Buzzards Bay in August 1985, which is recording constantly (see Item #27)
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: Assessment of health of lobster fisheries

Code: 0,3,4

13. Study Subtopic: None
Code: 0

15. Program Start Date: On-going
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount: Part of Massachusetts operating budget
   Code: 0
19. Program Duration: On-going, >3 years anticipated
   Code: 5
20. Form of Data: Magnetic tape which is transcribed and computer punched.
    Code: 8
21. Data Location: Woods Hole Oceanographic VAX
22. Data Availability: Computer data not available except in summary reports. May obtain reports through Charles Anderson, Cat Cove.
    Code: 1
23. Data Restrictions: Restricted
    Code: 0

IV-23
24. Region of Buzzards Bay Covered: Stations primarily in southern 2/3 of Buzzards Bay, including south, as far as Cuttyhunk; north, as far as Wings Neck; west, outside of New Bedford; and east, outside of Woods Hole.

25. Purpose of Program: To assess general health of coastal lobster resources and variations in populations due to fishing efforts, regulatory changes, and environmental changes.

Code: 0

26. Program Description:
A. Sampling Frequency Annually
   Code: 5
B. Quality Assurance/Quality Control None mentioned
   Code: 3
C. Pollutant Source Not specified
   Code: 0
D. Parameters Measured

1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
      
      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other:

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Collections made with lobster pots. Sampling six regions of which one is Buzzards Bay. Monthly sampling during the major lobster season, May - November, on fishing vessels during normal lobstering activities. Length, sex, molt condition, culls, body damage, external pathology, morphology and geographic variation are studied. Mr. Estrella designed the program which uses several commercial fisherman/season.

27. General Comments: The study did not directly measure lobster landings, so it is not considered a relevant data set.

Temperature Probe. An analog electronic temperature probe, fifty yards from Cleveland Lighthouse, is currently monitoring water temperature every two hours. The probe will be checked in the end of March to ascertain if it is operating correctly, and if it is, temperature measurements will be placed in a data file and then be available in the form of hardcopy. The probe is operated by battery and will be replaced as needed.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 24, 1986

1. Citation Number: 101
2. Program Title: Cognizant
3. Cognizant Individual: Thomas Fantozzi
4. Address: Board of Health
24 Perry Avenue
Buzzards Bay, MA 02532
(617) 759-3435
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Same as above
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:
   Code: 3
13. Study Subtopic: Water Quality
   Code: 6
14. Comments on the Study:
15. Program Start Date: Unknown
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort: Information unavailable
   Amount:
   Code: 0
19. Program Duration: On-going, no end date anticipated
   Code: 5
20. Form of Data: Laboratory reports, laboratory books
   Code: 1
21. Data Location: Board of Health (same as above)
22. Data Availability: Program on-going, data available as collected
   Code: 3
23. Data Restrictions: Data not restricted
   Code: 1
24. Region of Buzzards Bay Covered: Buttermilk Bay, Little Buttermilk
   Bay, Buzzards Bay in the vicinity of the town of Buzzards Bay.
   Approximately 12 stations total. Storm drain samples are also taken
   at times.
25. Purpose of Program: To test local water for fecal and total
   coliform.
   Code: 4
26. Program Description:
   A. Sampling Frequency  Weekly (March or April through November)
      Code: 1
   B. Quality Assurance/Quality Control  Specific procedures, 
      unwritten: duplicate samples to county laboratory for analysis; 
      blanks at beginning and end of samples. 
      Code: 2
   C. Pollutant Source  Municipal discharge, road drainage, storm 
      drainage 
      Code: 3,7
   D. Parameters Measured

   1  Physical Oceanography  
      1  Water Quality  
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

      | Code | Parameter            |
      |------|----------------------|
      | 0    | Temperature          |
      | 0    | Salinity/Conductivity|
      | 0    | Dissolved Oxygen     |
      | 0    | pH                   |
      | 0    | Suspended Solids     |
      | 0    | Nutrients            |
      | 0    | Biological Oxygen Demand |
      | 0    | Turbidity            |
      | 0    | Alkalinity           |
      | 0    | Chlorophyll          |
      | 0    | Other: Fecal and total coliform |

   1  Sediment Characteristics
      Grain Size Distribution
      Mineral Composition
      Percent Organic Matter
      Sedimentation Rate
      Other:

   1  Chemistry  
      Specifics (0 = unspecified, 1 = in water column, 2 = in 
      sediment, 3 = in biota; if a "3" is used, the 
      "Biology" section below must be completed.)

      | Code | Compound               |
      |------|------------------------|
      | 0    | Petroleum Hydrocarbons |
      | 0    | PAHs                   |
      | 0    | PCBs                   |
      | 0    | Pesticides             |
      | 0    | Lead                   |
      | 0    | Mercury                |
      | 0    | Cadmium                |
      | 0    | Chromium               |
      | 0    | Other metals           |
      | 0    | Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

As of last year the town has its own laboratory and has increased the number of samples taken (except during the winter) from every other week to every week. The program has been on-going for many years, either by DEQE or the Board of Health. No specific date given for initiation of the program.

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 28, 1986

1. Citation Number: 61
2. Program Title: Acid Rain Monitoring Project
3. Cognizant Individual: Dr. Paul Godfrey
4. Address: Water Resources Research Center
   Blaisdell House
   University of Massachusetts
   Amherst, MA 01003
   (413) 545-2842
5. Phone(s): Same as above, but samples are collected by
   many volunteers and many laboratories are
   used to test pH and alkalinity
6. Performing Organization: Massachusetts Division of Fisheries and
   Wildlife
10. Address: 100 Cambridge Street
   Boston, MA 02202
11. Phone(s): (617) 727-3151
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
13. Study Subtopic: Water Quality
14. Comments on the Study:
15. Program Start Date: 1983
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort: First year: $75,000
   Second year: $333,000
   Third year: $157,000
19. Program Duration: On-going, >3 years anticipated
20. Form of Data: D-Base II or III IBM compatible
21. Data Location: At the Water Resources Research Center,
   University of Massachusetts, Amherst, MA and on PALIS (state database
   management system for ponds and lakes), managed by the Division of
   Water Pollution Control linked to the University of Massachusetts
   computer system.
22. Data Availability: Program on-going, data available at specific
    intervals.
   Code: 3

1992-93
23. Data Restrictions: None
   Code: 1

24. Region of Buzzards Bay Covered: One sample taken from each stream feeding into Buzzards Bay. Exact location of the sample sites in the streams of interest could be ascertained with some searching. Dr. Godfrey indicated that the best approach would be to send someone to the Water Resources Research Center to be oriented to the system and conduct the search.

25. Purpose of Program: To characterize existing sensitivity of surface waters in the state to acid deposition (long term monitoring).
   Code: 3

26. Program Description:
   A. Sampling Frequency Monthly, semi-annually, and quarterly for the first, second, and third years, respectively. On-going quarterly sampling.
   Code: 4

   B. Quality Assurance/Quality Control QC mimics EPA program.
       Laboratories doing pH and alkalinity run samples of known amounts before and after all samples. They also run double blind tests. Standards are used to calibrate after every 20 samples. This Program participates in EPA certification program. ICP is used for metals. If a sample is below the level of detection for ICP, the sample is then run on a graphite furnace.
   Code: 1

   C. Pollutant Source Not applicable
   Code: 0

   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
</table>
   | 0 | 1 | 2 | Temperature
   | 0 | 1 | 2 | Salinity/Conductivity
   | 0 | 1 | 2 | Dissolved Oxygen
   | 0 | 1 | 2 | pH
   | 0 | 1 | 2 | Suspended Solids
   | 0 | 1 | 2 | Nutrients
   | 0 | 1 | 2 | Biological Oxygen Demand
   | 0 | 1 | 2 | Turbidity
   | 0 | 1 | 2 | Alkalinity
   | 0 | 1 | 2 | Chlorophyll
   | 0 | 1 | 2 | Other: Sulfate, Nitrate, Nitrite, Chloride

   1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other
**Chemistry**

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
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<td>2</td>
<td>3</td>
<td>PCBs</td>
</tr>
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<td>Pesticides</td>
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<td>2</td>
<td>3</td>
<td>Lead</td>
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<td>2</td>
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<td>Cadmium</td>
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<tr>
<td>0</td>
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<td>2</td>
<td>3</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other metals: Ni,Cu,Zn,Al,Fe</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other: Na,K,Mg,Mn,Ti,V,As,Se,Ba,Ca,Si,B</td>
</tr>
</tbody>
</table>

**Biology**

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Phytoplankton/Microphytes</td>
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<td>Macrophytes</td>
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<td>Zooplankton</td>
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<td>Benthos</td>
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<td>3</td>
<td>Nekton</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Birds</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Parasites</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

**General Comments:** In the first year, half the lakes and streams in Massachusetts were sampled. The other half was sampled in the second year. In the third year, approximately 650 sites were sampled (once per water body). These sites will be long-term monitoring sites.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 28, 1986

<p>| | |</p>
<table>
<thead>
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<tbody>
<tr>
<td>1.</td>
<td>Citation Number:</td>
</tr>
<tr>
<td>2.</td>
<td>Program Title:</td>
</tr>
<tr>
<td>3.</td>
<td>Cognizant Individual:</td>
</tr>
<tr>
<td></td>
<td>Southeastern Massachusetts University</td>
</tr>
<tr>
<td>4.</td>
<td>Address:</td>
</tr>
<tr>
<td>5.</td>
<td>Phone(s):</td>
</tr>
<tr>
<td>6.</td>
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</tr>
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<td>23.</td>
<td>Data Restrictions:</td>
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<td>Code:</td>
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</table>

IV-32
25. **Purpose of Program:** To characterize the estuary to provide further information for Dr. Hoff's analysis of factors affecting seasonal abundance, composition and diversity of fishes in the Slocum River Estuary.
   Code: 0

26. **Program Description:**
   A. **Sampling Frequency**  Monthly, or more frequently when conditions permitted.
      Code: 3
   B. **Quality Assurance/Quality Control**  Not specified
      Code: 3
   C. **Pollutant Source**  Not applicable
      Code: 0
   D. **Parameters Measured**

   1  **Physical Oceanography**
   1  **Water Quality**
      **Specifics** (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
      
      | Code | Parameter                      |
      |------|--------------------------------|
      | 0    | Temperature                   |
      | 0    | Salinity/Conductivity         |
      | 0    | Dissolved Oxygen              |
      | 0    | pH                            |
      | 0    | Suspended Solids              |
      | 0    | Nutrients                     |
      | 0    | Biological Oxygen Demand      |
      | 0    | Turbidity                     |
      | 0    | Alkalinity                    |
      | 0    | Chlorophyll                   |
      | 0    | Other                         |

   1  **Sediment Characteristics**
      **Specifics**
      
      | Code | Parameter                      |
      |------|--------------------------------|
      | 0    | Grain Size Distribution       |
      | 0    | Mineral Composition           |
      | 0    | Percent Organic Matter        |
      | 0    | Sedimentation Rate            |
      | 0    | Other                         |

   1  **Chemistry**
      **Specifics** (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
      
      | Code | Parameter                      |
      |------|--------------------------------|
      | 0    | Petroleum Hydrocarbons         |
      | 0    | PAHs                           |
      | 0    | PCBs                           |
      | 0    | Pesticides                     |
      | 0    | Lead                           |
      | 0    | Mercury                        |
      | 0    | Cadmium                        |
      | 0    | Chromium                       |
      | 0    | Other metals                   |
      | 0    | Other                          |
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<p>| | | | | |</p>
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<td>?</td>
<td>Birds</td>
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<td>3</td>
<td>Reptiles/Mammals</td>
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<td>2</td>
<td>3</td>
<td>Parasites</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Tracy Stenner
Date: March 7, 1986

1. Citation Number: 114
2. Program Title: Supplement to a Facilities Plan
3. Cognizant Individual: Mr. Carl Noyes
4. Address:
   Jason Cortell Associates
   244 Second Avenue
   Waltham, MA 02154 and
   Ms. Carolyn Loomis
   Fay, Spofford, and Thorndike
   191 Spring Street
   Lexington, MA
5. Phone(s):
   (617) 890-3737 (Noyes) and
   (617) 863-8300 (Loomis)
6. Performing Organization:
   Funding Organization: Funded by the Massachusetts Department of Environmental Quality Engineering (DEQE)
7. Address:
8. Phone(s):
9. Study Topic: XX On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:
   Code: 0,3
10. Study Subtopic: Water Quality
   Code: 8
11. Comments on the Study:
12. Program Start Date: August 1985
13. Program End Date: On-going
14. Other Date Information:
15. Level of Effort: Information unavailable
16. Amount: Code: 0
17. Program Duration: On-going
18. Code:
19. Form of Data: Hardcopy
20. Code: 1
21. Data Location:
22. Data Availability: Not available at this time
23. Code: 0
24. Data Restrictions:
   Data not restricted
   Code: 1
25. Region of Buzzards Bay Covered: Dartmouth, MA, near the sewerage outfall
   Code: 1
6. Program Description:
   
   A. Sampling Frequency: Once a week for four weeks, but Hurricane Gloria necessitated an extension of the time to one and a half months.
   
   B. Quality Assurance/Quality Control: Formal QA/QC specified by DEQE
   Code: 1

   C. Pollutant Source: Municipal Discharge
   Code: 3

   D. Parameters Measured

   1. Physical Oceanography

   2. Water Quality
      
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other:

   3. Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

   4. Chemistry

   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
- 0 1 2 3 Microorganisms/Pathogens
- 0 1 2 3 Phytoplankton/Microphytes
- 0 1 2 3 Macrophytes
- 0 1 2 3 Zooplankton
- 0 1 2 3 Benthos
- 0 1 2 3 Nekton
- 0 1 2 3 Birds
- 0 1 2 3 Reptiles/Mammals
- 0 1 2 3 Parasites
- 0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Noyes began research on the Dartmouth sewerage outfall in mid-August of 1985. One month of work was scheduled with weekly sampling, but the project was extended due to Hurricane Gloria. The study includes water quality monitoring and biological and metal chemistry analyses. Specific information is not available at this time, however, a report will be produced in approximately two months. Mr. Noyes suggested contacting Ms. Carolyn Loomis for additional information. Ms. Loomis is at Fay, Spofford, and Thorndike and is working with J. Cortell Associates and the DEQE. Ms. Loomis indicated the final report will be available in April and will be sent to Battelle.
1. Citation Number: 119
2. Program Title: 
3. Cognizant Individual: Mr. Jay O'Reilly
5. Phone(s): (201) 872-0200
6. Performing Organization: Same as above
7. Address: 
8. Phone(s): 
9. Funding Organization: NOAA
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research Lobster Landings Toxic substances in organisms and sediments XX Water quality and nutrient data Other:
   Code: 3
13. Study Subtopic: Water quality and nutrients
   Code: 8
14. Comments on the Study: Data covers samples during a variety of programs including the Northeast Monitoring Program and the Ocean Pulse Program.
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: Unknown
   Amount:
   Code: 0
19. Program Duration: Terminated
   Code: 0
20. Form of Data: Hardcopy and magnetic tape
   Code: 1,8
21. Data Location: NOAA, Sandy Hook, NJ
22. Data Availability: Data available
   Code: 2
23. Data Restrictions: Must indicate source of data when entered into EPA database management systems.
   Code: 0
24. Region of Buzzards Bay Covered: Most stations at 41o29'N, 70o53'W. A few other sites sampled. Details available with the data.
25. Purpose of Program: To ascertain the health of U.S. waters.
   Code: 4
26. Program Description:
   A. Sampling Frequency Irregularly
   Code: 6
B. Quality Assurance/Quality Control Specific, but not written procedures
   Code: 2

C. Pollutant Source Unspecified
   Code: 0

D. Parameters Measured

1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

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<td>pH</td>
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<td>Chlorophyll</td>
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<tr>
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<td>2</td>
<td>Other: Measurements of the above taken through the water column as well as on the surface and bottom.</td>
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1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<td>PCBs</td>
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<td>Other:</td>
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</table>
1  Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Nutrients include nitrite, nitrate, phosphate, silicate and ammonium.

27. General Comments: Dave Mounten (NMFS, Woods Hole, MA) has the water quality data for the MARMAP program. MARMAP has no stations in Buzzards Bay, but has some nearby the Bay mouth.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: March 6, 1986

1. Citation Number: 110
2. Program Title: Background Turbidity Conditions of Rhode Island Sound and Buzzards Bay.
3. Cognizant Individual: Mr. Sheldon D. Pratt
4. Address: Graduate School of Oceanography
University of Rhode Island
Narragansett, RI 02882-1197

5. Phone(s): (401) 792-6699
6. Performing Organization: Same as above

7. Address: 424 Trapelo Road
Waltham, MA

8. Phone(s): 
New England Division

10. Address: 424 Trapelo Road
Waltham, MA

11. Phone(s): 
12. Study Topic: On-going research
Lobster Landings
Toxic substances in organisms and sediments
XX Water quality and nutrient data

Code: 3

13. Study Subtopic: Water Quality and Nutrients
Code: 8


15. Program Start Date: 1973
16. Program End Date: 1975
17. Other Date Information: Data collected in Buzzards Bay on one cruise only: 10/22-23/73
18. Level of Effort:
Amount: 
Code: 

19. Program Duration:
Code: 0

20. Form of Data: Hardcopy - original analog traces and report cited above.
Code: 1

21. Data Location: Graduate School of Oceanography, URI
22. Data Availability: Program complete, data available.
Code: 2

23. Data Restrictions: Not restricted
Code: 1

24. Region of Buzzards Bay Covered: 16 stations throughout the main part of the bay.
25. Purpose of program: To collect baseline information for use in the differentiation between natural and spoil-derived turbidity.
   Code: 3

26. Program Description:
   A. Sampling Frequency One sampling only
      Code: 6
   B. Quality Assurance/Quality Control Formal written program.
      Code: 1
   C. Pollutant Source Not applicable.
      Code: 0
   D. Parameters Measured

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<td>Salinity/Conductivity</td>
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<td>0 1 2 3</td>
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<td>0 1 2 3</td>
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<tr>
<td>0 1 2 3</td>
<td>Other metals</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Other:</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The original data were collected as analog traces. The turbidity (percent transmission) data are reported as profiles in the report. Temperature and nutrient (carbon and nitrogen) data are not included in the report. The original analog traces for all data would be available to EPA if requested, but would require some searching.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale and Betsy Brown
Date: January 27, and January 30, respectively.

1. Citation Number: 65
2. Program Title: Hydrography and General Circulation in Buzzards Bay.
3. Cognizant Individual: Ms. Leslie Rosenfeld
4. Address: Physical Oceanography Department
   Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Sea Grant Program of NOAA and Andrew W. Mellon Foundation Grant to the Coastal Research Center
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 3
13. Study Subtopic: Water Quality
   Code: 6
14. Comments on the Study:
15. Program Start Date: 1982
16. Program End Date: 1983
17. Other Date Information: Data collected on four cruises at three month intervals in 1982-1983.
18. Level of Effort: Information unavailable.
   Amount: Code: 0
19. Program Duration: One year, terminated.
   Code: 0
20. Form of Data: System-dependent magnetic tape, NODC File Type. NODC Tape is available with the raw data.
   Code: 7
22. Data Availability: Available, program complete.
   Code: 2
23. **Data Restrictions:** Not restricted.  
   Code: 1

24. **Region of Buzzards Bay Covered:** Many stations throughout the Bay. Map of stations may be found in the publication cited above.

25. **Purpose of Program:** To foster understanding of fundamental processes operative in coastal areas in general, and in Buzzards Bay in specific.  
   Code: 3

26. **Program Description:**  
   **A. Sampling Frequency** Quarterly.  
   Code: 4
   **B. Quality Assurance/Quality Control** Instruments calibrated, no other QC/QD program.  
   Code: 2
   **C. Pollutant Source** Not applicable.  
   Code: 0

26. **D. Parameters Measured**  
   1 Physical Oceanography  
   1 Water Quality  
   **Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)**  
   
   0 1 2 Temperature  
   0 1 2 Salinity/Conductivity  
   0 1 2 Dissolved Oxygen  
   0 1 2 pH  
   0 1 2 Suspended Solids  
   0 1 2 Nutrients  
   0 1 2 Biological Oxygen Demand  
   0 1 2 Turbidity  
   0 1 2 Alkalinity  
   0 1 2 Chlorophyll  
   0 1 2 Other: Light transmission

1 Sediment Characteristics  
   Grain Size Distribution  
   Mineral Composition  
   Percent Organic Matter  
   Sedimentation Rate  
   Other
### Chemistry Specifics

(0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
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<td>0</td>
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<tr>
<td>0</td>
<td>PAHs</td>
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<td>0</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>Mercury</td>
</tr>
<tr>
<td>0</td>
<td>Cadmium</td>
</tr>
<tr>
<td>0</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Biology Specifics

(0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>0</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0</td>
<td>Benthos</td>
</tr>
<tr>
<td>0</td>
<td>Nekton</td>
</tr>
<tr>
<td>0</td>
<td>Birds</td>
</tr>
<tr>
<td>0</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>Parasites</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. **General Comments:** Data include vertical profiles of salinity, temperature, and density. Raw data is on NODC tape. Original data is on an HP 85 tape. NODC tape is available and includes data on conductivity, temperature, and pressure. These data were collected at each station every 0.3 m of depth. Data were converted to sigma T, salinity, and temperature and reported for each station at every one meter depth such that each point at a one meter depth interval represents an approximate average of three 0.3 m depth interval data points.
## BUZZARDS BAY INFORMATION SHEET

**Interviewer:** Judy Scanlon  
**Date:** December 8, 1985

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
<th>29</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Program Title:</td>
<td>MARMAP (Marine Monitoring Assessment And Prediction)</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Dr. Wally Smith</td>
</tr>
</tbody>
</table>
| 4. Address:         | National Oceanic and Atmospheric Administration  
|                     | National Marine Fisheries Service  
|                     | Sandy Hook, N.J. 07732 |
| 5. Phone(s):        | (201) 872-0200 |
| 6. Performing Organization: | Same as above |
| 7. Address:         | Marine Ecology Division  
|                     | Sandy Hook Laboratory  
|                     | Sandy Hook, N.J. 07732 |
| 8. Phone(s):        | Same as above |
| 9. Funding Organization: | Same as above |
| 10. Address:        | Northeast Fisheries Center  
|                     | Gloucester, MA 01930 |
| 11. Phone(s):       | XX |
| 12. Study Topic:    | On-going research  
|                     | Lobster Landings  
|                     | Toxic substances in organisms and sediments  
|                     | Water quality and nutrient data |
| 13. Study Subtopic: | Water Quality and Nutrients |
| 14. Comments on the Study: | 1977 |
| 15. Program Start Date: | On-going |
| 16. Program End Date: | On-going |
| 17. Other Date Information: | > 3 years anticipated |
| 18. Level of Effort: | Fluctuates  
| Amount:             | Approximately $2,000,000 / year |
| Code:               | 5 |
| 19. Program Duration: | On-going, > 3 years anticipated |
| Code:               | 5 |
| 20. Form of Data:   | Some in referred and gray literature,  
|                     | some in computer |
| Code:               | 1,7 |
| 21. Data Location:  | Sandy Hook Laboratory via WHOI gray VAX |
| 22. Data Availability: | Upon request |
| Code:               | 3 |
| 23. Data Restrictions: | None |
| Code:               | 1 |
| 24. Region of Buzzards Bay Covered: | Some stations may change yearly, depending on vessels used. |
| 25. Purpose of Program: | Monitoring program to study shelf ecosystem |
| Code:               | 0 |

[IV-47]
5. Program Description:
   A. Sampling Frequency  At least 6 times/year (up to 8 times/year)
      Code: 6
   B. Quality Assurance/Quality Control  Specific, but not formal
      Code: 2
   C. Pollutant Source  Unspecified
      Code: 0
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

      0 1 2  Temperature
      0 1 2  Salinity/Conductivity
      0 1 2  Dissolved Oxygen
      0 1 2  pH
      0 1 2  Suspended Solids
      0 1 2  Nutrients
      0 1 2  Biological Oxygen Demand
      0 1 2  Turbidity
      0 1 2  Alkalinity
      0 1 2  Chlorophyll
      0 1 2  Other

   1 Sediment Characteristics
      Grain Size Distribution
      Mineral Composition
      Percent Organic Matter
      Sedimentation Rate
      Other

   1 Chemistry
      Specifics (0 = unspecified, 1 = in water column, 2 = in
      sediment, 3 = in biota; if a "3" is used, the "Biology"
      section below must be completed.)

      0 1 2 3  Petroleum Hydrocarbons
      0 1 2 3  PAHs
      0 1 2 3  PCBs
      0 1 2 3  Pesticides
      0 1 2 3  Lead
      0 1 2 3  Mercury
      0 1 2 3  Cadmium
      0 1 2 3  Chromium
      0 1 2 3  Other metals
      0 1 2 3  Other
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Macrophytes</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Zooplankton</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Benthos</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Nekton</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Birds</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Parasites</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3 Other: Fish Eggs and Larvae</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The MARMAP program is part of a larger monitoring program which includes the Northeast Coast. Data being obtained from Jay O'Reilly, NMFS, NOAA, Sandy Hook, NJ.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 24, 1986

1. Citation Number: 102
2. Program Title: Cognizant
3. Cognizant Individual: Mr. Chris Taft
4. Address: Shellfish Constable
   Massachusetts Department of Natural Resources
   Marion Town Hall
   2 Spring Street
   Marion, MA 02738
5. Phone(s): (617) 748-0458
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Massachusetts Department of Natural Resources
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
   Code: 3
13. Study Subtopic: Water Quality
    Code: 6
14. Comments on the Study:
15. Program Start Date: Unknown
16. Program End Date: On-going, as needed
17. Other Date Information:
18. Level of Effort: Information unavailable
    Amount:
    Code: 0
19. Program Duration: On-going, no end date planned
    Code: 5
20. Form of Data: Hardcopy only
    Code: 1
21. Data Location: Marion Town Hall and GHR Engineering, New Bedford, MA
22. Data Availability: Program on-going, data available as collected
    Code: 3
23. Data Restrictions: Data not restricted
    Code: 1
24. Region of Buzzards Bay Covered: 5 or 6 stations in Marion Harbor
25. Purpose of Program: Test for fecal coliform during swimming months.
    Test shellfish for coliform as necessary.
    Code: 4

IV-50
26. Program Description:
   A. Sampling Frequency Monthly in the summer (coliform count in harbor water).
   Code: 3
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source Municipal discharge, animal waste
   Code: 3,7
   D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other: Fecal coliform

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other: Fecal coliform
<table>
<thead>
<tr>
<th>Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3 Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3 Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3 Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3 Benthos</td>
</tr>
<tr>
<td>0 1 2 3 Nekton</td>
</tr>
<tr>
<td>0 1 2 3 Birds</td>
</tr>
<tr>
<td>0 1 2 3 Reptiles/Mammals</td>
</tr>
<tr>
<td>0 1 2 3 Parasites</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
# BUZZARDS BAY INFORMATION SHEET

Interviewer: Tracy Stenner and Judith Gale  
Date: March 4 and 13, 1986, respectively

<p>| | |</p>
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<tbody>
<tr>
<td>1. Citation Number:</td>
<td>107</td>
</tr>
<tr>
<td>2. Program Title:</td>
<td></td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Carl Wakefield</td>
</tr>
</tbody>
</table>
| 4. Address: | Board of Health  
Wareham Town Hall  
54 Marion Road  
Wareham, MA 02571 |
| 5. Phone(s): | (617) 295-0800 |
| 6. Performing Organization: | Same as above |
| 7. Address: |   |
| 8. Phone(s): |   |
| 9. Funding Organization: | Same as above |
| 10. Address: |   |
| 11. Phone(s): |   |
| 12. Study Topic: | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data |
| Code: | 3 |
| 13. Study Subtopic: | Water quality |
| Code: | 6 |
| 14. Comments on the Study: | On-going |
| 15. Program Start Date: |   |
| 16. Program End Date: |   |
| 17. Other Date Information: |   |
| 18. Level of Effort: |   |
| Amount: |   |
| Code: |   |
| 19. Program Duration: | On-going, >3 years anticipated |
| Code: | 5 |
| 20. Form of Data: | Hardcopy only |
| Code: | 1 |
| 21. Data Location: | Wareham Board of Health |
| 22. Data Availability: | Program on-going/Data available |
| Code: | 2 |
| 23. Data Restrictions: | Not restricted |
| Code: | 1 |
| 24. Region of Buzzards Bay Covered: | Ten public beaches in the Wareham area. |
| 25. Purpose of Program: | To test beaches for coliform bacteria. |
| Code: | 4 |
| 26. Program Description: | A. Sampling Frequency Biweekly (May through September) |
| Code: | 2 |

IV-53
B. Quality Assurance/Quality Control
Code:
C. Pollutant Source Municipal discharge
Code: 3
D. Parameters Measured

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other: Coliform bacteria

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:
**Biology**

**Specifics** (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
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<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Phytoplankton/Microphytes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Macrophytes</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>Zooplankton</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Benthos</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nekton</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Birds</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
<td>0</td>
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<td>3</td>
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<td>Parasites</td>
<td>0</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other:</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. **General Comments:** The Wareham Board of Health cooperates with several local, state, and federal agencies that collect water quality coliform bacteria and data in shellfish. However, the only data the Board collects on its own are biweekly coliform bacteria counts in waters at ten public beaches in Wareham. These data are collected only during May through September, i.e., the swimming months. The untabulated data are available for public inspection.
3. WATER QUALITY AND NUTRIENTS AND TOXIC SUBSTANCES IN ORGANISMS AND SEDIMENTS
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: December 6, 1985

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
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<tbody>
<tr>
<td>2. Program Title:</td>
<td>The Anadromous Fish Dynamics Program</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Phillips Brady</td>
</tr>
<tr>
<td>4. Address:</td>
<td>Massachusetts Division of Marine Fisheries East Sandwich, MA 02537</td>
</tr>
<tr>
<td>5. Phone(s):</td>
<td>(617) 888-1155</td>
</tr>
<tr>
<td>6. Performing Organization:</td>
<td>Same as above</td>
</tr>
<tr>
<td>7. Address:</td>
<td>Same as above</td>
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<tr>
<td>8. Phone(s):</td>
<td>Same as above</td>
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<tr>
<td>9. Funding Organization:</td>
<td>Division of Marine Fisheries</td>
</tr>
<tr>
<td>10. Address:</td>
<td>Regional Office 100 Cambridge Street Boston, MA 02202</td>
</tr>
<tr>
<td>11. Phone(s):</td>
<td>(617) 727-3193</td>
</tr>
<tr>
<td>12. Study Topic:</td>
<td>On-going research Lobster Landings Toxic substances in organisms and sediments Water quality and nutrient data Other</td>
</tr>
<tr>
<td>13. Study Subtopic:</td>
<td>Code: 0,2,3</td>
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<tr>
<td>14. Comments on the Study:</td>
<td></td>
</tr>
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<td>15. Program Start Date:</td>
<td>1984</td>
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<tr>
<td>16. Program End Date:</td>
<td>On-going</td>
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<tr>
<td>17. Other Date Information:</td>
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<tr>
<td>18. Level of Effort:</td>
<td>Approximate $40,000 per year</td>
</tr>
<tr>
<td>19. Program Duration:</td>
<td>On-going, &gt;3 years anticipated</td>
</tr>
<tr>
<td>20. Form of Data:</td>
<td>Hardcopy, on computer, inhouse reports</td>
</tr>
<tr>
<td>21. Data Location:</td>
<td>Division of Marine Fisheries, East Sandwich</td>
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<tr>
<td>22. Data Availability:</td>
<td>Available with permission from Randy Fairbanks, Division of Marine Fisheries, East Sandwich</td>
</tr>
<tr>
<td>23. Data Restrictions:</td>
<td>Need permission from Randy Fairbanks, Division of Marine Fisheries, East Sandwich</td>
</tr>
<tr>
<td>24. Region of Buzzards Bay Covered:</td>
<td>Any run, stream, or river where anadromous species occur. Currently: Paskamansett River (Dartmouth) and Mattapoisett River.</td>
</tr>
<tr>
<td>25. Purpose of Program:</td>
<td>Basic research and agency mandate</td>
</tr>
<tr>
<td>26. Program Description:</td>
<td>Daily to irregularly depending on estuary</td>
</tr>
</tbody>
</table>

IV-57
B. Quality Assurance/Quality Control  Standard methods for water chemistry
   Code:  2
C. Pollutant Source  Any source depending on estuary
   Code:  0
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other: Transparency (color), Sulfates

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   XX  Other: Visual Inspection of Spawning Habitat

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 2 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals: Aluminum
   0 1 2 3  Other
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nepton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites (internal and external on fish)
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Sampling design: Varies with each system being studied.
Replication: Depends on parameter, but at least two.
Sampling technique: Cores and grabs.

27. General Comments: The Division of Marine Fisheries does the marine portion, the U.S. Fish and Wildlife does the freshwater. Mr. Brady recommends we get the Estuarine Reports from Neil Churchill, Mass. Division of Marine Fisheries, Boston Office.

