

Final Report

on

**IDENTIFICATION AND COLLECTION
OF HISTORICAL DATA FOR
BUZZARDS BAY, MASSACHUSETTS**

**VOLUME II
APPENDIX IV: COMPLETED BUZZARDS BAY
INTERVIEW SHEETS**

to

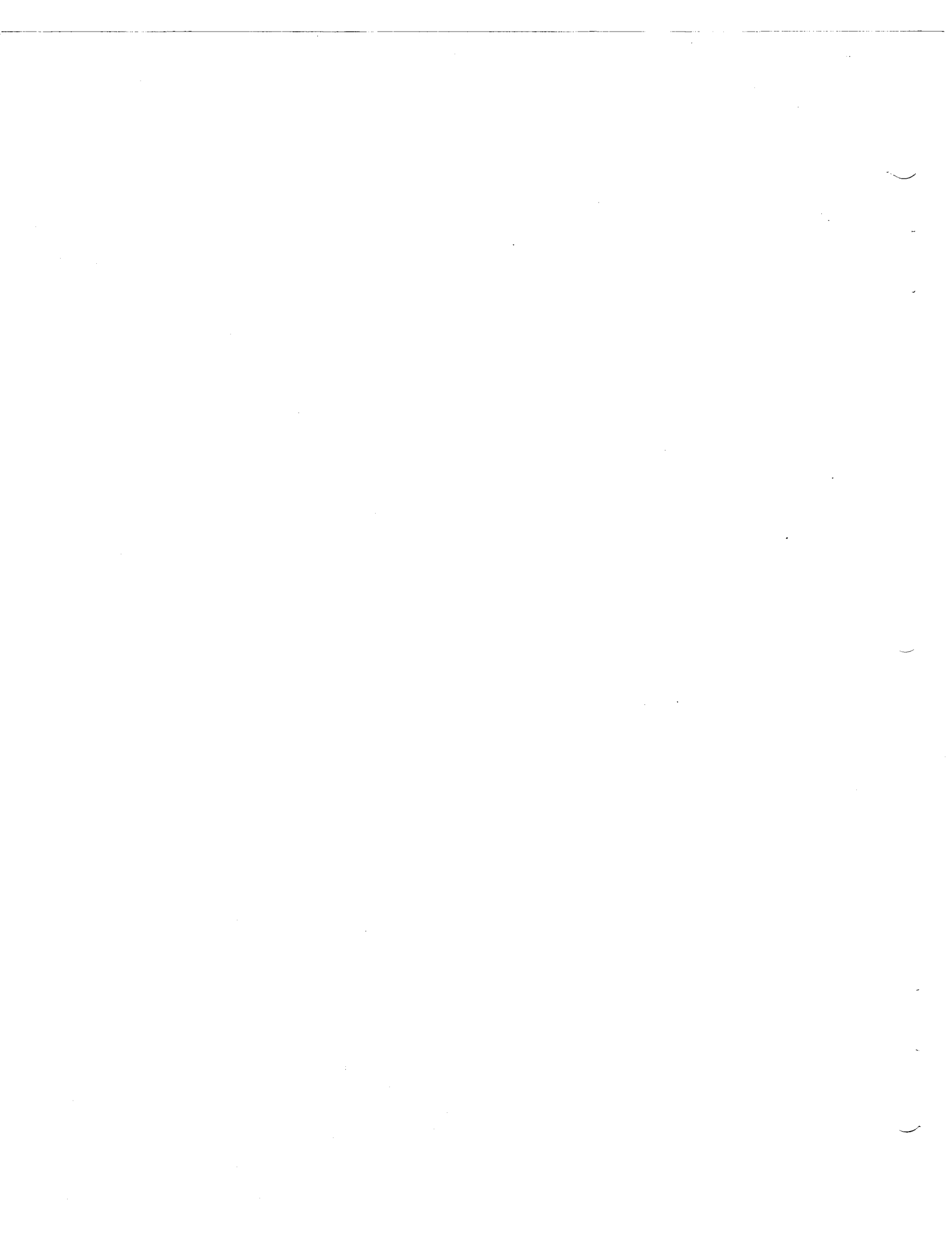
U.S. ENVIRONMENTAL PROTECTION AGENCY

December 13, 1986

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

by

**Betsy Brown and Judith A. Gale
BATTELLE
Ocean Sciences and Technology Department
397 Washington Street
Duxbury, MA 02332**





THE BUZZARDS BAY PROJECT

US Environmental Protection Agency
WQP-2100
John F. Kennedy Federal Building
Boston, MA 02203

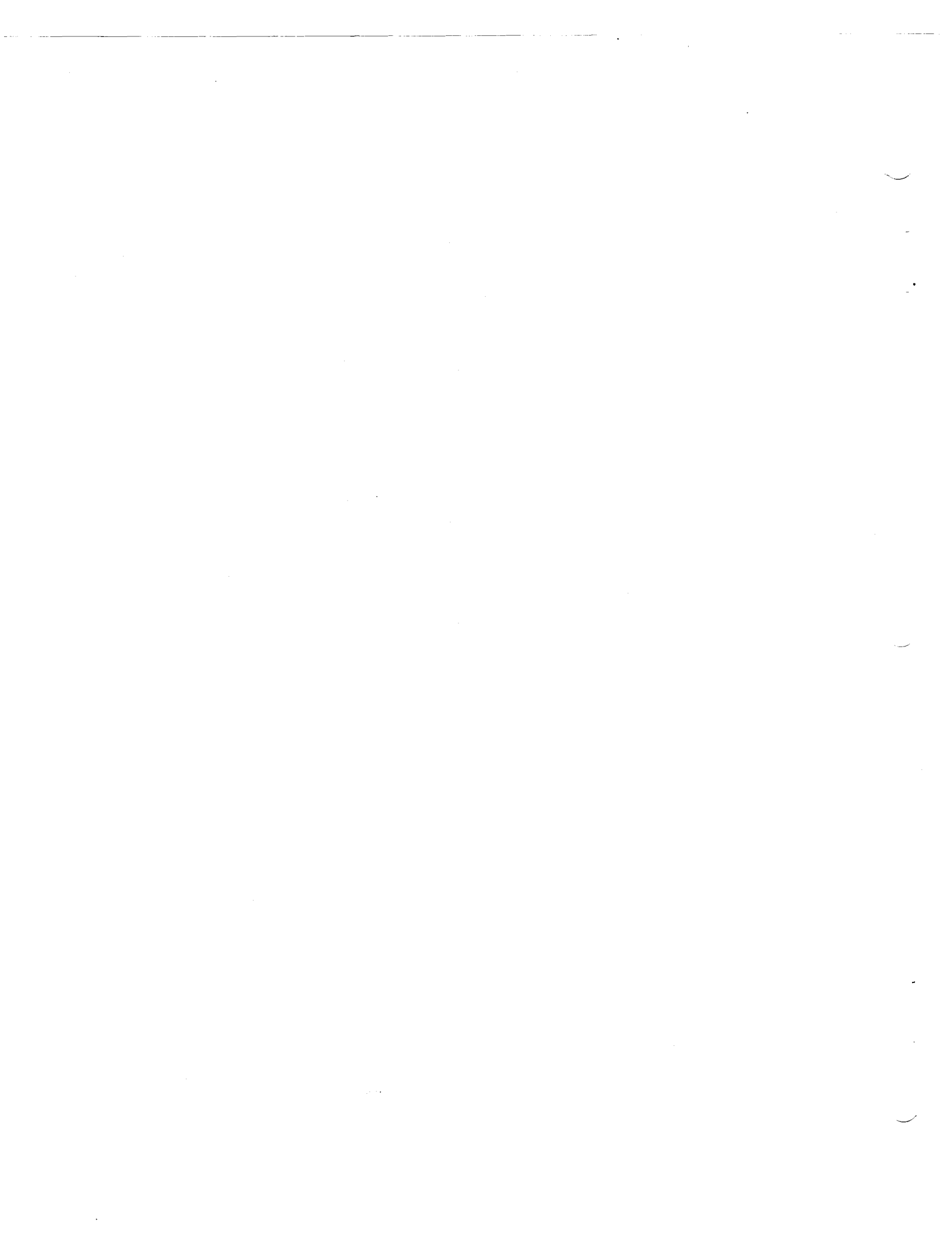
Massachusetts Executive Office of
Environmental Affairs
100 Cambridge Street
Boston, MA 02202