Mr. Randy Fairbanks was contacted on February 28, 1986, by Judith Gale. He indicated that there would be no problem with Mr. Brady's releasing any available data on water quality in streams. Apparently it is only recently that any in-depth water quality work has been done. Prior to that the focus was on removing obstructions, building fish ladders, stocking streams, etc. He suggested we ask Mr. Brady for any data we would like to get and he can check back with Mr. Churchill if he has questions. No written permission from Mr. Churchill is needed for Mr. Brady to release any readily accessible data. Mr. Churchill did make it clear that OMF does not have staff resources to allot to analyzing existing data upon request from other organizations.

A call was also made to Mr. Brady on February 28, 1986, by Judith Gale, in which he indicated that the data are available to EPA, but at the present time they are not readily accessible. Should EPA decide that these data are important to include in the Buzzards Bay database, they can mobilize some personnel to go to Sandwich and pull the data from the various field sheets and handwritten notes on which it is recorded.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: October 30, 1985

1. Citation Number: 43
2. Program Title: PCBs in Buzzards Bay: Effects on Energetics and Reproductive Cycles of Bivalve Molluscs
3. Cognizant Individual: Dr. Judy Capuzzo
4. Address: Biology Dept.
   Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400, ext. 2557
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Sea Grant
10. Address: National Oceanic and Atmospheric Admin.
    U.S. Department of Commerce
    Washington, D.C.
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
    Code: 2, 3
13. Study Subtopic: PCBs, water quality
    Code: 2, 6
14. Comments on the Study: Dr. Capuzzo's study was part of a larger research effort to ascertain the fates of PCBs in Buzzards Bay. Conducted collaboratively with Dr. John Farrington and Dr. Bill Grant.
15. Program Start Date: July 1, 1984
16. Program End Date: June 30, 1986
17. Other Date Information:
18. Level of Effort: $67,000
    Code: 1
19. Program Duration: 2 years
    Code: 3
20. Form of Data: HP87 Floppy disks, Visicalc program
    Code: 3
21. Data Location: Dr. Judy Capuzzo
    Woods Hole Oceanographic Institution
22. Data Availability: Most of the data will be available at the end of the project on June 30, 1986. The water quality data will be made available in early March. Paper will be written by April and data will be available then.
    Code: 3
23. Data Restrictions: Not restricted
Code: 1

24. Region of Buzzards Bay Covered: Three stations were established—one suspended from the hurricane barrier in New Bedford Harbor, Cleveland Ledge, and in Nantucket Sound. The Sound station serves as a clean site for reference purposes.

25. Purpose of Program: Basic Research
Code: 0

26. Program Description:
A. Sampling Frequency Biweekly
Code: 2
B. Quality Assurance/Quality Control Only with the chemistry
Code: 3
C. Pollutant Source Industrial discharge
Code: 4
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other: Particulate carbon and nitrogen

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Analyzed respiration, feeding and assimilation efficiency of the bivalve Mytilus edulis using scope for growth methods and ambient algal populations. All measurements were taken in the field. Developed condition indices. Had 8 replicates (1 animal per replicate) per sampling time per station. Samples were taken every 2 weeks from March through December and monthly during January and February. Measured the chemical components of mussels, PCBs, stage of development of gonads. Biochemical analyses include protein, lipids by class, carbon, hydrogen, oxygen, and ash, PCBs (specific isomers and totals).

27. General Comments: Histological analyses of gonads also being conducted by Dr. Maura Tyrell. This data is not presently available.

Additional research is also being conducted on Mya arenaria to determine the incidence of disease in this species and if disease affects this species' energetics and reproduction. This work was in a proposal to NOAA and the early data is ready now.

Capuzzo currently has a proposal in to Sea Grant to study the bioavailability of PCBs and PAHs in Mercenaria mercenaria.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon  
Date: December 5, 1985

1. Citation Number: 31  
2. Program Title: Oil Spill Restoration Program  
3. Cognizant Individual: Arnie Carr  
4. Address: Massachusetts Division of Marine Fisheries  
   East Sandwich, MA 02537  
   (617) 888-1155  
5. Phone(s):  
6. Performing Organization: Same as above  
7. Address:  
8. Phone(s):  
9. Funding Organization: From out of court settlement (probably Bouchard Oil Company)  
   not known  
10. Address:  
11. Phone(s):  
12. Study Topic: On-going research  
   Lobster Landings  
   XX Toxic substances in organisms and sediments  
   XX Water quality and nutrient data  
   Other  
   Code: 2,3  
13. Study Subtopic: Hydrocarbons, water quality and nutrients  
   Code: 1,8  
14. Comments on the Study:  
15. Program Start Date: 1972  
16. Program End Date: 1975  
17. Other Date Information:  
18. Level of Effort:  
   Amount: Approximately $200,000  
   Code: 3  
19. Program Duration: 3 Years  
   Code: 0  
20. Form of Data: Hardcopy - never published  
   Code: 1  
21. Data Location: Some with A. Carr and some with M. Hickey, Massachusetts Division of Marine Fisheries, East Sandwich, MA 02537  
   Available if it can be located  
22. Data Availability: Code: 1  
23. Data Restrictions: None  
   Code: 0  
24. Region of Buzzards Bay Covered: West Falmouth Harbor to Red Brook Harbor, Bourne, MA.  
25. Purpose of Program: Monitor the effects of an oil spill on marine shellfish.  
   Code: 5  
26. Program Description:  
   A. Sampling Frequency  
   Physical monitored monthly, hydrocarbons sampled every four months.  
   Code: 6  

IV-63
B. Quality Assurance/Quality Control  Formal, written program  
Code:  1  
C. Pollutant Source  Oil spill  
Code:  6  
D. Parameters Measured  

1 Physical Oceanography  
1 Water Quality  
Specífics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)  

0 1 2  Temperature  
0 1 2  Salinity/Conductivity  
0 1 2  Dissolved Oxygen  
0 1 2  pH  
0 1 2  Suspended Solids  
0 1 2  Nutrients  
0 1 2  Biological Oxygen Demand  
0 1 2  Turbidity  
0 1 2  Alkalinity  
0 1 2  Chlorophyll, data not viable  
0 1 2  Other  

1 Sediment Characteristics  
XX  Grain Size Distribution  
Mineral Composition  
Percent Organic Matter  
Sedimentation Rate  
Other  

1 Chemistry  
Specífics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)  

0 1 2 3  Petroleum Hydrocarbons  
0 1 2 3  PAHs  
0 1 2 3  PCBs  
0 1 2 3  Pesticides  
0 1 2 3  Lead  
0 1 2 3  Mercury  
0 1 2 3  Cadmium  
0 1 2 3  Chromium  
0 1 2 3  Other metals  
0 1 2 3  Other  

IV-64
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<td>Macrophytes</td>
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<td>Zooplankton</td>
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<td>Benthos: Inventory of Shellfish</td>
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<td>Nekton</td>
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<td>Parasites</td>
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<td>Other</td>
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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Replication: 1 replicate
Sampling technique: by hand or rake for oysters, scallops, and soft shell clams.

Data reports: One progress report.

27. General Comments: Mr. Carr will try to locate the annual report and other pertinent data and give them to us. Oil spill data was received. A follow-up call on water quality data was made on 3/4/86 by Judith Gale. Mr. Carr was not able to find the water quality data, which he identified as consisting of only weekly temperature and some salinity measurements around 1970-1973. He does not think the chlorophyll data are reliable. If the data exist, they would be in the Shellfish Program. Contact Mike Hickey or Frank Germano.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: December 5, 1985

1. Citation Number: 30
2. Program Title: Shellfish Technical Assistance Program
3. Cognizant Individual: Arnie Carr / Mike Hickey
4. Address: Division of Marine Fisheries
   East Sandwich, MA 02537
5. Phone(s): (617) 727-3194 or (617) 888-1155
6. Performing Organization: Same as above
7. Address: Same as above
8. Phone(s): Same as above
   Regional Office
   Gloucester, MA 01930 and
   Massachusetts Division of Marine Fisheries
   East Sandwich, MA 02537
10. Address: Same as above
11. Phone(s): Same as above
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: Resource Management
    Code: 0, 2, 3, 4
13. Study Subtopic: Hydrocarbons, water quality
    Code: 1, 6
14. Comments on the Study: 1965 or 1966
15. Program Start Date: On-going
16. Program End Date: On-going
17. Other Date Information: 20 years
18. Level of Effort: Code: 2
   Amount: Approximately $65,000 per year
19. Program Duration: 20 years
    Code: 5
20. Form of Data: Hardcopy
    Code: 1
21. Data Location: Some filed in towns along Buzzards Bay,
   (public health agent), some in Mike Hickey's office, some in selected
   annual reports and some with Tina Davies at the Department of
   Environmental Engineering
22. Data Availability: Program on-going, data available at specific
    intervals
    Code: 3
23. Data Restrictions: None
    Code: 1
24. Region of Buzzards Bay Covered: All towns with waterfront on Buzzards
    Bay.
5. Purpose of Program: Resource management - open or close areas based on water quality determined by DEQE.

Code: 2

26. Program Description:
A. Sampling Frequency Irregularly
   Code: 6
B. Quality Assurance/Quality Control Specific but unwritten procedures
   Code: 2
C. Pollutant Source Unspecified
   Code: 0
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

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</table>

1 Sediment Characteristics

XX Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<td>PCBs</td>
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<td>Pesticides</td>
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<td>Lead</td>
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<td>Mercury</td>
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<td>Cadmium</td>
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<td>Chromium</td>
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<td>Other metals</td>
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<td>Other</td>
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</tbody>
</table>
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Carr mentioned some pesticide monitoring in the Wareham River which was done some time ago and told us to check with Jack Fiske at the Division of Marine Fisheries.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen and Betsy Brown
Date: December 27, 1985 and January 30, 1986

1. Citation Number: 32

2. Program Title: Coliforms in Buzzards Bay

3. Cognizant Individual: Tina Davies and Ann Malewicz

4. Address: Dept. of Environmental Quality Engineering (DEQE)
Southeast Regional Office
Lakeville Hospital
Main Street
Lakeville, MA 02346
(617) 947-1231

5. Phone(s):

6. Performing Organization: Shellfish Sanitation Section, DEQE

7. Address:

8. Phone(s):

9. Funding Organization: Commonwealth of Massachusetts

10. Address:

11. Phone(s):

12. Study Topic:

   XX On-going research
   Lobster Landings
   XX Toxic substances in organisms and sediments
   XX Water quality and nutrient data

Other:

Code: 0,2,3

13. Study Subtopic: Water quality
   Code: 6

14. Comments on the Study:

15. Program Start Date: 1975

16. Program End Date: On-going

17. Other Date Information:

18. Level of Effort: Unknown. Dr. Jack Delaney may have his information.

Amount:
CodE: 0

19. Program Duration: On-going
   Code: 5

20. Form of Data: Handwritten and hardcopy
   Code: 1

21. Data Location: At Lakeville Hospital with Tina Davies

22. Data Availability: Program on-going, data on hand available by appointment only. Data open to public inspection.
   Code: 3

23. Data Restrictions: Not restricted
   Code: 1
24. **Region of Buzzards Bay Covered:** For Coliforms: 54 sections of Buzzards Bay covered. For PCBs and metals: New Bedford Harbor, Clark's Cove, Taunton River Estuary, Eel Pond, Mattapoisett River

25. **Purpose of Program:** Legally mandated classification of shellfish growing areas.
   **Code:** 4

26. **Program Description:**
   - **A. Sampling Frequency** Each section sampled 3 times per year at times of adverse conditions (e.g., summer, heavy rainfalls).
     **Code:** 6
   - **B. Quality Assurance/Quality Control** Standard FDA procedures. Laboratory is U.S. FDA certified every two years. Quality controls checks on distilled water used, temperature, and bottles used. Records and logs are kept of all work.
     **Code:** 2
   - **C. Pollutant Source** Unspecified
     **Code:** 0
   - **D. Parameters Measured**
     1. **Physical Oceanography**
     1. **Water Quality**
        **Specifics** (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
        - 0 1 2 Temperature
        - 0 1 2 Salinity/Conductivity
        - 0 1 2 Dissolved Oxygen
        - 0 1 2 pH
        - 0 1 2 Suspended Solids
        - 0 1 2 Nutrients
        - 0 1 2 Biological Oxygen Demand
        - 0 1 2 Turbidity
        - 0 1 2 Alkalinity
        - 0 1 2 Chlorophyll
        - 0 1 2 Other: Coliform bacteria over shellfish beds
     1. **Sediment Characteristics**
        Grain Size Distribution
        Mineral Composition
        Percent Organic Matter
        Sedimentation Rate
        Other:
### Chemistry

**Specifics** (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<td>Other metals</td>
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<td>3</td>
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<td>Other: Aliphatic Hydrocarbons</td>
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</tbody>
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### Biology

**Specifics** (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<td>Zooplankton</td>
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<td>Benthos: Shellfish</td>
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<td>Nekton</td>
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<td>Parasites</td>
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<td>Other</td>
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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Stations are selected where impact would be greatest (e.g., at the mouth of freshwater streams, where shellfish are located, at storm drains that empty into estuaries).

Samples were collected in sterile Nalgene bottles introduced into the water upside-down, to eliminate the chance of getting surface layer, then up-ended to collect the sample. Samples are then returned to the lab on ice. Samples are always taken from the same 54 stations. Sampling is done by wading from the shore or by collecting from a boat.

Method used was the Most Probable Number (MPN) method as opposed to the Membrane Filtration (MF) method. State standard for fecal coliform in water is 14 multiple tube MPN/100 ml. State standard for total coliform in water is 70 multiple tube MPN/100 ml. State standard for fecal coliform in shellfish is 230 MPN/100 ml.
27. General Comments: The Lakeville laboratory does extractions of sediments and shellfish meat to measure paralytic shellfish poisoning, PCBs, and metals. Dr. Delaney of DEQE's Lawrence Experiment Station has the PCBs and metals data.

Linda Chandler and Ann Malewicz worked together for three weeks in the summer of 1985 characterizing Buttermilk Bay flow plumes to identify sources of pathogens, including Streptococcus. Report is due out in 1986, but data were made available by Mr. Martin Dowgert of U.S. FDA in Boston. Chandler is located at the FDA Laboratory in Davisville, RI [(401) 267-2307, 267-2342].
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Judith Gale
Date: November 19, 1985
and February 3, 1986, respectively

1. Citation Number: 15
2. Program Title: Movement of pesticide residues in water from cranberry bogs
3. Cognizant Individual: Dr. Karl H. Deubert
   University of Massachusetts Agricultural Experiment Station
4. Address: Cranberry Experiment Station
   P.O. Box 569
   East Wareham, MA 02538
   (617) 295-2212
5. Phone(s):
6. Performing Organization: Same as above
7. Address: 
8. Phone(s): 
9. Funding Organization: U.S. Department of Agriculture (Hatch funds mainly)
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 2,3
13. Study Subtopic: Pesticides
   Code: 4
14. Comments on the Study: Pesticides were only part of the study
15. Program Start Date: 1967 Several programs
16. Program End Date: 1979
17. Other Date Information: 
18. Level of Effort: Exact amounts unknown; <$50,000 per year
   Amount:
   Code: 1
19. Program Duration: Terminated, duration 12 years (several programs)
   Code: 0
20. Form of Data: Handwritten only
   Code: 1
21. Data Location: Cranberry Experiment Station
22. Data Availability: Program complete, data available
   Code: 2
23. Data Restrictions: None
   Code: 1
24. Region of Buzzards Bay Covered: Carver, MA, freshwater only.
25. **Purpose of Program:** To collect baseline data for an in-depth study on how to avoid movement of pesticides out of cranberry bogs.

   **Code:** 3

26. **Program Description:**
   
   **A. Sampling Frequency**  Weekly, Monthly or Irregularly, depending on the project.
   
   **Code:** 1,3,6

   **B. Quality Assurance/Quality Control**  Manufacturers, AOAC and EPA analytical methods

   **Code:** 1

   **C. Pollutant Source**  Pesticides used in cranberry bogs

   **Code:** 7

   **D. Parameters Measured**

   1. **Physical Oceanography**
   2. **Water Quality**

   **Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)**

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   1. **Sediment Characteristics**

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</tbody>
</table>

   - Grain Size Distribution
   - Mineral Composition
   - Percent Organic Matter
   - Sedimentation Rate
   - Other

   **IV-74**
### Chemistry Specifics

(0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Petroleum Hydrocarbons</td>
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<td>PAHs</td>
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<td>PCBs</td>
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<td>Pesticides</td>
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<td>1</td>
<td>Lead</td>
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<td>1</td>
<td>2</td>
<td>Mercury</td>
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<td>3</td>
<td>Cadmium</td>
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<td>1</td>
<td>2</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
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<td></td>
<td></td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>1</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Biology Specifics

(0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Microorganisms/Pathogens</td>
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<td></td>
<td>Phytoplankton/Microphytes</td>
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<td>Macrophytes</td>
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<td>Zooplankton</td>
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<td>Benthos</td>
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<td>Nekton</td>
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<td>Birds</td>
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<td></td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
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<td></td>
<td>Parasites</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>1</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 30, 1986

1. Citation Number: 64
2. Program Title: 1. Monitoring Outflow of Water Quality and Nutrients
                     2. Pesticides from Cranberry Bogs
3. Cognizant Individual: Mr. Lawrence W. Gil
4. Address: Division of Water Pollution Control
            Mass. Department of Environmental Quality Engineering
            Westview Building, Lyman School
            Westborough, MA 01581
5. Phone(s): (617) 366-9181
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: 
10. Address:
11. Phone(s):
12. Study Topic: On-going research
        Lobster Landings
        XX Toxic substances in organisms and sediments
        XX Water quality and nutrient data
        Other
        Code: 2,3
13. Study Subtopic: PCBs, Metals, Other Toxic Substances, Water Quality and Nutrients
    Code: 2,3,5,8
14. Comments on the Study: See list of reports
15. Program Start Date: 1971
16. Program End Date: On-going
17. Other Date Information: Cranberry bog study began in 1985 and is on-going. Water quality studies began in 1971.
18. Level of Effort: Unknown
19. Program Duration: On-going, >3 years anticipated
    Code: 5
20. Form of Data: Hardcopy only
    Code: 1
21. Data Location: Division of Water Pollution Control, Massachusetts Dept. of Environmental Quality Engineering. Raw data contained in reports listed in item 26 below.
22. Data Availability: Some programs complete and data available, others on-going with data available at specific intervals.
    Code: 2,3
23. Data Restrictions: Data not restricted
    Code: 1

IV-76
24. Region of Buzzards Bay Covered: Throughout embayments with predominance of stations on western shore of the Buzzards Bay and fewer stations on the eastern shore.

25. Purpose of Program: Establishment of baseline water quality data
Code: 3

26. Program Description:
   A. Sampling Frequency Refer to individual reports
   Code:
   B. Quality Assurance/Quality Control Not specified
   Code: 3
   C. Pollutant Source Municipal and industrial discharge
   Code: 3,4
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other: Specific gravity, Total solids, Chlorides, Chemical oxygen demand, Sulfate, Mg, Ca Coliform bacteria

   1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   XX Percent Organic Matter
   Sedimentation Rate
   Other
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Specifics</th>
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<tbody>
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<td>0</td>
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<td>2</td>
<td>3</td>
<td>Petroleum Hydrocarbons</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
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<td>PCBs</td>
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<td>Pesticides</td>
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<tr>
<td>0</td>
<td>1</td>
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<td>3</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Mercury</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Cadmium</td>
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<tr>
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<td>Chromium</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other metals: Cu, Zn, Ni, As, Fe, Mn</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
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<tr>
<td>0</td>
<td>1</td>
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<td>Microorganisms/Pathogens</td>
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<td>Phytoplankton/Microphytes</td>
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<td>Parasites</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

See specific reports listed below for exact parameters included in each study:


Massachusetts, DEQE-Div. Water Pollution Control 1978-79 Buzzards Bay; Wastewater Discharge Data: Part B. Pub. No. 11, 676-33-50-12-79-3R, DWPC, Westborough, MA.

27. General Comments: We had a discussion with Larry Gil to verify that we have identified and obtained all available DEQE data on Buzzards Bay. There is no additional available data.

Mr. Gil is currently working on the data from the water quality study done during the summer of 1985.

DEQE will be doing a study to look at the outflow from a cranberry bog draining into Buttermilk Bay (EPA Buzzards Bay Study funds). They will monitor for nutrients, pesticides, and herbicides. This project is still in the design phase and is projected for summer 1986. Outflows will be monitored during a wet weather event and under dry weather conditions.

Mr. Gil indicated that it would not be useful to contact Russell Isaac or Allan Cooperman at the Division of Water Pollution Control who were given as referrals by William Bones at the Division of Water Resources. Neither Mr. Isaac nor Mr. Cooperman are as directly involved in actual research efforts as Mr. Gil is.
Interviewer: Judith Gale  
Date: January 24, 1986

1. Citation Number: 47
2. Program Title: Site Selection and Study of Ecological Effects of Disposal of Dredged Materials in Buzzards Bay, MA
3. Cognizant Individual: Dr. Thomas Gilbert
4. Address: Chemistry Department  
Northeastern University  
Boston, MA and  
Dr. Al Barker  
Research Department  
New England Aquarium  
Central Wharf  
Boston, MA 02110
5. Phone(s): (617) 437-4505 (Gilbert) and (617) 973-5200 (Barker)
6. Performing Organization: Same as above
7. Address: 
8. Phone(s): 
9. Funding Organization: U.S. Army Corps of Engineers (ACOE)
10. Address: New England Division  
424 Trapelo Road  
Waltham, MA 02254
11. Phone(s): 
12. Study Topic: On-going research  
Lobster Landings  
XX Toxic substances in organisms and sediments  
XX Water quality and nutrient data  
Other
Code: 2,3
13. Study Subtopic: Hydrocarbons, PCBs, Metals, Water Quality, and Nutrients
Code: 1,2,3,8
14. Comments on the Study: This study was conducted twelve years ago, and Mr. Barker could not recall some information about it.
15. Program Start Date: 1973
16. Program End Date: 1973
17. Other Date Information: Data was collected May 22-May 29, 1973 only.
18. Level of Effort: Part of other work for the ACOE  
Amount: Information unavailable
Code: 0
19. Program Duration: Terminated
Code: 0
20. Form of Data: Unknown
Code: 0
21. **Data Location:** Unknown. Mr. Barker does not have the raw data. He said that it would have been released to the ACOE if requested, but he doubts that they requested it. Dr. Thomas Gilbert was contacted on Jan. 30, 1986. He indicated that the raw data may be in a file somewhere at the Aquarium, but for all intents and purposes, the only available data are those in the published report.

22. **Data Availability:** Unavailable

23. **Data Restrictions:**

24. **Region of Buzzards Bay Covered:** Throughout the main axis of the bay. A map of the stations may be found in Gilbert, T., A. Clay and A. Barker. 1973. *Site Selection and Study of Ecological Effects of Disposal of Dredged Materials in Buzzards Bay, Massachusetts*, prepared for Department of the Army, New England Division, Corps of Engineers by the Research Dept., New England Aquarium, Boston, MA.

25. **Purpose of Program:** To evaluate water quality and sediments of Buzzards Bay to assess potential ecological effects of disposal of dredged materials in the bay and factors affecting the site selection.

26. **Program Description:**

   **A. Sampling Frequency** One time sampling only
   
   **B. Quality Assurance/Quality Control** Informal program for QC of analytical chemistry (standards). No specific program for field work.
   
   **C. Pollutant Source** Dredge spoil disposal
   
   **D. Parameters Measured**

   1. **Physical Oceanography**

   2. **Water Quality**

      **Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)**

      | Code | Specific |
      |------|---------|
      | 0    | Temperature |
      | 0 1 2| Salinity/Conductivity |
      | 0 1 2| Dissolved Oxygen |
      | 0 1 2| pH |
      | 0 1 2| Suspended Solids |
      | 0 1 2| Nutrients |
      | 0 1 2| Biological Oxygen Demand |
      | 0 1 2| Turbidity |
      | 0 1 2| Alkalinity |
      | 0 1 2| Chlorophyll |
      | 0 1 2| Other: Total Coliform |

   3. **Sediment Characteristics**

      | Code | Specific |
      |------|---------|
      | XX   | Grain Size Distribution |
      | XX   | Mineral Composition |
      | XX   | Percent Organic Matter |
      |      | Sedimentation Rate |
      |      | Other |

IV-81
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Zn, Cu
0 1 2 3 Other: Sulfide, % solids, Co, Ni, As, V

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

2 General Comments: Neither Mr. Barker nor the New England Aquarium Research Department have done any other research in Buzzards Bay. He suggested WHOI and URI, but did not suggest any particular scientists there.
Interviewer: Judy Scanlon
Date: November 18, 1985

1. Citation Number: 38
2. Program Title: Analysis of PCBs & Mercury in Shellfish in New Bedford Harbor
3. Cognizant Individual: Mr. Michael Hickey
4. Address: Massachusetts Division of Marine Fisheries
   East Sandwich, MA 02537
5. Phone(s): (617) 888-4043
6. Performing Organization: Division of Marine Fisheries and Department of Environmental Quality Engineering, Ms. Tina Davies
7. Address: Lakeville Hospital
   Lakeville, MA 02346
   (617) 727-1440 ext. 680
8. Phone(s): Same as above
9. Funding Organization: Same as above
10. Address: Same as above
11. Phone(s): Same as above
12. Study Topic: XX On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    XX Water quality and nutrient data
    Other
13. Study Subtopic: PCBs and Metals
    Code: 0,2
    Code: 2,3
14. Comments on the Study:
15. Program Start Date: 1968
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
    Amount: Part of operating budget
    Code: 0
19. Program Duration: On-going since 1968
    Code: 5
20. Form of Data: Laboratory analysis sheets
    Code: 1
21. Data Location: Some at the Division of Marine Fisheries, East Sandwich, MA and some at the Department of Environmental Quality Engineering, Lakeville, MA
22. Data Availability: Most available through Mr. Michael Hickey
    Code: 3
23. Data Restrictions: None
    Code: 1
24. Region of Buzzards Bay Covered: New Bedford Harbor and Clarks Cove
25. Purpose of Program: To get data on shellfish for sanitary approval in compliance with FDA standards involving PCBs and mercury.
    Code: 4
26. Program Description:
A. **Sampling Frequency** Once every two years
   Code:  6
B. **Quality Assurance/Quality Control** No specific program
   Code:  3
C. **Pollutant Source** Industrial discharge
   Code:  4
D. **Parameters Measured**

1  **Physical Oceanography**

1  **Water Quality**
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  **Temperature**
   0 1 2  **Salinity/Conductivity**
   0 1 2  **Dissolved Oxygen**
   0 1 2  **pH**
   0 1 2  **Suspended Solids**
   0 1 2  **Nutrients**
   0 1 2  **Biological Oxygen Demand**
   0 1 2  **Turbidity**
   0 1 2  **Alkalinity**
   0 1 2  **Chlorophyll**
   0 1 2  **Other**

1  **Sediment Characteristics**
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1  **Chemistry**
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  **Petroleum Hydrocarbons**
   0 1 2 3  **PAHs**
   0 1 2 3  **PCBs**
   0 1 2 3  **Pesticides**
   0 1 2 3  **Lead**
   0 1 2 3  **Mercury**
   0 1 2 3  **Cadmium**
   0 1 2 3  **Chromium**
   0 1 2 3  **Other metals**
   0 1 2 3  **Other**

IV-84
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos: Quahogs and Oysters
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: January 31, 1986

1. Citation Number: 71
2. Program Title: Mass Balance and Flux of PCBs in Upper New Bedford Harbor
3. Cognizant Individual: Dr. Royal Nadeau
4. Address: Environmental Response Team
   U.S. Environmental Protection Agency
   Edison, NJ
5. Phone(s): (201) 321-6741
6. Performing Organization: U.S. EPA and Coast Guard
7. Address: See above
8. Phone(s): See above
9. Funding Organization: U.S. EPA and Coast Guard
10. Address: See above
11. Phone(s): See above
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: PCBs in water column
    Code: 2, 3, 4
13. Study Subtopic: PCBs and metals
    Code: 2, 3
14. Comments on the Study:
15. Program Start Date: 1/83
16. Program End Date: 1/83
17. Other Date Information:
18. Level of Effort: Information not available. Nadeau was not certain, but guessed it would be between $50,000 and $100,000.
   Amount: 
   Code: 0
19. Program Duration: Terminated, 48 hours
   Code: 0
20. Form of Data: Hardcopy, all the data is in the report.
   Code: 1
21. Data Location: Dr. Nadeau
22. Data Availability: Not available
   Code: 0
23. Data Restrictions: Restricted
   Code: 0
24. Region of Buzzards Bay Covered: Water samples taken at Upper New Bedford Harbor at the Coggleshall Bridge. A small synoptic survey of the water 1 m below the surface was conducted from Route I-195 north to the Aerovox company.
25. Purpose of Program: To develop mass balance and flux of PCBs for New Bedford Harbor
   Code: 4
**26. Program Description:**

A. **Sampling Frequency**  
Tidal cycles sampled continuously over a 48 hour period  
Code: 6

B. **Quality Assurance/Quality Control**  
QC was standard with blanks and spikes of known amounts  
Code: 2

C. **Pollutant Source**  
Industrial discharge  
Code: 4

D. **Parameters Measured**

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<thead>
<tr>
<th>1</th>
<th>Physical Oceanography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water Quality</td>
</tr>
<tr>
<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
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<td>2</td>
<td>Salinity/Conductivity</td>
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<tr>
<td>0</td>
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<td>2</td>
<td>Dissolved Oxygen</td>
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<tr>
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<td>Suspended Solids</td>
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<td>2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other: Temperature and salinity were measured throughout the water column</td>
</tr>
</tbody>
</table>

| 1 | Sediment Characteristics |

Grain Size Distribution  
Mineral Composition  
Percent Organic Matter  
Sedimentation Rate  
Other

| 1 | Chemistry |

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Petroleum Hydrocarbons</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Mercury</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Cadmium</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>
1. Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Study was conducted primarily at Coggleshall Bridge with continuous sampling over two tidal cycles. Samples of the water column were taken every five feet of depth. Measured temperature, salinity, current velocity, and direction; took plankton tows for PCBs (included detritus as well), and analyzed aqueous and particulate phases of water.

27. General Comments: Data is not available as it is now with the Enforcement and Litigation groups of EPA. Nadeau has a copy of the data. He needs to have permission from EPA to turn the data over to us.

Coast Guard office at Avery Point, CT participated in the study and did the chemical analyses. Dick Jedemack headed up the Coast Guard end of the collaboration.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Tracy Stenner
Date: March 4, 1986

1. Citation Number: 109
2. Program Title: Massachusetts Department of Environmental Quality Engineering (DEQE) Water Quality Data Collection Program
3. Cognizant Individual: Mr. Brian Nunes
4. Address: Shellfish Constable Town Hall 16 Main Street Mattapoisett, MA 02739
   Phone(s): (617) 758-3758
5. Performing Organization:
6. Address:
7. Phone(s):
8. Funding Organization:
9. Address:
10. Phone(s):
11. Study Topic:
    On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2,3
12. Study Subtopic:
    Code:
13. Comments on the Study:
14. Program Start Date: 9/26/84
15. Program End Date: present
16. Other Date Information:
17. Level of Effort: Information unavailable
   Amount:
   Code: 0
18. Program Duration: On-going
   Code: 5
19. Form of Data: Notebook from DEQE
   Code: 1
20. Data Location: Mr. Nunes has notebooks from the DEQE
21. Data Availability: On-going Program
   Code: 3
22. Data Restrictions: Data not restricted
   Code: 1
23. Region of Buzzards Bay Covered: Mattapoisett River and 7-10 other stations in that area.
24. Purpose of Program: Agency mandate
   Code: 5
25. Program Description:
   A. Sampling Frequency Monthly
   Code: 3

IV-89
B. Quality Assurance/Quality Control  Formal guidelines of the DEQE Code: 1
C. Pollutant Source
Code:
D. Parameters Measured

1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other: Total fecal coliform

1 Sediment Characteristics
   - Grain Size Distribution
   - Mineral Composition
   - Percent Organic Matter
   - Sedimentation Rate
   - Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 2 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals
   0 1 2 3  Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Nunes has total fecal coliform bacteria data as well as PCB and heavy metal data occasionally in conjunction with the DEQE. (This is not a separate data set from the DEQE). DEQE has been contacted.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 21, 1985

1. Citation Number: 12
2. Program Title: Engineering Feasibility Study of Dredging and Disposal of Highly Contaminated Sediment from the Acushnet River Estuary above Coggeshall Street Bridge
3. Cognizant Individual: Mr. Alan Randal
4. Address: U.S. Army Corps of Engineers
   424 Trapelo Road
   Waltham, MA 02254
5. Phone(s): (617) 647-8494
6. Performing Organization: U.S. Army Corps of Engineers
   Branches involved include:
   Vicksburg, MS
   Waltham, MA
   Washington, D.C.
7. Address: Same as above
8. Phone(s): 
   Ms. Jackie Prince, EPA contact
10. Address: U.S. Environmental Protection Agency
    Superfund
    J.F. Kennedy Building
    Boston, MA 02203
11. Phone(s): 
12. Study Topic: XX On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    XX Water quality and nutrient data
    Other
13. Study Subtopic: PCBs, Metals, Water Quality
    Code: 2,3,6
14. Comments on the Study: For more information call: Norman Francigues, U.S. Army Corps of Engineers, Waterways Experiment Station, P.O. Box 631, Vicksburg, Miss. 39180, [(601) 634-3703]. Mr. Francigues is the coordinator for this work.
15. Program Start Date: August 19, 1985
16. Program End Date: Projected for May 19, 1987
17. Other Date Information: Program scheduled to be 18 months long after funding begins.
18. Level of Effort: Amount: $1,600,000
    Code: 5
19. Program Duration: 18 months
    Code: 2
20. Form of Data: Hardcopy, preliminary data
    Code: 1
21. Data Location: Waltham, MA and Barre Falls Dam, Hubbardston, MA
22. Data Availability: Available at specific intervals
   Code: 3
23. Data Restrictions: None
   Code: 3
24. Region of Buzzards Bay Covered: Acushnet River Estuary above Coggeshell Street Bridge
25. Purpose of Program: To study the impact of the disposal site and to characterize the sediments to determine the types of dredging equipment needed.
26. Program Description: On-going (preliminary sampling done in August, 1985); expected duration is 18 months after full funding is received.
   A. Sampling Frequency One preliminary sampling done in August 1985 (150 push tubes). Composite samples will be taken later for leachate testing. Hydraulic testing is planned. Modeling portion (design of program) is still being worked out. To avoid duplication, U.S. Army Corps of Engineers met with Battelle Pacific Northwest.
   Code: 3
   B. Quality Assurance/Quality Control Not specified
      Code: 3
   C. Pollutant Source Industrial Discharge
      Code: 4
   D. Parameters Measured

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<tr>
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<th>Physical Oceanography</th>
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<td>1</td>
<td>2</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
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<td>2</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>pH</td>
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<td>2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Nutrients</td>
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<tr>
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<td>Biological Oxygen Demand</td>
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<td>Turbidity</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>Alkalinity</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>0</th>
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<th>Sediment Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>XX</td>
<td>Grain Size Distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XX</td>
<td>Mineral Composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XX</td>
<td>Percent Organic Matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XX</td>
<td>Sedimentation Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XX</td>
<td>Other: Moisture content, Atterberg limits, specific gravity.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1 Chemistry Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
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<th>1</th>
<th>2</th>
<th>3</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>Petroleum Hydrocarbons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>PAHs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>PCBs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Pesticides</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Mercury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Cadmium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Chromium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Other metals: Cu, Ni, Zn, Arsenic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Other: Oil and grease</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Microorganisms/Pathogens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Phytoplankton/Microphytes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Macrophytes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Zooplankton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Benthos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Nekton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Reptiles/Mammals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Parasites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Other: EPA in Narragansett will do bioassays in support of litigation which is not part of this program.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g. Sampling design, replication, sampling techniques, data reports)

27. General Comments: Some components of this study, such as hydraulic testing, are still being developed.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 53
2. Program Title: City of New Bedford: Section 301(h) Applications for Modification of Secondary Treatment Requirements for Discharges into Marine Waters, 1979 and 1983.
3. Cognizant Individual: Dr. Myron Rosenberg
4. Address: Camp, Dresser and McKee, Inc.
   1 Center Plaza
   Boston, MA 02108
5. Phone(s): (617) 742-5151
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: City of New Bedford, MA.
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2,3
13. Study Subtopic: Hydrocarbons, PCBs, Metals, Pesticides, Water Quality
    Code: 1,2,3,4,6
14. Comments on the Study: Relevant reports:
15. Program Start Date:
16. Program End Date:
17. Other Date Information: Two sampling programs conducted, one in 1979 and one in 1983.
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Hardcopy
   Code: 1
21. Data Location:
22. Data Availability:
   Program complete, data available
   Code: 2
23. Data Restrictions:
   Data not restricted
   Code: 1
24. Region of Buzzards Bay Covered: New Bedford coastal waters
25. Purpose of Program: Data to support NPDES permit waiver application
   Code: 1
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control Formal written program, as
      specified by 301(h) application requirements
      Code: 1
   C. Pollutant Source Municipal discharge
      Code: 3
   D. Parameters Measured
      1 Physical Oceanography
      1 Water Quality
         Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
         0 1 2 Temperature
         0 1 2 Salinity/Conductivity
         0 1 2 Dissolved Oxygen
         0 1 2 pH
         0 1 2 Suspended Solids
         0 1 2 Nutrients
         0 1 2 Biological Oxygen Demand
         0 1 2 Turbidity
         0 1 2 Alkalinity
         0 1 2 Chlorophyll
         0 1 2 Other: Coliform bacteria
   Sediment Characteristics
      Grain Size Distribution
      Mineral Composition
      Percent Organic Matter
      Sedimentation Rate
      Other
IV-96
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Trace metals
0 1 2 3 Other:

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: CDM has been involved in two sets of 301(h) waiver of secondary treatment applications (1979 and 1983) for New Bedford. The raw data collected are located in the appendices of the applications and is public record.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: October 31, 1985

1. Citation Number: 111
2. Program Title:
3. Cognizant Individual: Dr. John Teal
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    XX Water quality and nutrient data
    Other:

   Code: 2,3
13. Study Subtopic: Code:
14. Comments on the Study: Dr. Teal has conducted a wide range of projects along the coast of Buzzards Bay. Most of his work is synthesized in publications. Dr. Teal's work has often been conducted in collaboration with his colleagues or his students. These studies are not all discretely different and the funding sources for each of them has often been numerous. Therefore, discerning which data sets should be collected is difficult at best.
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
B. Quality Assurance/Quality Control
Code:
C. Pollutant Source
Code:
D. Parameters Measured

1. Physical Oceanography
   1. Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
      - 0 1 2  Temperature
      - 0 1 2  Salinity/Conductivity
      - 0 1 2  Dissolved Oxygen
      - 0 1 2  pH
      - 0 1 2  Suspended Solids
      - 0 1 2  Nutrients
      - 0 1 2  Biological Oxygen Demand
      - 0 1 2  Turbidity
      - 0 1 2  Alkalinity
      - 0 1 2  Chlorophyll
      - 0 1 2  Other:

1. Sediment Characteristics
   - Grain Size Distribution
   - Mineral Composition
   - Percent Organic Matter
   - Sedimentation Rate
   - Other:

1. Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   - 0 1 2 3  Petroleum Hydrocarbons
   - 0 1 2 3  PAHs
   - 0 1 2 3  PCBs
   - 0 1 2 3  Pesticides
   - 0 1 2 3  Lead
   - 0 1 2 3  Mercury
   - 0 1 2 3  Cadmium
   - 0 1 2 3  Chromium
   - 0 1 2 3  Other metals
   - 0 1 2 3  Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Microorganisms/Pathogens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Phytoplankton/Microphytes</td>
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<tr>
<td>0</td>
<td>Macrophytes</td>
<td></td>
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<tr>
<td>0</td>
<td>Zooplankton</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0</td>
<td>Benthos</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0</td>
<td>Nekton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Birds</td>
<td></td>
<td></td>
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<td>0</td>
<td>Reptiles/Mammals</td>
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<tr>
<td>0</td>
<td>Other:</td>
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</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: Feb. 4, 1986

1. Citation Number: 91
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Ivan Valiela
4. Address: Boston University Marine Program
   Marine Biological Laboratory
   Woods Hole, MA 02543
   (617) 548-3705
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2,3
13. Study Subtopic:
    Code:
14. Comments on the Study: Dr. Valiela has conducted a wide range of projects along the coast of Buzzards Bay. Most of his work is synthesized in publications. Dr. Valiela indicated that his work has often been conducted in collaboration with his colleagues or his students. These studies are not all discretely different and the funding sources for each of them has often been numerous. Therefore, discerning which data sets should be collected is difficult at best. A further problem is that the data will take days to find once the sets to collect are identified.
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:

IV-101
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other:

   1 Sediment Characteristics

      Grain Size Distribution
      Mineral Composition
      Percent Organic Matter
      Sedimentation Rate
      Other:

   1 Chemistry
      Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

      0 1 2 3 Petroleum Hydrocarbons
      0 1 2 3 PAHs
      0 1 2 3 PCBs
      0 1 2 3 Pesticides
      0 1 2 3 Lead
      0 1 2 3 Mercury
      0 1 2 3 Cadmium
      0 1 2 3 Chromium
      0 1 2 3 Other metals
      0 1 2 3 Other:
### Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
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<th>1</th>
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<th>3</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
<td>Macrophytes</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0</td>
<td>Benthos</td>
<td>Nekton</td>
<td>Birds</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>Parasites</td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)**

27. General Comments:
4. TOXIC SUBSTANCES IN ORGANISMS AND SEDIMENTS
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: December 13, 1985

1. Citation Number: 36
2. Program Title: Distribution of Toxic Dinoflagellate Gonyaulax tamarensis in the Southern New England Region
3. Cognizant Individual: Dr. Donald Anderson
4. Address: Biology Department
   Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400, ext. 2351
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: National Oceanic and Atmospheric Administration,
   International Copper Research Association and Woods Hole Oceanographic Institution
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
   Code: 2
13. Study Subtopic: Other toxic substances
   Code: 5
14. Comments on the Study:
15. Program Start Date: July, 1979
16. Program End Date: March, 1980
17. Other Date Information: The survey regarding the location of organisms has been terminated.
18. Level of Effort:
   Amount: $ 80,000 - 90,000
   Code: 2
19. Program Duration: Buzzards Bay focus terminated after one
   Code: 0
20. Form of Data: Hardcopy
   Code: 1
21. Data Location: WHOI, Dr. Anderson's office.
22. Data Availability: Available
   Code: 2
23. Data Restrictions: None
   Code: 0
24. Region of Buzzards Bay Covered: 30-35 Stations - Embayments i
    Falmouth; along the coast west of Falmouth around Buzzards Bay the
    Rhode Island border.
25. Purpose of Program: Basic research and baseline data collection to provide baseline population distribution to the north and south of toxic dinoflagellate proven southern limit (Massachusetts) against which future spreading can be assessed. Code:

26. Program Description:
A. Sampling Frequency Irregular Code: 6
B. Quality Assurance/Quality Control No formal program Code: 3
C. Pollutant Source The toxic dinoflagellate cells themselves are the toxic substance. Code: 7
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Over a two day period, 30-35 stations were sampled once. Sampling was done by a plankton net, "vacuuming" with a hose connected to a bilge pump, Van Veen grab sampler, or box corer. Sampling method varied with depth of water, ease of boat access and sediment type.

27. General Comments: The major program on toxic dinoflagellate is on-going, but the Buzzards Bay component has been terminated.

The raw data has been collected for two levels: 1) the general geographic area and 2) the specific sampling sites within a given geographic area.

Relevant publication:

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: November 25, 1985

1. Citation Number: 44
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Jelle Atema
4. Address: Boston University Marine Program
              Marine Biological Laboratory
              Woods Hole, MA 02543
              (617) 548-3705
5. Phone(s):
6. Performing Organization: 
7. Address: 
8. Phone(s):
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
               Lobster Landings
               Toxic substances in organisms and sediments
               Water quality and nutrient data
               Other
               Code: 2
13. Study Subtopic: Hydrocarbons, Drilling muds
    Code: 1,5
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: 
    Amount: 
    Code: 
19. Program Duration: 
    Code: 
20. Form of Data: 
    Code: 
21. Data Location: 
22. Data Availability: 
    Code: 
23. Data Restrictions: 
    Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program: 
    Code: 
26. Program Description: 
    A. Sampling Frequency 
    Code: 
    B. Quality Assurance/Quality Control 
    Code: 
    C. Pollutant Source 
    Code: 

IV-108
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

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1 Sediment Characteristics

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1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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</table>
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Jelle Atema has not measured toxic substances in lobsters from Buzzards Bay per se. His research involved laboratory studies evaluating the effects of No. 2 fuel oil and drilling muds on chemoreception and behavior of lobsters. The research and data sets will not be included in the program because they do not help in characterizing Buzzards Bay.
1. Citation Number: 77
2. Program Title: Collection of Bivalve Molluscs and Surficial Sediments, and Performance of Analyses for Organic Chemicals and Toxic Trace Elements
3. Cognizant Individual: Dr. Paul Boehm
4. Address: Battelle New England Marine Research Laboratory 397 Washington Street Duxbury, MA 02332
5. Phone(s): (617) 934-5682
6. Performing Organization: Battelle for Buzzards Bay component
7. Address: See above
8. Phone(s): 
10. Address: 6010 Executive Boulevard Rockville, MD 20852
11. Phone(s): (301) 443-8655
12. Study Topic: On-going research
   Lobster Landings
   XX Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 2
13. Study Subtopic: Hydrocarbons, PCBs, Metals, Pesticides, Other Toxic Compounds
   Code: 1,2,3,4,5
14. Comments on the Study: 
15. Program Start Date: 1986
16. Program End Date: 1990
17. Other Date Information: 
18. Level of Effort: $6,200,000
   Amount: $1,240,000/year
   Code: 5
19. Program Duration: Ongoing, 5 years
   Code: 5
20. Form of Data: Magnetic Tape, NOAA will put the data in NODC format
   Code: 7
21. Data Location: Battelle
22. Data Availability: Permission needed from John Calder at NOAA
   Code: 
23. Data Restrictions: Code: 
24. Region of Buzzards Bay Covered: Samples will be collected in three places in Buzzards Bay: Coxeen's Ledge at the mouth of the Bay, Round Hill Point near New Bedford and at the entrance to the Outer Harbor, and Point Connet near Mattapoisett.
25. Purpose of Program: Baseline data collection, agency mandate  
Code: 3,4

26. Program Description:  
A. Sampling Frequency Yearly  
Code: 5
B. Quality Assurance/Quality Control Formal, written program  
Code: 1
C. Pollutant Source Unspecified  
Code: 0
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

XX Grain Size Distribution
Mineral Composition
XX Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Mn, Fe, Ni, Cu, Zn, As, Se, Sn, Sb, Ag, Tl
0 1 2 3 Other: Al%, Si%, coprostanol
### Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. **General Comments:** The program has just begun and the methods and sampling are currently being finalized.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 7, 1985

1. Citation Number: 4
2. Program Title: PCB Monitoring in New Bedford Harbor
3. Cognizant Individual: Mr. Leigh Bridges
4. Address: Mass. Division of Marine Fisheries (DMF)
   100 Cambridge Street
   Boston, MA 02134
5. Phone(s): (617) 727-3193
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Commonwealth of Massachusetts
10. Address:
11. Phone(s):
12. Study Topic: XX On-going research
   Lobster Landings
   XX Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:
   Code: 0,2
13. Study Subtopic: PCBs
   Code: 2
14. Comments on the Study:
15. Program Start Date: 1977
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort: Part of DMF operating budget
   Amount:
   Code: 0
19. Program Duration: On-going, >3 years anticipated
   Code: 5
20. Form of Data: Hardcopy, some on Metcalf & Eddy tape
   Code: 1
21. Data Location: Mr. Leigh Bridges
22. Data Availability: Available
   Code: 3
23. Data Restrictions: Data not restricted
   Code: 1
24. Region of Buzzards Bay Covered: New Bedford Harbor
25. Purpose of Program: To monitor levels of PCBs in marine organisms for public health and marine resource information.
   Code 1,4
26. Program Description:
   A. Sampling Frequency 1980-present, biannually. Prior to 1980, irregularly
   Code: 6

IV-114
B. Quality Assurance/Quality Control Intercalibration of samples between the Jamaica Plain U.S. Food and Drug Administration Laboratory and the Mass. Dept. of Environmental Quality Engineering Laboratory
Code: 1

C. Pollutant Source Industrial wastes
Code: 4

D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

- 0 1 2 Temperature
- 0 1 2 Salinity/Conductivity
- 0 1 2 Dissolved Oxygen
- 0 1 2 pH
- 0 1 2 Suspended Solids
- 0 1 2 Nutrients
- 0 1 2 Biological Oxygen Demand
- 0 1 2 Turbidity
- 0 1 2 Alkalinity
- 0 1 2 Chlorophyll
- 0 1 2 Other:

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

- 0 1 2 3 Petroleum Hydrocarbons
- 0 1 2 3 PAHs
- 0 1 2 3 PCBs
- 0 1 2 3 Pesticides
- 0 1 2 3 Lead
- 0 1 2 3 Mercury
- 0 1 2 3 Cadmium
- 0 1 2 3 Chromium
- 0 1 2 3 Other metals
- 0 1 2 3 Other:
1. Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>Level</th>
<th>Microorganisms/Pathogens</th>
<th>Phytoplankton/Microphytes</th>
<th>Macrophytes</th>
<th>Zooplankton</th>
<th>Benthos</th>
<th>Nekton</th>
<th>Birds</th>
<th>Reptiles/Mammals</th>
<th>Parasites</th>
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</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Study results broken into two parts: 1) unpublished manuscript by Kolek and Ceurvels containing PCB body burden data for several marine vertebrates and invertebrates for the period 1977 to 1980 and 2) one data sheet with PCB body burden data for lobsters for the period from 1980 to 1985. U.S. EPA Region I has recently awarded Mr. Bridges a contract to continue his research in Buzzards Bay monitoring levels of PCBs in finfish and shellfish.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: Feb. 21, 1986

1. Citation Number: 93
2. Program Title: Influence of Colloidal Organic Matter on the Distribution of PCBs
3. Cognizant Individual: Mr. Bruce Brownawell
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
5. Phone(s): (617) 548-1400, ext. 2347
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: XX On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
   Code: 0,2
13. Study Subtopic: PCBs
   Code: 2
14. Comments on the Study: Mr. Brownawell is a graduate student at the Woods Hole Oceanographic Institution. His dissertation work will be complete by June 1986.
15. Program Start Date:
16. Program End Date: Anticipated: June 1986
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data: Gas capillary chromatograms which include the area of the peaks, but not the concentrations of PCBs.
    Remaining data is on graph paper and in notebooks. Best source of data will be in the dissertation when it is complete. Two publications are available. Mr. Brownawell has provided them.
   Code: 1
21. Data Location: Mr. Brownawell, Woods Hole, MA
22. Data Availability: Program on-going, data will be available in the dissertation when it is complete.
   Code: 3
23. Data Restrictions: None, once the dissertation is available
   Code: 1
24. Region of Buzzards Bay Covered: 3 stations - one in each of New Bedford Inner and Outer Harbor and in the main part of Buzzards Bay.
25. Purpose of Program: Basic Research
   Code: 0

IV-117
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control Formal, written procedure
      Code: 3
   C. Pollutant Source Industrial discharge
      Code: 4
   D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in
   sediment, 3 = in biota; if a "3" is used, the
   "Biology" section below must be completed.)
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
<td>Macrophytes</td>
<td>Zooplankton</td>
<td>Benthos</td>
</tr>
</tbody>
</table>

27. General Comments:
BUZZARDS BAY INTERVIEW

Interviewer: Betsy Brown
Date: October 30, 1985

1. Citation Number: 42
2. Program Title: Predicting Pollution Effects on Marine Zooplankton Populations: Field and Laboratory Assessments of the Effects of Lipophilic Contaminants on Zooplankton Energetics
3. Cognizant Individual: Dr. Judy Capuzzo
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: NOAA/OAD
10. Address: Rockville, MD
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 2
13. Study Subtopic: PCBs
   Code: 2
14. Comments on the Study:
15. Program Start Date: Fall 1983
16. Program End Date: November 1985
17. Other Date Information:
18. Level of Effort:
   Amount: $80,000 per year
   Code: 2
19. Program Duration: Terminated, 2 years
   Code: 0
20. Form of Data: Hardcopy and floppy disk
   Code: 1,3
21. Data Location: Dr. Judy Capuzzo
22. Data Availability: Data will be available after end of program and after they have been published.
   Code: 3
23. Data Restrictions: Not restricted
   Code: 0
25. Purpose of Program: To examine accumulation of PCBs in zooplankton (specifically Acartia tonsa). Was part of a study to develop methods for analysis of lipophilic contamination and to model zooplankton energetics.
   Code: 0

IV-120
6. Program Description:
   A. Sampling Frequency  Monthly when *Acartia tonsa* was present.
       Code: 6
   B. Quality Assurance/Quality Control  Only for Farrington's PCBs
       analysis and for bioassays
       Code: 3
   C. Pollutant Source  Industrial discharge
       Code: 4
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
       Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

       0 1 2  Temperature
       0 1 2  Salinity/Conductivity
       0 1 2  Dissolved Oxygen
       0 1 2  pH
       0 1 2  Suspended Solids
       0 1 2  Nutrients
       0 1 2  Biological Oxygen Demand
       0 1 2  Turbidity
       0 1 2  Alkalinity
       0 1 2  Chlorophyll
       0 1 2  Other

   1 Sediment Characteristics

       Grain Size Distribution
       Mineral Composition
       Percent Organic Matter
       Sedimentation Rate

   1 Chemistry
       Specifics (0 = unspecified, 1 = in water column, 2 = in
       sediment, 3 = in biota; if a "3" is used, the
       "Biology" section below must be completed.)

       0 1 2 3  Petroleum Hydrocarbons
       0 1 2 3  PAHs
       0 1 2 3  PCBs
       0 1 2 3  Pesticides
       0 1 2 3  Lead
       0 1 2 3  Mercury
       0 1 2 3  Cadmium
       0 1 2 3  Chromium
       0 1 2 3  Other metals
       0 1 2 3  Other

IV-121
Dr. Capuzzo conducted an analysis of reproductive effects of PCBs on and body burdens in zooplankton (mainly Acartia tonsa). In the laboratory, she measured respiration and reproductive effects (i.e., egg production). There were eight replicates for all treatments and experiments ran for about 45 days, i.e., long enough for production of two generations. Respiration was measured using a microoxygen electrode (methods have been published about the microrespirometer in Water Research in 1976). Dr. Capuzzo used a modified microoxygen electrode. Lipids were measured using methods in a paper in Comparative Biochemistry and Physiology. Lipid analyses were conducted on adult copepods and related to effects of PCB contaminated resuspended sediments on egg production. PCB content of zooplankton was assayed by Farrington's group.

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: January 31, 1986

1. Citation Number: 72
2. Program Title:
3. Cognizant Individual: Mr. Michael Carroll
4. Address: U.S. Army Corps of Engineers
   424 Trapelo Road
   Waltham, MA
   (617) 647-8793
5. Phone(s):
6. Performing Organization: U.S. Army Corps of Engineers
7. Address: See above
8. Phone(s):
10. Address: See above
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other: Bulk sediment data
   Code: 2,4
13. Study Subtopic: Metals, oil and grease
   Code: 1,3
14. Comments on the Study: See interview with Forrest Knowles.
   Carroll was called to obtain permission to get the 1971 and 1972
   data on New Bedford Harbor Navigation project. Permission was
   obtained and Knowles will send the data.
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:

IV-123
C. Pollutant Source
Code:

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
1 Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other

   Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Carroll indicated that the U.S. ACOE also has data on the gate pockets in the channel. He said these are not characteristic of the Harbor because they represent stagnant areas where the gate wheels have disintegrated and probably have high concentrations of metals. The data was sent to Battelle along with the New Bedford Harbor data.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 19, 1985

1. Citation Number: 13
2. Program Title: Maintenance Dredging
3. Cognizant Individual: Brian Condike
4. Address:
   U.S. Army Corps of Engineers (ACOE)
   Barre Falls Dam Water Quality Laboratory
   RFD 1
   Hubbardston, MA 01452-9743
   (617) 752-1095
5. Phone(s):
6. Performing Organization: U.S. Army Corps of Engineers
7. Address:
   424 Trapelo Road
   Waltham, MA 02254
   (617) 647-8494
8. Phone(s):
10. Address:
    Waltham, MA
11. Phone(s):
12. Study Topic: XX On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
    Code: 0, 2
13. Study Subtopic: Hydrocarbons, PCBs, Metals, Other Toxic Substances, & Water Quality and Nutrients
    Code: 1, 2, 3, 5, 8
14. Comments on the Study: Condike conducts most of the hands-on laboratory work. (Data obtained from Mr. Knowles in Waltham. See Information Sheet for Mr. Knowles).
15. Program Start Date: 1975
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
    Amount: Unknown
    Code: 0
19. Program Duration: On-going, > 3 years anticipated
    Code: 5
20. Form of Data: Hardcopy
    Code: 1
21. Data Location:
22. Data Availability:
    Forrest Knowles, ACOE, Waltham, MA
    Code: 3
23. Data Restrictions: Not restricted
    Code: 1
24. Region of Buzzards Bay Covered:
25. Purpose of Program: Testing of sediments for navigation projects
    Code:
26. Program Description:
A. Sampling Frequency  Only when dredging is done
   Code:  6
B. Quality Assurance/Quality Control  No specific program
   Code:  2
C. Pollutant Source  Unspecified, not applicable
   Code:  0
D. Parameters Measured

1  Physical Oceanography
1  Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0  1  2  Temperature
0  1  2  Salinity/Conductivity
0  1  2  Dissolved Oxygen
0  1  2  pH
0  1  2  Suspended Solids
0  1  2  Nutrients
0  1  2  Biological Oxygen Demand
0  1  2  Turbidity
0  1  2  Alkalinity
0  1  2  Chlorophyll
0  1  2  Other: Chemical oxygen demand

1  Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other: Hydrometer tests

1  Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0  1  2  3  Petroleum Hydrocarbons
0  1  2  3  PAHs
0  1  2  3  PCBs
0  1  2  3  Pesticides
0  1  2  3  Lead
0  1  2  3  Mercury
0  1  2  3  Cadmium
0  1  2  3  Chromium
0  1  2  3  Other metals:
0  1  2  3  Other

IV-127
Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
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<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
<td>Macrophytes</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>Benthos</td>
<td>Nekton</td>
<td>Birds</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>Parasites</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The information sheet for Forrest Knowles has the complete listing of types of data collected.
Interviewer: Betsy Brown  
Date: January 31, 1986

1. Citation Number: 73
2. Program Title: 
3. Cognizant Individual: Dr. Jack Delaney
4. Address: Lawrence Experiment Station  
Dept. of Environmental Quality Engineering  
Lawrence, MA
5. Phone(s):  
6. Performing Organization: Two DEQE laboratories, Lawrence Experiment  
Station and Southeast Regional Office
7. Address: See address above as well as Tina Davies  
Interview
8. Phone(s): 
9. Funding Organization: DEQE - see above addresses
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research  
Lobster Landings  
XX Toxic substances in organisms and sediments  
Water quality and nutrient data  
Other
   Code: 2
13. Study Subtopic: PCBs, metals  
   Code: 2,3
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort:  
   Amount:  
   Code: 
19. Program Duration:  
   Code: 
20. Form of Data:  
   Code: 
21. Data Location:  
   Code: 
22. Data Availability:  
   Code: 
23. Data Restrictions:  
   Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program:  
   Code: 
26. Program Description:  
   A. Sampling Frequency  
      Code: 
   B. Quality Assurance/Quality Control  
      Code: 

IV-129
C. Pollutant Source
Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Davies conducts research on PCBs and metals in shellfish meats. Analyses were conducted in Dr. Delaney's laboratory. Delaney suggested we talk to Ken Hume about the metals and Robert Serabien or Ray Donalan about the PCBs. Joe O'Brien is another potential contact. Most of the information about the program is available in Tina Davies' reports.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 5, 1986

1. Citation Number: 81
2. Program Title: PCB Residues in *Mercenaria mercenaria* from New Bedford Harbor, 1978
3. Cognizant Individual: Dr. Karl H. Deubert
4. Address: University of Massachusetts Cranberry Experiment Station East Wareham, MA 02538
5. Phone(s): (617) 295-2212
6. Performing Organization: Same as above and Mass. Division of Marine Fisheries

7. Address: East Sandwich, MA 02537
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   **XX** Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:

   Code: 2
13. Study Subtopic: PCBs
    Code: 2
15. Program Start Date: 1976
16. Program End Date: 1979
17. Other Date Information:
18. Level of Effort: Information unavailable
   Amount:
   Code: 0
19. Program Duration: Terminated, three year duration
   Code: 0
20. Form of Data: Unknown
   Code: 0
21. Data Location: Unknown
22. Data Availability: Not available
   Code: 0
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered: Six locations in outer New Bedford Harbor

IV-132
25. **Purpose of Program:** To determine PCB levels in quahogs from outer New Bedford Harbor two years after discharge of PCBs in plant effluents were ordered eliminated. Depuration study under field conditions was included to determine the rate of decline of high residue levels over one year in contaminated quahogs transplanted to areas with no detectable contamination.

Code: 2

26. **Program Description:**

A. **Sampling Frequency** Two sampling times

Code: 6

B. **Quality Assurance/Quality Control** Not specified

Code: 3

C. **Pollutant Source** Industrial discharge

Code: 4

D. **Parameters Measured**

1. **Physical Oceanography**

2. **Water Quality**

   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Temperature</td>
</tr>
<tr>
<td>1</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
<td>2</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>pH</td>
</tr>
<tr>
<td>1</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>2</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>1</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>1</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>2</td>
<td>Other:</td>
</tr>
</tbody>
</table>

1. **Sediment Characteristics**

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1. **Chemistry**

   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Specific</th>
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<tbody>
<tr>
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<tr>
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<td>PCBs</td>
</tr>
<tr>
<td>3</td>
<td>Pesticides</td>
</tr>
<tr>
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<td>Lead</td>
</tr>
<tr>
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<td>Mercury</td>
</tr>
<tr>
<td>2</td>
<td>Cadmium</td>
</tr>
<tr>
<td>3</td>
<td>Chromium</td>
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<tr>
<td>0</td>
<td>Other metals</td>
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<td>1</td>
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</tr>
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### Biology Specifics

(0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>Microorganisms/Pathogens</th>
<th>Phytoplankton/Microphytes</th>
<th>Macrophytes</th>
<th>Zooplankton</th>
<th>Benthos</th>
<th>Nekton</th>
<th>Birds</th>
<th>Reptiles/Mammals</th>
<th>Parasites</th>
<th>Other</th>
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</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
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<tr>
<th></th>
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<tbody>
<tr>
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<td>98</td>
</tr>
<tr>
<td>2. Program Title:</td>
<td></td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Mr. Ray Donalson</td>
</tr>
</tbody>
</table>
| 4. Address: | Lawrence Experiment Station  
Dept. of Environmental Quality Engineering  
Lawrence, MA  
(617) 682-5237 |
| 5. Phone(s): |   |
| 6. Performing Organization: | Same as above |
| 7. Address: |   |
| 8. Phone(s): |   |
| 9. Funding Organization: |   |
| 10. Address: |   |
| 11. Phone(s): |   |
| 12. Study Topic: | On-going research  
Lobster Landings  
XX Toxic substances in organisms and sediments  
Water quality and nutrient data  
Other: |
| 13. Study Subtopic: | Metals |
| Code: | 2 |
| 14. Comments on the Study: |   |
| 15. Program Start Date: | Unknown |
| 16. Program End Date: | 1971 |
| 17. Other Date Information: |   |
| 18. Level of Effort: |   |
| Amount: |   |
| Code: |   |
| 19. Program Duration: |   |
| Code: |   |
| 20. Form of Data: |   |
| Code: |   |
| 21. Data Location: |   |
| Code: |   |
| 22. Data Availability: |   |
| Code: |   |
| 23. Data Restrictions: |   |
| Code: |   |
| 24. Region of Buzzards Bay Covered: |   |
| 25. Purpose of Program: |   |
| Code: |   |
| 26. Program Description: |   |
| A. Sampling Frequency |   |
| Code: |   |
| B. Quality Assurance/Quality Control |   |
| Code: |   |
| C. Pollutant Source |   |
| Code: |   |
D. Parameters Measured

1 Physical Oceanography

<table>
<thead>
<tr>
<th>Water Quality</th>
<th>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>0 1 2</td>
</tr>
<tr>
<td>pH</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Nutrients</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Other:</td>
<td>0 1 2</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 Chemistry

<table>
<thead>
<tr>
<th>Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>PAHs</td>
</tr>
<tr>
<td>PCBs</td>
</tr>
<tr>
<td>Pesticides</td>
</tr>
<tr>
<td>Lead</td>
</tr>
<tr>
<td>Mercury</td>
</tr>
<tr>
<td>Cadmium</td>
</tr>
<tr>
<td>Chromium</td>
</tr>
<tr>
<td>Other metals</td>
</tr>
<tr>
<td>Other:</td>
</tr>
</tbody>
</table>
1  Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other:

   Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Martin Dowgert of the U.S. Food and Drug Administration indicated that a 1971 study was conducted by the Department of Environmental Quality Engineering (DEQE) on levels of metals and organic compounds (presumably hydrocarbons) in shellfish. Mr. Donalson was called because he is in charge of metal analyses at the Lawrence Experiment Station for DEQE. Mr. Donalson sent a report but no data relevant to Buzzards Bay was included.
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Betsy Brown  
**Date:** Feb. 21, 1986

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
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<tbody>
<tr>
<td>2. Program Title:</td>
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<tr>
<td>3. Cognizant Individual:</td>
<td>Ms. Mary Beth Downing</td>
</tr>
</tbody>
</table>
| 4. Address:          | U.S. Environmental Protection Agency  
                        | 11th Floor, McCormack Building  
                        | Boston, MA |
| 5. Phone(s):         | (617) 223-1155 |
| 6. Performing Organization: |    |
| 7. Address:          |    |
| 8. Phone(s):         |    |
| 9. Funding Organization: |    |
| 10. Address:         |    |
| 11. Phone(s):        |    |
| 12. Study Topic:     | On-going research  
                        | Lobster Landings  
                        | Toxic substances in organisms and sediments  
                        | Water quality and nutrient data  
                        | Other: |
| Code:                | 2  |
| 13. Study Subtopic:  | PCBs, metals  
                        | Code: 2,3 |
| 14. Comments on the Study: |    |
| 15. Program Start Date: |    |
| 16. Program End Date: |    |
| 17. Other Date Information: |    |
| 18. Level of Effort:  | Amount: Code: |
| 19. Program Duration: | Code: |
| 20. Form of Data:    | Code: |
| 21. Data Location:   | Code: |
| 22. Data Availability: | Code: |
| 23. Data Restrictions: | Code: |
| 24. Region of Buzzards Bay Covered: |    |
| 25. Purpose of Program: | Code: |
| 26. Program Description: | A. Sampling Frequency  
                        | Code: |
|                        | B. Quality Assurance/Quality Control  
                        | Code: |
|                        | C. Pollutant Source  
                        | Code: |
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:
27. General Comments: Ms. Downing is involved in the New Bedford Harbor court case between the U.S. EPA and the industrial dischargers. She has access to the microfilms collected in the litigation branch and agreed to assist Battelle with accessing the data. She indicated it would be possible to make a hardcopy of the microfilms of interest. Ms. Downing also indicated that Mr. Thomas Eldridge, a paralegal for Massachusetts, might know more than she does about what is in the files. His phone is (617) 727-2340. Betsy Brown visited Ms. Downing at the U.S. Dept. of Justice and received a printout of most of the materials in the Justice Dept. records collected from John Farrington. Much of it is letters and memos. Bruce Tripp suggested at this point that it would be most efficient to obtain his data table and review Farrington's published works and not bother any further with the Justice Department's collections of information.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: January 27, 1986

1. Citation Number: 112
2. Program Title: Cognizant
3. Cognizant Individual: Dr. John Farrington
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2
13. Study Subtopic: Hydrocarbons, PCBs
    Code: 1,2
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:

IV-141
D. Parameters Measured

1 Physical Oceanography
1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
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<tbody>
<tr>
<td>0</td>
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<td>Temperature</td>
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<td>Salinity/Conductivity</td>
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<td>1</td>
<td>2</td>
<td>Dissolved Oxygen</td>
</tr>
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<td>2</td>
<td>pH</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Turbidity</td>
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<td>0</td>
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<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other:</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<th>3</th>
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<td>PCBs</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>Pesticides</td>
</tr>
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<td>2</td>
<td>3</td>
<td>Lead</td>
</tr>
<tr>
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<td>2</td>
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<td>3</td>
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</tr>
<tr>
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<td>2</td>
<td>3</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other:</td>
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</tbody>
</table>
27. General Comments: John Farrington has conducted numerous studies in Buzzards Bay on toxic substances in organisms and in sediments. He has contributed a great deal of his data to EPA already as part of the New Bedford Harbor litigation. Recently, persons from the U.S. EPA litigation group visited his laboratory and xeroxed all of his notebooks. Dr. Farrington has agreed to provide any publications or reports that we might request, but refuses to provide any more data. He indicated that taking his raw data without interpretation is meaningless and that he is quite willing to assist with such interpretation if EPA is willing to fund him to do so.