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

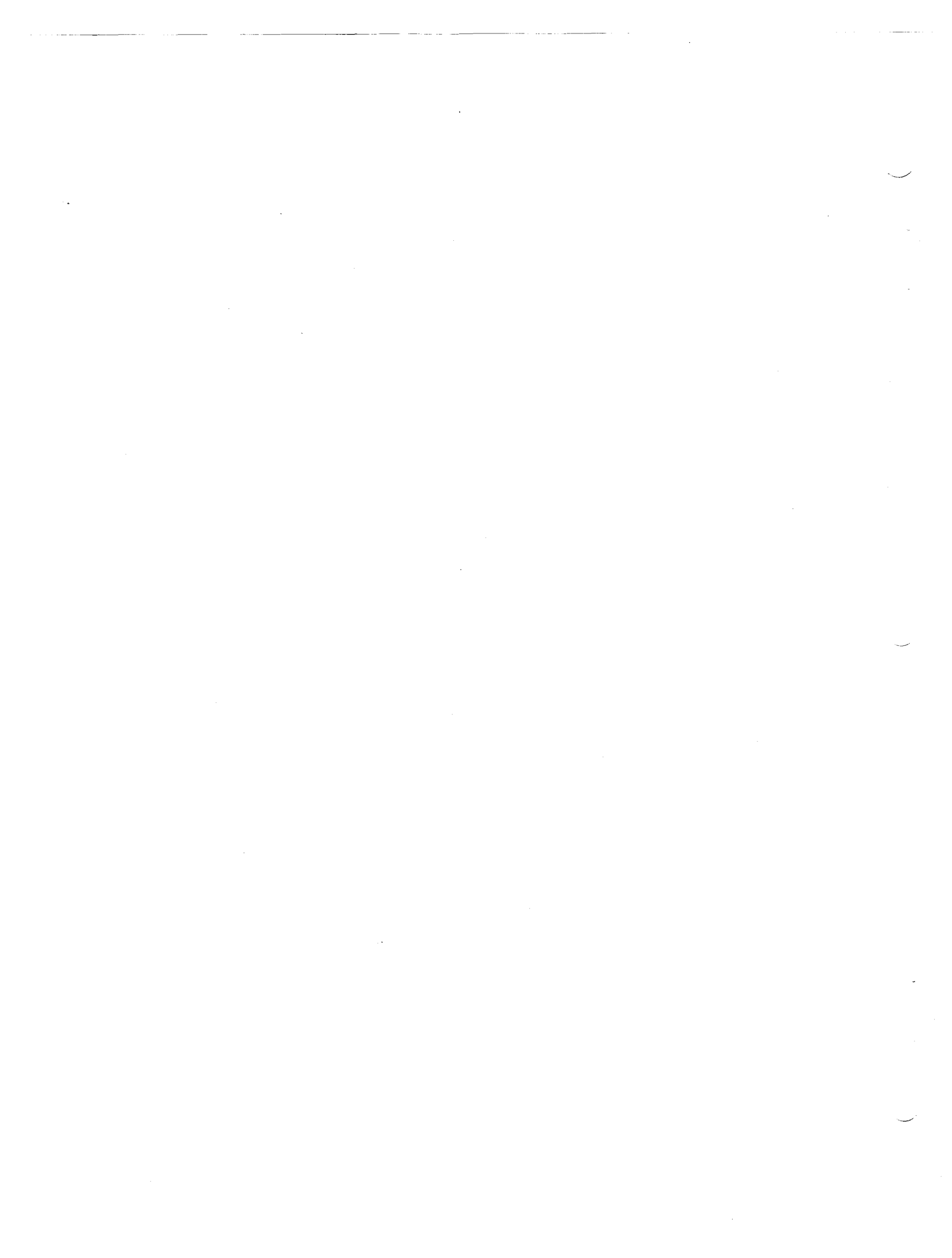
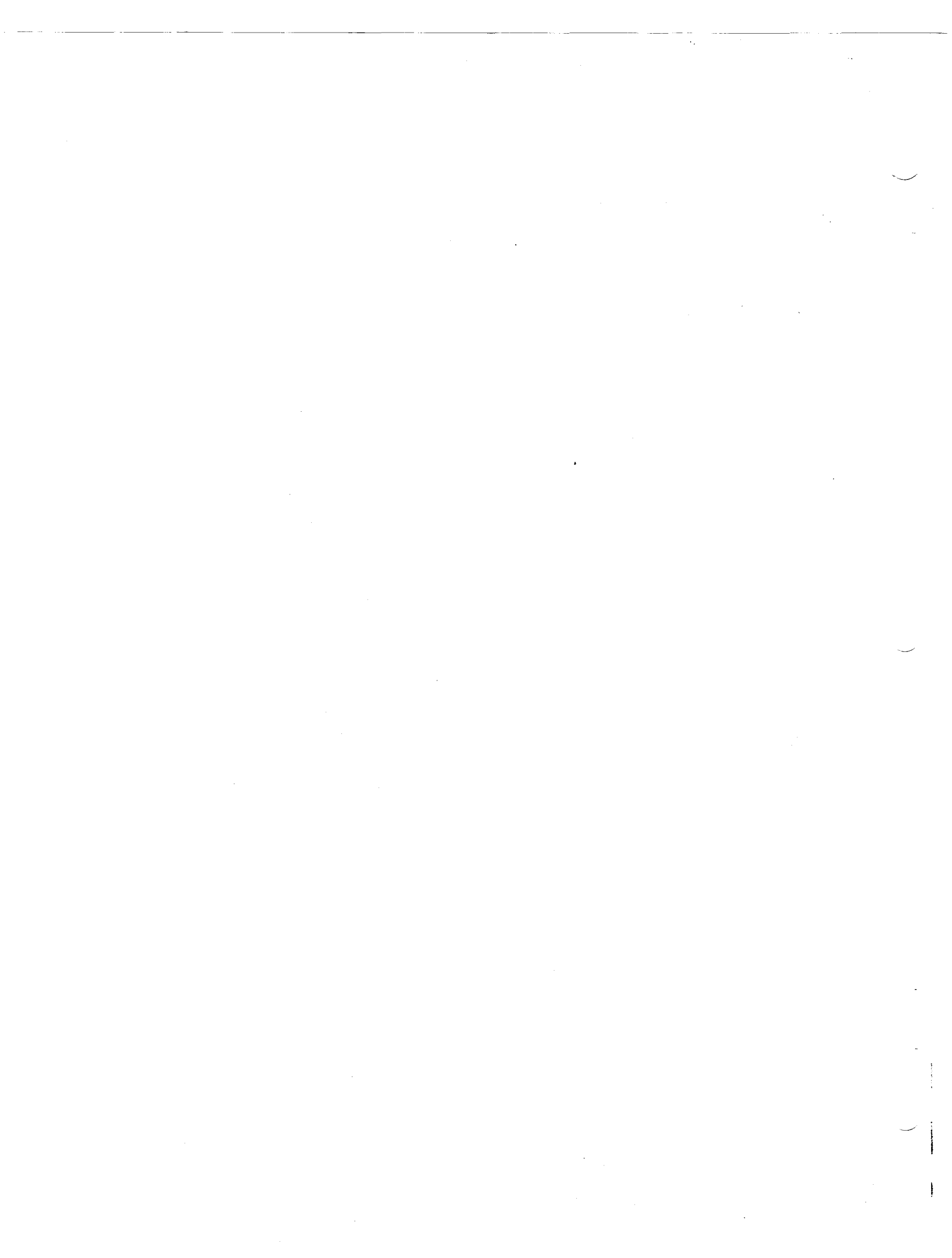


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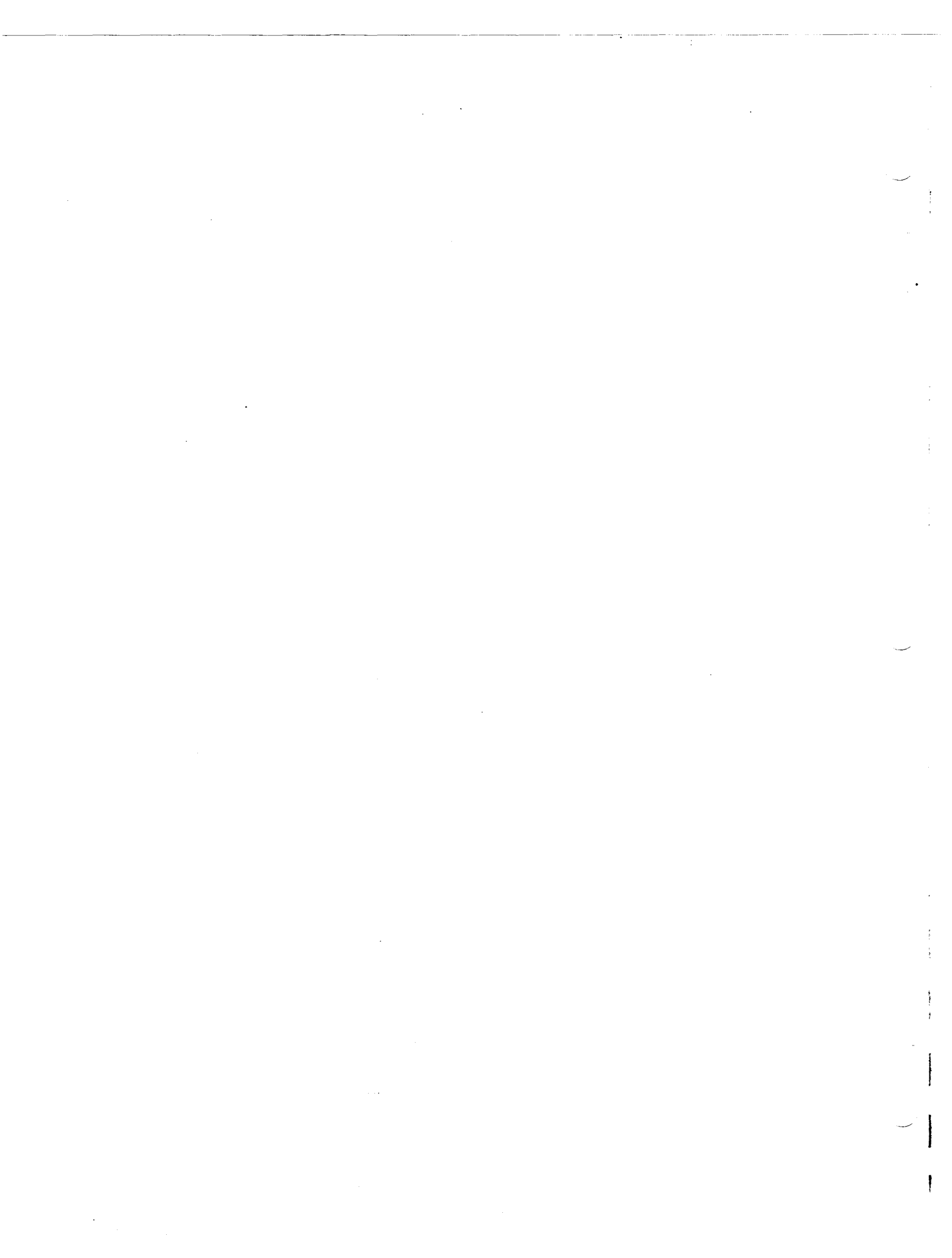
INTRODUCTION

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:

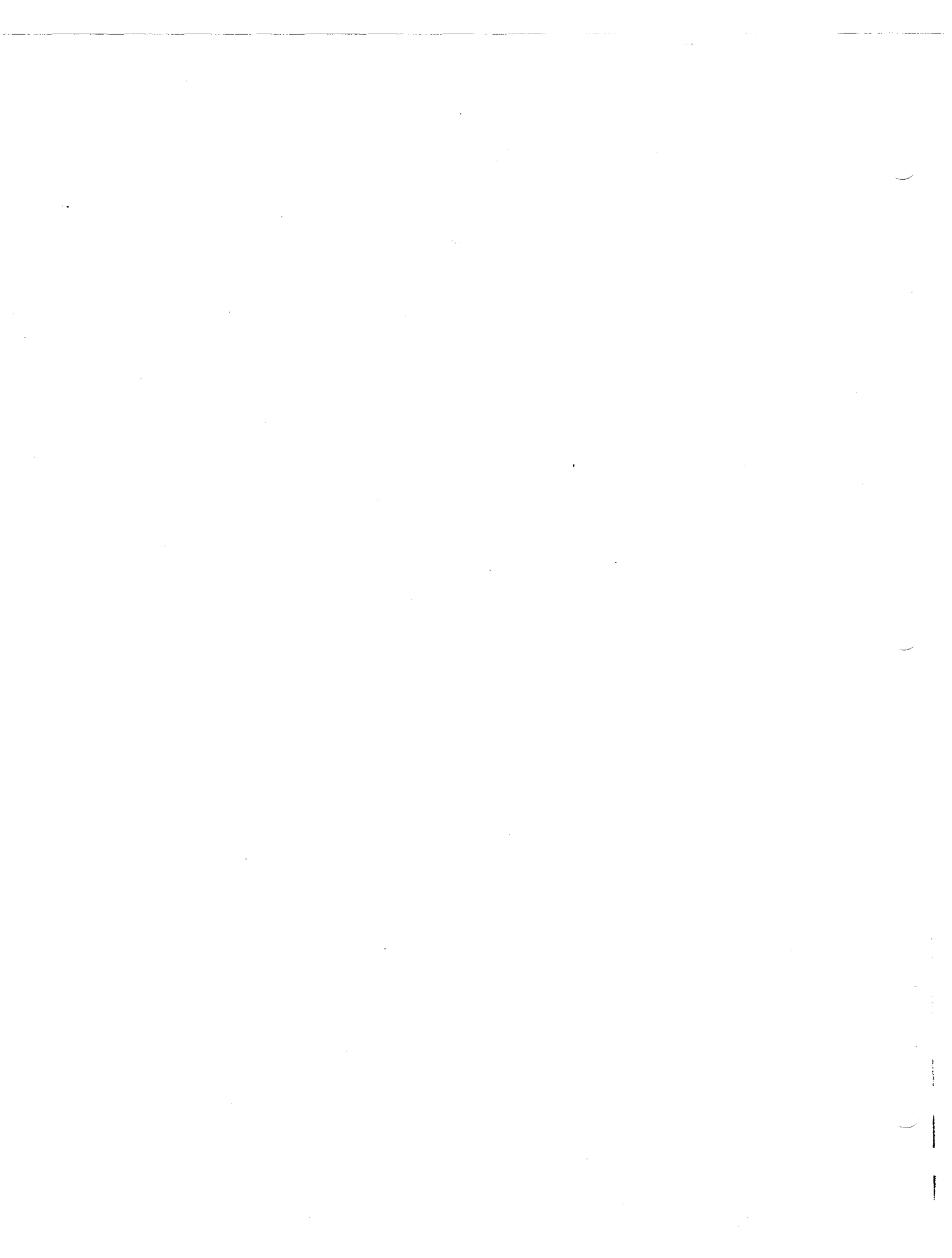
- 1) Lobster Landings
- 2) Water Quality and Nutrients
- 3) Water Quality and Nutrients and Toxic Substances in Organisms and Sediments.
- 4) Toxic Substances in Organisms and Sediments
- 5) Other