I discussed this problem with Bruce Tripp, who indicated that the best sources of information for John Farrington's data are 1) his publications in the Buzzards Bay Bibliography and 2) a table which contains all the relevant data from Farrington's laboratory up to 1983. Bruce Tripp has agreed to send this table to us.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 20, 1986

1. Citation Number: 92
2. Program Title: 
3. Cognizant Individual: Mr. Tom Fitzgerald
4. Address: GCA
   5 Middlesex Road
   Somerville, MA 02150
   (617) 776-5400
5. Phone(s):
6. Performing Organization: 
7. Address: 
8. Phone(s):
9. Funding Organization: EPA Superfund, Region I
10. Address: J.F. Kennedy Building
    Boston, MA 02203
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2
13. Study Subtopic: PCBs, metals
    Code: 2,3
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort:
    Amount:
    Code: 
19. Program Duration:
    Code: 
20. Form of Data:
    Code: 
21. Data Location:
    Code: 
22. Data Availability:
    Code: 
23. Data Restrictions:
    Code: 
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code: 
26. Program Description:
    A. Sampling Frequency
    Code: 
    B. Quality Assurance/Quality Control
    Code: 
    C. Pollutant Source
    Code: 

IV-144
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
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<tr>
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<td>2</td>
<td>Dissolved Oxygen</td>
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<td>1</td>
<td>2</td>
<td>pH</td>
</tr>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>Suspended Solids</td>
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<td>2</td>
<td>Nutrients</td>
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<tr>
<td>0</td>
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<td>2</td>
<td>Biological Oxygen Demand</td>
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<td>1</td>
<td>2</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
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<td>2</td>
<td>Alkalinity</td>
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<tr>
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<td>1</td>
<td>2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other:</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
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<th>1</th>
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<td>Petroleum Hydrocarbons</td>
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<td>2</td>
<td>3</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
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<td>3</td>
<td>PCBs</td>
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<td>Chromium</td>
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<td>2</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other:</td>
</tr>
</tbody>
</table>
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Fitzgerald is information scientist in charge of the data management end of work with the Metcalf and Eddy tape on New Bedford Harbor. Mr. Fitzgerald indicated that the data GCA works with is not on a PC-XT and has been corrected. Apparently, Metcalf and Eddy made a number of inputting errors while creating the data tape and GCA has gone back to the original data, found the mistakes, and made the corrections. Mr. Nick Pangaro at GCA is conducting the environmental assessment of the Metcalf and Eddy tape and will have the list of references of what data sets are on the tape.
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Betsy Brown  
**Date:** November 1985

1. **Citation Number:** 39  
2. **Program Title:** Uptake and Remobilization of Heavy Metals in a Salt Marsh
3. **Cognizant Individual:** Dr. Anne E. Giblin  
4. **Address:** Ecosystems Center  
   Marine Biological Laboratory  
   Woods Hole, MA 02543  
   (617) 548-3705
5. **Phone(s):**
6. **Performing Organization:** Ph.D. Dissertation, most funding was bootlegged from an NSF grant and a Sea Grant project.
7. **Address:**
8. **Phone(s):**
9. **Funding Organization:**
10. **Address:**
11. **Phone(s):**
12. **Study Topic:** On-going research  
   Lobster Landings  
   Toxic substances in organisms and sediments  
   Water quality and nutrient data  
   Other
   **Code:** 2
13. **Study Subtopic:** Metals  
   **Code:** 3
14. **Comments on the Study:** Breteler did the Hg analysis
15. **Program Start Date:** September 1976 - Samples were available back to 1974, but her program began in 1976.
16. **Program End Date:** December 1980
17. **Other Date Information:**
18. **Level of Effort**  
   **Amount:** Less than $50,000 total  
   **Code:** 1
19. **Program Duration:** Terminated, 4 years  
   **Code:** 0
20. **Form of Data:** Mostly hardcopy, some was on computer cards and PDP11 tapes that have been discarded since the publication went out. (Only the pore water data was on the PDP11 and that tape has been thrown out.) The best source of the data is the manuscript and the dissertation. The manuscript is the best source for pore water data because the constants used to calculate them have been revised since the dissertation was produced.  
   **Code:** 1
21. **Data Location:** Dr. Anne Giblin  
   Address above
22. Data Availability: Program complete, data that is around is available.
   Code: 2
23. Data Restrictions: None
   Code: 1
25. Purpose of Program: Basic research to determine which metals are biologically available to organisms. The effects of metals on plant production were analyzed. Uptake by animals was measured. Studied bacterial resistance to metals in terms of oxygen uptake. Emphasis was on fates, uptake and remobilization of metals.
   Code: 0
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control Used Bureau of Standards reference materials including bovine cow liver and orchard leaves. Added spikes to unknowns (internal standards). Intercalibrated with George Luther. Porewater checks as well.
      Code: 1
   C. Pollutant Source Composted sludge that was either Tree and Turf from Chicago or Malorganite from Milwaukee.
      Code: 7
   D. Parameters Measured
      1 Physical Oceanography
      1 Water Quality
         Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
         
         0 1 2 Temperature
         0 1 2 Salinity/Conductivity
         0 1 2 Dissolved Oxygen
         0 1 2 pH
         0 1 2 Suspended Solids
         0 1 2 Nutrients
         0 1 2 Biological Oxygen Demand
         0 1 2 Turbidity
         0 1 2 Alkalinity
         0 1 2 Chlorophyll
         0 1 2 Other: Pore water chemistry and nutrients were sampled.
      1 Sediment Characteristics
         Grain Size Distribution
         Mineral Composition
         Percent Organic Matter
         Sedimentation Rate
         Other
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Mn, Fe, Cu, Zn
0 1 2 3 Other

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other: Organisms tested were Spartina alterniflora, mussels (Geukenia demissa) and fiddler crabs. A small amount of work was done with Spartina patens and Distichlis spicata. Some work done with bacteria.

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Raw data is in her dissertation.

27. General Comments: Anne indicated that Dave Rudnick is now doing a study on remineralization and decomposition rates in sediments in Buzzards Bay. Some of his work is on nutrients.
Interviewer: Betsy Brown
Date: February 3, 1986

1. Citation Number: 75
2. Program Title: Effects of the grounding of the barge, Florida, off West Falmouth, MA
3. Cognizant Individual: Dr. J. Frederick Grassle
   Woods Hole Oceanographic Institution
4. Address: Woods Hole, MA 02543
5. Phone(s): (617) 548-1400
6. Performing Organization: See above
7. Address:
8. Phone(s):
9. Funding Organization: Federal Water Pollution Control Association,
   U.S. Environmental Protection Agency,
   Massachusetts Division of Water Pollution Control
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
    Code: 2
13. Study Subtopic: Hydrocarbons
    Code: 1
14. Comments on the Study: Relevant publication: Sanders, H.L.; J.F.
    Grassle, G.R. Hampson, L.S. Morse, S. Garner-Price and C.C. Jones.
    1980. Anatomy of an oil spill; long-term effects from the grounding
    38: 265-380.
15. Program Start Date: September 1969
16. Program End Date: December 1974
17. Other Date Information: End date of program is an estimate
18. Level of Effort: Unknown
   Code: 0
19. Program Duration: Terminated, approximately five years
   Code: 0
20. Form of Data: Hardcopy, magnetic tape for biology.
    Sediment data is located in the publication.
    Code: 1,8
21. Data Location: Data is in two places. Fred Grassle has a full set of the data in hardcopy that is the most current including name changes of species. Dr. Grassle has provided the hardcopy. There is also a data tape at WHOI that can be copied by EPA. Note: If the tape is copied by EPA, it should be checked for accuracy against Grassle's hardcopy. EPA will need to pay a person at the computer center to find the tape.
Data Availability: Program complete, data available  
Code: 2

Data Restrictions: None  
Code: 1

Region of Buzzards Bay Covered: West Falmouth, MA. Stations located from Wild Harbor River south to Sippiwissett Marsh.

Purpose of Program: To assess long-term effects of oil spilled during the grounding of the barge Florida on September 19, 1969.  
Code: 5

Program Description:

A. Sampling Frequency Stations sampled at various times throughout each year of the program.  
Code: 6

B. Quality Assurance/Quality Control No specific program  
Code: 3

C. Pollutant Source Oil spill  
Code: 6

D. Parameters Measured

1. Physical Oceanography
2. Water Quality

<table>
<thead>
<tr>
<th>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2</td>
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<td>0 1 2</td>
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</tr>
<tr>
<td>0 1 2</td>
</tr>
<tr>
<td>0 1 2</td>
</tr>
</tbody>
</table>

3. Sediment Characteristics

<table>
<thead>
<tr>
<th>XX</th>
<th>Grain Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mineral Composition</td>
</tr>
<tr>
<td></td>
<td>Percent Organic Matter</td>
</tr>
<tr>
<td></td>
<td>Sedimentation Rate</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>

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1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>
| 0 | 0 | 0 | 0 | Petroleum Hydrocarbons
| 0 | 1 | 2 | 3 | PAHs
| 0 | 1 | 2 | 3 | PCBs
| 0 | 1 | 2 | 3 | Pesticides
| 0 | 1 | 2 | 3 | Lead
| 0 | 1 | 2 | 3 | Mercury
| 0 | 1 | 2 | 3 | Cadmium
| 0 | 1 | 2 | 3 | Chromium
| 0 | 1 | 2 | 3 | Other metals
| 0 | 1 | 2 | 3 | Other

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
</table>
| 0 | 0 | 0 | 0 | Microorganisms/Pathogens
| 0 | 1 | 2 | 3 | Phytoplankton/Microphytes
| 0 | 1 | 2 | 3 | Macrophytes
| 0 | 1 | 2 | 3 | Zooplankton
| 0 | 1 | 2 | 3 | Benthos
| 0 | 1 | 2 | 3 | Nekton
| 0 | 1 | 2 | 3 | Birds
| 0 | 1 | 2 | 3 | Reptiles/Mammals
| 0 | 1 | 2 | 3 | Parasites
| 0 | 1 | 2 | 3 | Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Benthic samples were taken at 15 stations from September 1969, through early 1973. These stations were sampled at different times of the year and with different frequencies. Grain size, biological communities, and hydrocarbons were analyzed.

27. General Comments: This data set is valuable because it has the most complete information on response of benthic communities to the West Falmouth oil spill. The data is interpreted in the publication cited above.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: October 30, 1985

1. Citation Number: 1
2. Program Title: Genetic Variability of Capitella capitata in Relation to the West Falmouth Oil Spill
3. Cognizant Individual: Dr. Judith Grassle
4. Address: Marine Biological Laboratory
   Woods Hole, MA 02543
5. Phone(s): (617) 548-3705
6. Performing Organization: None
7. Address: Phone(s): None
8. Phone(s): None
9. Funding Organization: None
10. Address: Phone(s): None
11. Phone(s): None
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2
13. Study Subtopic: Hydrocarbons
    Code: 1
14. Comments on the Study:
15. Program Start Date: Specimens were collected in 1969 right after the West Falmouth oil spill.
16. Program End Date:
17. Other Date Information: Specimens were collected in 1969 by Fred Grassle and frozen. Judy Grassle worked the samples up between 1972 and 1974.
18. Level of Effort: No funding
    Amount: 0
    Code: 1
19. Program Duration: 5 years (2 actual)
    Code: 0
20. Form of Data: Hardcopy, tables
    Code: 1
21. Data Location: Dr. Judith Grassle
22. Data Availability: Dr. Grassle could make the raw data available only with considerable effort on her part to get the data ready from her notebooks. She does not know when she would have time for this.
    Code: 1
23. Data Restrictions: None
    Code: 0
24. Region of Buzzards Bay Covered: Four stations located in Wild Harbor; three intertidal and one subtidal at a 3 m depth. Three offshore stations at 7, 10 and 13 m depths.

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25. Purpose of Program: Basic research
Code: 0

26. Program Description:
A. Sampling Frequency: Irregularly
Code: 6
B. Quality Assurance/Quality Control: No specific program
Code: 3
C. Pollutant Source: Oil spill
Code: 6

D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

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1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Field Methods: Benthic community analyses were conducted. For these, a 1/130 meter square corer was used to sample the intertidal stations. Subtidal stations were sampled with a 1/25 meter square van Veen grab. All samples were sorted with a 0.297 mm standard mesh screen, preserved in 5% formalin and transferred to 80% ethanol after 24 hours of preservation.

A recolonization experiment was run using azoic sediments from an unoiled area. A one meter square box of sediment was placed at sediment level intertidally in May 1970 and sampled over time. Several 1/4 meter square boxes were also placed at this same site and at Great Sippewisset Marsh in June 1970.

Laboratory Methods: Samples of Capitella capitata were collected on the estuary in December 1969, July 1970, and April 1971; in the Wild Harbor in July and August 1970; and in the Great Sippewisset Marsh in August 1970. Samples of 26-163 worms were sorted alive, homogenized, and electrophoresed. Standard techniques of vertical starch gel electrophoresis were used to study protein polymorphism at 2 malate dehydrogenase loci.

27. General Comments:
To determine the degree of genetic variability in the species Capitella capitata. The work was completed before Judy and Fred Grassle had established their sibling species concept and it was thought that genetic variability would be reduced by the oil spill.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Citation Number:</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>2. Program Title:</strong></td>
<td>Life Table Analyses of Two Species of Capitella from New Bedford Harbor, MA</td>
</tr>
<tr>
<td><strong>3. Cognizant Individual:</strong></td>
<td>Dr. Judy Grassle</td>
</tr>
<tr>
<td><strong>4. Address:</strong></td>
<td>Marine Biological Laboratory, Woods Hole, MA 02543</td>
</tr>
<tr>
<td><strong>5. Phone(s):</strong></td>
<td>(617) 548-3705</td>
</tr>
<tr>
<td><strong>6. Performing Organization:</strong></td>
<td>Woods Hole Oceanographic Institution</td>
</tr>
<tr>
<td><strong>7. Address:</strong></td>
<td>Same as above</td>
</tr>
<tr>
<td><strong>8. Phone(s):</strong></td>
<td>Same as above</td>
</tr>
<tr>
<td><strong>9. Funding Organization:</strong></td>
<td>NOAA/OMPA, Doug Wolff (NOAA Contact)</td>
</tr>
<tr>
<td><strong>10. Address:</strong></td>
<td>Stony Brook, NY</td>
</tr>
<tr>
<td><strong>11. Phone(s):</strong></td>
<td></td>
</tr>
<tr>
<td><strong>12. Study Topic:</strong></td>
<td>On-going research Lobster Landings Toxic substances in organisms and sediments Water quality and nutrient data Other</td>
</tr>
<tr>
<td><strong>13. Study Subtopic:</strong></td>
<td>PCBs</td>
</tr>
<tr>
<td><strong>14. Comments on the Study:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>15. Program Start Date:</strong></td>
<td>1982</td>
</tr>
<tr>
<td><strong>16. Program End Date:</strong></td>
<td>1983</td>
</tr>
<tr>
<td><strong>17. Other Date Information:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>18. Level of Effort:</strong></td>
<td>Unavailable</td>
</tr>
<tr>
<td><strong>19. Program Duration:</strong></td>
<td>2 years</td>
</tr>
<tr>
<td><strong>20. Form of Data:</strong></td>
<td>Hardcopy</td>
</tr>
<tr>
<td><strong>21. Data Location:</strong></td>
<td>Dr. Judy Grassle</td>
</tr>
<tr>
<td><strong>22. Data Availability:</strong></td>
<td>Not available at present, permission needed from Dr. John Farrington, WHOI, for information on PCBs. Judy Grassle's report is available.</td>
</tr>
<tr>
<td><strong>23. Data Restrictions:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>24. Region of Buzzards Bay Covered:</strong></td>
<td>Inner and Outer New Bedford Harbor</td>
</tr>
<tr>
<td><strong>25. Purpose of Program:</strong></td>
<td>Basic research</td>
</tr>
<tr>
<td><strong>26. Program Description:</strong></td>
<td>A. Sampling Frequency  Seasonally except monthly near the storm drain by Cuttyhunk Ferry. Samples there for more than two years.</td>
</tr>
</tbody>
</table>

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B. Quality Assurance/Quality Control
Only a formal program for the chemical aspects of this study.
Code: 3

C. Pollutant Source
Industrial discharge.
Code: 4

D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics
XX Grain Size Distribution (only for one set of samples)
Mineral Composition
Percent Organic Matter
Sedimentation Rate
XX Other: Carbon, Hydrogen, Nitrogen

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Not specified.
0 1 2 3 Other: Capitella fecal pellets were also measured for levels of these contaminants.
Dr. Grassle's research was part of a larger study of toxic pollutants in sediments and organisms in New Bedford Harbor. Her research entailed conducting life table analyses of two species of Capitella that cooccur in the New Bedford Harbor region. She conducted this work with three different sediment conditions: (1) clean, (2) with PCBs added, and (3) with Inner New Bedford Harbor sediments. There were three replicates for each treatment and two temperatures were used for Capitella sp. II: 15°C and 20°C; used one temperature for Capitella sp. I: 15°C. At the end of each experiment the following were measured: number of eggs per worm, mortality rates, time to maturity, viability, and number of broods. John Farrington measured amounts of PCBs and metals in the two Capitella species, their fecal pellets and in the sediments. Nine stations were initially established. Samples were taken initially to look for dense populations of Capitella in order to collect specimens for these studies. No consistent sampling was done spatially.

27. General Comments: Dr. Grassle has a report which she has agreed to make available.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: December 9, 1985

1. Citation Number: 23
2. Program Title: Analysis of PCB in Striped Bass in Buzzards Bay
3. Cognizant Individual: Dr. Robert Griffith
4. Address: Southeastern Massachusetts University
   North Dartmouth, Ma 02714
   (617) 636-3769
5. Phone(s): Same as above
6. Performing Organization: Southeastern Massachusetts University in cooperation with the Massachusetts Division Marine Fisheries
7. Address: Same as above
8. Phone(s): Same as above
9. Funding Organization: None yet- possibly EPA or Lloyd Center
10. Address: Same as above
11. Phone(s): Same as above
12. Study Topic: On-going research
    XX Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other
    Code: 0,2
3. Study Subtopic: PCBs
    Code: 2
14. Comments on the Study: None
15. Program Start Date: November 15, 1985
16. Program End Date: None
17. Other Date Information: None
18. Level of Effort: None yet
    Amount: None yet
    Code: 0
19. Program Duration: 2 years anticipated
    Code: 3
20. Form of Data: None yet, expected hardcopy and computer
    Code: 0
21. Data Location: Southeastern Massachusetts University
22. Data Availability: When generated
    Code: 3
23. Data Restrictions: None
    Code: 1
24. Region of Buzzards Bay Covered: New Bedford Harbor to Gooseberry Point
25. Purpose of Program: To determine if PCBs can be used to determine the stock origin.
    Code: 0,3
26. Program Description:
    A. Sampling Frequency 3 times per year - spring, summer, fall
    Code: 4
    B. Quality Assurance/QualityControl Using PCB analysis methods as developed by Farrington or Koleck.
    Code: 2

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C. Pollutant Source Variable, mostly industrial and municipal

Code: 3,4

D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Specifics</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>Temperature</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Salinity/Conductivity</td>
</tr>
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<td>0</td>
<td>1</td>
<td>Dissolved Oxygen</td>
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<tr>
<td>0</td>
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<td>pH</td>
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<tr>
<td>0</td>
<td>2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Turbidity</td>
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<td>0</td>
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<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Specifics</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Pesticides</td>
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<tr>
<td>0</td>
<td>2</td>
<td>Lead</td>
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<tr>
<td>0</td>
<td>2</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Sampling: Not established yet.
Replication: Fillets from both sides of the fish, still working on procedures.
Sampling technique: Gill net.

27. General Comments: This program just started and the procedures are not fully established. Dr. Griffith is supervising this project for his graduate student Tom Rusek. Dr. Griffith hopes for future funding and hopes to branch out into other organisms. Suggested we call Dr. Stegeman at Woods Hole Oceanographic Institution who might have done some work in the Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown  
Date: January 8, 1986

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
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<tbody>
<tr>
<td>2. Program Title:</td>
<td>Forrest Knowles</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Forrest Knowles</td>
</tr>
</tbody>
</table>
| 4. Address: | Army Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02254  
(617) 647-8793 |
| 5. Phone(s): | Same as above |
| 6. Performing Organization: | Same as above |
| 7. Address: | Same as above |
| 8. Phone(s): | Same as above |
| 9. Funding Organization: | Same as above |
| 10. Address: | Same as above |
| 11. Phone(s): | Same as above |
| 12. Study Topic: | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
Other: Bulk sediment data, elutriate testing |
| Code: | 0,2,4 |
| 13. Study Subtopic: | Oil and Grease, Metals |
| Code: | 1,3 |
| 14. Comments on the Study: | |
| 15. Program Start Date: | 1971 |
| 16. Program End Date: | On-going |
| 17. Other Date Information: | |
| 18. Level of Effort: | Information not available |
| Amount: | |
| Code: | 0 |
| 19. Program Duration: | Ongoing, > 3 years anticipated |
| Code: | 5 |
| 20. Form of Data: | Magnetic Tape |
| Code: | 8 |
| 21. Data Location: | U.S. Army Corps of Engineers  
424 Trapelo Road  
Waltham, MA 02254 |
| 22. Data Availability: | Program on-going, available as generated |
| Code: | 3 |
| 23. Data Restrictions: | None |
| Code: | 1 |
| 24. Region of Buzzards Bay Covered: | Cuttyhunk, Woods Hole Channel,  
Buttermilk Bay, New Bedford Harbor, Slocums River, Canapisit Channel, Cape Cod Canal |
| 25. Purpose of Program: | Sampling and testing of marine and estuarine sediments from U.S. Army Corps of Engineers navigation projects. |
| Code: | 4 |

IV-162
26. Program Description:
A. Sampling Frequency Depends on the geographic area being sampled. Specifics can be found in the data. Usually one to three times and usually on a basis of once per year.
Code: 6
B. Quality Assurance/Quality Control None specified
Code: 3
C. Pollutant Source For navigation projects.
Code: 5
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

XX Grain Size Distribution
Mineral Composition
XX Percent Organic Matter
Sedimentation Rate
XX Other: Numerous parameters, see below under "Other factors"

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals: Arsenic, Bismuth, Cu, I, Ni, P, Ag, Tin, Vanadium, Zn
0 1 2 3 Other: Radioactivity (mr/hr), Carbon 14 (yrs)
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
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<td>Phytoplankton/Microphytes</td>
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<td></td>
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</tr>
<tr>
<td>Macrophytes</td>
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<tr>
<td>Zooplankton</td>
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<td></td>
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<tr>
<td>Benthos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nekton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parasites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Other factors measured include:
- Sample depth (ft)
- Latitude, Longitude,
- Co-ordinate location - North, Co-ordinate location - East
- Sounding, Reduced Sounding-MLW
- Date, Hour
- Weather, Sea State
- Secchi Disc: Black & White
- Visual Classification by Laboratory
- Soil Classification
- Grain Size
- Sorting Coefficient
- Liquid and Plastic Limits
- Plastic Index
- Specific Gravity, Wet and Dry Weights
- Percent Solids
- Sediment pH and Redox Potential
- Percent Volume of Solids
- PPM Chemical Oxygen Demand
- PPM Total Kjeldahl Nitrogen
- PPM Oil and Grease
- PPM Hg, Pb, Zn, Arsenic, Bismuth, Cd, Cr, Cu, I, Ni, P, Ag, Tin, Vanadium
- Percent Carbon (organic, carbonate, total), Hydrogen and Nitrogen
- PPM Benzene
- PPB DDT
- PPB PCBs
- Carbon 14 (Yrs)
- Radioactivity (mr/hr)

The methods are described in the 1980 "Environmental Atlas of New England Channel and Harbor Bottom Sediments." The only changes in methods from those indicated in the Atlas is that oil and grease are now measured by infrared rather than gravimetric methods. No bioassays or elutriate testing have been done for Buzzards Bay sediments.
27. General Comments: The types of tests made are considered on a case by case basis. The value of these programs is that they are consistent within one laboratory and techniques do not vary.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 28, 1986

1. Citation Number: 83
3. Cognizant Individual: Mr. Andrew Kolek
4. Address: Mass. Division of Marine Fisheries
   Sandwich, MA
5. Phone(s): (617) 888-4043
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Same as above
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:

   Code: 2
13. Study Subtopic: PCBs
    Code: 2
14. Comments on the Study:
15. Program Start Date: Sept. 1976
16. Program End Date: 1980
17. Other Date Information: Samples collected 1976-1980
18. Level of Effort: Information unavailable
   Amount: Code: 0
19. Program Duration: Terminated, four year duration
   Code: 0
20. Form of Data: Publication
   Code: 1
21. Data Location: Mass. Division of Marine Fisheries
   Publication No. 12851-36-125-6-82-C.R.
22. Data Availability: Program complete, data available
   Code: 2
23. Data Restrictions: Data not restricted
   Code: 1

IV-166
25. Purpose of Program: To provide data to other government agencies, such as the Mass. Dept. of Public Health, on PCB content of finfish, shellfish and crustaceans in New Bedford area waters.
Code: 3

26. Program Description:
A. Sampling Frequency Irregularly
Code: 6

B. Quality Assurance/Quality Control Analyses for PCBs were performed following the FDA procedure found in Pesticide Analytical Manual. Volume 1, Section 212.13a. The three laboratories also split and analyzed six samples as a means of comparing instruments and techniques.
Code: 1

C. Pollutant Source Municipal discharge, Industrial discharge
Code: 3,4

D. Parameters Measured
1 Physical Oceanography
1 Water Quality
  Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
  0 1 2 Temperature
  0 1 2 Salinity/Conductivity
  0 1 2 Dissolved Oxygen
  0 1 2 pH
  0 1 2 Suspended Solids
  0 1 2 Nutrients
  0 1 2 Biological Oxygen Demand
  0 1 2 Turbidity
  0 1 2 Alkalinity
  0 1 2 Chlorophyll
  0 1 2 Other:

1 Sediment Characteristics
  Grain Size Distribution
  Mineral Composition
  Percent Organic Matter
  Sedimentation Rate
  Other:

1 Chemistry
  Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
  0 1 2 3 Petroleum Hydrocarbons
  0 1 2 3 PAHs
  0 1 2 3 PCBs
  0 1 2 3 Pesticides
  0 1 2 3 Lead
  0 1 2 3 Mercury
  0 1 2 3 Cadmium
  0 1 2 3 Chromium
  0 1 2 3 Other metals
  0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
Interviewer: R.A. McGrath  
Date: December 10, 1985

1. Citation Number:  26
2. Program Title:  Body Burdens of PCBs and Metals in Winter Flounder and Lobster
3. Cognizant Individual:  Richard A. McGrath
4. Address:  Battelle New England  
397 Washington Street  
Duxbury, MA 02332
(617) 934-5682
5. Phone(s):  
6. Performing Organization:  Same as above
7. Address:  
8. Phone(s):  Same as above
10. Address:  J.F. Kennedy Building  
Boston, MA 02212
(617) 223-1448
11. Phone(s):  
12. Study Topic:  XX  
On-going research  
Lobster Landings  
XX  Toxic substances in organisms and sediments  
Water quality and nutrient data  
Other

Code:  0,4

13. Study Subtopic:  PCBs, metals
Code:  2,3

14. Comments on the Study:  
15. Program Start Date:  November 1, 1985
16. Program End Date:  May 30, 1986
17. Other Date Information:  
18. Level of Effort:  
Amount:  $150,000
Code:  3
19. Program Duration:  1 year
Code:  2
20. Form of Data:  Hardcopy
Code:  1
21. Data Location:  Battelle, Duxbury, MA
22. Data Availability:  Program on-going, data available at specific intervals
Code:  3
23. Data Restrictions:  Data not yet available
Code:  0
24. Region of Buzzards Bay Covered:  New Bedford Harbor and adjacent areas of Buzzards Bay.
25. Purpose of Program:  Baseline data collection
Code:  3
26. Program Description:  
A. Sampling Frequency  Irregularly
Code:  6
B. Quality Assurance/Quality Control  Formal, written program
   Code:  1
C. Pollutant Source  Industrial discharge
   Code:  4
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals: Cu
   0 1 2 3 Other

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<table>
<thead>
<tr>
<th>Biology Specifics</th>
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<tbody>
<tr>
<td>(0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</td>
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<tr>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>Macrophytes</td>
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<td>Zooplankton</td>
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<tr>
<td>Benthos</td>
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<td>Nekton</td>
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<tr>
<td>Birds</td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>Parasites</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Determination of body burdens of PCBs (4 pseudoisomers) and 3 heavy metals (Pb, Cd, Cu) in edible tissues of winter flounder and lobster from 4 areas in New Bedford harbor and adjacent Buzzards Bay.

27. **General Comments:** This study is being performed in conjunction with the New Bedford Harbor Superfund RI/FS which will develop similar data for whole body burdens for these species.
Interviewer: R.A. McGrath  
Date: December 10, 1985

1. Citation Number: 27
2. Program Title: Modeling of the Transport, Distribution, and Fate of PCBs and Heavy Metals in the Acushnet River/New Bedford Harbor/Buzzards Bay System
3. Cognizant Individual: Richard A. McGrath
4. Address: Battelle New England  
397 Washington Street  
Duxbury, MA 02332
5. Phone(s): (617) 934-5682
7. Address: Same as above
8. Phone(s): Same as above
9. Funding Organization: EPA-Superfund / NUS Corporation
10. Address: Cliff Mine Road  
Park West Two  
Pittsburgh, PA 15275  
(412) 788-1080
11. Phone(s): 
12. Study Topic: XX On-going research  
Lobster Landings
XX Toxic substances in organisms and sediments
Water quality and nutrient data
Other
13. Study Subtopic: PCBs, metals
14. Comments on the Study: Superfund RI/FS Program
15. Program Start Date: August 1, 1984
16. Program End Date: January 1, 1987 (estimated)
17. Other Date Information: 
18. Level of Effort: 
Amount: $1,800,000
Code: 4
19. Program Duration: 2.5 years
Code: 3,4
20. Form of Data: 
DM database
Code: 8
21. Data Location: Battelle, Duxbury, MA
22. Data Availability: Program on-going, data available at specific intervals
Code: 3
23. Data Restrictions: Data restricted
Code: 0
24. Region of Buzzards Bay Covered: New Bedford Harbor from above Coggshall Street to West End of Cape Cod Canal to approximately Penikese Island - greater intensity in New Bedford Harbor.
5. Purpose of Program: Superfund  
Code: 4

26. Program Description:
A. Sampling Frequency Irregularly  
Code: 6
B. Quality Assurance/Quality Control Formal written program  
Code: 1
C. Pollutant Source Industrial discharge  
Code: 4
D. Parameters Measured

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<tr>
<th>Code</th>
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<tr>
<td>1</td>
<td>Physical Oceanography</td>
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</table>
| 1    | Water Quality  
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)  
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.) |

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<td>Temperature</td>
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<td>Salinity/Conductivity</td>
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<tr>
<td>2</td>
<td>Dissolved Oxygen</td>
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<td>1</td>
<td>pH</td>
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<td>Suspended Solids</td>
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<td>1</td>
<td>Nutrients</td>
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<td>1</td>
<td>Biological Oxygen Demand</td>
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<td>Chlorophyll</td>
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<td>1</td>
<td>Other</td>
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|      | Sediment Characteristics  
XX Grain Size Distribution  
Mineral Composition  
XX Percent Organic Matter  
Sedimentation Rate  
Other |

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<tr>
<th>Code</th>
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<tr>
<td>0</td>
<td>Petroleum Hydrocarbons</td>
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<td>1</td>
<td>PAHs</td>
</tr>
<tr>
<td>2</td>
<td>PCBs</td>
</tr>
<tr>
<td>3</td>
<td>Pesticides</td>
</tr>
<tr>
<td>1</td>
<td>Lead</td>
</tr>
<tr>
<td>2</td>
<td>Mercury</td>
</tr>
<tr>
<td>3</td>
<td>Cadmium</td>
</tr>
<tr>
<td>1</td>
<td>Chromium</td>
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<tr>
<td>2</td>
<td>Other metals: Cu</td>
</tr>
<tr>
<td>3</td>
<td>Other</td>
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</table>

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Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Biology is aimed at resource species and their food chain (e.g., winter flounder, lobster, quahog). PCBs analyzed as pseudoisomers (i.e., C13, PCB, C14, PCB... C112, PCB, etc.)

27. General Comments: The final product of this program will be a linked hydrodynamic / sediment transport - food chain model that will be used to evaluate mitigation alternatives for in-place PCBs and metals in New Bedford Harbor.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 13, 1986

1. Citation Number: 89
2. Program Title:
3. Cognizant Individual: Dr. Allan D. Michael
   9 Main Street
   Peabody, MA 01960

4. Address:  
5. Phone(s): (617) 532-2405
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2
13. Study Subtopic: Hydrocarbons
    Code: 1
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:  
    Code:  
19. Program Duration:
    Code:  
20. Form of Data: Hardcopy
    Code:  
21. Data Location: With Dr. Michael in a box
22. Data Availability: Available, if Dr. Michael can find the data, summary data has been provided.
    Code: 1
23. Data Restrictions: None
    Code: 1
24. Region of Buzzards Bay Covered: Stations around West Falmouth, Wild Harbor, and Sippewissett Marsh
25. Purpose of Program:
    Code:  
26. Program Description:
    A. Sampling Frequency
       Code:  
    B. Quality Assurance/Quality Control
       Code:  

IV-175
C. Pollutant Source Oil spill
   Code:
D. Parameters Measured

<table>
<thead>
<tr>
<th>1</th>
<th>Physical Oceanography</th>
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<tbody>
<tr>
<td></td>
<td>Water Quality</td>
</tr>
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<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
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</tbody>
</table>

| 1 | Sediment Characteristics |
|   | XX | Grain Size Distribution |
|   |   | Mineral Composition |
|   |   | Percent Organic Matter |
|   |   | Sedimentation Rate |
|   |   | Other: |

| 1 | Chemistry |
|   | Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.) |
| 0 | 1 | 2 | 3 | Petroleum Hydrocarbons |
| 0 | 1 | 2 | 3 | PAHs |
| U | 1 | 2 | 3 | PCBs |
| 0 | 1 | 2 | 3 | Pesticides |
| 0 | 1 | 2 | 3 | Lead |
| 0 | 1 | 2 | 3 | Mercury |
| 0 | 1 | 2 | 3 | Cadmium |
| 0 | 1 | 2 | 3 | Chromium |
| 0 | 1 | 2 | 3 | Other metals |
| 0 | 1 | 2 | 3 | Other: |
1 Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Dr. Allan Michael conducted the follow-up benthic study after the West Falmouth oil spill study had been completed by Grassle, Sanders and Hampson. His data would increase the temporal coverage of the spill.

27. General Comments:
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Judith Gale  
**Date:** February 4, 1986

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
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<td>Citation Number:</td>
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<td>2.</td>
<td>Program Title:</td>
<td>PCBs in Sediments of New Bedford Harbor</td>
</tr>
<tr>
<td>3.</td>
<td>Cognizant Individual:</td>
<td>Mr. Richard Packard</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Southeast Regional Office</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mass. Dept. of Environmental Quality Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lakeville Hospital</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rte. 105</td>
</tr>
<tr>
<td>4.</td>
<td>Address:</td>
<td>Lakeville, MA 02346</td>
</tr>
<tr>
<td>5.</td>
<td>Phone(s):</td>
<td>(617) 727-1440</td>
</tr>
<tr>
<td>6.</td>
<td>Performing Organization:</td>
<td>Shellfish Sanitation Section</td>
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<tr>
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<td>Southeast Regional Office</td>
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<td><strong>XX</strong> Toxic substances in organisms and sediments</td>
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<td>Water quality and nutrient data</td>
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<td>13.</td>
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<td>17.</td>
<td>Other Date Information:</td>
<td>Sediment cores were collected inside New Bedford Harbor in May 1978 and August 1979.</td>
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<td>Handwritten only (lab analyses and tabulations of data)</td>
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<td></td>
<td></td>
<td>Mass. Dept. of Environmental Quality Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr. Packard also has some of the data, but not all.</td>
</tr>
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</table>
22. Data Availability: Program complete, data available  
Code: 2

23. Data Restrictions: Data not restricted  
Code: 1

24. Region of Buzzards Bay Covered: New Bedford Harbor

25. Purpose of Program: To investigate concentrations of PCBs in sediment of New Bedford Harbor.  
Code: 2

26. Program Description:
A. Sampling Frequency Annually  
Code: 5

B. Quality Assurance/Quality Control Not specified  
Code: 3

C. Pollutant Source Industrial Discharge  
Code: 4

D. Parameters Measured
   1 Physical Oceanography  
      1 Water Quality  
         Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2</td>
<td>Temperature</td>
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<td>0 1 2</td>
<td>Salinity/Conductivity</td>
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<tr>
<td>0 1 2</td>
<td>Dissolved Oxygen</td>
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<tr>
<td>0 1 2</td>
<td>pH</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Other:</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:
1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
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<td>3</td>
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<td>PAHs</td>
<td>0</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>PCBs</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Pesticides</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lead</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mercury</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Chromium</td>
<td>0</td>
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<td>2</td>
<td>3</td>
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<td>Other metals</td>
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<td>2</td>
<td>3</td>
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<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</table>

1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
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<th>3</th>
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<td>3</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Zooplankton</td>
<td>0</td>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Benthos</td>
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<td>2</td>
<td>3</td>
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<td>Nekton</td>
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<td>3</td>
</tr>
<tr>
<td>Birds</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Parasites</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 20, 1986

1. Citation Number: 96
2. Program Title: Cognizant
3. Cognizant Individual: Mr. Nick Pangaro
4. Address: GCA
   5 Middlesex Road
   Somerville, MA 02150
   (617) 776-5400
5. Phone(s):
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: U.S. Environmental Protection Agency
   Region I, Superfund
10. Address: J.F. Kennedy Building
    Boston, MA 02203
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
    Code: 2
13. Study Subtopic: PCBs
    Code: 2
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:

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C. Pollutant Source
Code:

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
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<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
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<td></td>
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<td>Macrophytes</td>
<td>Zooplankton</td>
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<td>Benthos</td>
<td>Nekton</td>
<td></td>
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<tr>
<td>Birds</td>
<td>Reptiles/Mammals</td>
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<td></td>
</tr>
<tr>
<td>Parasites</td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Pangaro is helping with a project to review the computer tape produced by Metcalf and Eddy/Engineers on the PCBs in the Acushnet River estuary. He has conducted a review of the data on the tape including QA/QC of the data. He forwarded the list of references included on the tape. He said that GCA is now able to download the tape to an IBM PC, but that the program for that is not readily obtainable.
1. **Citation Number:** 2  
2. **Program Title:** Biological Effects of the Bouchard #65 Oil Spill in Buzzards Bay, Massachusetts, January 1977  
3. **Cognizant Individual:** Dr. Bruce Peterson and Dr. John Hobbie  
4. **Address:**
   - Ecosystems Center
   - Marine Biological Laboratory
   - Woods Hole, MA 02543
   - (617) 548-3705 ext. 484  
5. **Phone(s):**  
6. **Performing Organization:** Same as above  
7. **Address:**  
8. **Phone(s):**  
9. **Funding Organization:** NOAA and Ecosystems Center  
10. **Address:**  
11. **Phone(s):**  
12. **Study Topic:** On-going research  
   - Lobster Landings  
   - **XX** Toxic substances in organisms and sediments  
   - Water quality and nutrient data  
   - Other:  
   
   Code: 2  
13. **Study Subtopic:** Hydrocarbons  
   Code: 1  
14. **Comments on the Study:**  
15. **Program Start Date:** 1977  
16. **Program End Date:** 1978  
17. **Other Date Information:**  
18. **Level of Effort:**  
   - **Amount:** $50,000 to $60,000 for two years  
   Code: 1  
19. **Program Duration:** Terminated, two years  
   Code: 0  
20. **Form of Data:** Magnetic Tape  
   Code: 8  
21. **Data Location:** Dr. Bruce Peterson  
22. **Data Availability:** Program complete, data available  
   Code: 2  
23. **Data Restrictions:** Check with Dr. Bruce Peterson  
   Code: 1  
24. **Region of Buzzards Bay Covered:** Phinney's Harbor Oil Study Site and Northwest Gutter (near Nashon Island) Control Site.  
25. **Purpose of Program:** Basic Research  
   Code: 0  
26. **Program Description:**  
   - A. SAMPLING FREQUENCY Irregularly  
   Code: 6
B. Quality Assurance/Quality Control  Specific but unwritten procedures.
   Code: 2
C. Pollutant Source  Oil spill
   Code: 6
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

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<tr>
<th>Code</th>
<th>Parameter</th>
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<tbody>
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<td>Temperature</td>
</tr>
<tr>
<td>0</td>
<td>Salinity/Conductivity</td>
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<td>Dissolved Oxygen</td>
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<tr>
<td>0</td>
<td>pH</td>
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<tr>
<td>0</td>
<td>Suspended Solids</td>
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<tr>
<td>0</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>Turbidity</td>
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<tr>
<td>0</td>
<td>Alkalinity</td>
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<tr>
<td>0</td>
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1 Sediment Characteristics

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<td>Grain Size Distribution</td>
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<td>Mineral Composition</td>
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<td>Sedimentation Rate</td>
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<td>Other:</td>
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1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<tr>
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<td>PAHs</td>
</tr>
<tr>
<td>0</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>Pesticides</td>
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<td>0</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>Mercury</td>
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<tr>
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<td>Cadmium</td>
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<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>Other metals</td>
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<tr>
<td>0</td>
<td>Other:</td>
</tr>
</tbody>
</table>

IV-185
The Frederick E. Bouchard #65 ran aground on Cleveland Ledge on January 28, 1977, and 81,146 gallons of #2 fuel oil were spilled. In February and March of 1977, 72 stations were sampled to measure the distribution of oil residues and any biotic effects of the spilled oil. Subgroups of samples from these 72 stations were analyzed for petroleum hydrocarbons, chlorophyll concentrations, numbers of individuals and species of benthic invertebrates, numbers of bacteria and sediment texture.

From this preliminary work, two sites were chosen for intensive study: 1) Phinney's Harbor Oil Study Site downcurrent from the spilled oil and 2) Northwest Gutter Control Site near Nashon Island on the Elizabeth Island chain. The control site was the nearest uncontaminated site (less than 0.2 ug/g sediment wet weight of petroleum hydrocarbons). The oil site appeared to have the greatest concentration of oil. At each site, three station types were established: 1) muddy bottom, 2) sandy bottom and 3) eelgrass (Zostera marina) in silty sand.

Between April 20, and October 4, 1977, one of the six stations was sampled per week. Two replicate sets of 9 van Veen grabs (1/25 m²) were sampled. One set was used for analysis of benthic invertebrates. The other set was used to measure petroleum hydrocarbons,
chlorophyll and other plant pigments, sediment organic content and grain size, bacterial numbers, and bacteria hydrocarbon and glucose metabolism. A separate set of cores was sampled for benthic respiration.

The raw data were recorded on a PDP11 computer at the Ecosystems Center in Woods Hole, MA. When the computer was discontinued the computer tapes were discarded. Therefore, the only available data for this study is in the report mentioned above.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon and Betsy Brown
Date: December 6, 1985 and February 14, 1986, respectively

1. Citation Number: 28
2. Program Title: Northeast Monitoring Program (NEMP)
3. Cognizant Individual: Mr. Robert Reid
4. Address: National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Sandy Hook, N.J. 07732
(201) 872-0200
5. Phone(s): National Oceanic and Atmospheric Administration
Northeast Center
Environmental Processing Division
Woods Hole, MA 02543
(617) 548-5123
7. Address: Same as above and small portion from
8. Phone(s): Rockville, MD office
10. Address: Same as above and small portion from
11. Phone(s): Rockville, MD office
12. Study Topic: XX On-going research
Lobster Landings
XX Toxic substances in organisms and sediments
XX Water quality and nutrient data
XX Other: Benthic macrofauna
Code: 0, 2, 4
13. Study Subtopic: 
Code: 
14. Comments on the Study: 
15. Program Start Date: 1975
16. Program End Date: On-going
17. Other Date Information: 
18. Level of Effort: Amount: 
$2,000,000 per year from 1980-1983,
$1,600,000 in 1984 for the whole Northeast
Monitoring Program
Code: 5
19. Program Duration: On-going, > 3 years anticipated
Code: 5
20. Form of Data: Annual reports (hardcopy) plus Woods Hole
Oceanographic Institution gray VAX computer
Code: 5, 8
21. Data Location: Woods Hole Oceanographic Institution
Woods Hole, MA

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22. Data Availability: With permission from Center Director,
   NOAA/NMFS, Woods Hole
   Code: 3
23. Data Restrictions: None, permission obtained, Dr. Jack Pearce,
   Deputy Center Director, NOAA/NMFS, Woods Hole
   Code: 1
24. Region of Buzzards Bay Covered: One station is located in the middle
   of the Bay called "Station R" (Howard Sanders Historical Station) or
   "Station 36".
25. Purpose of Program: To detect long term trends in marine habitat
   quality.
   Code: 3
26. Program Description:
   A. Sampling Frequency One to two times per year
      Code: 5
   B. Quality Assurance/Quality Control Specific but unwritten
      procedures
      Code: 2
   C. Pollutant Source Not applicable
      Code: 0
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other

   1 Sediment Characteristics

      XX Grain Size Distribution
      Mineral Composition
      XX Percent Organic Matter
      Sedimentation Rate
      XX Other: % Nitrogen
1 Chemistry Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
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<th>1</th>
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</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
</tr>
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<td>2</td>
<td>3</td>
<td>PCBs</td>
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<td>Pesticides</td>
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<td>3</td>
<td>Other metals: Si, Cu, Ni, Zn</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
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1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Benthos</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Nekton</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Birds</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Parasites</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Replication: 5 grabs at the station.
Sampling technique: Smith McIntyre grab.
Data reports: Annual reports.

27. General Comments: Mr. Reid advised us to get in touch with Dr. Allen Peterson, Center Director, NOAA/NMFS, in Woods Hole to get permission for Mr. Reid to provide the data set from the WHOI gray VAX computer. Dr. Jack Pearce, Deputy Center Director, was contacted as Dr. Peterson was out.

Mr. Reid only has the benthic and sediment data on his VAX account. Vinny Zdanowicz has the metals data. PCBs and PAHs were conducted by Energy Resources Company, Inc./ data available only in reports.
Mr. Reid followed up our calls by sending a list of sampling dates and numbers of grabs taken during the Ocean Pulse Studies. Five grabs were taken at Station 36 on each of the following cruises: December 1979, July 1980, December 1980, July 1981, January 1982, September 1982, July 1984, and June 1985. He also sent what hardcopies of PCB and PAH data he had for Station 36. This data had no documentation of methods. Mr. Reid indicated that exact station locations may not be available and that the grain size and total organic carbon information may be difficult to find.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 56
2. Program Title:
3. Cognizant Individual: Dr. Robert Reimold
4. Address: Metcalf and Eddy Harvard Mill Square Wakefield, MA 01880
5. Phone(s): (617) 246-5200
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 2
13. Study Subtopic: PCBs, metals
    Code: 2, 3
15. Program Start Date: 1983
16. Program End Date:
17. Other Date Information:
18. Level of Effort: Unknown
   Code: 0
19. Program Duration: Terminated
   Code: 0
20. Form of Data: Computer tape
    Code: 8
21. Data Location: GCA, Somerville, MA
22. Data Availability: Not available
    Code: 0
23. Data Restrictions: Restricted
    Code: 0
24. Region of Buzzards Bay Covered: Acushnet River, New Bedford Harbor
25. Purpose of Program: Baseline data collection.
    Code: 3
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
C. Pollutant Source  Industrial discharge
  Code: 4
D. Parameters Measured

1  Physical Oceanography
1  Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other

1  Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1  Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in
          sediment, 3 = in biota; if a "3" is used, the
          "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 3 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals
   0 1 2 3  Other
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Metcalf and Eddy conducted a study for EPA Region I ending two years ago on New Bedford Harbor and including the assemblage of information on metals and PCBs. Dr. Reimold indicated that Battelle has this data.
1. Citation Number: 82
2. Program Title: Cognizant Individual: Dr. Ann Shortelle
3. Address: GCA
   5 Middlesex Road
   Somerville, MA 02150
   (617) 776-5400
4. Phone(s): Performing Organization: Same as above
5. Address: Phone(s):
6. Funding Organization: Address:
7. Phone(s):
8. Funding Organization: Address:
9. Phone(s):
10. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: Literature and data collection on
    New Bedford Harbor
11. Phone(s):
12. Study Subtopic: None
   Code: 0
13. Comments on the Study:
14. Program Start Date:
15. Program End Date:
16. Other Date Information:
17. Level of Effort: Amount:
   Code:
18. Program Duration:
   Code:
19. Form of Data:
   Code:
20. Data Location:
21. Data Availability:
   Code:
22. Data Restrictions:
   Code:
23. Region of Buzzards Bay Covered: New Bedford Harbor and adjacent
   areas. Some data on Buzzards Bay.
24. Purpose of Program: Collection of literature and data relevant to
   the preparation of an endangerment assessment for New Bedford
   Harbor.
   Code: 5
25. Program Description:
   A. Sampling Frequency
   Code:
B. Quality Assurance/Quality Control
Code:
C. Pollutant Source
Code:
D. Parameters Measured

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<th>Description</th>
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<td>Physical Oceanography</td>
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</tr>
<tr>
<td>0 1 2</td>
<td>Temperature</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
<td>0 1 2</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0 1 2</td>
<td>pH</td>
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<tr>
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<td>Suspended Solids</td>
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<td>0 1 2</td>
<td>Nutrients</td>
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<tr>
<td>0 1 2</td>
<td>Biological Oxygen Demand</td>
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<tr>
<td>0 1 2</td>
<td>Turbidity</td>
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<td>0 1 2</td>
<td>Chlorophyll</td>
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<td>0 1 2</td>
<td>Other</td>
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<th>Description</th>
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</thead>
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<tr>
<td></td>
<td>Grain Size Distribution</td>
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<tr>
<td></td>
<td>Mineral Composition</td>
</tr>
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<td></td>
<td>Percent Organic Matter</td>
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<td>Sedimentation Rate</td>
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<td>Specifics (0 = unspecifed, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>PAHs</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>PCBs</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Lead</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Mercury</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Cadmium</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Chromium</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Other metals</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Other</td>
</tr>
</tbody>
</table>
General Comments: GCA is involved in several projects related to an endangerment assessment for New Bedford Harbor that the company expects to be performing for EPA (Superfund) in the future. Their contact person at EPA is Ms. Jackie Prince.

Dr. Shortelle is currently working on an annotated bibliography on New Bedford Harbor. References for all documents that are site specific to New Bedford Harbor or Buzzards Bay are being computerized. The bibliography also includes academic literature related to PCBs whether or not the studies relate to Buzzards Bay. GCA is now concentrating on PCBs to the near exclusion of metals (in the bibliography). The references are being coded by keyword to assist in searches for particular fields of interest. The current status of the project is that most of the annotations for the references have been completed, but have not yet been computerized. There is a problem, apparently, with Superfund funds at present, so Dr. Shortelle is not certain when this part of the project will be finished. A hard copy of the annotated bibliography could, however, be made available to Battelle through EPA.

In addition to the bibliography, GCA is working on adding raw data to the Metcalf and Eddy database and on a biological inventory for New Bedford Harbor and adjacent areas. This latter project is being developed especially for the endangerment assessment. GCA is preparing a species list by zones (zones delineated by GCA) of species documented as occurring in the harbor area. For each species listed, some taxonomic information as well as any known data related to PCBs (e.g., body burden) are entered into the GCA inventory. The data does not include population estimates in most cases. Dr. Shortelle pointed out a limitation of the inventory in that the data available were not collected expressly to inventory the biota. Therefore, data gaps may indicate lack of research, not necessarily the absence of a particular species in a particular zone.
GCA will be completing a deliverable for EPA within the next two weeks which will include a summary of existing information (including toxicity information and available environmental information). Also included will be the biological inventory, a discussion of data gaps, and the endangerment assessment work plan. The annotated bibliography will not be included in the deliverable.

Ms. Jackie Prince (EPA Superfund) is the primary source of data for this project. Data can only be obtained with her approval.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 4, 1986

1. Citation Number: 78
2. Program Title: Influence of Environmental Contaminants on Cytochrome P-450 Mixed Function Oxygenases in Marine Organisms
3. Cognizant Individual: Dr. John Stegeman
4. Address: Redfield Building
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
(617) 548-1400, ext. 2320
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization: Numerous ones
10. Address:
11. Phone(s):
12. Study Topic: XX On-going research
   Lobster Landings
   XX Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other:
   Code: 0,2
13. Study Subtopic: Hydrocarbons and PCBs
   Code: 1,2
14. Comments on the Study: See comments and bibliography at end of form. The purpose of this information is to mention the technique Stegeman uses. Numerous projects have been conducted and they will be mentioned collectively.
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort: Information unavailable
   Amount:
   Code: 0
19. Program Duration: Some projects terminated and some on-going
   Code: 0,5
20. Form of Data: Hardcopy, floppy disks
   Code: 1,3
21. Data Location: John Stegeman, his colleagues and his students
22. Data Availability: Not available.
   Code: 0
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered: Depends on the study.
25. Purpose of Program: Analysis of inducible enzymes as affected by environmental contaminants.
   Code: 3

IV-199
26. **Program Description:**

A. **Sampling Frequency**
   - Code:

B. **Quality Assurance/Quality Control**
   - Code:

C. **Pollutant Source**
   - Code:

D. **Parameters Measured**
   - 1 Physical Oceanography
     - 1 Water Quality
       - Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
         - 0 1 2 Temperature
         - 0 1 2 Salinity/Conductivity
         - 0 1 2 Dissolved Oxygen
         - 0 1 2 pH
         - 0 1 2 Suspended Solids
         - 0 1 2 Nutrients
         - 0 1 2 Biological Oxygen Demand
         - 0 1 2 Turbidity
         - 0 1 2 Alkalinity
         - 0 1 2 Chlorophyll
         - 0 1 2 Other:
   - 1 Sediment Characteristics
     - Specifics
       - Grain Size Distribution
       - Mineral Composition
       - Percent Organic Matter
       - Sedimentation Rate
       - Other:
   - 1 Chemistry
     - Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
       - 0 1 2 3 Petroleum Hydrocarbons
       - 0 1 2 3 PAHs
       - 0 1 2 3 PCBs
       - 0 1 2 3 Pesticides
       - 0 1 2 3 Lead
       - 0 1 2 3 Mercury
       - 0 1 2 3 Cadmium
       - 0 1 2 3 Chromium
       - 0 1 2 3 Other metals
       - 0 1 2 3 Other:
Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: John Stegeman, his colleagues, and his students have been working on inducible enzymes, specifically cytochrome P-450 oxygenases, and their relationship to environmental contaminants. The techniques that Dr. Stegeman uses have utility in assessing the condition of marine organisms relative to contaminants. However, it should be noted that these types of studies require special techniques and considerable expertise in interpreting the biochemical and physiological meaning of the results. These techniques may prove useful in the future. Work related to Buzzards Bay can be found in:


IV-201
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Betsy Brown  
**Date:** November 20, 1986

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
<th>118</th>
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<tbody>
<tr>
<td>2. Program Title:</td>
<td>Organic and Trace Metal Levels in the Ocean Quahog, Arctica islandica Linne</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Mr. Frank Steimle</td>
</tr>
<tr>
<td>4. Address:</td>
<td>National Marine Fisheries Service</td>
</tr>
<tr>
<td></td>
<td>National Oceanic &amp; Atmospheric Administration</td>
</tr>
<tr>
<td></td>
<td>U.S. Department of Commerce</td>
</tr>
<tr>
<td></td>
<td>Sandy Hook, NJ 07732</td>
</tr>
<tr>
<td>5. Phone(s):</td>
<td>(201) 872-0200</td>
</tr>
<tr>
<td>6. Performing Organization:</td>
<td>Same as above except for the organic chemistry analyses which were performed by Dr. Paul Boehm while he was at ERCO.</td>
</tr>
<tr>
<td>7. Address:</td>
<td>Dr. Paul Boehm</td>
</tr>
<tr>
<td></td>
<td>397 Washington Street</td>
</tr>
<tr>
<td></td>
<td>Duxbury, MA 02332</td>
</tr>
<tr>
<td>8. Phone(s):</td>
<td>(617) 934-5682</td>
</tr>
<tr>
<td>9. Funding Organization:</td>
<td>NOAA</td>
</tr>
<tr>
<td>10. Address:</td>
<td>Same as above</td>
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<tr>
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<td></td>
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<td>Lobster Landings</td>
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<td><strong>XX</strong> Toxic substances in organisms and sediments</td>
</tr>
<tr>
<td></td>
<td>Water quality and nutrient data</td>
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<td></td>
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<td>Code:</td>
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<td>15. Program Start Date:</td>
<td>1981</td>
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<td>16. Program End Date:</td>
<td>1983</td>
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<td>17. Other Date Information:</td>
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<td>18. Level of Effort:</td>
<td><strong>Amount:</strong> $50,000-60,000</td>
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<td>Code:</td>
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<td>19. Program Duration:</td>
<td>Terminated, 2 years</td>
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<tr>
<td>Code:</td>
<td>0</td>
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<tr>
<td>20. Form of Data:</td>
<td>Manuscript and organic data as hardcopy.</td>
</tr>
<tr>
<td></td>
<td>Metals on VAX at WHOI to which Sandy Hook is connected.</td>
</tr>
<tr>
<td>Code:</td>
<td>1,8</td>
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<tr>
<td>21. Data Location:</td>
<td>All the information is at NOAA in Sandy Hook with Frank Steimle. The original data for organics is at ERCO.</td>
</tr>
<tr>
<td>22. Data Availability:</td>
<td>All the information in Sandy Hook is available. Paul Boehm has advised that the ERCO data probably cannot be retrieved.</td>
</tr>
<tr>
<td>Code:</td>
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23. **Data Restrictions:** Not restricted  
   **Code:** 1

24. **Region of Buzzards Bay Covered:**

25. **Purpose of Program:** Baseline data collection and agency mandate  
   **Code:** 3, 4

26. **Program Description:**  
   **A. Sampling Frequency** Annually  
   **Code:** 5
   **B. Quality Assurance/Quality Control** Intercalibrated metals with Bureau of Standards freeze-dried oyster homogenate, plus control blanks. Organics used internal standards and blanks.  
   **Code:** 1
   **C. Pollutant Source** Not applicable  
   **Code:** 0

27. **Parameters Measured**  

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<tr>
<th>Code</th>
<th>Description</th>
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<td>0</td>
<td>Physical Oceanography</td>
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<td>Water Quality</td>
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<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
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<td>Temperature</td>
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<td>Salinity/Conductivity</td>
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<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>Biological Oxygen Demand</td>
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<td>0</td>
<td>Turbidity</td>
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<td>Chlorophyll</td>
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1 Sediment Characteristics  
- Grain Size Distribution  
- Mineral Composition  
- Percent Organic Matter  
- Sedimentation Rate  
- Other:  

1 Chemistry  
- Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)  
- Petroleum Hydrocarbons  
- PAHs  
- PCBs  
- Pesticides  
- Lead  
- Mercury  
- Cadmium  
- Chromium  
- Other metals: Ag, Ni, Zn  
- Other:  

IV-203
Measurement of levels of pollutants in the tissues of the ocean quahog *Arctica islandica* to develop a broad sample base for the northeastern United States. The purpose was to look for problem areas that would be the focus of future studies. Areas that were identified were the New York Bight Apex, inshore Rhode Island Sound, and spotty elevated levels of pollutants in the former dumpsite off of Delaware. Pollutants that were measured were metals (Ag, Cd, Cr, Cu, Ni, Pb, Zn) and organic compounds (PCBs, polynuclear aromatic hydrocarbons [several mixtures], and petroleum hydrocarbons [saturated and aromatic]). Stations were located throughout the Northeast and only a few were located in Buzzards Bay. Stations ranged from Maryland to Nova Scotia. Tried to cover the Continental Shelf regions.

Sampling conducted each summer of 1981 and 1982. Sampling conducted by the NMFS Shellfish Assessment Program of NMFS in Woods Hole.

Medium sized specimens of quahogs were used (approximately 10 cm in length). Five specimens per stations per sampling period were used for analysis. Whole body was homogenized.

27. General Comments:
Data reports:


BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 28, 1986

1. Citation Number: 108
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Jacek Sulanowski
4. Address: Department Earth Science and Geography
   Bridgewater State College
   (617) 697-1200 ext. 2101
5. Phone(s): Dr. Jacek Sulanowski
6. Performing Organization: Department Earth Science and Geography
   Bridgewater State College
   (617) 697-1200 ext. 2101
7. Address: Thomas A. Pappas
8. Phone(s): Charitable Foundation, Inc.
9. Funding Organization: P.O. Box 369
   West Falmouth, MA 02574
10. Address: On-going research
11. Phone(s): Lobster Landings
12. Study Topic: XX Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other:
13. Study Subtopic: PCBs
14. Comments on the Study: Code: 2
15. Program Start Date: September 1983
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
    Amount: $10,000. One time grant
    Code: 1
19. Program Duration: On-going, three years anticipated
    Code: 4
20. Form of Data: Handwritten or hardcopy only
    Code: 1
21. Data Location: Dr. Sulanowski, Bridgewater State College
22. Data Availability: Program on-going, data available at specific
    intervals
    Code: 3
23. Data Restrictions: Data not restricted
    Code: 1
24. Region of Buzzards Bay Covered: Acushnet River Estuary
25. Purpose of Program: To investigate the relationship between surface
    active compounds and available surface area.
    Code: 0
26. Program Description:
    A. Sampling Frequency Irregular
    Code: 6

IV-205
B. Quality Assurance/Quality Control Specific, but unwritten procedures
Code: 2
C. Pollutant Source Industrial discharge
Code: 4
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics
   XX Grain Size Distribution
   Mineral Composition
   XX Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
Microorganisms/Pathogens
Phytoplankton/Microphytes
Macrophytes
Zooplankton
Benthos
Nekton
Birds
Reptiles/Mammals
Parasites
Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

1/25 meter square van Veen Grab; each grab subdivided into 0-4 cm and 4-8 cm depth segments.