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
4. Address: Mass. Div. Marine Fisheries
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
XX 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
22. Data Availability: Data available 1968 - 1984. New data available
annually.
Code: 3
23. Data Restrictions: Individual catch reports confidential. Annual
summary data available.
Code: 0

24. **Region of Buzzards Bay Covered:** Wherever commercial lobstering 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/Quality 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)

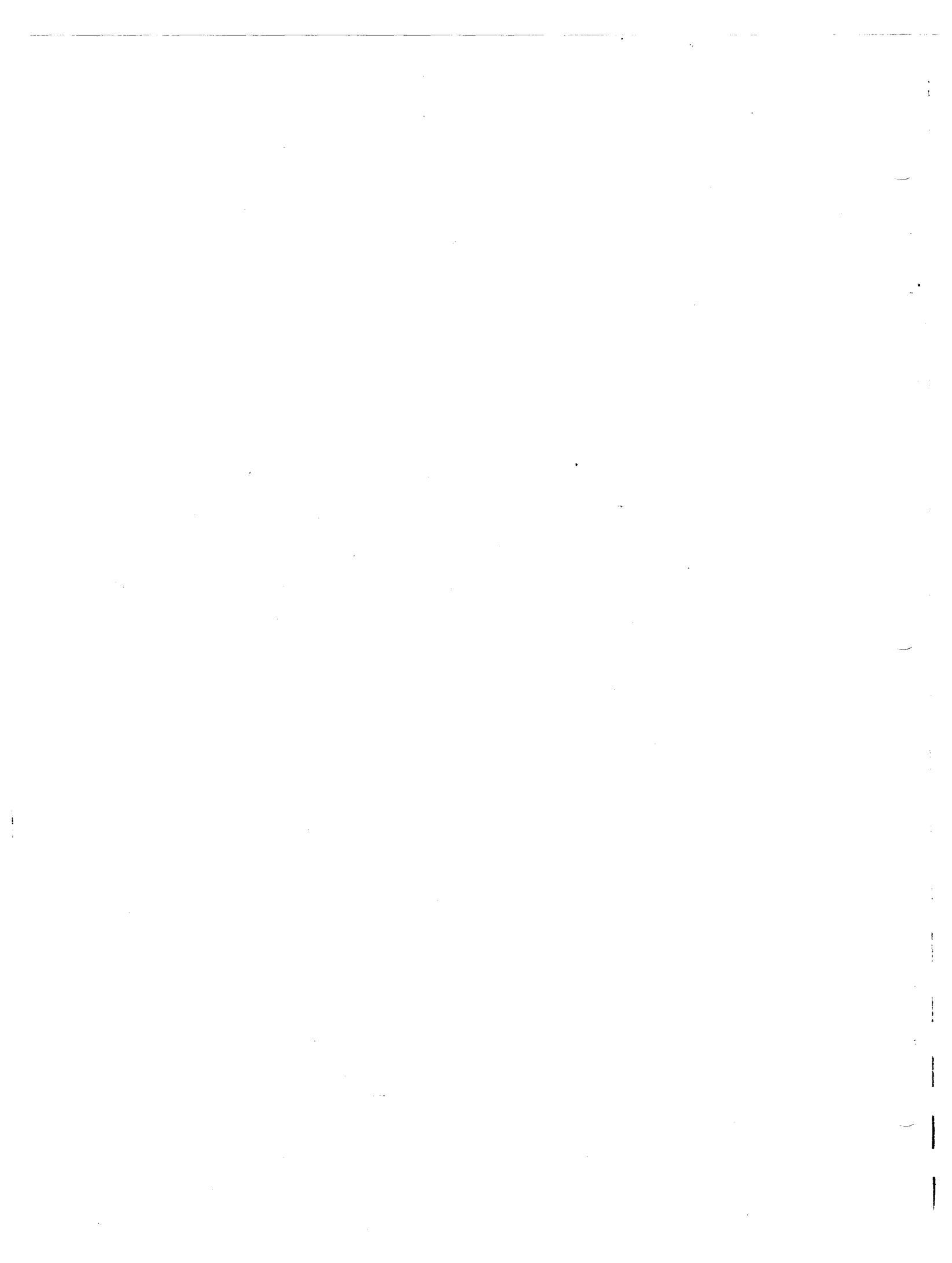
0	1	2	3	Microorganisms/Pathogens
0	1	2	3	Phytoplankton/Microphytes
0	1	2	3	Macrophytes
0	1	2	3	Zooplankton
0	1	2	3	Benthos
0	1	2	3	Nekton
0	1	2	3	Birds
0	1	2	3	Reptiles/Mammals
0	1	2	3	Parasites
0	1	2	3	Other

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.

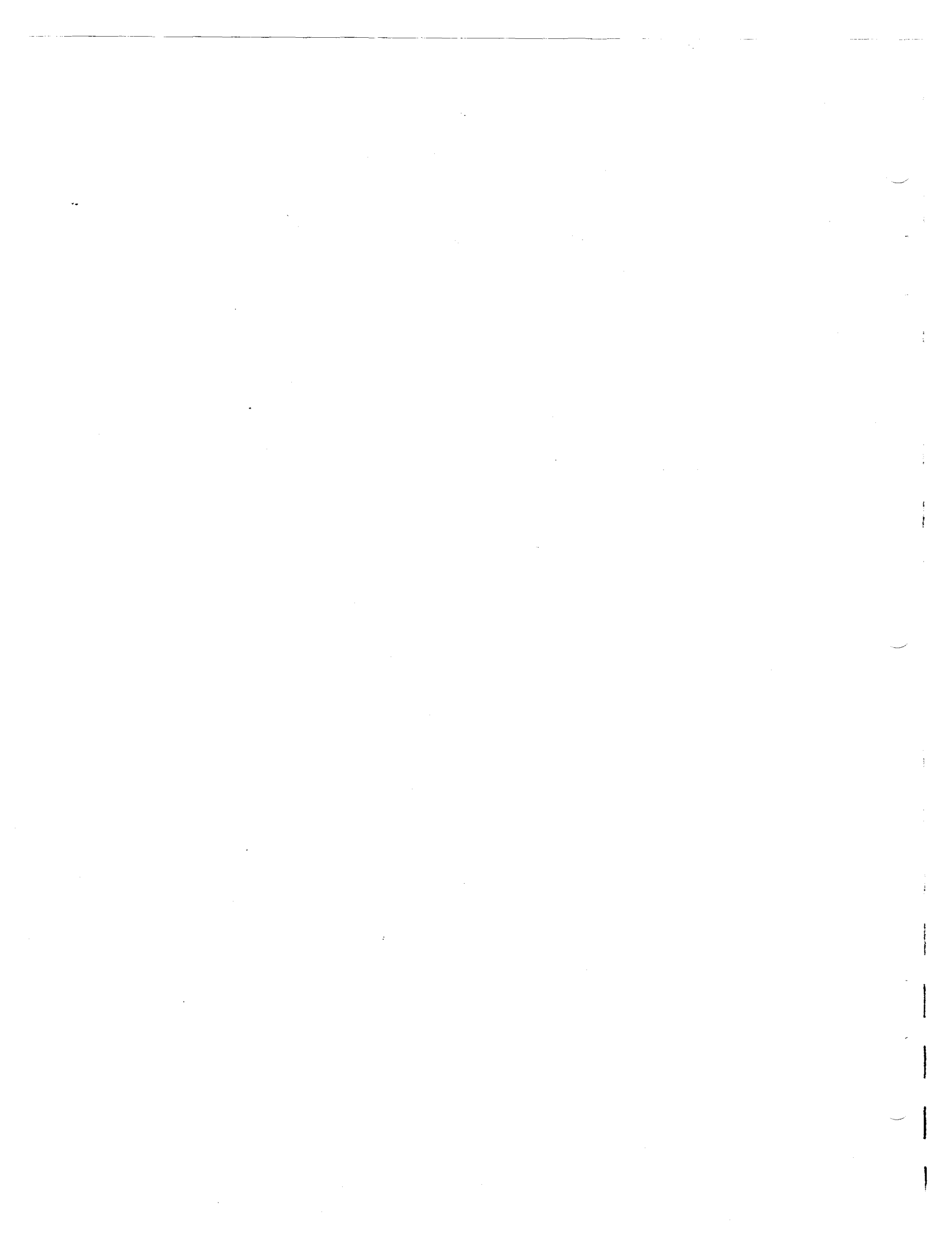


Between 1979 and 1980, the following changes were made in data categories:

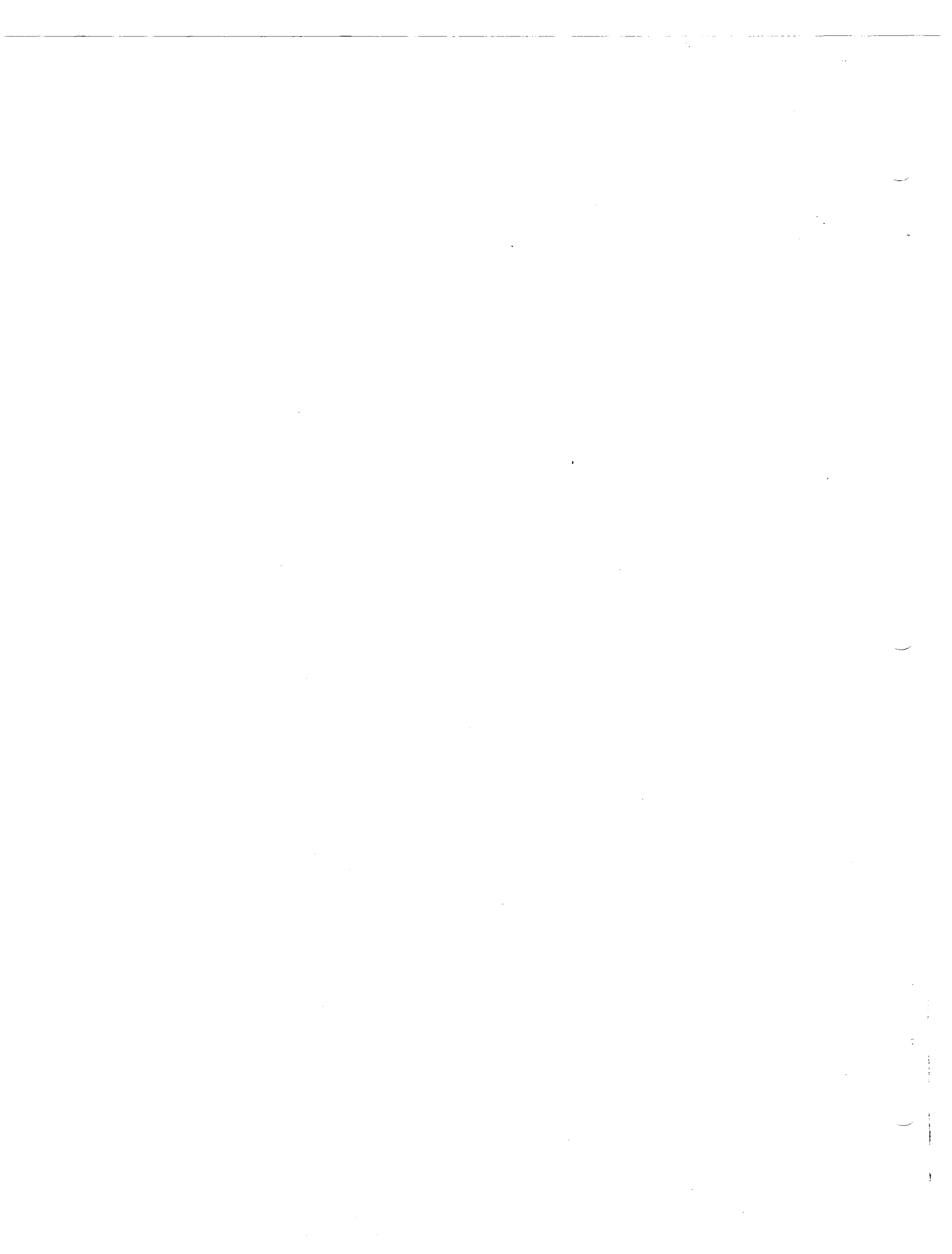
1. Total numbers by category (e.g., number of fishermen, number of pots fished, value of pots fished, etc.) were changed to two categories beginning in 1980 (number inside 69oW, 41oN and outside 69oW, 41oN). When asked if the sum inside /outside would be equivalent to the numbers pre-1980, Mr. Anderson 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



BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 28, 1986

1. Citation Number: 99
2. Program Title:
3. Cognizant Individual: Neil Churchill
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
Other:
XX
- Code: 3
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:** 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
 5. Phone(s): (617) 291-0950
 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
XX Water quality and nutrient data
XX Other: Seasonal distribution and abundance of
lobster larvae and ichthyoplankton
- Code: 3,4
13. Study Subtopic:
Code:
 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)				
	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 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:

Collings, W.S., C. Cooper-Sheehan, S.C. Hughes, and J.L. Buckley. 1981. The Effects of Power Generation on some of the Living Marine Resources of the Cape Cod Canal and Approaches. Division of Marine Fisheries, Massachusetts Department of Fisheries, Wildlife, and Recreational Vehicles, Boston, MA.

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
 5. Phone(s): (617) 647-8056
 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.

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

1 Physical Oceanography

1 Water Quality

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

0 1 2 Temperature (Bathythermograph, CTD)

0 1 2 Salinity/Conductivity

0 1 2 Dissolved Oxygen

0 1 2 pH

0 1 2 Suspended Solids

0 1 2 Nutrients (Nitrogen, Phosphorus)

0 1 2 Biological Oxygen Demand

0 1 2 Turbidity (Plume Studies)

0 1 2 Alkalinity

0 1 2 Chlorophyll

0 1 2 Other: Chemical Oxygen Demand in sediments

1 Sediment Characteristics

XX 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	<u>2*</u>	3	Petroleum Hydrocarbons
0	1	<u>2</u>	3	PAHs
0	1	<u>2*</u>	3	PCBs
0	1	<u>2*</u>	3	Pesticides
0	1	<u>2*</u>	3	Lead
0	1	<u>2*</u>	3	Mercury
0	1	<u>2*</u>	3	Cadmium
0	1	<u>2*</u>	3	Chromium
0	1	<u>2*</u>	3	Other metals: Cu, Arsenic, Zn, Mg, Ni
0	1	<u>2*</u>	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
<u>0</u>	1	2	3	Benthos: Recolonization Study
<u>0</u>	1	2	3	Nekton
0	1	2	3	Birds
0	1	2	3	Reptiles/Mammals
0	1	2	3	Parasites
0	1	<u>2</u>	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):
9. Funding Organization: EPA-Region I. Contact person: Wendy Wiltse
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
XX 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:

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:** 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
XX 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
19. Program Duration: One week each in 1972, 1981, and 1985
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
24. Region of Buzzards Bay Covered: 1972: Mattapoisett Harbor, Wareham River. 1981: Western Shore of Buzzards Bay, Woods Hole. 1985: Buttermilk Bay.
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

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
<u>0</u>	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:

U.S. Department of Health, Education, and Welfare. 1972. Sanitary Surveys-1972; Massachusetts: Chase Garden Creek, Scorton Creek, Wareham River and Mattapoissett Harbor. Northeast Technical Services Unit, Shellfish Sanitation Branch, Food and Drug Administration, Public Health Service, U.S. Department of Health, Education and Welfare, Boston, MA.

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
11. Phone(s): (617) 727-3193
12. Study Topic: XX 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
XX Water quality and nutrient data
XX Other: Assessment of health of lobster fisheries
- Code: 0,3,4
13. Study Subtopic: None
Code: 0
14. Comments on the Study:
15. Program Start Date: May 1981
16. Program End Date: On-going
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

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:
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:
XX
- 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)

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 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.)

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)

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
5. Phone(s): (413) 545-2842
6. Performing Organization: Same as above, but samples are collected by many volunteers and many laboratories are used to test pH and alkalinity
7. Address:
8. Phone(s):
9. Funding 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
XX Water quality and nutrient data
Other
- Code: 3
13. Study Subtopic: Water Quality
Code: 6
14. Comments on the Study:
15. Program Start Date: 1983
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
Amount: First year: \$75,000
Second year: \$333,000
Third year: \$157,000
- Code: 3
19. Program Duration: On-going, >3 years anticipated
Code: 5
20. Form of Data: D-Base II or III IBM compatible
Code: 8
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

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)
- | | | | |
|---|---|---|--|
| 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

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: Ni,Cu,Zn,Al,Fe
0	1	2	3	Other: Na,K,Mg,Mn,Ti,V,As,Se,Ba,Ca,Si,B

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:** 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

1. Citation Number: 74
2. Program Title: Hygrography of the Slocum River Estuary
3. Cognizant Individual: Dr. James G. Hoff
Southeastern Massachusetts University
4. Address: North Dartmouth, MA 02747
5. Phone(s): (617) 999-8221
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: None
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:
15. Program Start Date: 1966
16. Program End Date: 1968
17. Other Date Information:
18. Level of Effort: Information unavailable
Amount:
Code: 0
19. Program Duration: Terminated, data collected over a two-year period.
Code: 0
20. Form of Data: Unknown
Code: 0
21. Data Location: Southeastern Massachusetts University
22. Data Availability: Data not available, except as averages and ranges in the published paper.
Code: 0
23. Data Restrictions: Data restricted
Code: 0
24. Region of Buzzards Bay Covered: Five stations in the Slocum River Estuary. A map of the stations may be found in "Hoff, J.G., P. Barrow and D.A. McGill, 1969. Some aspects of the hydrography of a relatively unpolluted estuary in southeastern Massachusetts. Proceedings 24th Purdue Industrial Waste Conference, Part I, 87-98."

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)

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:

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:
7. Address:
8. Phone(s):
9. Funding Organization: Funded by the Massachusetts Department
of Environmental Quality Engineering (DEQE)
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
Other:
- Code: 0,3
13. Study Subtopic: Water Quality
Code: 8
14. Comments on the Study:
15. Program Start Date: August 1985
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort: Information unavailable
Amount:
Code: 0
19. Program Duration: On-going
Code:
20. Form of Data: Hardcopy
Code: 1
21. Data Location: Mr. Carl Noyes of Jason Cortell Associates
22. Data Availability: Not available at this time
Code: 0
23. Data Restrictions: Data not restricted
Code: 1
24. Region of Buzzards Bay Covered: Dartmouth, MA, near the sewerage
outfall
25. Purpose of Program: Facilities plan testing water quality and
measuring metals.
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.

Code: 1

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

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. 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 18, 1986

1. Citation Number: 119
2. Program Title:
3. Cognizant Individual: Mr. Jay O'Reilly
4. Address: Branch Chief
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Sandy Hook, NJ
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
Water quality and nutrient data
Other:
XX
- 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)

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: Measurements of the above taken through the water column as well as on the surface and bottom.

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)

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:
8. Phone(s):
9. Funding Organization: U.S. Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, MA
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: Turbidity data are contained in the following report: Pratt, S.D. and R.M. Heavers. 1975. Background Turbidity Conditions of Rhode Island Sound and Buzzards Bay. Report prepared for the New England Division, U.S. Army Corps of Engineers.
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

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 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
5. **Phone(s):** (617) 548-1400
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
XX 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
21. **Data Location:** Published in Rosenfeld, Leslie K., Richard P. Signell and Glenn G. Gawarkiewicz 1984 Hydrographic Study of Buzzards Bay, 1982-1983. Technical Report, WHOI-84-5, Coastal Research Center, Woods Hole Oceanographic Institution, Woods Hole, MA.
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
- D. Parameters Measured
- 1 Physical Oceanography
- 1 Water Quality
Specifics (0 = Unspecified, 1 = At Surface, 2 = At Bottom)
- | | | | |
|---|----------|---|---------------------------|
| 0 | <u>1</u> | 2 | Temperature |
| 0 | <u>1</u> | 2 | Salinity/Conductivity |
| 0 | <u>1</u> | 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 | <u>1</u> | 2 | Other: Light transmission |
- 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:** 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

1. Citation Number: 29
2. Program Title: MARMAP (Marine Monitoring Assessment And Prediction)
3. Cognizant Individual: Dr. Wally Smith
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):
9. Funding Organization: Same as above
10. Address: Northeast Fisheries Center
Gloucester, MA 01930
11. Phone(s):
12. Study Topic: XX On-going research
Lobster Landings
Toxic substances in organisms and sediments
XX Water quality and nutrient data
Other
- Code: 0,3
13. Study Subtopic: Water Quality and Nutrients
Code: 8
14. Comments on the Study:
15. Program Start Date: 1977
16. Program End Date: On-going
17. Other Date Information:
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

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	<u>1</u>	<u>2</u>	Temperature
0	<u>1</u>	<u>2</u>	Salinity/Conductivity
0	<u>1</u>	<u>2</u>	Dissolved Oxygen
0	<u>1</u>	<u>2</u>	pH
0	1	2	Suspended Solids
0	1	2	Nutrients
0	<u>1</u>	<u>2</u>	Biological Oxygen Demand
0	<u>1</u>	<u>2</u>	Turbidity
0	<u>1</u>	<u>2</u>	Alkalinity
0	1	2	Chlorophyll
0	<u>1</u>	<u>2</u>	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: Fish Eggs and Larvae

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:
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
XX 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

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
<u>0</u>	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	<u>3</u>	Other: Fecal coliform

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:

BUZZARDS BAY INFORMATION SHEET

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

1. Citation Number: 107
2. Program Title:
3. Cognizant Individual: Carl Wakefield
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
XX Water quality and nutrient data
Other:
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

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
<u>0</u>	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.)

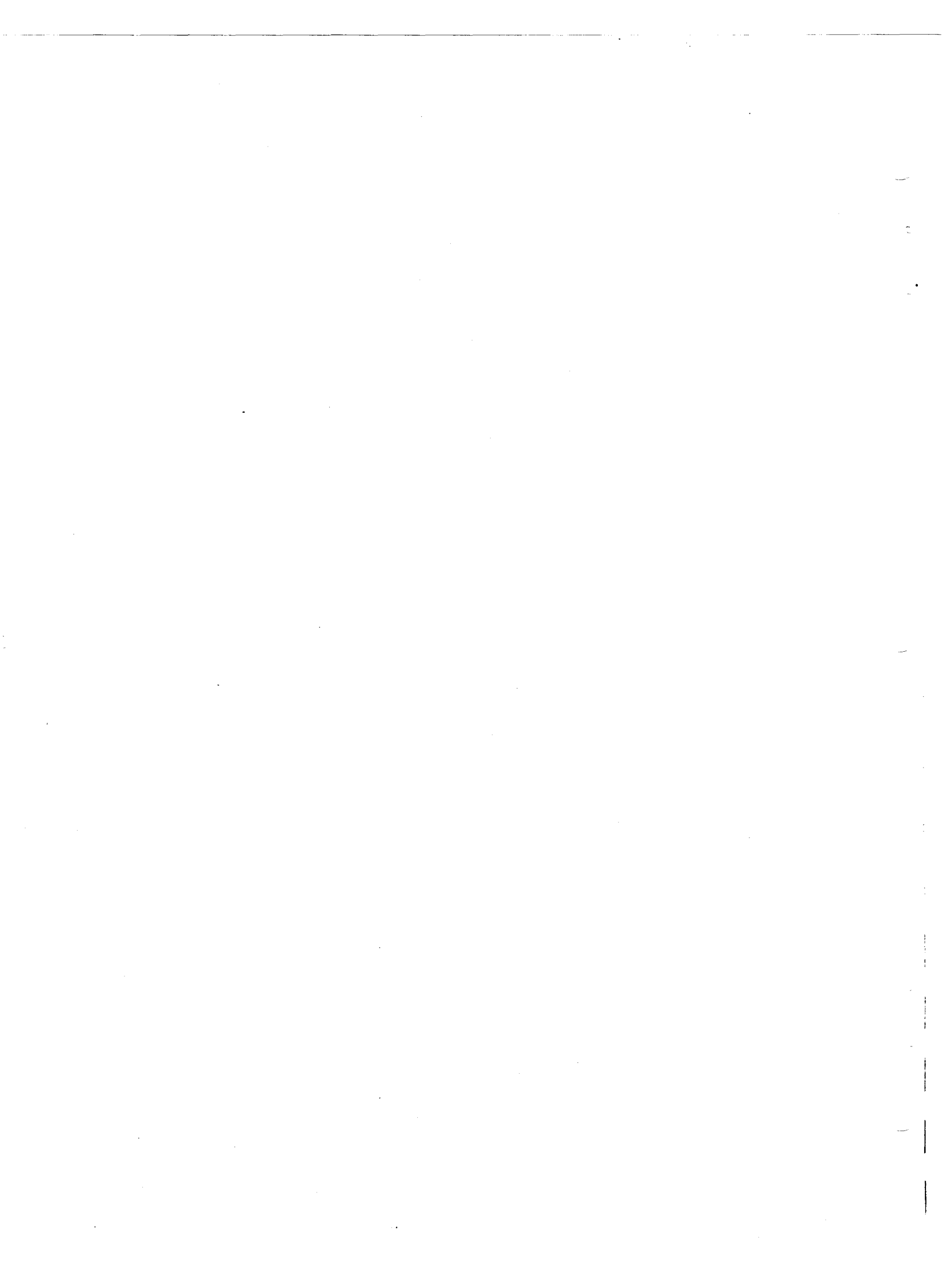
0	1	2	3	Petroleum Hydrocarbons
0	1	2	3	PAHs
0	1	2	3	PCBs
0	1	2	3	Pesticides
0	1	2	3	Lead
0	1	2	3	Mercury
0	1	2	3	Cadmium
0	1	2	3	Chromium
0	1	2	3	Other metals
0	1	2	3	Other:

- 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 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**

1. Citation Number: 33
 2. Program Title: The Anadromous Fish Dynamics Program
 3. Cognizant Individual: Phillips Brady
 4. Address: Massachusetts Division of Marine Fisheries
East Sandwich, MA 02537
 5. Phone(s): (617) 888-1155
 6. Performing Organization: Same as above
 7. Address:
 8. Phone(s): Same as above
 9. Funding Organization: Division of Marine Fisheries
 10. Address: Regional Office
100 Cambridge Street
Boston, MA 02202
 11. Phone(s): (617) 727-3193
 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
3. Study Subtopic:
Code:
 14. Comments on the Study:
 15. Program Start Date: 1984
 16. Program End Date: On-going
 17. Other Date Information:
 18. Level of Effort:
Amount: Approximately \$40,000 per year
Code: 1
 19. Program Duration: On-going, >3 years anticipated
Code: 5
 20. Form of Data: Hardcopy, on computer, inhouse reports
Code: 1,3
 21. Data Location: Division of Marine Fisheries, East Sandwich
 22. Data Availability: Available with permission from Randy Fairbank
Code: 3
 23. Data Restrictions: Need permission from Randy Fairbanks, Divisi
of Marine Fisheries, Boston, MA
Code: 1
 24. Region of Buzzards Bay Covered: Any run, stream, or river where
anadromous species occur. Currently: Paskamansett River (Dartmouth)
and Mattapoissett River.
 25. Purpose of Program: Basic research and agency mandate
Code: 0,4
 26. Program Description:
A. Sampling Frequency Daily to irregularly depending on estuary
Code: 6

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	<u>1</u>	2	Temperature
0	<u>1</u>	2	Salinity/Conductivity
0	<u>1</u>	2	Dissolved Oxygen
0	<u>1</u>	2	pH
0	<u>1</u>	2	Suspended Solids
0	1	2	Nutrients
0	<u>1</u>	2	Biological Oxygen Demand
0	1	2	Turbidity
0	<u>1</u>	2	Alkalinity
0	<u>1</u>	2	Chlorophyll
0	<u>1</u>	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	<u>1</u>	2	<u>3</u>	Pesticides
0	<u>1</u>	2	<u>3</u>	Lead
0	1	2	<u>3</u>	Mercury
0	1	2	3	Cadmium
0	1	2	3	Chromium
0	1	<u>2</u>	3	Other metals: Aluminum
0	1	<u>2</u>	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 (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 indepth 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 o 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
5. Phone(s): (617) 548-1400, ext. 2557
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
XX Toxic substances in organisms and sediments
XX 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:
Amount: \$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	<u>2</u>	Temperature
0	1	<u>2</u>	Salinity/Conductivity
0	1	<u>2</u>	Dissolved Oxygen
0	1	<u>2</u>	pH
0	1	<u>2</u>	Suspended Solids
0	1	<u>2</u>	Nutrients
0	1	2	Biological Oxygen Demand
0	1	2	Turbidity
0	1	<u>2</u>	Alkalinity
0	1	<u>2</u>	Chlorophyll
0	1	<u>2</u>	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
5. Phone(s): (617) 888-1155
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: From out of court settlement (probably
Bouchard Oil Company)
10. Address: not known
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
22. Data Availability: Available if it can be located
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

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

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

0	<u>1</u>	<u>2</u>	Temperature
0	<u>1</u>	<u>2</u>	Salinity/Conductivity
0	<u>1</u>	<u>2</u>	Dissolved Oxygen
0	<u>1</u>	<u>2</u>	pH
0	<u>1</u>	<u>2</u>	Suspended Solids
0	<u>1</u>	<u>2</u>	Nutrients
0	<u>1</u>	<u>2</u>	Biological Oxygen Demand
0	<u>1</u>	<u>2</u>	Turbidity
0	<u>1</u>	<u>2</u>	Alkalinity
0	<u>1</u>	<u>2</u>	Chlorophyll, data not viable
0	<u>1</u>	<u>2</u>	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	<u>1</u>	<u>2</u>	<u>3</u>	Petroleum Hydrocarbons
0	<u>1</u>	<u>2</u>	<u>3</u>	PAHs
0	<u>1</u>	<u>2</u>	<u>3</u>	PCBs
0	<u>1</u>	<u>2</u>	<u>3</u>	Pesticides
0	<u>1</u>	<u>2</u>	<u>3</u>	Lead
0	<u>1</u>	<u>2</u>	<u>3</u>	Mercury
0	<u>1</u>	<u>2</u>	<u>3</u>	Cadmium
0	<u>1</u>	<u>2</u>	<u>3</u>	Chromium
0	<u>1</u>	<u>2</u>	<u>3</u>	Other metals
0	<u>1</u>	<u>2</u>	<u>3</u>	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: Inventory of Shellfish
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)

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:
8. Phone(s): Same as above
9. Funding Organization: National Marine Fisheries Service
Regional Office
Gloucester, MA 01930 and
Massachusetts Division of Marine Fisheries
East Sandwich, MA 02537
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
XX Other: Resource Management
Code: 0,2,3,4
13. Study Subtopic: Hydrocarbons, water quality
Code: 1,6
14. Comments on the Study:
15. Program Start Date: 1965 or 1966
16. Program End Date: On-going
17. Other Date Information:
18. Level of Effort:
Amount: Approximately \$65,000 per year
Code: 2
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 mangement - 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)

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 (after oil spill)
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. 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
5. Phone(s): (617) 947-1231
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
XX 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 this 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, Mattapoissett 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:

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	<u>3</u>	Petroleum Hydrocarbons
0	1	2	<u>3</u>	PAHs
0	1	2	<u>3</u>	PCBs
0	1	2	<u>3</u>	Pesticides
0	1	2	<u>3</u>	Lead
0	1	2	<u>3</u>	Mercury
0	1	2	<u>3</u>	Cadmium
0	1	2	<u>3</u>	Chromium
0	1	2	<u>3</u>	Other metals
0	1	2	<u>3</u>	Other: Aliphatic Hydrocarbons

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

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

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
5. Phone(s): (617) 295-2212
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
 XX Toxic substances in organisms and sediments
 XX 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

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:

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
(617) 366-9181
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
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
Amount:
Code: 0
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

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.)

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, Zn, Ni, As, Fe, Mn
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)

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

- Massachusetts, DEQE-Div. Water Pollution Control 1971 Acushnet River - New Bedford Harbor Water Quality Study. Pub. No. 6046, DWPC, Westborough, MA.
- Massachusetts, DEQE-Div. Water Pollution Control 1975 Buzzards Bay; Water Quality Data: Part A. Pub. No. 13510-140-25-1-84-CR, DWPC, Westborough, MA.
- Massachusetts, DEQE-Div. Water Pollution Control 1975-77 Buzzards Bay; Wastewater Discharge Data: Part B. Pub. No. 10556-63-50-578-CR, DWPC, Westborough, MA.
- Massachusetts, DEQE-Div. Water Pollution Control 1976 Cape Cod 1976 Water Quality and Wastewater Discharge Data. Pub. No. 10089-143-65-11-77-CR, DWPC, Westborough, MA.
- 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.
- Massachusetts, DEQE-Div. Water Pollution Control 1980 Buzzards Bay Outer New Bedford Harbor special water quality study-1980. Pub. No. 12673-45-50-1-82-CR, 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.

BUZZARDS BAY INFORMATION SHEET

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
Code: 0

23. Data Restrictions:
Code:

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.
Code: 2

26. Program Description:

A. Sampling Frequency One time sampling only
Code: 6

B. Quality Assurance/Quality Control Informal program for QC of analytical chemistry (standards). No specific program for field work.
Code: 2,3

C. Pollutant Source Dredge spoil disposal
Code: 5

D. Parameters Measured

1 Physical Oceanography

1 Water Quality

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

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

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: 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)

- 27 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 here.