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 12, 1986

1. Citation Number: 86
2. Program Title: 
3. Cognizant Individual: Dr. Fred Thurberg
4. Address: National Marine Fisheries Service
   Milford, CT 06460
5. Phone(s): (203) 783-4244
6. Performing Organization: NMFS
7. Address: Same as above
8. Phone(s): 
9. Funding Organization: Same as above
10. Address: 
11. Phone(s): 
12. Study Topic: XX On-going research
    Lobster Landings
    XX Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: 

  Code: 0,4
13. Study Subtopic: 
    Code: 
14. Comments on the Study: 
15. Program Start Date: 5/1/84
16. Program End Date: On-going
17. Other Date Information: < $50,000 per Annum
18. Level of Effort: 
    Code: 1
19. Program Duration: On-going, 3 years anticipated
    Code: 4
20. Form of Data: Handwritten or hardcopy
    Code: 1
21. Data Location: NMFS / Milford
22. Data Availability: Legal restrictions before court date
    Code: 1
23. Data Restrictions: Data restricted
    Code: 0
24. Region of Buzzards Bay Covered: New Bedford Harbor
25. Purpose of Program: Superfund
    Code: 0,4
26. Program Description:
    A. Sampling Frequency Annually
    Code: 5
    B. Quality Assurance/Quality Control Formal, written program
    Code: 1
    C. Pollutant Source Industrial discharge
    Code: 4

IV-208
D. Parameters Measured

1 Physical Oceanography
1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Temperature</td>
</tr>
<tr>
<td>0</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
<td>0</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>0</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>Other:</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>Mercury</td>
</tr>
<tr>
<td>0</td>
<td>Cadmium</td>
</tr>
<tr>
<td>0</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>Other:</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
| Microorganisms/Pathogens
| Phytoplankton/Microphytes
| Macrophytes
| Zooplankton
| Benthos
| Nekton
| Birds
| Reptiles/Mammals
| Parasites
| Other: Lobster Larvae

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Program designed to measure levels of PCBs in lobster larvae in New Bedford Harbor.

27. General Comments:
Interviewer: Ellen Rosen
Date: December 9, 1985

1. Citation Number: 21
2. Program Title: Cognizant
3. Cognizant Individual: Richard Tomczyk
4. Address: Mass. Div. of Water Pollution Control
   Department of Environmental Quality
   Engineering (DEQE)
   1-11 Winter Street, 6th Floor
   Boston, MA 02108
5. Phone(s): (617) 292-5672
6. Performing Organization: PCB Task Force of DEQE
7. Address: Same as above
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
Other
Code: 2
13. Study Subtopic:
Code:
14. Comments on the Study:
15. Program Start Date: 1981
16. Program End Date: 1983
17. Other Date Information: The program was disbanded after the Superfund Program was initiated.
18. Level of Effort: Information unavailable
   Amount: Code: 0
19. Program Duration: Terminated
   Code: 0
20. Form of Data: Hardcopy
   Code: 1
21. Data Location: In his office - not organized. In a more organized form at: Bob Mendoza, U.S. EPA Region I
22. Data Availability: Program complete; data available
   Code: 2
23. Data Restrictions: None
   Code: 0
25. Purpose of Program: To address New Bedford contamination problem.
   Code: 4
26. Program Description:
   A. Sampling Frequency Irregularly
      Code: 6
   B. Quality Assurance/Quality Control No specific program
      Code: 3
   C. Pollutant Source Municipal and industrial discharge
      Code: 3,4
   D. Parameters Measured

   1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
      
      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other

   1 Sediment Characteristics
      
      XX Grain Size Distribution
      XX Mineral Composition
      XX Percent Organic Matter
      XX Sedimentation Rate
      Other

   1 Chemistry
      Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
      
      0 1 2 3 Petroleum Hydrocarbons
      0 1 2 3 PAHs
      0 1 2 3 PCBs
      0 1 2 3 Pesticides
      0 1 2 3 Lead
      0 1 2 3 Mercury
      0 1 2 3 Cadmium
      0 1 2 3 Chromium
      0 1 2 3 Other metals
      0 1 2 3 Other
| Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay) |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | Microorganisms/Pathogens |
| 0 | 1 | 2 | 3 | Phytoplankton/Microphytes |
| 0 | 1 | 2 | 3 | Macrophytes |
| 0 | 1 | 2 | 3 | Zooplankton |
| 0 | 1 | 2 | 3 | Benthos |
| 0 | 1 | 2 | 3 | Nekton |
| 0 | 1 | 2 | 3 | Birds |
| 0 | 1 | 2 | 3 | Reptiles/Mammals |
| 0 | 1 | 2 | 3 | Parasites |
| 0 | 1 | 2 | 3 | Other |

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Sediment samples were taken irregularly over a two year period under the Braga Bridge in New Bedford Harbor. The data have been turned over to Bob Mendoza at EPA, Region I.

27. **General Comments:** He recommended we contact Bob Mendoza at EPA, Region I, also Paul Hogan, at Division of Water Pollution Control, Technical Service Branch, might have some data from the PCB Task Force.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon &
Betsy Brown
Date: Nov. 19 & Dec. 31, 1985; Feb. 19, 1986

1. Citation Number: 14
2. Program Title: Use of the Green Seaweed Ulva as a Monitor of Pollution in Coastal Waters
3. Cognizant Individual: Dr. Robert Wilce
4. Address:
   University of Massachusetts
   Amherst, MA 01003
   and
   Dr. Howard Levine
   Marine Science Research Center
   State University of New York
   Stonybrook, NY 11794
   (413) 545-1342 (Wilce)
   (516) 246-3303, 246-4039 (Levine)
5. Phone(s):
6. Performing Organization: Conducted by Howard Levine while a graduate student at UMass/Amherst.
7. Address: See above.
8. Phone(s):
9. Funding Organization:
   US EPA Region I
   Robert Ledger
10. Address:
11. Phone(s):
12. Study Topic:
   On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other
   Code: 2
13. Study Subtopic: PCBs, metals, pesticides
   Code: 2,3,4
14. Comments on the Study: Publications related to this work include:
15. Program Start Date: September, 1975
16. Program End Date: May, 1979
17. Other Date Information:
18. Level of Effort:
   Amount: Approximately $70,000 (for 2 years), only 2 years of study actually funded.
   Code: 1
Program Duration: Terminated, 4 years
Code: 0

Code: 1

Data Location: University of Massachusetts, Amherst, MA

Data Availability: Available in dissertation and on chromatograms. Levine can send the extra materials not in his dissertation as soon as he can find time.
Code: 1

Data Restrictions: Not restricted
Code: 1


Purpose of Program: Basic research to test several species of macroalgae in the laboratory and the field as indicator species of various toxic substances in the water.
Code: 0

Program Description:
A. Sampling Frequency Irregularly
Code: 6
B. Quality Assurance/Quality Control Formal, written program
Code: 1
C. Pollutant Source Industrial and agricultural discharges
Code: 4, 7

D. Parameters Measured

<table>
<thead>
<tr>
<th>Code</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Temperature</td>
</tr>
<tr>
<td>0</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
<td>0</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>0</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>Other</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other
**Chemistry**

**Specifics** (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAHs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCBs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesticides</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other metals: Various Organohalides</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Please note: These samples were taken but never analyzed.

**Biology**

**Specifics** (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phytoplankton/Microphytes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrophytes (Macroalgae)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zooplankton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benthos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nekton</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parasites</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Over 100 collections were made (approximately 10 in Buzzards Bay). There was no specific sampling design. Collections were made by hand by individuals in waders or by divers. 100-200 grams of algae (wet weight) from each site on 6/23 - 6/24, 1979, 7/21 - 7/22, 1979 and 8/5 - 8/6, 1979 were collected. Replicates were not always taken. Samples were transported on ice and analyses was performed on frozen material by nitric acid extraction for pesticides and PCBs. Calculations were done by Dr. Karl Duebert for PCBs at the Cranberry Experiment Station, Wareham, MA. Water samples were taken but never analyzed.

**General Comments:** Dr. Levine will send his raw data that includes chromatograms of PCBs and Dr. Duebert's calculations related to that data. Dr. Levine indicated that metals data are also available and that not all of his data are in his dissertation. He is very busy and will send the data when he can pull it together. Dr. Levine indicated that he has taken a considerable amount of other data from other stations along Buzzards Bay that is not worked up. He mentioned his willingness to reoccupy those stations if EPA were interested.
**BUZZARDS BAY INFORMATION SHEET**

Interviewer: Judith Gale and Betsy Brown  
**Date:** Jan. 23, 1986 and Feb. 18, 1986, respectively

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
<th>104</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Program Title:</td>
<td>National Status and Trends Benthic Surveillance Project</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Mr. Vincent Zdanowicz</td>
</tr>
</tbody>
</table>
| 4. Address:         | National Marine Fisheries Service  
|                     | National Oceanic & Atmospheric Administration  
|                     | Sandy Hook, NJ 07732 |
| 5. Phone(s):        | (201) 872-0200 |
| 6. Performing Organization: | Same as above |
| 7. Address:         | National Marine Fisheries Service  
|                     | National Oceanic & Atmospheric Administration  
|                     | Sandy Hook, NJ 07732 |
| 8. Phone(s):        | |
| 9. Funding Organization: | Oceans Assessment Division |
| 10. Address:        | NOAA  
|                     | Rockville, MD  
|                     | (301) 443-8655 |
| 11. Phone(s):       | |
| 12. Study Topic:    | **XX** On-going research  
|                     | Lobster Landings  
|                     | **XX** Toxic substances in organisms and sediments  
|                     | Water quality and nutrient data  
|                     | Other: |
| Code:               | 0,2 |
| 13. Study Subtopic: | Metals |
| Code:               | 3 |
| 14. Comments on the Study: | The project includes research on water quality, mussel watch, organic substances and metals in different regions of the country (NE, SE, NW). Mr. Zdanowicz is involved with the metals only. Don Gadbois, at the NOAA Gloucester Facility, is responsible for the organic analyses. Oversight of the whole program comes from John Calder or Adriana Cantill at OAD for further information. Only the metals for the Northeast region are described here. |
| 15. Program Start Date: | Summer 1984 |
| 16. Program End Date: | On-going |
| 17. Other Date Information: | |
| 18. Level of Effort:  | Mr. Zdanowicz was uncertain about this. |
| Amount:              | |
| Code:                | 0 |
| 19. Program Duration: | On-going, >3 years anticipated |
| Code:                | 5 |
| 20. Form of Data:    | Magnetic Tape |
| Code:                | 8 |
| 21. Data Location:   | Mr. Vincent Zdanowicz  
|                     | National Marine Fisheries Service  
|                     | Sandy Hook, NJ |

IV-217
22. Data Availability: Not available at present. The first annual report will be issued in spring of 1986.  
Code: 3

23. Data Restrictions: Release of data subject to approval by Principal Investigator  
Code: 0

24. Region of Buzzards Bay Covered: Five stations in Buzzards Bay area:  
1 Ocean Pulse Monitoring station 41°29.5'N, 70°53.9'W  
Four other stations 41°36.6'N, 70°45.2'W  
41°33.3'N, 70°41.4'W  
41°32.5'N, 70°47.8'W  
41°33.4'N, 70°52.6'W

25. Purpose of Program: Baseline data collection for 50 estuaries in the United States to assist with identification of future trends in environmental quality  
Code: 3

26. Program Description:  
A. Sampling Frequency Annually  
Code: 5

B. Quality Assurance/Quality Control Quality assurance and quality control are a major part of the program. No field samples will be run until the intercalibrations are complete. Reference standards and blanks are run with all batches of samples.  
Code: 1

C. Pollutant Source Not applicable  
Code: 0

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

IV-218
### Chemistry Specifics

<table>
<thead>
<tr>
<th>Value</th>
<th>Petroleums Hydrocarbons</th>
<th>PAHs</th>
<th>PCBs</th>
<th>Pesticides</th>
<th>Lead</th>
<th>Mercury</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Other metals: Ag, Cu, Ni, Zn, Ti, Mn, Sn, Sb, Se, As, Fe</th>
<th>Other: Al, Si</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Biology Specifics

<table>
<thead>
<tr>
<th>Value</th>
<th>Microorganisms/Pathogens</th>
<th>Phytoplankton/Microphytes</th>
<th>Macrophytes</th>
<th>Zooplankton</th>
<th>Benthos</th>
<th>Nekton: Winter flounder</th>
<th>Birds</th>
<th>Reptiles/Mammals</th>
<th>Parasites</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

**27. General Comments:** Vinny Zdanowicz has also worked on the study of metal levels in ocean quahogs. The information from this study is included in the information sheet under Mr. Frank Steimle's name. Mr. Zdanowicz also participated in the Northeast Monitoring Program, which is discussed under Mr. Robert Reid's name.
5. OTHER
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 48
2. Program Title: Cognizant
3. Cognizant Individual: Mr. Milton Anderson
4. Address: New England Electric Company
   25 Research Drive
   Westborough, MA 01582
   (617) 366-9011 ext. 2078

5. Phone(s):
6. Performing Organization: On-going research
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: Toxic substances in organisms and sediments
    Water quality and nutrient data

   Code: 4
   XX Other: None of the above

13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:

IV-221
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

IV-222
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: New England Electric has not done any research in Buzzards Bay. Mr. Anderson indicated that he would be pleased to help in the future if their data from other areas could be of assistance to EPA.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon and Betsy Brown
Date: November 21, 1985 and January 8, 1986, respectively

1. Citation Number: 18
2. Program Title: Permit Application Program
3. Cognizant Individual: Jim Bajeck
4. Address: U.S. Army Corps of Engineers
   424 Trapelo Road
   Waltham, MA 02254
   (617) 647-8213
5. Phone(s):
6. Performing Organization: same as above
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: XX On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: Monitoring of dumping by disposal inspector (sediment grain size data only)

Code: 0
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
    Amount: Unavailable
    Code: 0
19. Program Duration: On-going, > 3 years anticipated
    Code: 5
20. Form of Data: Hardcopy
    Code: 1
21. Data Location: U.S. ACOE - Waltham, MA
22. Data Availability: Available
    Code: 3
23. Data Restrictions: None
    Code: 1
24. Region of Buzzards Bay Covered: Numerous sites in Buzzards Bay.
25. Purpose of Program: Dredge permitting
    Code: 2
26. Program Description:
A. Sampling Frequency Depends on dredging project. Usually just before dredging, sometimes afterwards.
   Code: 6
B. Quality Assurance/Quality Control No specific program
   Code: 3
C. Pollutant Source Dredge Spoil Disposal
   Code: 5
D. Parameters Measured

<table>
<thead>
<tr>
<th>1 Physical Oceanography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Water Quality</td>
</tr>
<tr>
<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
</tr>
<tr>
<td>0 1 2 Temperature</td>
</tr>
<tr>
<td>0 1 2 Salinity/Conductivity</td>
</tr>
<tr>
<td>0 1 2 Dissolved Oxygen</td>
</tr>
<tr>
<td>0 1 2 pH</td>
</tr>
<tr>
<td>0 1 2 Suspended Solids</td>
</tr>
<tr>
<td>0 1 2 Nutrients</td>
</tr>
<tr>
<td>0 1 2 Biological Oxygen Demand</td>
</tr>
<tr>
<td>0 1 2 Turbidity</td>
</tr>
<tr>
<td>0 1 2 Alkalinity</td>
</tr>
<tr>
<td>0 1 2 Chlorophyll</td>
</tr>
<tr>
<td>0 1 2 Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 Sediment Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Size Distribution</td>
</tr>
<tr>
<td>Mineral Composition</td>
</tr>
<tr>
<td>Percent Organic Matter</td>
</tr>
<tr>
<td>Sedimentation Rate</td>
</tr>
<tr>
<td>XX Other: % solids vs. % water, chemical oxygen demand, total Kjeldahl nitrogen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</td>
</tr>
<tr>
<td>0 1 2 3 Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0 1 2 3 PAHs</td>
</tr>
<tr>
<td>0 1 2 3 PCBs</td>
</tr>
<tr>
<td>0 1 2 3 Pesticides</td>
</tr>
<tr>
<td>0 1 2 3 Lead</td>
</tr>
<tr>
<td>0 1 2 3 Mercury</td>
</tr>
<tr>
<td>0 1 2 3 Cadmium</td>
</tr>
<tr>
<td>0 1 2 3 Chromium</td>
</tr>
<tr>
<td>0 1 2 3 Other metals</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Standard parameters for testing sediments are used. These are bulk sediment characteristics, elutriate tests and bioassays. The U.S. ACOE decides tests to be conducted on a case-by-case basis. Every permit program has a "before, during and after" component, and the area where the dredging is proposed dictates how detailed the monitoring will be. There are many Statements of Findings in the ACOE files. Most of the data are limited and have required little testing because the sites are considered unpolluted. All available Buzzards Bay permits were copied during visit.
Interviewer: Judith Gale
Date: February 4, 1986

1. Citation Number: 76
2. Program Title: Cognizant
3. Cognizant Individual: Mr. Steve Bliven
4. Address: Office of Coastal Zone Management
   Executive Office of Environmental Affairs
   100 Cambridge Street
   Boston, MA 02202
   (617) 727-9530
5. Phone(s):
6. Performing Organization: On-going research
7. Address:
8. Phone(s):
9. Funding Organization: Lobster Landings
10. Address:
11. Phone(s):
12. Study Topic: Toxic substances in organisms and sediments
    Water quality and nutrient data
    Code: 4
XX Other: None of the above
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:

IV-227
D. Parameters Measured

<table>
<thead>
<tr>
<th>Physical Oceanography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quality</td>
</tr>
<tr>
<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
</tr>
<tr>
<td>0 1 2 3 Temperature</td>
</tr>
<tr>
<td>0 1 2 3 Salinity/Conductivity</td>
</tr>
<tr>
<td>0 1 2 3 Dissolved Oxygen</td>
</tr>
<tr>
<td>0 1 2 pH</td>
</tr>
<tr>
<td>0 1 2 Suspended Solids</td>
</tr>
<tr>
<td>0 1 2 Nutrients</td>
</tr>
<tr>
<td>0 1 2 Biological Oxygen Demand</td>
</tr>
<tr>
<td>0 1 2 Turbidity</td>
</tr>
<tr>
<td>0 1 2 Alkalinity</td>
</tr>
<tr>
<td>0 1 2 Chlorophyll</td>
</tr>
<tr>
<td>0 1 2 Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sediment Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Size Distribution</td>
</tr>
<tr>
<td>Mineral Composition</td>
</tr>
<tr>
<td>Percent Organic Matter</td>
</tr>
<tr>
<td>Sedimentation Rate</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</td>
</tr>
<tr>
<td>0 1 2 3 Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0 1 2 3 PAHs</td>
</tr>
<tr>
<td>0 1 2 3 PCBs</td>
</tr>
<tr>
<td>0 1 2 3 Pesticides</td>
</tr>
<tr>
<td>0 1 2 3 Lead</td>
</tr>
<tr>
<td>0 1 2 3 Mercury</td>
</tr>
<tr>
<td>0 1 2 3 Cadmium</td>
</tr>
<tr>
<td>0 1 2 3 Chromium</td>
</tr>
<tr>
<td>0 1 2 3 Other metals</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</td>
</tr>
<tr>
<td>0 1 2 3 Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3 Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3 Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3 Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3 Benthos</td>
</tr>
<tr>
<td>0 1 2 3 Nekton</td>
</tr>
<tr>
<td>0 1 2 3 Birds</td>
</tr>
<tr>
<td>0 1 2 3 Reptiles/Mammals</td>
</tr>
<tr>
<td>0 1 2 3 Parasites</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>
Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Coastal Zone Management (CZM) does not generate its own data, but does review data. Any data CZM had was incorporated into the Metcalf and Eddy database, so EPA already has it. No need to contact other CZM staff.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 54
2. Program Title:
3. Cognizant Individual: William Bones
4. Address: Division of Water Resources
   Department of Environmental Management
   100 Cambridge Street
   Boston, MA 02141
   (617) 727-3267
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    X Other: None of the above

Code: 4

13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Temperature</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Salinity/Conductivity</td>
</tr>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>Dissolved Oxygen</td>
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<td>2</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Nutrients</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Biological Oxygen Demand</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Lead</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Mercury</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Cadmium</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Chromium</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other metals</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
<tr>
<td>Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 1 2 3 Microorganisms/Pathogens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 1 2 3 Phytoplankton/Microphytes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>0 1 2 3 Macrophytes</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>0 1 2 3 Zooplankton</td>
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<tr>
<td>0 1 2 3 Benthos</td>
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<tr>
<td>0 1 2 3 Nekton</td>
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<tr>
<td>0 1 2 3 Birds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 1 2 3 Reptiles/Mammals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 1 2 3 Parasites</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The Division of Water Resources is involved in planning and management of water supplies. They do not have data relevant to this study. Mr. Bones suggested we call the Division of Water Pollution Control at DEQE, Westboro (Russell Isaac, Director or Allan Cooperman 366-9181) and the Division of Hazardous Waste at DEQE (James Coleman, Office of Incident Response).
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: November 20, 1985

1. Citation Number: 22
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Michael Bothner
4. Address: U.S. Geological Survey
   U.S. Department of Interior
   Woods Hole, MA 02543
   (617) 548-8700

5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: None of the above

Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:

IV-233
D. Parameters Measured

1 Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
      
      0 1 2 Temperature
      0 1 2 Salinity/Conductivity
      0 1 2 Dissolved Oxygen
      0 1 2 pH
      0 1 2 Suspended Solids
      0 1 2 Nutrients
      0 1 2 Biological Oxygen Demand
      0 1 2 Turbidity
      0 1 2 Alkalinity
      0 1 2 Chlorophyll
      0 1 2 Other:

1 Sediment Characteristics
   
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Neptun
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Data generated from the samples Dr. Bothner collected were in the Summerhayes report and are included in a WHOI Tech. Rept. entitled, "Fine-grained Sediment and Industrial Waste Distribution and Dispersal in New Bedford Harbor and Western Buzzards Bay."

Dr. Bothner has taken some samples in Buzzards Bay, New Bedford Harbor area but these samples were given to Jeff Ellis in Milliman's group. They were worked up by other people and included in the Summerhayes report. It is not worth including his small effort in the project because he did not generate any data sets.
Interviewer: Judith Gale
Date: January 31, 1986

1. Citation Number: 70
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Cheryl Ann Butman
4. Address: Ocean Engineering Department
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
(617) 548-1400
5. Phone(s): 
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
Other: None of the above
Code: 4
XX
13. Study Subtopic: 
Code: 
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: 
Amount: 
Code: 
19. Program Duration: 
Code: 
20. Form of Data: 
Code: 
21. Data Location: 
22. Data Availability: 
Code: 
23. Data Restrictions: 
Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program: 
Code: 
26. Program Description: 
A. Sampling Frequency
Code: 
B. Quality Assurance/Quality Control
Code: 
C. Pollutant Source
Code: 

IV-236
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

IV-237
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Butman is studying the effect of benthic organisms on sediment transport, the timing of animal/sediment interactions, and the predictability of these interactions as a potential tool for factoring them into physical models of sediment transport. In the long run this research will be important to understanding the movement of toxics such as PCBs. The study has just begun and she does not have any data that would be useful for the EPA database.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale  
Date: January 28, 1986

1. Citation Number: 63  
2. Program Title:  
3. Cognizant Individual: Dr. Ronald Campbell  
4. Address: Southeastern Massachusetts University  
   Dartmouth, MA 02747  
   (617) 999-8216  
5. Phone(s):  
6. Performing Organization:  
7. Address:  
8. Phone(s):  
9. Funding Organization:  
10. Address:  
11. Phone(s):  
12. Study Topic: On-going research  
   Lobster Landings  
   Toxic substances in organisms and sediments  
   Water quality and nutrient data  
   XX Other: None of the above  
   Code: 4  
13. Study Subtopic:  
14. Comments on the Study:  
15. Program Start Date:  
16. Program End Date:  
17. Other Date Information:  
18. Level of Effort:  
   Amount:  
   Code:  
19. Program Duration:  
   Code:  
20. Form of Data:  
   Code:  
21. Data Location:  
22. Data Availability:  
   Code:  
23. Data Restrictions:  
   Code:  
24. Region of Buzzards Bay Covered:  
25. Purpose of Program:  
   Code:  
26. Program Description:  
   A. Sampling Frequency  
      Code:  
   B. Quality Assurance/Quality Control  
      Code:  
   C. Pollutant Source  
      Code:
D. Parameters Measured

1. Physical Oceanography
   1 Water Quality
      Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>Temperature</td>
<td></td>
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</tr>
<tr>
<td>Salinity/Conductivity</td>
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<td>Dissolved Oxygen</td>
<td></td>
<td></td>
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<tr>
<td>pH</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Solids</td>
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<tr>
<td>Nutrients</td>
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<td>Biological Oxygen Demand</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

3. Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
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<td>PAHs</td>
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<td>PCBs</td>
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<td>Pesticides</td>
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<tr>
<td>Lead</td>
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<tr>
<td>Mercury</td>
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<tr>
<td>Cadmium</td>
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</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other metals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Microorganisms/Pathogens
Phytoplankton/Microphytes
Macrophytes
Zooplankton
Benthos
Nekton
Birds
Reptiles/Mammals
Parasites
Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Campbell is not involved in any research related to the topics of interest in this project. His research in Buzzards Bay is on parasites in fishes.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 3, 1986

1. Citation Number: 79
2. Program Title:
3. Cognizant Individual: Mr. James Coleman
4. Address: Office of Incident Response
   Mass. Dept. of Environ. Quality Engineering
   1 Winter Street
   Boston, MA 02108
   (617) 292-5648
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above

Code: 4

13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount: .
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
C. Pollutant Source
Code:

D. Parameters Measured
1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 1 2</td>
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<tr>
<td>Salinity/Conductivity</td>
<td>0 1 2</td>
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<tr>
<td>Dissolved Oxygen</td>
<td>0 1 2</td>
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<tr>
<td>pH</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>0 1 2</td>
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<tr>
<td>Nutrients</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Other:</td>
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</tr>
</tbody>
</table>

1 Sediment Characteristics
- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PAHs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PCBs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Pesticides</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Lead</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Mercury</td>
<td>0 1 2 3</td>
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<td>Cadmium</td>
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</tr>
<tr>
<td>Chromium</td>
<td>0 1 2 3</td>
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<tr>
<td>Other metals</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other:</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Coleman's office referred the call to the Southeast Regional Office of Mass. Dept. of Environmental Quality Engineering.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: January 8, 1986

1. Citation Number: 41
2. Program Title:
3. Cognizant Individual: Dr. Richard Cooper
4. Address: University of Connecticut
   Avery Point
   Groton, CT
5. Phone(s): (203) 446-1020
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above
    XX
13. Study Subtopic: Code: 4
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source
   Code:

IV-245
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
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<tr>
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<tbody>
<tr>
<td>0</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Salinity/Conductivity</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>pH</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Suspended Solids</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Nutrients</td>
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<tr>
<td>0</td>
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<td>2</td>
<td>Biological Oxygen Demand</td>
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<td>1</td>
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<td>Turbidity</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Alkalinity</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Chlorophyll</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
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<td>PAHs</td>
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<td>Pesticides</td>
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<td>2</td>
<td>3</td>
<td>Lead</td>
</tr>
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<td>3</td>
<td>Mercury</td>
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<td>Cadmium</td>
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<td>Chromium</td>
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</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other</td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
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<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
<td>Macrophytes</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>Benthos</td>
<td>Nekton</td>
<td>Birds</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>Parasites</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Cooper has not done any work in Buzzards Bay. His work has been in the Gulf of Maine and Georges Bank. He recommended we contact Arnie Carr at the Division of Marine Fisheries and Randy Fairbanks, also at the Division of Marine Fisheries.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 6, 1986

1. Citation Number: 84
2. Program Title: Historical Changes in Eelgrass Populations in Buzzards Bay
3. Cognizant Individual: Joseph Costa
4. Address: Boston University Marine Program
   Marine Biological Laboratory
   Woods Hole, MA 02543
5. Phone(s): (617) 548-3705 ext. 506
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Sea Grant Program at WHOI/MIT and
   Lloyd Center for Environmental Studies
10. Address: 430 Potomska Road
    Dartmouth, MA 02748
    (617) 990-0505
11. Phone(s):
12. Study Topic: XX On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: Historical changes in eelgrass beds
    that may result from changes in nutrient levels
    Code: 0,4
13. Study Subtopic: None
    Code: 0
14. Comments on the Study: Using color and black and white photographs
    to document historical changes
15. Program Start Date: Summer 1984
16. Program End Date: Summer 1986
17. Other Date Information:
18. Level of Effort: $7,000 for entire program
19. Program Duration: On-going, < 1 year anticipated
20. Form of Data: Computerized maps of eelgrass beds, system-
   dependent magnetic tape
   Code: 5
21. Data Location: Boston University Marine Program, Woods
    Hole, MA
22. Data Availability: Program on-going
23. Data Restrictions: Data will be available following publication
   Code: 0

25. Purpose of Program: To document historical changes in eelgrass distribution in Buzzards Bay.
   Code: 3

26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control Not applicable
      Code: 3
   C. Pollutant Source Nutrient loading
      Code: 7
   D. Parameters Measured
      1. Physical Oceanography
      2. Water Quality
         Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
         - Temperature
         - Salinity/Conductivity
         - Dissolved Oxygen
         - pH
         - Suspended Solids
         - Nutrients
         - Biological Oxygen Demand
         - Turbidity
         - Alkalinity
         - Chlorophyll
         - Other:

      1. Sediment Characteristics
         - Grain Size Distribution
         - Mineral Composition
         - Percent Organic Matter
         - Sedimentation Rate
         - Other:

      1. Chemistry
         Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
         - Petroleum Hydrocarbons
         - PAHs
         - PCBs
         - Pesticides
         - Lead
         - Mercury
         - Cadmium
         - Chromium
         - Other metals
         - Other:
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Field verification of aerial photo interpretation conducted from a boat or by diving. Color and black and white photography from 1938 to present as well as anecdotal evidence from residents being used.

Eelgrass seed coats in sediment cores are being used to determine location and abundance of historical eelgrass beds. Dating of these seed coats may be done by using lead-dating. Within the cores, the absence of seed coats indicates a die-off of the beds due to the occurrence of a wasting disease in the 1930's (this is useful for rough dating).

Costa's field observations indicate that eelgrass grows deeper at the mouth of the bay and that more epiphytes grow on the surface of the beds in the embayments than at the mouth of the bay. He has hypothesized that this epiphyte growth is due to high nutrient levels.