BUZZARDS BAY INFORMATION SHEET

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
8. Phone(s): (617) 727-1440 ext.680
9. Funding Organization: Same as above
10. Address: Same as above
11. Phone(s): Same as above
12. Study Topic: XX On-going research
 XX Lobster Landings
 XX Toxic substances in organisms and sediments
 XX Water quality and nutrient data
 Other
- Code: 0,2
13. Study Subtopic: PCBs and Metals
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

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):
9. Funding Organization: U.S. EPA and Coast Guard
10. Address: See above
11. Phone(s):
12. Study Topic: On-going research
Lobster Landings
XX Toxic substances in organisms and sediments
XX Water quality and nutrient data
XX 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

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: Temperature and salinity were measured throughout the water column

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)

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
5. Phone(s): (617) 758-3758
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:
15. Program Start Date: 9/26/84
16. Program End Date: present
17. Other Date Information:
18. Level of Effort: Information unavailable
Amount:
Code: 0
19. Program Duration: On-going
Code: 5
20. Form of Data: Notebook from DEQE
Code: 1
21. Data Location: Mr. Nunes has notebooks from the DEQE
22. Data Availability: On-going Program
Code: 3
23. Data Restrictions: Data not restricted
Code: 1
24. Region of Buzzards Bay Covered: Mattapoisett River and 7-10 other stations in that area.
25. Purpose of Program: Agency mandate
Code: 5
26. Program Description:
A. Sampling Frequency Monthly
Code: 3

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
<u>0</u>	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):
9. Funding Organization: U.S. EPA, Superfund
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
- Code: 0,2,3
13. Study Subtopic: PCBs, Metals, Water Quality
Code: 2,3,6
14. Comments on the Study: For more information call: Norman Francingues, 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
 Coggeshall 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

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: Moisture content, Atterberg limits, specific
 gravity.

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, Ni, Zn, Arsenic
0	1	2	3	Other: Oil and grease

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: EPA in Narragansett will do bioassays in support of litigation which is not part of this program.

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 modeling, 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
Lobster Landings
XX Toxic substances in organisms and sediments
XX Water quality and nutrient data
XX 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:

Camp, Dresser and McKee, Inc. 1979. City of New Bedford: Section 301(h) Application for Modification of Secondary Treatment Requirements for Discharges into Marine Waters. Vols. 1 and 2. Camp, Dresser and McKee, Inc., Boston, MA.

Camp, Dresser and McKee, Inc. 1983. City of New Bedford: Section 301(h) Application for Modification of Secondary Treatment Requirements for Discharges into Marine Waters. Vols. 1 and 2. Camp, Dresser and McKee, Inc., Boston, MA.
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	<u>1</u>	<u>2</u>	Temperature
0	<u>1</u>	<u>2</u>	Salinity/Conductivity
0	<u>1</u>	<u>2</u>	Dissolved Oxygen
0	<u>1</u>	<u>2</u>	pH
0	<u>1</u>	<u>2</u>	Suspended Solids
0	<u>1</u>	<u>2</u>	Nutrients
0	<u>1</u>	<u>2</u>	Biological Oxygen Demand
0	<u>1</u>	<u>2</u>	Turbidity
0	1	2	Alkalinity
0	<u>1</u>	<u>2</u>	Chlorophyll
0	<u>1</u>	<u>2</u>	Other: Coliform bacteria

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: 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
5. Phone(s): (617) 548-1400
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)
- | | | | | |
|---|---|---|---|---------------------------|
| 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: Betsy Brown
Date: Feb. 4, 1986

1. Citation Number: 91
2. Program Title:
3. Cognizant Individual: Dr. Ivan Valiela
4. Address: Boston University Marine Program
Marine Biological Laboratory
Woods Hole, MA 02543
5. Phone(s): (617) 548-3705
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. 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:
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

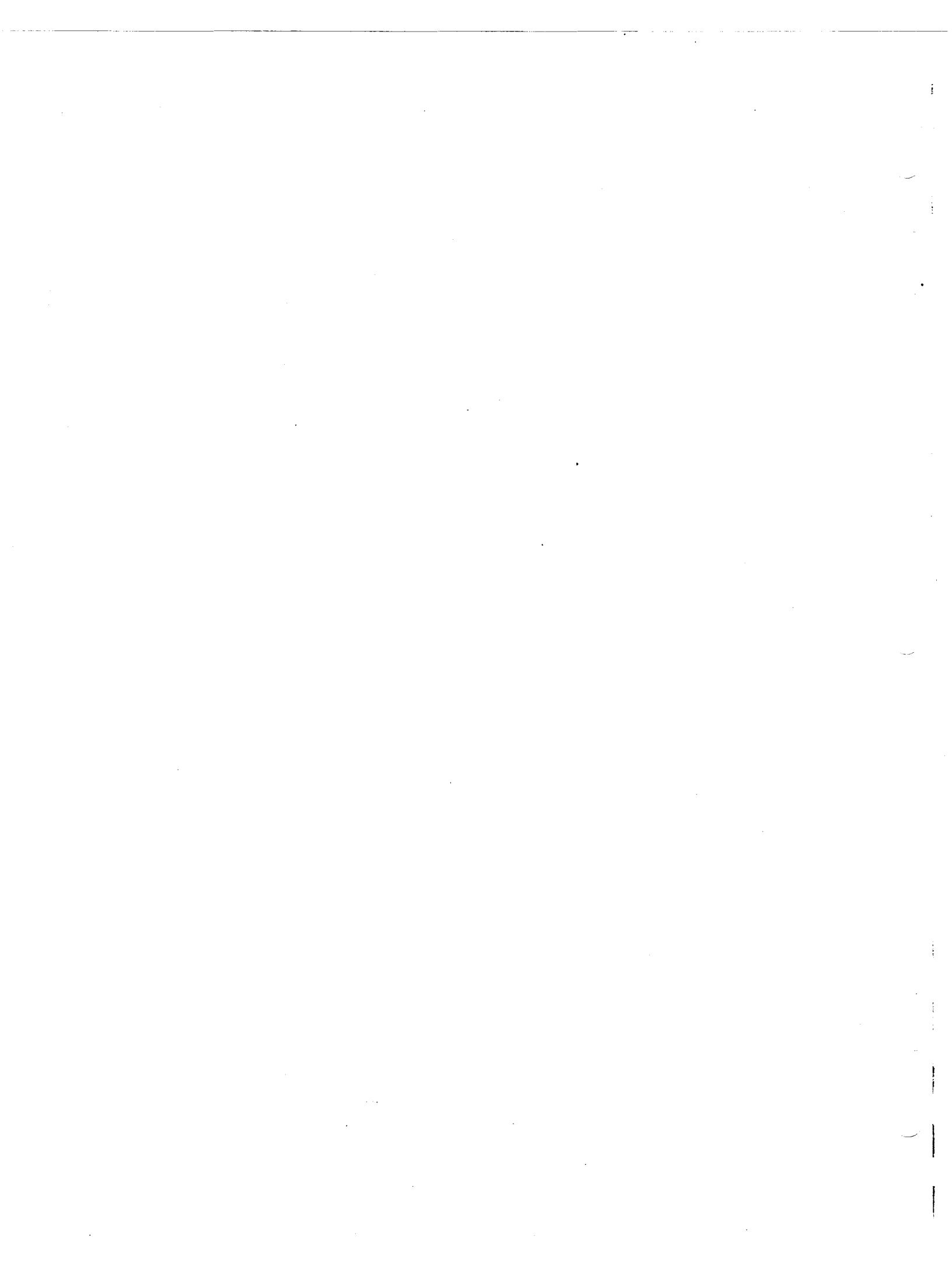
Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)

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:

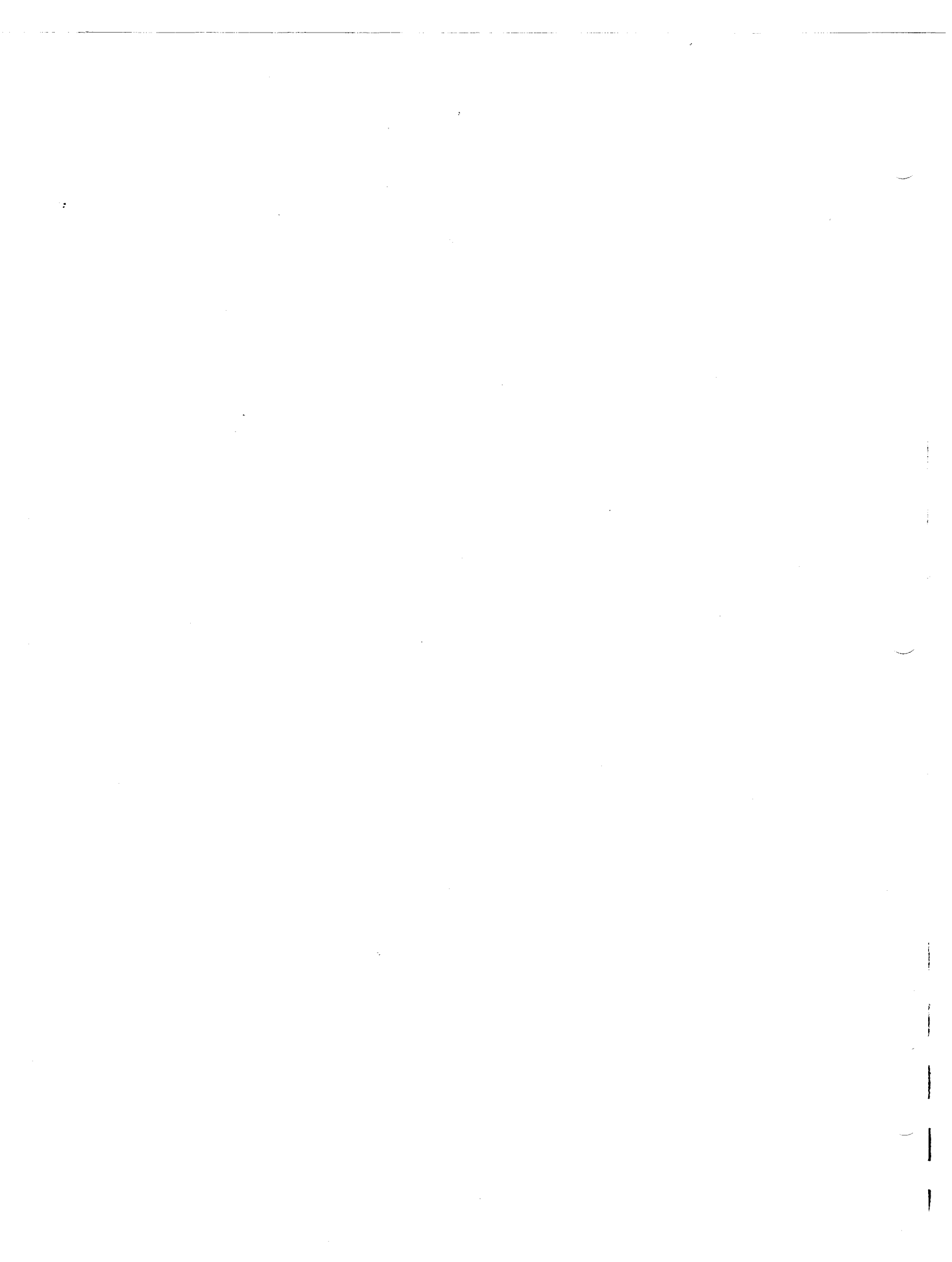
- 1 Biology
 Specifics (0 = unspecified, other; 1 = body burden; 2 =
 bioaccumulation; 3 = bioassay)
- | | | | | |
|---|---|---|---|---------------------------|
| 0 | 1 | 2 | 3 | Microorganisms/Pathogens |
| 0 | 1 | 2 | 3 | Phytoplankton/Microphytes |
| 0 | 1 | 2 | 3 | Macrophytes |
| 0 | 1 | 2 | 3 | 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:



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
5. Phone(s): (617) 548-1400, ext. 2351
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
XX 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.)