27. General Comments:
Interviewer: Judith Gale  
Date: January 28, 1986

1. Citation Number:  62
2. Program Title:   
3. Cognizant Individual: Mr. Randy Fairbanks, Assistant Director  
4. Address:  Massachusetts Division of Marine Fisheries  
100 Cambridge Street  
Boston, MA 02202 
5. Phone(s):  (617) 727-3194
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic:  On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
XX Other: None of the above  
Code:  4
13. Study Subtopic: 
Code:  
14. Comments on the Study: 
15. Program Start Date:  
16. Program End Date:  
17. Other Date Information:  
18. Level of Effort:  
Amount:  
Code:  
19. Program Duration:  
Code:  
20. Form of Data:  
Code:  
21. Data Location:  
22. Data Availability:  
Code:  
23. Data Restrictions:  
Code:  
24. Region of Buzzards Bay Covered:  
25. Purpose of Program:  
Code:  
26. Program Description:  
A. Sampling Frequency  
Code:  
B. Quality Assurance/Quality Control  
Code:  

IV-251
C. Pollutant Source:
Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other

IV-252
<table>
<thead>
<tr>
<th>Specifics</th>
<th>0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Benthos</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Nekton</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Birds</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Parasites</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Fairbanks did not have information beyond what has already been collected from the Division of Marine Fisheries. One additional DMF staff person who could be contacted is Drew Kolek in Sandwich. Mr. Fairbanks indicated that it was not necessary to contact Mr. David Pierce of DMF, who was suggested by Michael Scully. Mr. Pierce is involved in management rather than research and would be unlikely to know more about research projects than the DMF staff with whom we have already spoken.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 58
2. Program Title: 
3. Cognizant Individual: Dr. Arthur Gaines
4. Address: Sea Grant Program
Woods Hole Oceanographic Institution
Woods Hole, MA 02543

(617) 548-1400
5. Phone(s): 
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
XX Other: None of the above

Code: 4

13. Study Subtopic: 
Code: 
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: 
Amount: 
Code: 
19. Program Duration: 
Code: 
20. Form of Data: 
Code: 
21. Data Location: 
22. Data Availability: 
Code: 
23. Data Restrictions: 
Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program: 
Code: 
26. Program Description: 
A. Sampling Frequency 
Code: 
B. Quality Assurance/Quality Control 
Code: 
C. Pollutant Source 
Code: 

IV-254
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>Salinity/Conductivity</td>
<td>Dissolved Oxygen</td>
</tr>
<tr>
<td>pH</td>
<td>Suspended Solids</td>
<td>Nutrients</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>Turbidity</td>
<td>Alkalinity</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td>PAHs</td>
<td>PCBs</td>
<td>Pesticides</td>
</tr>
<tr>
<td>Lead</td>
<td>Mercury</td>
<td>Cadmium</td>
<td>Chromium</td>
</tr>
<tr>
<td>Other metals</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Sea Grant does not conduct research, but funds it. Mr. Gaines mentioned a number of scientists at WHOI who are already on the list of people to be interviewed. He also suggested we contact Dr. Carol Reinisch, Chairperson of Comparative Medicine, Tufts Veterinary College.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: December 9, 1985

1. Citation Number: 117
2. Program Title: 
3. Cognizant Individual: Scott Gallagher
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400 ext. 2783
5. Phone(s): 
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other: None of the above
   Code: 4
   XX
13. Study Subtopic: 
   Code: 
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: 
   Amount: 
   Code: 
19. Program Duration: 
   Code: 
20. Form of Data: 
   Code: 
21. Data Location: 
   Code: 
22. Data Availability: 
   Code: 
23. Data Restrictions: 
   Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program: 
   Code: 
26. Program Description: 
   A. Sampling Frequency 
   Code: 
   B. Quality Assurance/Quality Control 
   Code: 
   C. Pollutant Source 
   Code:

IV-257
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Gallagher is not involved in any pertinent work at this time. He has proposed a study on larval transport and expects to be funded by June 1986.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown  
Date: November, 1985

1. Citation Number: 40
2. Program Title: Sulfur Cycling in a Salt Marsh
3. Cognizant Individual: Dr. Anne Giblin
4. Address:
   Ecosystems Center  
   Marine Biological Laboratory  
   Woods Hole, MA 02543  
   (617) 548-3705
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization: National Science Foundation
10. Address: Washington D.C.
11. Phone(s):
12. Study Topic:  
   On-going research  
   Lobster Landings  
   Toxic substances in organisms and sediments  
   Water quality and nutrient data  
   Other: Pyrite in salt marshes
   Code: 0,4
13. Study Subtopic:
   Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data: Hardcopy, partially complete
   Code: 1
21. Data Location: Anne Giblin
22. Data Availability: Unknown
   Code: 0
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered: Cores taken from Sippewissett Marsh were used in microcosm experiments.
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
D. **Parameters Measured**

1 **Physical Oceanography**

1 **Water Quality**

**Specifics** *(0 = Unspecified, 1 = At Surface, 2 = At Bottom)*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>0 1 2</td>
</tr>
<tr>
<td>pH</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Nutrients</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

1 **Sediment Characteristics**

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 **Chemistry**

**Specifics** *(0 = unspecifed, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PAHs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PCBs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Pesticides</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Lead</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Mercury</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Chromium</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other metals</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

**IV-261**
<table>
<thead>
<tr>
<th>1</th>
<th>Biology</th>
<th>Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Benthos</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Nekton</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Birds</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Parasites</td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The Principal Investigator of the project is Dr. Bruce Petersen. Dr. Giblin's role is to analyze the iron sulfide mineral, pyrite, in the marsh. Her work was conducted in microcosms with cores from Sippewissett Marsh. Some of the results are in her dissertation.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 23, 1986

1. Citation Number: 46
2. Program Title:
3. Cognizant Individual: Mr. Lou Hambly
4. Address: Massachusetts Division of Fisheries and Wildlife
   Buzzards Bay, MA
   (617) 759-3406
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above
    Code: 4
XX
13. Study Subtopic: Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source
   Code:

IV-263
D. Parameters Measured

<table>
<thead>
<tr>
<th>Physical Oceanography</th>
<th>Water Quality</th>
<th>Sediment Characteristics</th>
<th>Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameters</strong></td>
<td><strong>Specifics</strong> (0 = unspecified, 1 = At Surface, 2 = At Bottom)</td>
<td></td>
<td>Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</td>
</tr>
<tr>
<td>Temperature</td>
<td>0 1 2</td>
<td>Grain Size Distribution</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td>0 1 2</td>
<td>Mineral Composition</td>
<td>PAHs</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>0 1 2</td>
<td>Percent Organic Matter</td>
<td>PCBs</td>
</tr>
<tr>
<td>pH</td>
<td>0 1 2</td>
<td>Sedimentation Rate</td>
<td>Pesticides</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>0 1 2</td>
<td></td>
<td>Lead</td>
</tr>
<tr>
<td>Nutrients</td>
<td>0 1 2</td>
<td></td>
<td>Mercury</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>0 1 2</td>
<td></td>
<td>Cadmium</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0 1 2</td>
<td></td>
<td>Chromium</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>0 1 2</td>
<td></td>
<td>Other metals</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>0 1 2</td>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Other</td>
<td>0 1 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IV-264
### Biology Specifics

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
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<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
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<td>3</td>
<td></td>
</tr>
<tr>
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<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Microorganisms/Pathogens
Phytoplankton/Microphytes
Macrophytes
Zooplankton
Benthos
Nekton
Birds
Reptiles/Mammals
Parasites
Other

**Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)**

27. **General Comments:**

Referred me to Dick Keller and Bob Madore in the Fish and Wildlife office in Westboro [(617) 366-4470] to ask about water quality studies, historical data on streams, or monitoring studies. No data are located at the Buzzards Bay office.
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Betsy Brown  
**Date:** Feb. 24, 1986

<table>
<thead>
<tr>
<th>1. Citation Number:</th>
<th>97</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Program Title:</td>
<td></td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Mr. George Hampson</td>
</tr>
</tbody>
</table>
| 4. Address:         | Biology Department  
Woods Hole Oceanographic Institution  
Woods Hole, MA 02543 |
| 5. Phone(s):        | (617) 548-1400, ext. 2390 |
| 6. Performing Organization: |    |
| 7. Address:         |    |
| 8. Phone(s):        |    |
| 9. Funding Organization: |    |
| 10. Address:        |    |
| 11. Phone(s):       |    |
| 12. Study Topic:    | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data |
|                     | XX Other: None of the above |

| Code: 4 |
| 13. Study Subtopic: |    |
| 14. Comments on the Study: |    |
| 15. Program Start Date: |    |
| 16. Program End Date: |    |
| 17. Other Date Information: |    |
| 18. Level of Effort: |    |
| Amount: | Code: |
| 19. Program Duration: | Code: |
| 20. Form of Data: | Code: |
| 21. Data Location: | Code: |
| 22. Data Availability: | Code: |
| 23. Data Restrictions: | Code: |
| 24. Region of Buzzards Bay Covered: | Code: |
| 25. Purpose of Program: | Code: |
| 26. Program Description: | Code: |
| A. Sampling Frequency | Code: |
| B. Quality Assurance/Quality Control | Code: |
| C. Pollutant Source | Code: |
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other:

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: George Hampson has conducted benthic community studies in Buzzards Bay and has participated in the study following the West Falmouth oil spill. He has not conducted any other work related to lobster landings, water quality and nutrients, and toxics in organisms and sediments.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 30, 1986

1. Citation Number: 66
2. Program Title: 
3. Cognizant Individual: Dr. Alan Lee Hankin, Executive Director
4. Address: Lloyd Center for Environmental Studies, Inc.
   430 Potomska Road
   Dartmouth, MA 02748
   (617) 990-0505
5. Phone(s):
6. Performing Organization: 
7. Address:
8. Phone(s):
9. Funding Organization: 
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other: None of the above
   Code: 4
XX Other: None of the above
13. Study Subtopic:
   Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
### D. Parameters Measured

1 Physical Oceanography

#### Water Quality

**Specifics** (*0 = Unspecified, 1 = At Surface, 2 = At Bottom*)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
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<td>Suspended Solids</td>
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<td>Nutrients</td>
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<td>Biological Oxygen Demand</td>
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1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

**Specifics** (*0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)*

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</tr>
<tr>
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<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1 Biology

**Specifics** (*0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)*

<table>
<thead>
<tr>
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<th>1</th>
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</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
27. General Comments: The Lloyd Research Center is involved in the Buzzards Bay Program for EPA both in terms of baseline mapping of Buzzards Bay and in the public participation component as well. The Center has not been involved in research relating to the topic areas of lobster landings, water quality and nutrients, or toxic compounds in organisms and sediments, except with the Acid Rain Monitoring project conducted by Dr. Paul Godfrey at the Water Resources Research Center at UMass/Amherst. Some of the data is at the Lloyd Center, but Dr. Godfrey has all of it. Mr. Hankin indicated that some of the samples taken in streams flowing into Buzzards Bay were taken within two or three miles of the Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 4, 1986

1. Citation Number: 87
2. Program Title:
3. Cognizant Individual: Mr. George Heimerdinger
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: None of the above

   Code: 4
13. Study Subtopic:
   Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source
   Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecifed, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: George Heimerdinger is the Sea Grant/WHOI data processing liaison. He also works with NOAA's data on the Red and Blue VAX's at WHOI. Much of the National Marine Fisheries data are on the Grey VAX at WHOI and we will have to access the NMFS information through Sandy Hook.
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Betsy Brown  
**Date:** February 21, 1986

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<tr>
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<tr>
<td>2. Program Title:</td>
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<tr>
<td>3. Cognizant Individual:</td>
<td>Dr. Eugene Heyerdahl</td>
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</tbody>
</table>
| 4. Address: | National Marine Fisheries Service  
|            | National Oceanic and Atmospheric Admin.  
|            | U.S. Department of Commerce  
|            | Woods Hole, MA 02543 |
| 5. Phone(s): | (617) 548-5123 |
| 6. Performing Organization: |    |
| 7. Address: |    |
| 8. Phone(s): |    |
| 9. Funding Organization: |    |
| 10. Address: |    |
| 11. Phone(s): |    |
| 12. Study Topic: | On-going research  
|            | Lobster Landings  
|            | Toxic substances in organisms and sediments  
|            | Water quality and nutrient data |
| Code: | 4 |
| 13. Study Subtopic: |    |
| Code: |    |
| 14. Comments on the Study: |    |
| 15. Program Start Date: |    |
| 16. Program End Date: |    |
| 17. Other Date Information: |    |
| 18. Level of Effort: |    |
| Amount: |    |
| Code: |    |
| 19. Program Duration: |    |
| Code: |    |
| 20. Form of Data: |    |
| Code: |    |
| 21. Data Location: |    |
| Code: |    |
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| Code: |    |
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| 24. Region of Buzzards Bay Covered: |    |
| Code: |    |
| 25. Purpose of Program: |    |
| Code: |    |
| 26. Program Description: |    |
| A. Sampling Frequency |    |
| Code: |    |
| B. Quality Assurance/Quality Control |    |
| Code: |    |
| C. Pollutant Source |    |
| Code: |    |

XX Other: None of the above
D. Parameters Measured

1 Physical Oceanography
2 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

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1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Heyerdahl is in charge of the regional database at NMFS in Woods Hole. His name was given by Dr. John B. Pearce as someone who could help our program obtain data if the principal investigators need assistance. He can access the grey VAX at WHOI.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: December 13, 1985

1. Citation Number: 3
2. Program Title: Controls of Anaerobic Decomposition Processes
3. Cognizant Individual: Dr. Robert Howarth
4. Address:
Cornell University
Department of Ecology and Systematics
Ithaca, New York and
Dr. John Hobbie
Ecosystems Center
Marine Biological Laboratory
Woods Hole, MA 02543

5. Phone(s):
Howarth: (607) 256-4703 ext. 271
Hobbie: (617) 548-3705

6. Performing Organization: Ecosystems Center
Marine Biological Laboratory

7. Address:
Woods Hole, MA 02543

8. Phone(s):
(617) 548-3705

9. Funding Organization: National Science Foundation

10. Address:
Washington, D.C.

11. Phone(s):

12. Study Topic: XX On-going research
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
XX Other: Detritus cycling

Code: 0,4

13. Study Subtopic: None
Code: 0

14. Comments on the Study:

15. Program Start Date: September 1983
16. Program End Date: September 1986 Expected
17. Other Date Information:

18. Level of Effort:
Amount: $150,000 per year (total amt. $450,000)
Code: 3

19. Program Duration: 3 years
Code: 4

20. Form of Data: Handwritten tables
Code: 1

21. Data Location: At MBL and some with Robert Howarth at Cornell

22. Data Availability: Not available
Code: 0

23. Data Restrictions: Data restricted
Code: 0

24. Region of Buzzards Bay Covered: One station in Sippiwissett Marsh, one station on Nashon Island, and one station in Vineyard Sound.

IV-278
25. Purpose of Program: Basic research. To study anaerobic decomposition and diagenesis processes in plankton and microorganisms.  
Code: 0

26. Program Description:  
A. Sampling Frequency: Sporadic  
Code: 6

B. Quality Assurance/Quality Control: Maintain own QA/QC in lab, nothing formal.  
Code: 2

C. Pollutant Source: None  
Code: 0

D. Parameters Measured

1 Physical Oceanography
1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

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<td>Biological Oxygen Demand</td>
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<td>Chlorophyll</td>
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<tr>
<td>0</td>
<td>Other</td>
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1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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<td>0</td>
<td>PCBs</td>
</tr>
<tr>
<td>0</td>
<td>Pesticides</td>
</tr>
<tr>
<td>0</td>
<td>Lead</td>
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<td>Mercury</td>
</tr>
<tr>
<td>0</td>
<td>Cadmium</td>
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<tr>
<td>0</td>
<td>Chromium</td>
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<td>Other metals: Iron</td>
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<tr>
<td>0</td>
<td>Other: Basic sulfur and other organic chemistry</td>
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</tbody>
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IV-279
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
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</table>

Microorganisms/Pathogens
Phytoplankton/Microphytes
Macrophytes
Zooplankton
Benthos
Nekton
Birds
Reptiles/Mammals
Parasites
Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: This work is not relevant to the topic areas of this study. Howarth and Hobbie measured turnover rates of acetate and sulfate reduction rates. Experiments involved aging radioactively labelled detritus and measuring oxidation rates.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 28, 1986

1. Citation Number: 59
2. Program Title:
3. Cognizant Individual: Richard Keller
4. Address: Massachusetts Division of Fisheries and Wildlife
   Field Headquarters
   Route 135
   Westborough, MA 01581
   (617) 366-4479

5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above

Code: 4

13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
A. Sampling Frequency
   Code:
B. Quality Assurance/Quality Control
   Code:
C. Pollutant Source
   Code:

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in
   sediment, 3 = in biota; if a "3" is used, the
   "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The Division of Fisheries and Wildlife does not collect water quality chemistry data except of the most general kind. The Taunton River study was a fisheries survey and did not include collection of water quality data. He suggested we contact Dr. Paul Godfrey at the Water Resource Center at the University of Massachusetts, Amherst [(413) 545-2842]. Dr. Godfrey was involved in an acid rain study over the past two years that included the collection of water quality data for all surface waters in Massachusetts.
<p>| | |</p>
<table>
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| **BUZZARDS BAY INFORMATION SHEET** | Interviewer: Judy Scanlon  
Date: November 7, 1985 |
| 1. Citation Number: | 5 |
| 2. Program Title: |   |
| 3. Cognizant Individual: | Robert Lawton |
| 4. Address: | Massachusetts Division of Marine Fisheries  
449 Route 6A  
Sandwich, MA 02537  
(617) 888-1155 |
| 5. Phone(s): |   |
| 6. Performing Organization: |   |
| 7. Address: |   |
| 8. Phone(s): |   |
| 9. Funding Organization: |   |
| 10. Address: |   |
| 11. Phone(s): |   |
| 12. Study Topic: | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
XX Other: None of the above |
| Code: | 4 |
| 13. Study Subtopic: |   |
| Code: |   |
| 14. Comments on the Study: |   |
| 15. Program Start Date: |   |
| 16. Program End Date: |   |
| 17. Other Date Information: |   |
| 18. Level of Effort: | Amount: |
| Code: |   |
| 19. Program Duration: | Code: |
| Code: |   |
| 20. Form of Data: | Code: |
| Code: |   |
| 21. Data Location: | Code: |
| Code: |   |
| 22. Data Availability: | Code: |
| Code: |   |
| 23. Data Restrictions: | Code: |
| Code: |   |
| 24. Region of Buzzards Bay Covered: |   |
| 25. Purpose of Program: | Code: |
| 26. Program Description: | A. Sampling Frequency  
Code: |
| B. Quality Assurance/Quality Control  
Code: |
| C. Pollutant Source  
Code: |

IV-284
### D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
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<td>Dissolved Oxygen</td>
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<td>Suspended Solids</td>
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</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Nutrients</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Biological Oxygen Demand</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Turbidity</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Alkalinity</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Chlorophyll</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Petroleum Hydrocarbons</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PCBs</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Pesticides</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Lead</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Mercury</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Cadmium</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Chromium</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other metals</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>
### Biology

<table>
<thead>
<tr>
<th>Specifics</th>
<th>0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>1</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>2</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>3</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0</td>
<td>Benthos</td>
</tr>
<tr>
<td>1</td>
<td>Nekton</td>
</tr>
<tr>
<td>2</td>
<td>Birds</td>
</tr>
<tr>
<td>3</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>0</td>
<td>Parasites</td>
</tr>
<tr>
<td>1</td>
<td>Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

### General Comments:


2. Wareham River project (Bill Fitzpatrick, Project Manager). It is unpublished in E. Sandwich library. Need permission from Jack Fiske, Chief of Research, in Boston to review material.

3. Complete Cape Cod Canal report. Copy will be sent to us.

BUZZARDS BAY INFORMATION SHEET

1. Citation Number: 105
2. Program Title:
3. Cognizant Individual: Burke Lymeberner
4. Address: Shellfish Constable
   Massachusetts Department of Natural Resources
   24 Perry Avenue
   Buzzards Bay, MA 02532
   (617) 759-3441
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above
13. Study Subtopic:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source
   Code:

IV-287
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Lymeberner does not collect water quality data, but some data is collected by the Board of Health. Contact Tom Fantozzi (759-3435).
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: November 25, 1985

1. Citation Number: 34
2. Program Title: Distribution and Abundance of Copepod Eggs in Sediments
3. Cognizant Individual: Dr. Nancy Marcus
4. Address: Redfield Building
   Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
5. Phone(s): (617) 548-1400
6. Performing Organization: N/A
7. Address: 
8. Phone(s): 
9. Funding Organization: National Science Foundation
10. Address: Washington, D.C.
11. Phone(s): 
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other: Copepod eggs distribution and abundance
13. Study Subtopic: None
   Code: 0
14. Comments on the Study: Studied the distribution and abundance of copepod eggs in sediments in Buzzards Bay to examine their importance relative to copepod populations. Copepod eggs accumulate in fine sediments as do pollutants and so the eggs have potential as pollution assessment tools.
15. Program Start Date: 1982
16. Program End Date: 1984
17. Other Date Information: 
18. Level of Effort:
   Amount: $140,000
   Code: 3
19. Program Duration: 2 years, terminated
   Code: 0
20. Form of Data: Hardcopy
   Code: 1
21. Data Location: Dr. Nancy Marcus
   Code: 1
23. Data Restrictions: None
   Code: 1
24. Region of Buzzards Bay Covered: Five to six stations in Buzzards Bay sampled monthly, exact locations of which are located in her publication.

IV-290
   Code: 0

26. Program Description:
   A. Sampling Frequency  Monthly
      Code: 3
   B. Quality Assurance/Quality Control  No specific program
      Code: 3
   C. Pollutant Source  Not applicable
      Code: 0
   D. Parameters Measured

1  Physical Oceanography
1  Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2  Temperature
0 1 2  Salinity/Conductivity
0 1 2  Dissolved Oxygen
0 1 2  pH
0 1 2  Suspended Solids
0 1 2  Nutrients
0 1 2  Biological Oxygen Demand
0 1 2  Turbidity
0 1 2  Alkalinity
0 1 2  Chlorophyll
0 1 2  Other

1  Sediment Characteristics

XX  Grain Size Distribution
    Mineral Composition
    Percent Organic Matter
    Sedimentation Rate
    Other

1  Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3  Petroleum Hydrocarbons
0 1 2 3  PAHs
0 1 2 3  PCBs
0 1 2 3  Pesticides
0 1 2 3  Lead
0 1 2 3  Mercury
0 1 2 3  Cadmium
0 1 2 3  Chromium
0 1 2 3  Other metals
0 1 2 3  Other

IV-291
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nektion
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

Over 1.5 to 2 years sediment cores were taken monthly at five or six stations in Buzzards Bay. Cores were taken to a depth of 5 cm in the sediments and sectioned into 1 cm sections. Duplicate cores were taken for plus one for grain size analysis. Cores were 2 cm in diameter and 12 cm long. Cores were taken by divers.

27. General Comments: The copepod Labidocera produces 10$^6$ nauplii per meter square when reproducing. The species produces two types of eggs, diapause and nondiapause eggs. Copepod species with diapause eggs occur mostly in estuaries and shallow subtidal habitats. Both types of eggs settle to the sediments. Marcus was interested in examining the viability of eggs and as an important source of recruits for the plankton. He found that the diapause eggs are viable even after passing through the guts of polychaetes, Cistenides gouldi and Clymenella torquata. Diapause eggs are more viable after digestion than nondiapause eggs. Marcus believes that these eggs would prove a useful assessment tool for impacts of pollutants in sediments.
<table>
<thead>
<tr>
<th></th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Citation Number:</td>
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<tr>
<td>2.</td>
<td>Program Title:</td>
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<tr>
<td>3.</td>
<td>Cognizant Individual:</td>
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<tr>
<td>4.</td>
<td>Address:</td>
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<td>5.</td>
<td>Phone(s):</td>
</tr>
<tr>
<td>6.</td>
<td>Performing Organization:</td>
</tr>
<tr>
<td>7.</td>
<td>Address:</td>
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<tr>
<td>8.</td>
<td>Phone(s):</td>
</tr>
<tr>
<td>10.</td>
<td>Address:</td>
</tr>
<tr>
<td>11.</td>
<td>Phone(s):</td>
</tr>
<tr>
<td>12.</td>
<td>Study Topic:</td>
</tr>
<tr>
<td>13.</td>
<td>Study Subtopic:</td>
</tr>
<tr>
<td>14.</td>
<td>Comments on the Study:</td>
</tr>
<tr>
<td>15.</td>
<td>Program Start Date:</td>
</tr>
<tr>
<td>16.</td>
<td>Program End Date:</td>
</tr>
<tr>
<td>17.</td>
<td>Other Date Information:</td>
</tr>
<tr>
<td>18.</td>
<td>Level of Effort:</td>
</tr>
<tr>
<td>19.</td>
<td>Program Duration:</td>
</tr>
<tr>
<td>20.</td>
<td>Form of Data:</td>
</tr>
<tr>
<td>21.</td>
<td>Data Location:</td>
</tr>
<tr>
<td>22.</td>
<td>Data Availability:</td>
</tr>
<tr>
<td>23.</td>
<td>Data Restrictions:</td>
</tr>
<tr>
<td>24.</td>
<td>Region of Buzzards Bay Covered:</td>
</tr>
<tr>
<td>25.</td>
<td>Purpose of Program:</td>
</tr>
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</table>
26. **Program Description:**

A. **Sampling Frequency**  
   Code: 

B. **Quality Assurance/Quality Control**  
   Code: 

C. **Pollutant Source**  
   Code: 

D. **Parameters Measured**

<table>
<thead>
<tr>
<th>1 Physical Oceanography</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Water Quality</td>
</tr>
<tr>
<td>Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</td>
</tr>
<tr>
<td>0 1 2 Temperature</td>
</tr>
<tr>
<td>0 1 2 Salinity/Conductivity</td>
</tr>
<tr>
<td>0 1 2 Dissolved Oxygen</td>
</tr>
<tr>
<td>0 1 2 pH</td>
</tr>
<tr>
<td>0 1 2 Suspended Solids</td>
</tr>
<tr>
<td>0 1 2 Nutrients</td>
</tr>
<tr>
<td>0 1 2 Biological Oxygen Demand</td>
</tr>
<tr>
<td>0 1 2 Turbidity</td>
</tr>
<tr>
<td>0 1 2 Alkalinity</td>
</tr>
<tr>
<td>0 1 2 Chlorophyll</td>
</tr>
<tr>
<td>0 1 2 Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 Sediment Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Size Distribution</td>
</tr>
<tr>
<td>Mineral Composition</td>
</tr>
<tr>
<td>Percent Organic Matter</td>
</tr>
<tr>
<td>Sedimentation Rate</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 Chemistry (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a &quot;3&quot; is used, the &quot;Biology&quot; section below must be completed.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 Petroleum Hydrocarbons</td>
</tr>
<tr>
<td>0 1 2 3 PAHs</td>
</tr>
<tr>
<td>0 1 2 3 PCBs</td>
</tr>
<tr>
<td>0 1 2 3 Pesticides</td>
</tr>
<tr>
<td>0 1 2 3 Lead</td>
</tr>
<tr>
<td>0 1 2 3 Mercury</td>
</tr>
<tr>
<td>0 1 2 3 Cadmium</td>
</tr>
<tr>
<td>0 1 2 3 Chromium</td>
</tr>
<tr>
<td>0 1 2 3 Other metals: Silver</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>
Biology

<table>
<thead>
<tr>
<th>Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3 Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3 Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3 Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3 Benthos</td>
</tr>
<tr>
<td>0 1 2 3 Nekton</td>
</tr>
<tr>
<td>0 1 2 3 Birds</td>
</tr>
<tr>
<td>0 1 2 3 Reptiles/Mammals</td>
</tr>
<tr>
<td>0 1 2 3 Parasites</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: This study was not considered directly applicable to this data compilation effort because Dr. Marcus' study is strictly a laboratory study with no data collection in the Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 31, 1986

1. Citation Number: 69
2. Program Title:
3. Cognizant Individual: Dr. Carey Matthiessen
4. Address: 267 Seapuit Road
   Osterville, MA 02655
5. Phone(s): (617) 428-8067
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: None of the above
Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
    Code:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:
D. Parameters Measured

1 Physical Oceanography
2 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

IV-297
Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Matthiessen has not done any research in Buzzards Bay that falls into the topic areas. He suggested we contact George Hampson at WHOI.
1. Citation Number: 88
2. Program Title: Cognizant
3. Cognizant Individual: Dr. John Milliman
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
5. Phone(s): (617) 548-1400 ext. 2575
6. Performing Organization: On-going research
7. Address: Lobster Landings
8. Phone(s): Toxic substances in organisms and sediments
9. Funding Organization: Water quality and nutrient data
10. Address: Other: None of the above
11. Phone(s): Study Topic: XX
12. Study Subtopic: Code: 4
13. Study Subtopic: Comments on the Study:
14. Program Start Date: Level of Effort:
15. Program End Date: Amount: Code: 4
16. Other Date Information: Program Duration: Code: 4
17. Other Date Information: Form of Data: Code: 4
18. Other Date Information: Data Location: Code: 4
19. Other Date Information: Data Availability: Code: 4
20. Other Date Information: Data Restrictions: Code: 4
21. Other Date Information: Region of Buzzards Bay Covered: Code: 4
22. Purpose of Program: Program Description:
23. Purpose of Program: A. Sampling Frequency Code: 4
24. Purpose of Program: B. Quality Assurance/Quality Control Code: 4
25. Purpose of Program: C. Pollutant Source Code: 4

Interviewer: Judith Gale
Date: February 18, 1986

IV-299
D. Parameters Measured

1 Physical Oceanography
2 Water Quality

Specifications (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifications (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:
1. Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: When John Milliman was first called, Arthur Gaines responded and indicated that Milliman had not conducted research relevant to this project's topic areas. Gaines was asked about work being done by Holgar Jannasch, who is a microbiologist at WHOI. Gaines worked in Jannasch's laboratory some time ago. He did not know of any work done by Jannasch that would fall into the topic areas of this project.

John Milliman called back and confirmed he had no pertinent data, but indicated that the work Summerhayes, Ellis, and Stoffers had conducted in New Bedford Harbor was an important data set. Their work has been published in both a WHOI technical report and more recently in Contributions to Sedimentology. The latter is a refinement of the former. The data sets from this work are essentially not available. None of these men are in the country: Summerhayes is in England (address=Dr. Colin Summerhayes, British Petroleum Research Center, Chertsey Road, Sunbury-on-Thames, Middlesex, England), Ellis is in Arabia and Stoffers in in Heidelberg, Germany. Dr. Milliman will send his copy of the recent monograph for us to copy.
**BUZZARDS BAY INFORMATION SHEET**

**Interviewer:** Ellen Rosen  
**Date:** December 13, 1985

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1. Citation Number:</td>
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</tr>
<tr>
<td>2. Program Title:</td>
<td>Finfish Resources of Buzzards Bay</td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>Dr. Sandy Moss</td>
</tr>
</tbody>
</table>
| 4. Address: | Biology Department  
Southeastern Massachusetts University  
Dartmouth, MA 02747 |
| 5. Phone(s): | (617) 999-8218 |
| 6. Performing Organization: | Same as above |
| 7. Address: |   |
| 8. Phone(s): |   |
| 9. Funding Organization: | EPA |
| 10. Address: |   |
| 11. Phone(s): |   |
| 12. Study Topic: | XX |
|   | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
Other |
| Code: | 0 |
| 13. Study Subtopic: |   |
| Code: |   |
| 14. Comments on the Study: |   |
| 15. Program Start Date: |   |
| 16. Program End Date: |   |
| 17. Other Date Information: |   |
| 18. Level of Effort: |   |
| Amount: |   |
| Code: |   |
| 19. Program Duration: |   |
| Code: |   |
| 20. Form of Data: |   |
| Code: |   |
| 21. Data Location: |   |
| Code: |   |
| 22. Data Availability: |   |
| Code: |   |
| 23. Data Restrictions: |   |
| Code: |   |
| 24. Region of Buzzards Bay Covered: |   |
| 25. Purpose of Program: |   |
| Code: |   |
| 26. Program Description: |   |
| A. Sampling Frequency |   |
| Code: |   |
| B. Quality Assurance/Quality Control |   |
| Code: |   |
| C. Pollutant Source |   |
| Code: |   |
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2  Temperature
   0 1 2  Salinity/Conductivity
   0 1 2  Dissolved Oxygen
   0 1 2  pH
   0 1 2  Suspended Solids
   0 1 2  Nutrients
   0 1 2  Biological Oxygen Demand
   0 1 2  Turbidity
   0 1 2  Alkalinity
   0 1 2  Chlorophyll
   0 1 2  Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry

   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3  Petroleum Hydrocarbons
   0 1 2 3  PAHs
   0 1 2 3  PCBs
   0 1 2 3  Pesticides
   0 1 2 3  Lead
   0 1 2 3  Mercury
   0 1 2 3  Cadmium
   0 1 2 3  Chromium
   0 1 2 3  Other metals
   0 1 2 3  Other
### Biology

<table>
<thead>
<tr>
<th>Species</th>
<th>0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>0 1 2 3</td>
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<tr>
<td>Phytoplankton/Microphytes</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Macrophytes</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Zooplankton</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Benthos</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Nekton</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Birds</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Reptiles/Mammals</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Parasites</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

#### 27. General Comments

Dr. Moss is studying distribution and relative abundance of finfish in Buzzards Bay. Occasionally, during collection of fish, such data as temperature and salinity are recorded but not incorporated into the data bank. This information can be found in the collection logs. Dr. Moss suggested we contact Dr. Jim Hoff who has done work on toxic compounds in New Bedford Harbor.
<p>| | |</p>
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<thead>
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<tbody>
<tr>
<td>1. Citation Number:</td>
<td>51</td>
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<tr>
<td>2. Program Title:</td>
<td></td>
</tr>
<tr>
<td>3. Cognizant Individual:</td>
<td>David Oliver</td>
</tr>
</tbody>
</table>
| 4. Address: | Digital Image Analysis Laboratory  
University Computing Center  
A-129 Lederle Graduate Research Center  
University of Massachusetts  
Amherst, MA 01003 |
| 5. Phone(s): | (413) 545-2690 |
| 6. Performing Organization: |   |
| 7. Address: |   |
| 8. Phone(s): |   |
| 9. Funding Organization: |   |
| 10. Address: |   |
| 11. Phone(s): |   |
| 12. Study Topic: | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
XX Other: None of the above |
|   | Code: 4 |
| 13. Study Subtopic: |   |
|   | Code: |
| 14. Comments on the Study: |   |
| 15. Program Start Date: |   |
| 16. Program End Date: |   |
| 17. Other Date Information: |   |
| 18. Level of Effort: |   |
| Amount: |   |
| Code: |   |
| 19. Program Duration: |   |
| Code: |   |
| 20. Form of Data: |   |
| Code: |   |
| 21. Data Location: |   |
| 22. Data Availability: |   |
| Code: |   |
| 23. Data Restrictions: |   |
| Code: |   |
| 24. Region of Buzzards Bay Covered: |   |
| 25. Purpose of Program: |   |
| Code: |   |
| 26. Program Description: |   |
| A. Sampling Frequency |   |
| Code: |   |
| B. Quality Assurance/Quality Control |   |
| Code: |   |
C. Pollutant Source Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature</th>
<th>Salinity/Conductivity</th>
<th>Dissolved Oxygen</th>
<th>pH</th>
<th>Suspended Solids</th>
<th>Nutrients</th>
<th>Biological Oxygen Demand</th>
<th>Turbidity</th>
<th>Alkalinity</th>
<th>Chlorophyll</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Code</th>
<th>Petroleum Hydrocarbons</th>
<th>PAHs</th>
<th>PCBs</th>
<th>Pesticides</th>
<th>Lead</th>
<th>Mercury</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Other metals</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>3</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
This laboratory is part of the general computing center services at the University. Research is conducted on the basis of contracts. At present, no research has been done there that falls into the topic areas of our project. However, the lab is working with Dr. Michael Rex of the Biology Department, University of Massachusetts, Boston, MA, (617) 929-8387 or 8400, to develop some research utilizing the coastal zone color scanner.

Satellite data available at the laboratory include:

Multispectral Scanner data from Landsats I,II, and III including images of Massachusetts beginning in 1972.

Thematic Mapper data from Landsats IV and V (resolution 30 meters on a side for each picture element) including images of Massachusetts.

Coastal Zone Color Scanner data designed to sense sediment and chlorophyll and including a thermal band (resolution 800 meters on a side per picture element) for 1976 and 1978. This data covers the Northeast Atlantic Coast.