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)

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 methods 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:

Anderson, D.M., D.M. Kulis, J.A. Orphanos and A.R. Ceurvels. 1981. Distribution of the toxic dinoflagellate Gonyaulax tamarensis in the southern New England region. EST. COAST. SHELF. SCI. 14:447-461

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: November 25, 1985

1. Citation Number: 44
2. Program Title:
3. Cognizant Individual: Dr. Jelle Atema
4. Address: Boston University Marine Program
Marine Biological Laboratory
Woods Hole, MA 02543
5. Phone(s): (617) 548-3705
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
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:

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:** 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 7, 1986

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):
9. Funding Organization: National Oceanic and Atmospheric Administration, U.S. Dept. of Commerce
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: Coxen's Ledge at the mouth of the Bay,
Round Hill Point near New Bedford and at the entrance to the Outer
Harbor, and Point Connett 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	<u>2</u>	<u>3</u>	PCBs
0	1	<u>2</u>	<u>3</u>	Pesticides
0	1	<u>2</u>	<u>3</u>	Lead
0	1	<u>2</u>	<u>3</u>	Mercury
0	1	<u>2</u>	<u>3</u>	Cadmium
0	1	<u>2</u>	<u>3</u>	Chromium
0	1	<u>2</u>	<u>3</u>	Other metals: Mn, Fe, Ni, Cu, Zn, As, Se, Sn, Sb, Ag, Tl
0	1	<u>2</u>	<u>3</u>	Other: Al%, Si%, coprostanol

- 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 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,
i regularly
Code: 6

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)
- | | | | | |
|---|---|---|---|---------------------------|
| 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:** 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

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)
- | | | | | |
|---|---|---|---|---------------------------|
| 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 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
5. Phone(s): (617) 548-1400
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
XX 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
24. Region of Buzzards Bay Covered: Four stations. Inner New Bedford Harbor, Outer New Bedford Harbor, Cleveland Ledge, and Nantucket Sound
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

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

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. 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
 5. Phone(s): (617) 647-8793
 6. Performing Organization: U.S. Army Corps of Engineers
 7. Address: See above
 8. Phone(s):
 9. Funding Organization: U.S. Army Corps of Engineers
 10. Address: See above
 11. Phone(s):
 12. Study Topic: On-going research
Lobster Landings
XX Toxic substances in organisms and sediments
Water quality and nutrient data
XX 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:

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 Condiike
4. Address: U.S. Army Corps of Engineers (ACOE)
Barre Falls Dam Water Quality Laboratory
RFD 1
Hubbardston, MA 01452-9743
5. Phone(s): (617) 752-1095
6. Performing Organization: U.S. Army Corps of Engineers
7. Address: 424 Trapelo Road
Waltham, MA 02254
8. Phone(s): (617) 647-8494
9. Funding Organization: U.S. Army Corps of Engineers
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: Condiike 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

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 information sheet for Forrest Knowles has the complete listing of types of data collected.

BUZZARDS BAY INFORMATION SHEET

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): 682-5237
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:
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:** 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
East Sandwich, MA 02537
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:
- Code: 2
13. Study Subtopic: PCBs
Code: 2
14. Comments on the Study: This study is reported in Deubert, K.H., P. Rule, and I. Corte-Real. 1981. PCB residues in Mercenaria mercenaria from New Bedford Harbor, 1978, Bull. Environm. Contam. Toxicol. 27: 683-688.
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

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

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:

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: Feb. 24, 1986

1. Citation Number: 98
 2. Program Title:
 3. Cognizant Individual: Mr. Ray Donalson
 4. Address: Lawrence Experiment Station
Dept. of Environmental Quality Engineering
Lawrence, MA
 5. Phone(s): (617) 682-5237
 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:
- Code: 2
13. Study Subtopic: Metals
Code: 3
 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:
 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:** 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

1. Citation Number: 94
2. Program Title:
3. Cognizant Individual: Ms. Mary Beth Downing
4. Address: U.S. Environmental Protection Agency
11th Floor, McCormack Building
Boston, MA
(617) 223-1155
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
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:
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. 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:
3. Cognizant Individual: Dr. John Farrington
4. Address: Woods Hole Oceanographic Institution
Woods Hole, MA 02543
5. Phone(s): (617) 548-1400
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
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:

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:** 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
5. Phone(s): (617) 776-5400
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
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:
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:** 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
5. Phone(s): (617) 548-3705
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization: Ph.D. Dissertation, most funding was bootlegged from an NSF grant and a Sea Grant project.
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: 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
24. Region of Buzzards Bay Covered: Sippewissett Marsh. On plots treated with composted sewage sludge.
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	<u>1</u>	<u>2</u>	3	Microorganisms/Pathogens
0	<u>1</u>	<u>2</u>	3	Phytoplankton/Microphytes
0	1	2	3	Macrophytes
0	1	2	3	Zooplankton
0	<u>1</u>	<u>2</u>	3	Benthos
0	<u>1</u>	<u>2</u>	3	Nekton
0	1	2	3	Birds
0	1	2	3	Reptiles/Mammals
0	1	2	3	Parasites
0	<u>1</u>	<u>2</u>	3	Other: Organisms tested were <u>Spartina alterniflora</u> , mussels (<u>Geukensia demissa</u>) and fiddler crabs. A small amount of work was done with <u>Spartina patens</u> and <u>Distichlis spicata</u> . 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.

BUZZARDS BAY INFORMATION SHEET

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
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: 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 of the barge Florida off West Falmouth, Massachusetts. J. Mar. Res. 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
Amount:
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.

22. Data Availability: Program complete, data available
Code: 2
23. Data Restrictions: None
Code: 1
24. Region of Buzzards Bay Covered: West Falmouth, MA. Stations located from Wild Harbor River south to Sippiwissett Marsh.
25. Purpose of Program: To assess long-term effects of oil spilled during the grounding of the barge Florida on September 19, 1969.
Code: 5
26. 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
- 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

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)

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:
8. Phone(s):
9. Funding Organization: None
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: 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.

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:

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.

Relevant reference: Grassle, J.F. & J.P. Grassle. 1974. Opportunistic Life Histories and Genetic Systems in Marine Benthic Polychaetes. J. Mar. Res. 32(2):253-284.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown

Date: October 30, 1985

1. Citation Number: 10
2. Program Title: Life Table Analyses of Two Species of Capitella from New Bedford Harbor, MA
3. Cognizant Individual: Dr. Judy Grassle
4. Address: Marine Biological Laboratory
Woods Hole, MA 02543
5. Phone(s): (617) 548-3705
6. Performing Organization: Woods Hole Oceanographic Institution
7. Address: Same as above
8. Phone(s): Same as above
9. Funding Organization: NOAA/OMPA, Doug Wolff (NOAA Contact)
10. Address: Stony Brook, NY
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
14. Comments on the Study:
15. Program Start Date: 1982
16. Program End Date: 1983
17. Other Date Information:
18. Level of Effort: Unavailable
Amount:
Code: 0
19. Program Duration: 2 years
Code: 0
20. Form of Data: Hardcopy
Code: 1
21. Data Location: Dr. Judy Grassle
22. Data Availability: Not available at present, permission needed from Dr. John Farrington, WHOI, for information on PCBs. Judy Grassle's report is available.
Code: 0
23. Data Restrictions: None
Code: 0
24. Region of Buzzards Bay Covered: Inner and Outer New Bedford Harbor
25. Purpose of Program: Basic research
Code: 0
26. Program Description:
A. Sampling Frequency Seasonally except monthly near the storm drain by Cuttyhunk Ferry. Samples there for more than two years.
Code: 4

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: <u>Capitella</u> fecal pellets were also measured for levels of these contaminants.

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. 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
 5. Phone(s): (617) 636-3769
 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:
 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
3. Study Subtopic: PCBs
Code: 2
 14. Comments on the Study:
 15. Program Start Date: November 15, 1985
 16. Program End Date: None
 17. Other Date Information:
 18. Level of Effort:
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/Quality Control Using PCB analysis methods
as developed by Farrington or Koleck.
Code: 2

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)

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)

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

1. Citation Number: 16
2. Program Title:
3. Cognizant Individual: Forrest Knowles
4. Address: Army Corps of Engineers
424 Trapelo Road
Waltham, MA 02254
5. Phone(s): (617) 647-8793
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
XX Lobster Landings
XX Toxic substances in organisms and sediments
Water quality and nutrient data
XX 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

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)

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)

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
2. Program Title: PCB Analyses of Marine Organisms in the New Bedford Area: 1976-1980
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:
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
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
24. Region of Buzzards Bay Covered: Throughout the New Bedford Harbor area, including shellfish closure areas 1,2 and 3, demarcated by the Dept. of Public Health in Sept. 1979. Sampling sites included the New Bedford Sewage Outfall and sites adjacent to the Aerovox and Cornell-Dubilier discharges. A map showing sampling sites may be found in Kolek, Andrew and Russell Ceurvels. 1981. Polychlorinated Biphenyl (PCB) Analyses of Marine Organisms in the New Bedford Area 1976-1980, Division of Marine Fisheries, Commonwealth of Mass., Boston, Publication No. 12851-36-125-6-82-C.R.

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:

BUZZARDS BAY INFORMATION SHEET

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
9. Funding Organization: U.S. EPA, Region I
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

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)

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.

BUZZARDS BAY INFORMATION SHEET

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
6. Performing Organization: Battelle New England
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
11. Phone(s): (412) 788-1080
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: 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

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: Cu
- 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	<u>1</u>	<u>2</u>	3	Benthos
0	<u>1</u>	<u>2</u>	3	Nekton
0	<u>1</u>	<u>2</u>	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 (ie. 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
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:
16. Program End Date:
17. Other Date Information:
18. Level of Effort:
Amount:
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:

C. Pollutant Source Oil spill

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

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:

- 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

1. Citation Number: 80
2. Program Title: PCBs in Sediments of New Bedford Harbor
3. Cognizant Individual: Mr. Richard Packard
Southeast Regional Office
Mass. Dept. of Environmental Quality
Engineering
Lakeville Hospital
Rte. 105
4. Address: Lakeville, MA 02346
5. Phone(s): (617) 727-1440
6. Performing Organization: Shellfish Sanitation Section
Southeast Regional Office
Mass. Dept. of Environmental Quality
Engineering
7. Address: Same as above
8. Phone(s):
9. Funding Organization: No special funding
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
14. Comments on the Study:
15. Program Start Date: May 1978
16. Program End Date: August 1979
17. Other Date Information: Sediment cores were collected inside New Bedford Harbor in May 1978 and August 1979.
18. Level of Effort: Information unavailable
Amount:
Code: 0
19. Program Duration: Terminated, two year duration
Code: 0
20. Form of Data: Handwritten only (lab analyses and tabulations of data)
Code: 1
21. Data Location: Shellfish Sanitation Section
Southeast Regional Office
Mass. Dept. of Environmental Quality
Engineering
Mr. Packard also has some of the data, but not all.

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)
 - 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:

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 20, 1986

1. Citation Number: 96
2. Program Title:
3. Cognizant Individual: Mr. Nick Pangaro
4. Address: GCA
5 Middlesex Road
Somerville, MA 02150
5. Phone(s): (617) 776-5400
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
XX 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:

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: 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: October 30, 1986

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
5. Phone(s): (617) 548-3705 ext. 484
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)

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:

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 Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA, produced the following report of their research:

The Ecosystems Center. 1980. Biological Effects of the Bouchard #65 oil spill in Buzzards Bay, Massachusetts, January 1977. Report supported in part by Contract No. 03-7-022-35133 from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and in part by the Ecosystems Center, Marine Biological Laboratory, Woods Hole, MA. 39 pp. plus 4 appendices.

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
5. Phone(s): (201) 872-0200
6. Performing Organization: National Oceanic and Atmospheric
Administration
National Marine Fisheries Service
7. Address: Northeast Center
Environmental Processing Division
Woods Hole, MA 02543
8. Phone(s): (617) 548-5123
9. Funding Organization: Same as above and small portion from
Rockville, MD office
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
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

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.)