The laboratory is involved in digital scanning to produce computer images, image processing, photowriting digital data onto film, and the integration of satellite data into a geographic information system called SAGIS.

Satellite data can also be obtained from the Cartographic Information Service at University of Massachusetts, Amherst [(413) 545-0359].

Satellite imagery can be obtained by contacting Dennis Swartwout, Head, Cartographic Information Service [(413) 545-0359]. The cost of Multispectral Scanner scenes (flyovers) is $675 each and for Thematic Mapper scenes, $3,300 each.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 18, 1985

1. Citation Number: 17
2. Program Title: Investigation of Dieback in a Buzzards Bay Saltmarsh
3. Cognizant Individual: Dr. Hank Parker and Dr. James Sears
4. Address: Southeastern Massachusetts University
   South Dartmouth, MA 02747
5. Phone(s): (617) 999-8211
6. Performing Organization: Same as above
7. Address: 
8. Phone(s): 
9. Funding Organization: Nonquitt Association
10. Address: 
11. Phone(s): 
12. Study Topic: XX On-going research
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   XX Other: None of the above
   Code: 0,4
13. Study Subtopic: 
14. Comments on the Study: 
15. Program Start Date: August, 1980
16. Program End Date: Ongoing
17. Other Date Information: 
18. Level of Effort: Amount: Proprietary
   Code: 0
19. Program Duration: 5 years
   Code: 5
20. Form of Data: Hardcopy
    Code: 1
21. Data Location: Southeastern Massachusetts University
22. Data Availability: By written request
   Code: 3
23. Data Restrictions: Data restricted
    Code: 0
24. Region of Buzzards Bay Covered: South Dartmouth, MA
25. Purpose of Program: To determine the cause and recommend a solution to the dieback of marshes due to restricted circulation due to both manmade and natural causes.
   Code: 0
26. Program Description:
   A. Sampling Frequency Annually
      Code: 5
   B. Quality Assurance/Quality Control None specified
      Code: 3

IV-308
C. Pollutant Source Not specified
   Code: 0
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Transect and quadrat analyses, experimental plantings, and ariel overflights. Measured percent cover and species composition. For experimental plantings, growth rates and flowering were monitored. Observed changes in aerial, vegetative cover in whole marsh from photographs.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Tracy Stenner
Date: March 4, 1986

1. Citation Number: 106
2. Program Title: Cognizant
3. Cognizant Individual: Joseph Pauline
4. Address: Shellfish Constable
   Town Hall
   40 Center Street
   Fairhaven, MA 02719
   (617) 992-5416, 992-4339 home

5. Phone(s): On-going research
6. Performing Organization:
7. Address: Lobster Landings
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic:
    Group A: Toxic substances in organisms and sediments
    Group B: Water quality and nutrient data
    Other: None of the above

Code: 4

13. Study Subtopic:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount: XX
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:

IV-311
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

IV-312
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Pauline does not collect any data relevant to this project.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 4, 1986

1. Citation Number: 90
2. Program Title:
3. Cognizant Individual: Dr. John B. Pearce, Deputy Branch Chief
   National Marine Fisheries Service
   National Oceanic and Atmospheric Admin.
   U.S. Department of Commerce
   Woods Hole, MA 02543
4. Address:
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: None of the above

   Code: 4
13. Study Subtopic:
   Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
   Code:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:
   C. Pollutant Source
   Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<p>| | | | | | |</p>
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<thead>
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<td>Biological Oxygen Demand</td>
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<td>2</td>
<td>Turbidity</td>
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<td>1</td>
<td>2</td>
<td>Other:</td>
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</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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<tbody>
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<td>3</td>
<td>Petroleum Hydrocarbons</td>
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<td>1</td>
<td>2</td>
<td>3</td>
<td>Pesticides</td>
<td></td>
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<td>3</td>
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<td>3</td>
<td>Other:</td>
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</tr>
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IV-315
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
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<td></td>
</tr>
<tr>
<td>2</td>
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<td></td>
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</tr>
<tr>
<td>3</td>
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<td></td>
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</tbody>
</table>

Microorganisms/Pathogens
Phytoplankton/Microphytes
Macrophytes
Zooplankton
Benthos
Nekton
Birds
Reptiles/Mammals
Parasites
Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Jack Pearce agreed to give permission for EPA to use the NMFS data available for Buzzards Bay. He also indicated that Mr. Jay O'Reilly at NMFS in Sandy Hook, NJ should be contacted as he would have water quality and nutrients information.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 57
2. Program Title:
3. Cognizant Individual: Ms. Jackie Prince
4. Address: U.S. Environmental Protection Agency
   Region I Office
   J.F.K. Building
   Boston, MA 02203
   (617) 223-1951
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
   XX Other: None of the above
   Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other
1 Biology
   Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
   0 1 2 3 Microorganisms/Pathogens
   0 1 2 3 Phytoplankton/Microphytes
   0 1 2 3 Macrophytes
   0 1 2 3 Zooplankton
   0 1 2 3 Benthos
   0 1 2 3 Nekton
   0 1 2 3 Birds
   0 1 2 3 Reptiles/Mammals
   0 1 2 3 Parasites
   0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Ms. Prince mentioned the Metcalf and Eddy Database System, the Engineering Feasibility Study for Dredging being conducted by the U.S. Army Corps of Engineers, the study being performed by Battelle (Modeling of the Transport, Distribution, and Fate of PCBs and Heavy Metals in the Acushnet River/New Bedford/Buzzards Bay System) and an on-going review of existing data by GCA on New Bedford Harbor. The GCA study is being conducted to support an endangerment assessment for EPA (Superfund). Contact Susan Santos or Ann Shotelle at GCA. The GCA project includes a list of references and an annotated bibliography which is due out in the third week of February, 1986.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 29, 1986

1. Citation Number: 68
2. Program Title: 
3. Cognizant Individual: Dr. Carol Reinisch
4. Address: Comparative Medicine
   Veterinary College
   Tufts New England Medical Center
   171 Harrison Avenue
   Boston, MA 02111
   (617) 956-5000 Ext. 6923
5. Phone(s): 
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: XX On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   XX Other: Development of diagnostic tools for
detecting disease in marine organisms.

Code: 0,4

13. Study Subtopic: 
   Code: 
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort:
   Amount: 
   Code: 
19. Program Duration:
   Code: 
20. Form of Data:
   Code: 
21. Data Location: 
22. Data Availability:
   Code: 
23. Data Restrictions:
   Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program:
   Code: 
26. Program Description:
   A. Sampling Frequency
   Code: 
   B. Quality Assurance/Quality Control
   Code:
C. Pollutant Source Code:
D. Parameters Measured

1. Physical Oceanography
2. Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1. Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1. Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other

IV-321
### Biology

**Specifics** (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

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<th>3</th>
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<td>3</td>
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<td>3</td>
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<td>3</td>
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<td>2</td>
<td>3</td>
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<td>2</td>
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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. **General Comments:** Dr. Reinisch is planning to use the softshell clam (*Mya arenaria*) to monitor Inner and Outer New Bedford Harbor. At present, she is developing a diagnostic procedure for determining if the organisms have a disease that she believes may be accelerated by the pollutants in the harbor. Roxanne Smolowitz is another key person working on this project.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 49
2. Program Title:
3. Cognizant Individual: Dr. Michael Rex
4. Address: Biology Department
   University of Massachusetts
   Boston, MA 02125
5. Phone(s): (617) 929-8387 [or 929-8462, 929-8400]
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    XX Other: None of the above

13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
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21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
       Code:
    B. Quality Assurance/Quality Control
       Code:
    C. Pollutant Source
       Code:

IV-323
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
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<tr>
<th>Specifics</th>
<th>Microorganisms/Pathogens</th>
<th>Phytoplankton/Microphytes</th>
<th>Macrophytes</th>
<th>Zooplankton</th>
<th>Benthos</th>
<th>Nekton</th>
<th>Birds</th>
<th>Reptiles/Mammals</th>
<th>Parasites</th>
<th>Other</th>
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</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Rex is using satellite data from the Coastal Zone Color Scanner to relate surface productivity to 160 deep sea diversity samples he has collected. The imagery covers Gay Head to Bermuda and may include part of Buzzards Bay. He has quarterly estimates of surfance productivity and temperature.

Dr. Rex indicated that the satellite imagery he has will not be useful for the program because no stations are in the Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon  
Date: December 9, 1985

1. Citation Number: 25
2. Program Title:  
3. Cognizant Individual: Dr. John Ryther
4. Address: Harbor Branch Foundation  
Fort Pierce, FL 33452  
(305) 465-2400
5. Phone(s):  
6. Performing Organization:  
7. Address:  
8. Phone(s):  
9. Funding Organization:  
10. Address:  
11. Phone(s):  
12. Study Topic: On-going research  
   Lobster Landings  
   Toxic substances in organisms and sediments  
   Water quality and nutrient data  
   Other: None of the above
   Code: 4

13. Study Subtopic:  
   Code:
14. Comments on the Study:  
15. Program Start Date:  
16. Program End Date:  
17. Other Date Information:  
18. Level of Effort:  
   Amount:  
   Code:
19. Program Duration:  
   Code:
20. Form of Data:  
   Code:
21. Data Location:  
22. Data Availability:  
   Code:
23. Data Restrictions:  
   Code:
24. Region of Buzzards Bay Covered:  
25. Purpose of Program:  
   Code:
26. Program Description:  
   A. Sampling Frequency  
      Code:
   B. Quality Assurance/Quality Control  
      Code:
   C. Pollutant Source  
      Code:

IV-326
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
   0 1 2 Temperature
   0 1 2 Salinity/Conductivity
   0 1 2 Dissolved Oxygen
   0 1 2 pH
   0 1 2 Suspended Solids
   0 1 2 Nutrients
   0 1 2 Biological Oxygen Demand
   0 1 2 Turbidity
   0 1 2 Alkalinity
   0 1 2 Chlorophyll
   0 1 2 Other

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
   0 1 2 3 Petroleum Hydrocarbons
   0 1 2 3 PAHs
   0 1 2 3 PCBs
   0 1 2 3 Pesticides
   0 1 2 3 Lead
   0 1 2 3 Mercury
   0 1 2 3 Cadmium
   0 1 2 3 Chromium
   0 1 2 3 Other metals
   0 1 2 3 Other
<table>
<thead>
<tr>
<th>Biology Specifics</th>
<th>0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>0 1 2 3</td>
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<tr>
<td>Phytoplankton/Microphytes</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Macrophytes</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Zooplankton</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Benthos</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Nekton</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Birds</td>
<td>0 1 2 3</td>
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<tr>
<td>Reptiles/Mammals</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Parasites</td>
<td>0 1 2 3</td>
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<tr>
<td>Other</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Ryther did not work on Buzzards Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: December 9, 1985

1. Citation Number: 20
2. Program Title:
3. Cognizant Individual: Dr. Fred Sayles
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
   (617) 548-1400
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic:
   - On-going research
   - Lobster Landings
   - Toxic substances in organisms and sediments
   - Water quality and nutrient data
   Other: None of the above
   Code: 4

13. Study Subtopic:
    Code:

14. Comments on the Study:

15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
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19. Program Duration:
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20. Form of Data:
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21. Data Location:

22. Data Availability:
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23. Data Restrictions:
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24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
   A. Sampling Frequency
      Code:
   B. Quality Assurance/Quality Control
      Code:
   C. Pollutant Source
      Code:
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

IV-330
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Dr. Sayles is working on radioisotopes in sediments and he suggested we contact Colin Summerhayes in Houston, Texas. Colin left WHOI about 6 years ago to work for an oil company. While he was at WHOI he did much work on metals in New Bedford Harbor. Summerhayes is now in England and the raw data cannot be obtained. See John Milliman's interview regarding Summerhayes' work.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 6, 1985

1. Citation Number: 8
2. Program Title:
3. Cognizant Individual: Lou Scotton
4. Address: Boston Edison
   Randolph, MA 02368
   (617) 849-8933
5. Phone(s):
6. Performing Organization: Same as above
7. Address: Same as above
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: Lobster larvae study
    Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
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21. Data Location:
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22. Data Availability:
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23. Data Restrictions:
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24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
       Code:
    B. Quality Assurance/Quality Control
       Code:
    C. Pollutant Source
       Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other

IV-333
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Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Lou Scotton studied lobster larvae in the Cape Cod Canal during the past 8 to 9 years; the results are reported in BECO seminannual reports (1975 or 1976). The final NRC report of 1979 summarizes all lobster larvae data, (4 Vol.).
### BUZZARDS BAY INFORMATION SHEET

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<td>Assistant to Commissioner Walter Bickford</td>
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<td></td>
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<tr>
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<tr>
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<td>B. Quality Assurance/Quality Control</td>
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</tr>
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<td>C. Pollutant Source</td>
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<tr>
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<td>Code:</td>
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</tr>
</tbody>
</table>

**Interviewer:** Judith Gale
**Date:** January 24, 1986
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 23, 1986

1. Citation Number: 45
2. Program Title:
3. Cognizant Individual: Gail Shaughnessy
4. Address: Massachusetts Remote Sensing Project
Department of Forestry
Holdforth Hall
University of Massachusetts
Amherst, MA 01003
(413) 545-3516
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
   Lobster Landings
   Toxic substances in organisms and sediments
   Water quality and nutrient data
   Other: None of the above
   Code: 4
XX
13. Study Subtopic:
   Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
   Amount:
   Code:
19. Program Duration:
   Code:
20. Form of Data:
   Code:
21. Data Location:
22. Data Availability:
   Code:
23. Data Restrictions:
   Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
   Code:
26. Program Description:
   A. Sampling Frequency
   Code:
   B. Quality Assurance/Quality Control
   Code:

IV-338
C. Pollutant Source
Code:

D. Parameters Measured

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<tr>
<th>1 Physical Oceanography</th>
<th>1 Water Quality Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>0 1 2 Temperature</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Salinity/Conductivity</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Dissolved Oxygen</td>
</tr>
<tr>
<td></td>
<td>0 1 2 pH</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Suspended Solids</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Nutrients</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Biological Oxygen Demand</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Turbidity</td>
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<tr>
<td></td>
<td>0 1 2 Alkalinity</td>
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<tr>
<td></td>
<td>0 1 2 Chlorophyll</td>
</tr>
<tr>
<td></td>
<td>0 1 2 Other</td>
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</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

| 0 1 2 3 Petroleum Hydrocarbons |
| 0 1 2 3 PAHs                   |
| 0 1 2 3 PCBs                   |
| 0 1 2 3 Pesticides             |
| 0 1 2 3 Lead                   |
| 0 1 2 3 Mercury                |
| 0 1 2 3 Cadmium                |
| 0 1 2 3 Chromium               |
| 0 1 2 3 Other metals           |
| 0 1 2 3 Other                  |
Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
No relevant research. They do aerial photo interpretation and are currently involved in the National Wetlands Inventory and a project on forest stress (with infra-red photography). Project sponsors are Mr. David Goodwin and Ms. Janice Stone. Gail Shaughnessy referred to David Oliver, at the Digital Image Analysis Laboratory [(413) 545-2690], as a possible lead.
<p>| | |</p>
<table>
<thead>
<tr>
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| **BUZZARDS BAY INFORMATION SHEET** | **Interviewer:** Judith Gale  
**Date:** February 24, 1986 |
| **Citation Number:** | 100 |
| **Program Title:** |   |
| **Cognizant Individual:** | Robert Sheehy |
| **Address:** | Harbormaster  
Wareham Town Hall  
54 Marion Road  
Wareham, MA 02571  
(617) 295-0800 |
| **Phone(s):** |   |
| **Performing Organization:** |   |
| **Address:** |   |
| **Phone(s):** |   |
| **Funding Organization:** |   |
| **Address:** |   |
| **Phone(s):** |   |
| **Study Topic:** | On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
**XX** Other: None of the above |
| **Code:** | 4 |
| **Study Subtopic:** |   |
| **Code:** |   |
| **Comments on the Study:** |   |
| **Program Start Date:** |   |
| **Program End Date:** |   |
| **Other Date Information:** |   |
| **Level of Effort:** |   |
| **Amount:** |   |
| **Code:** |   |
| **Program Duration:** |   |
| **Code:** |   |
| **Form of Data:** |   |
| **Code:** |   |
| **Data Location:** |   |
| **Code:** |   |
| **Data Availability:** |   |
| **Code:** |   |
| **Data Restrictions:** |   |
| **Code:** |   |
| **Region of Buzzards Bay Covered:** |   |
| **Purpose of Program:** |   |
| **Code:** |   |
| **Program Description:** |   |
| **A. Sampling Frequency** |   |
| **Code:** |   |
| **B. Quality Assurance/Quality Control** |   |
| **Code:** |   |
| **C. Pollutant Source** |   |
| **Code:** |   |

**IV-341**
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>Salinity/Conductivity</td>
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<td></td>
<td></td>
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</tr>
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<td>0</td>
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<td>2</td>
<td>Dissolved Oxygen</td>
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</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>pH</td>
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<td>0</td>
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<td>2</td>
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<td>1</td>
<td>2</td>
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<td>2</td>
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<td>2</td>
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<td>2</td>
<td>Other:</td>
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</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<p>| | | | | | | | | | |</p>
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<td>Petroleum Hydrocarbons</td>
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<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>PAHs</td>
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<td></td>
<td></td>
</tr>
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<td>1</td>
<td>2</td>
<td>3</td>
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<td></td>
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<td>2</td>
<td>3</td>
<td>Pesticides</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Lead</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Mercury</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
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<td>2</td>
<td>3</td>
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<td>3</td>
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<td>2</td>
<td>3</td>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Contact Carl Wakefield, Wareham Board of Health, for coliform bacteria data (water and shellfish).
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale  
Date: February 24, 1986

1. Citation Number: 103
2. Program Title: Cognizant Individual: John Sherman for
3. Address: John Freitas, Shellfish Constable  
Massachusetts Department of Natural Resources  
Town Hall  
Russells Mill Road  
South Dartmouth, MA 02748  
(617) 999-0719

5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
XX Other: None of the above

Code: 4

13. Study Subtopic:

14. Comments on the Study:

15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
Amount:
Code:
19. Program Duration:
Code:
20. Form of Data:
Code:
21. Data Location:
22. Data Availability:
Code:
23. Data Restrictions:
Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
Code:
26. Program Description:
A. Sampling Frequency
Code:
B. Quality Assurance/Quality Control
Code:

IV-344
C. Pollutant Source
   Code:
D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other:

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in
   sediment, 3 = in biota; if a "3" is used, the
   "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

IV-345
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: They use DEQE's data and do not collect any themselves.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 29, 1986

1. Citation Number: 67
2. Program Title:
3. Cognizant Individual: Dr. Edward Sholkovitz
4. Address: Woods Hole Oceanographic Institution
   Woods Hole, MA 02543
5. Phone(s): (617) 548-1400 Ext. 2346
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above
    Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>0 1 2</td>
</tr>
<tr>
<td>pH</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Nutrients</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Turbidity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Chlorophyll</td>
<td>0 1 2</td>
</tr>
<tr>
<td>Other</td>
<td>0 1 2</td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Specifics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PAHs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>PCBs</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Pesticides</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Lead</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Mercury</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Chromium</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other metals</td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Other</td>
<td>0 1 2 3</td>
</tr>
</tbody>
</table>

IV-348
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Sholkovitz has conducted a study of the concentration, distribution, and mobility of plutonium in sediments in one area of Buzzards Bay. Plutonium results from global fallout and therefore, does not occur in higher concentrations in Buzzards Bay than anywhere else. Sholkovitz believes it is not a toxic substance because it does not occur in Buzzards Bay in toxic amounts. His data cover approximately 20 years for his study area.

The only water quality data he has collected in conjunction with his study are phosphate and ammonia concentrations in pore water from sediment for one location in Buzzards Bay. This data was collected on two occasions only.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon  
Date: November 18, 1985

1. Citation Number: 11  
2. Program Title: Lobster Trap Escape Vent Studies  
3. Cognizant Individual: Ron Smolowitz  
4. Address: National Marine Fisheries Service  
   National Oceanic and Atmospheric Admin.  
   U.S. Department of Commerce  
   Gloucester, MA 01930  
   (617) 281-3600

5. Phone(s):  
   National Oceanic and Atmospheric Admin.  
7. Address: Woods Hole, MA 02563  
8. Phone(s): (617) 585-5123  
9. Funding Organization: Same as above  
10. Address:  
11. Phone(s):  
12. Study Topic: On-going research  
   Lobster Landings  
   Toxic substances in organisms and sediments  
   Water quality and nutrient data  
   Other: None of the above

Code: 4  
XX Other: None of the above

13. Study Subtopic:  
Code:  
14. Comments on the Study:  
15. Program Start Date: May, 1974  
16. Program End Date: September, 1974  
17. Other Date Information:  
18. Level of Effort: Unknown  
   Amount: About $100,000  
   Code: 2  
19. Program Duration: 5 months  
   Code: 0  
20. Form of Data: Final report  
   Code: 1  
   National Oceanic and Atmospheric Admin.  
   Woods Hole, MA 02563  
22. Data Availability:  
   Code: 1  
23. Data Restrictions: Data not restricted  
   Code: 0  
24. Region of Buzzards Bay Covered: Weepecket Islands  
25. Purpose of Program: Preliminary study of ghost fishing of lobster traps  
   Code: 5

IV-350
26. Program Description:
A. Sampling Frequency  40 traps, 20 pulled twice per week like commercial fishermen. 20 remained on the bottom and were inspected by divers twice per week. 10 traps for each sampling method contained escape vents, the other ten did not.

Code: 0

B. Quality Assurance/Quality Control

Code: 0

C. Pollutant Source

Code: 0

D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
<table>
<thead>
<tr>
<th>Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 1 2 3 Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3 Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3 Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3 Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3 Benthos</td>
</tr>
<tr>
<td>0 1 2 3 Nekton</td>
</tr>
<tr>
<td>0 1 2 3 Birds</td>
</tr>
<tr>
<td>0 1 2 3 Reptiles/Mammals</td>
</tr>
<tr>
<td>0 1 2 3 Parasites</td>
</tr>
<tr>
<td>0 1 2 3 Other</td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Report: Marine Fisheries Review 40: No. 5-6, May/June 1978. The data set is not directly related to lobster landings.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale  
Date: January 28, 1986  

1. Citation Number: 60  
2. Program Title:  
3. Cognizant Individual: Mr. Don Tata  
4. Address: Water Quality Department  
Anderson-Nichols Company  
150 Causeway Street  
Boston, MA 02114  

5. Phone(s): (617) 742-3400  
6. Performing Organization:  
7. Address:  
8. Phone(s):  
9. Funding Organization:  
10. Address:  
11. Phone(s):  
12. Study Topic: On-going research  
Lobster Landings  
Toxic substances in organisms and sediments  
Water quality and nutrient data  
XX Other: None of the above  

Code: 4  

13. Study Subtopic:  
Code:  
14. Comments on the Study:  
15. Program Start Date:  
16. Program End Date:  
17. Other Date Information:  
18. Level of Effort:  
Amount:  
Code:  
19. Program Duration:  
Code:  
20. Form of Data:  
Code:  
21. Data Location:  
22. Data Availability:  
Code:  
23. Data Restrictions:  
Code:  
24. Region of Buzzards Bay Covered:  
25. Purpose of Program:  
Code:  
26. Program Description:  
A. Sampling Frequency  
Code:  
B. Quality Assurance/Quality Control  
Code:  

IV-353
C. Pollutant Source
   Code:

D. Parameters Measured

1 Physical Oceanography
1 Water Quality
   Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other

1 Sediment Characteristics
   Grain Size Distribution
   Mineral Composition
   Percent Organic Matter
   Sedimentation Rate
   Other

1 Chemistry
   Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other
1 Biology
Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling
design, replication, sampling techniques, data reports)

27. General Comments: Anderson-Nichols was contacted several months ago
by Ellen Rosen requesting a copy of the Bourne Wastewater Management
Study performed by Anderson-Nichols in April 1975. Mr. Tata does not
have an extra copy, but we can look at it and copy it if we want. He
does not think the study included water quality data collection, but
the person who managed the study is no longer with Anderson-Nichols.
Mr. Tata suggested we call Peter Silverman ((617) 655-3286 or
237-5000), who managed the study, to ask about the original data
collected.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: November 6, 1985

1. Citation Number: 9
2. Program Title:
3. Cognizant Individual: Roger Theroux
4. Address: National Marine Fisheries Service
   National Oceanic and Atmospheric Admin.
   Woods Hole, MA 02543
   (617) 548-5123
5. Phone(s): Performing Organization: Same as above.
6. Address:
7. Phone(s):
8. Address:
9. Phone(s):
10. Study Topic: On-going research
11. Phone(s):
12. Study Subtopic: Lobster Landings
13. Comments on the Study:
14. Toxic substances in organisms and sediments
15. Program Start Date:
16. Water quality and nutrient data
17. Program End Date:
18. Other Date Information:
19. Level of Effort:
20. Amount:
21. Program Duration:
22. Code:
23. Form of Data:
24. Code:
25. Data Location:
26. Data Availability:
27. Data Restrictions:
28. Region of Buzzards Bay Covered:
29. Purpose of Program:
30. Code:
31. Program Description:
32. A. Sampling Frequency
   Code:
33. B. Quality Assurance/Quality Control
   Code:
34. C. Pollutant Source
   Code:

Code: 4

XX Other: None of the above
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
0 1 2 Temperature
0 1 2 Salinity/Conductivity
0 1 2 Dissolved Oxygen
0 1 2 pH
0 1 2 Suspended Solids
0 1 2 Nutrients
0 1 2 Biological Oxygen Demand
0 1 2 Turbidity
0 1 2 Alkalinity
0 1 2 Chlorophyll
0 1 2 Other:

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other:

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

0 1 2 3 Petroleum Hydrocarbons
0 1 2 3 PAHs
0 1 2 3 PCBs
0 1 2 3 Pesticides
0 1 2 3 Lead
0 1 2 3 Mercury
0 1 2 3 Cadmium
0 1 2 3 Chromium
0 1 2 3 Other metals
0 1 2 3 Other:

1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)
0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Neptons
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other:
Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Mr. Theroux is a benthic ecologist and is not aware of any Buzzards Bay work being done by NMFS in Woods Hole, MA. He suggested contacting the ACOE in Wareham - Water Quality Monitoring Station.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 52
2. Program Title: cognizant
3. Cognizant Individual: Mr. Richard Toner
4. Address: Marine Research, Incorporated
           Falmouth, MA 02541
           (617) 548-0700
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
    Lobster Landings
    Toxic substances in organisms and sediments
    Water quality and nutrient data
    Other: None of the above
    Code: 4
13. Study Subtopic:
    Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
    Amount:
    Code:
19. Program Duration:
    Code:
20. Form of Data:
    Code:
21. Data Location:
    Code:
22. Data Availability:
    Code:
23. Data Restrictions:
    Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
    Code:
26. Program Description:
    A. Sampling Frequency
    Code:
    B. Quality Assurance/Quality Control
    Code:
    C. Pollutant Source
    Code:

IV-359
### D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Solids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Turbidity</td>
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<td>Alkalinity</td>
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<td></td>
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</tr>
<tr>
<td>Chlorophyll</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
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</tr>
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<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAHs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCBs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pesticides</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other metals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
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</tr>
</tbody>
</table>
Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th></th>
<th>Microorganisms/Pathogens</th>
<th>Phytoplankton/Microphytes</th>
<th>Macrophytes</th>
<th>Zooplankton</th>
<th>Benthos</th>
<th>Nekton</th>
<th>Birds</th>
<th>Reptiles/Mammals</th>
<th>Parasites</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>1 2 3</td>
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<td>1 2 3</td>
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<td></td>
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<tr>
<td>0</td>
<td>1 2 3</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>0</td>
<td>1 2 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: Marine Research has not worked in Buzzards Bay. Mr. Toner suggested I contact Dr. Carey Matthiessen, Cotuit Oyster Company [(617) 428-8067]. He was formerly the president of Marine Research and has studied lobster larvae and raised oysters in Buzzards Bay.
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judy Scanlon
Date: December 9, 1985

1. Citation Number: 24
2. Program Title: Cognizant
3. Cognizant Individual: Dr. Jefferson Turner
4. Address: Southeastern Massachusetts University
Dartmouth, MA 02714
(617) 999-8229
5. Phone(s):
6. Performing Organization: performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization:
10. Address:
11. Phone(s):
12. Study Topic: On-going research
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
XX Other: None of the above

Code: 4
13. Study Subtopic: Code:
14. Comments on the Study:
15. Program Start Date:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
Amount: Code:
19. Program Duration:
Code:
20. Form of Data:
Code:
21. Data Location:
22. Data Availability:
Code:
23. Data Restrictions:
Code:
24. Region of Buzzards Bay Covered:
25. Purpose of Program:
Code:
26. Program Description:
A. Sampling Frequency
Code:
B. Quality Assurance/Quality Control
Code:
C. Pollutant Source
Code:

IV-362
D. Parameters Measured

1 Physical Oceanography

1 Water Quality
Specifications (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Spec 0</th>
<th>Spec 1</th>
<th>Spec 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Solids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td></td>
<td></td>
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<tr>
<td>Alkalinity</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
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<td></td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

- Grain Size Distribution
- Mineral Composition
- Percent Organic Matter
- Sedimentation Rate
- Other

1 Chemistry
Specifications (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Spec 0</th>
<th>Spec 1</th>
<th>Spec 2</th>
<th>Spec 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td></td>
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</tr>
<tr>
<td>PAHs</td>
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</tr>
<tr>
<td>PCBs</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Pesticides</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mercury</td>
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<tr>
<td>Cadmium</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Chromium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other metals</td>
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<td></td>
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</tr>
<tr>
<td>Other</td>
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</tr>
</tbody>
</table>

IV-363
1 Biology Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms/Pathogens</td>
<td>Phytoplankton/Microphytes</td>
<td>Macrophytes</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>Benthos</td>
<td>Nekton</td>
<td>Birds</td>
<td>Reptiles/Mammals</td>
</tr>
<tr>
<td>Parasites</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments:
BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 27, 1986

1. Citation Number: 55
2. Program Title: 
3. Cognizant Individual: Mr. Richard Turner
4. Address: Canal Electric Plant
               Freezer Road
               Sandwich, MA 02653
               (617) 291-0950
5. Phone(s): 
6. Performing Organization: 
7. Address: 
8. Phone(s): 
9. Funding Organization: 
10. Address: 
11. Phone(s): 
12. Study Topic: On-going research
               Lobster Landings
               Toxic substances in organisms and sediments
               Water quality and nutrient data
               Other: None of the above
               Code: 4
13. Study Subtopic: 
    Code: 
14. Comments on the Study: 
15. Program Start Date: 
16. Program End Date: 
17. Other Date Information: 
18. Level of Effort: 
    Amount: 
    Code: 
19. Program Duration: 
    Code: 
20. Form of Data: 
    Code: 
21. Data Location: 
22. Data Availability: 
    Code: 
23. Data Restrictions: 
    Code: 
24. Region of Buzzards Bay Covered: 
25. Purpose of Program: 
    Code: 
26. Program Description: 
    A. Sampling Frequency 
       Code: 
    B. Quality Assurance/Quality Control 
       Code: 
    C. Pollutant Source 
       Code: 

IV-365
D. Parameters Measured

1 Physical Oceanography

1 Water Quality

Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Code 0</th>
<th>Code 1</th>
<th>Code 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Salinity/Conductivity</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Suspended Solids</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Nutrients</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Biological Oxygen Demand</td>
<td>1</td>
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<td>Turbidity</td>
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<td>2</td>
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<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

1 Sediment Characteristics

Grain Size Distribution
Mineral Composition
Percent Organic Matter
Sedimentation Rate
Other

1 Chemistry

Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Code 0</th>
<th>Code 1</th>
<th>Code 2</th>
<th>Code 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Hydrocarbons</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PAHs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PCBs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Pesticides</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Chromium</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other metals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
1 Biology

Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)

0 1 2 3 Microorganisms/Pathogens
0 1 2 3 Phytoplankton/Microphytes
0 1 2 3 Macrophytes
0 1 2 3 Zooplankton
0 1 2 3 Benthos
0 1 2 3 Nekton
0 1 2 3 Birds
0 1 2 3 Reptiles/Mammals
0 1 2 3 Parasites
0 1 2 3 Other

Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)

27. General Comments: The company does not conduct any research relevant to the topics of interest.
<table>
<thead>
<tr>
<th>Biology</th>
<th>Specifics (0 = unspecified, other; 1 = body burden; 2 = bioaccumulation; 3 = bioassay)</th>
</tr>
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<tbody>
<tr>
<td>0 1 2 3</td>
<td>Microorganisms/Pathogens</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Phytoplankton/Microphytes</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Macrophytes</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Zooplankton</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Benthos</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Nekton</td>
</tr>
<tr>
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<td>Parasites</td>
</tr>
<tr>
<td>0 1 2 3</td>
<td>Other</td>
</tr>
</tbody>
</table>

*Other factors relevant to the program description (e.g., sampling design, replication, sampling techniques, data reports)*

27. **General Comments:** Dr. Wallace was called to ascertain whether he had participated in any research efforts in the Buzzards Bay estuary. He indicated that he had not. He also indicated that no one on the faculty at the University of Massachusetts at Boston had conducted any such work and therefore, any further interviewing there would be fruitless.