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 : Si, Cu, Ni, 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

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):
9. Funding Organization: U.S. EPA Region I.
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: Relevant document: Metcalf and Eddy/
Engineers. 1983. Acushnet Estuary PCBs Data
Management Final Report. Prepared for U.S.
Environmental Protection Agency, 137 pp.
15. Program Start Date:
16. Program End Date: 1983
17. Other Date Information:
18. Level of Effort: Unknown
Amount:
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	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:** 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 6, 1986

1. Citation Number: 82
 2. Program Title:
 3. Cognizant Individual: Dr. Ann Shortelle
 4. Address: GCA
5 Middlesex Road
Somerville, MA 02150
 5. Phone(s): (617) 776-5400
 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
XX Other: Literature and data collection on
New Bedford Harbor
- Code: 2,4
13. Study Subtopic: None
Code: 0
 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: New Bedford Harbor and adjacent
areas. Some data on Buzzards Bay.
 25. Purpose of Program: Collection of literature and data relevant to
the preparation of an endangerment assessment for New Bedford
Harbor.
Code: 5
 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: 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 Buidling
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
5. Phone(s): (617) 548-1400, ext. 2320
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

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:** 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:

Stegeman, John J. 1978. Influence of environmental contamination on cytochrome P-450 mixed-function oxygenases in fish: Implications for recovery in the Wild Harbor marsh. CAN. J. FISH. RES. BD. 35(5): 668-674.

Stegeman, John J., Estelle Harris, Janet Mayernik, C.S. Giam, and Pamela J. Kloepper-Sams. PCB distribution and induction of cytochrome P-450E in the marine fish scup (Stenotomus chrysops). In preparation.

Stegeman, John J., Alan V. Klotz, Bruce R. Woodin, and Ana M. Pajor. 1981. Induction of hepatic cytochrome P-450 in fish and the indication of environmental induction in scup (Stenotomus chrysops). AQUATIC TOX. 1:197-212.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown

Date: November 20, 1986

1. Citation Number: 118
2. Program Title: Organic and Trace Metal Levels in the Ocean
Quahog, Arctica islandica Linne
3. Cognizant Individual: Mr. Frank Steimle
4. Address: National Marine Fisheries Service
National Oceanic & Atmospheric Administration
U.S. Department of Commerce
Sandy Hook, NJ 07732
5. Phone(s): (201) 872-0200
6. Performing Organization: Same as above except for the organic
chemistry analyses which were performed by Dr. Paul Boehm while he
was at ERCO.
7. Address: Dr. Paul Boehm
Battelle New England Marine Research Lab.
397 Washington Street
Duxbury, MA 02332
(617) 934-5682
8. Phone(s):
9. Funding Organization: NOAA
10. Address: Same as above
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, PCBs, metals
Code: 1,2,3
14. Comments on the Study:
15. Program Start Date: 1981
16. Program End Date: 1983
17. Other Date Information:
18. Level of Effort:
Amount: \$50,000-60,000
Code: 1
19. Program Duration: Terminated, 2 years
Code: 0
20. Form of Data: Manuscript and organic data as hardcopy.
Metals on VAX at WHOI to which Sandy Hook is connected.
Code: 1,8
21. Data Location: All the information is at NOAA in Sandy Hook
with Frank Steimle. The original data for organics is at ERCO.
22. Data Availability: All the information in Sandy Hook is
available. Paul Boehm has advised that the ERCO data probably
cannot be retrieved.
Code: 0,2

- 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
 - 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: Ag, Ni, 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	<u>1</u>	<u>2</u>	<u>3</u>	Benthos: <u>Arctica islandica</u> (= ocean quahog)
0	<u>1</u>	<u>2</u>	<u>3</u>	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)

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:

1. Energy Resources Company, Inc. 1983. Organic pollutant levels in the ocean quahog (Arctica islandica) from the northeastern United States. Rept. to National Marine Fisheries Service, NOAA, U.S. Dept. of Commerce from ERCO, Cambridge, MA. 14 pp.

2. Steimle, F.D., P.D. Boehm, V.S. Zdanowicz, and R.A. Bruno. In press. Organic and trace metal levels in the ocean quahog, Arctica islandica Linne, from the NORTHWESTERN ATLANTIC FISH. BULL.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: February 28, 1986

1. Citation Number: 108
2. Program Title:
3. Cognizant Individual: Dr. Jacek Sulanowski
4. Address: Department Earth Science and Geography
Bridgewater State College
(617) 697-1200 ext. 2101
5. Phone(s):
6. Performing Organization:
7. Address:
8. Phone(s):
9. Funding Organization: Thomas A. Pappas
10. Address: Charitable Foundation, Inc.
P.O. Box 369
West Falmouth, MA 02574
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
14. Comments on the Study:
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

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:

- 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)

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:
18. Level of Effort: < \$50,000 per Annum
Amount:
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

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 | <u>1</u> | 2 | 3 | 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:

BUZZARDS BAY INFORMATION SHEET

Interviewer: Ellen Rosen
Date: December 9, 1985

1. Citation Number: 21
2. Program Title:
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
XX 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
24. Region of Buzzards Bay Covered: New Bedford Harbor (under Braga
Bridge).
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	<u>2</u>	3	PCBs
0	1	<u>2</u>	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)

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
5. Phone(s): (413) 545-1342 (Wilce)
(516) 246-3303, 246-4039 (Levine)
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
XX 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:
 1. Levine, H.G. The green seaweed, Ulva, as a monitor for pollution in coastal waters. Ph.D. Dissertation. Available through University Microfilms International, 300 North Zeeb Rd., Ann Arbor, MI 48106. Not all available data is in dissertation. See Item 27.
 2. Levine, H.G. and R.T. Wilce. 1980. Ulva lactuca as a bioindicator of coastal water quality. Water Resources Research Center, University of Massachusetts at Amherst. Publ. No. 119. 83 pp.
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

- 19. Program Duration: Terminated, 4 years
Code: 0
- 20. Form of Data: Hardcopy. Project # A-112-Massachusetts,
and Ph.D. thesis.
Code: 1
- 21. Data Location: University of Massachusetts, Amherst, MA
- 22. 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
- 23. Data Restrictions: Not restricted
Code: 1
- 24. Region of Buzzards Bay Covered: Slocum's River, New Bedford Harbor,
Weweantic River, and Westport River.
- 25. 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
- 26. 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
 - 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: Various Organohalides
0	1	2	3	Other

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

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 (Macroalgae)
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)

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.

27. **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

1. Citation Number: 104
2. Program Title: National Status and Trends Benthic Surveillance Project
3. Cognizant Individual: Mr. Vincent Zdanowicz
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:
8. Phone(s):
9. Funding Organization: Oceans Assessment Division
10. Address: NOAA
Rockville, MD
11. Phone(s): (301) 443-8655
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

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 41o29.5'N, 70o53.9'W
Four other stations 41o36.6'N, 70o45.2'W
41o33.3'N, 70o41.4'W
41o32.5'N, 70o47.8'W
41o33.4'N, 70o52.6'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:

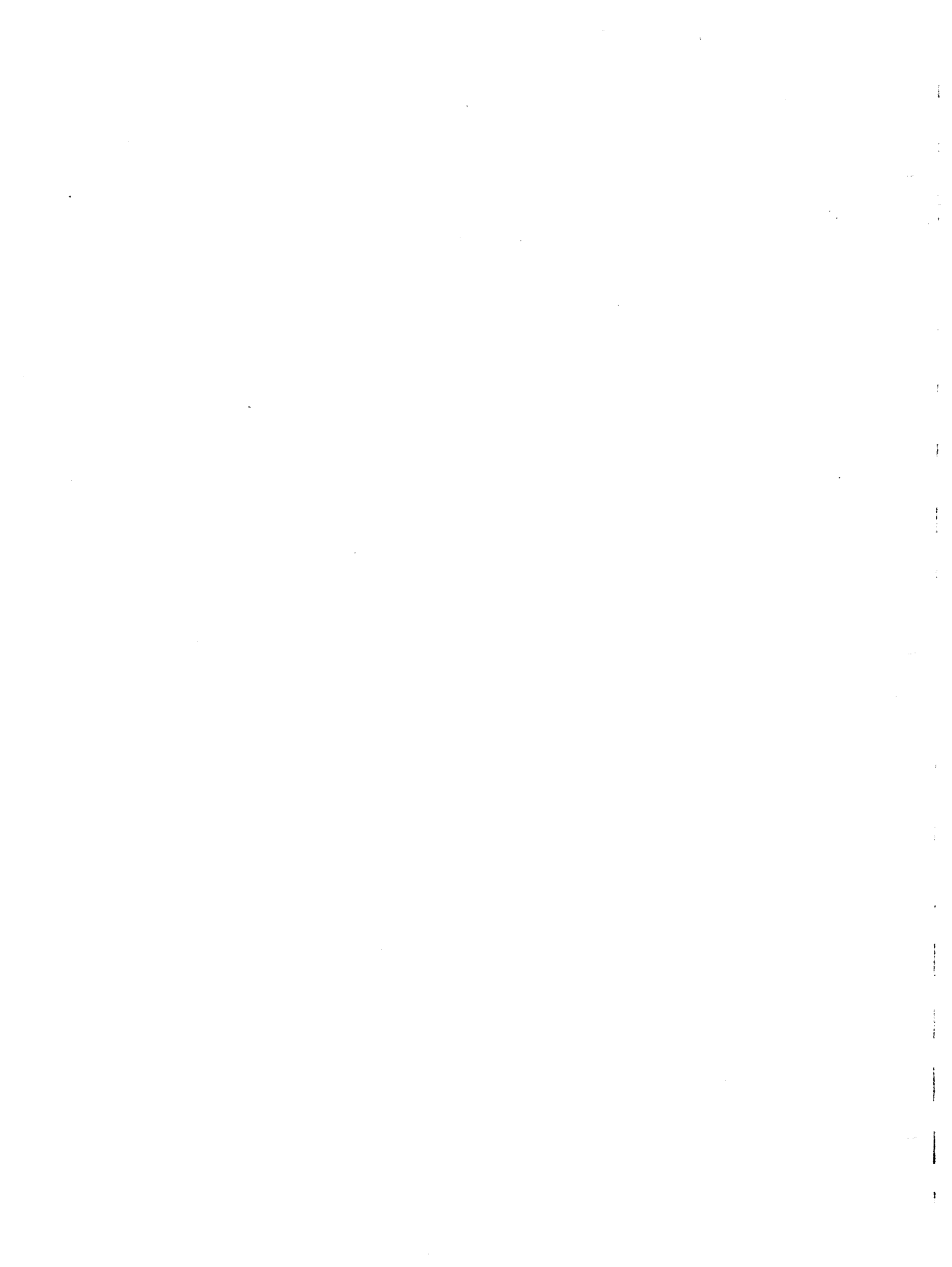
- 1 Chemistry
 Specifics (0 = unspecified, 1 = in water column, 2 = in sediment, 3 = in biota; if a "3" is used, the "Biology" section below must be completed.)
- | | | | | |
|---|---|----------|----------|--|
| 0 | 1 | 2 | 3 | Petroleum Hydrocarbons |
| 0 | 1 | 2 | 3 | PAHs |
| 0 | 1 | 2 | 3 | PCBs |
| 0 | 1 | 2 | 3 | Pesticides |
| 0 | 1 | 2 | 3 | Lead |
| 0 | 1 | 2 | 3 | Mercury |
| 0 | 1 | <u>2</u> | <u>3</u> | Cadmium |
| 0 | 1 | <u>2</u> | <u>3</u> | Chromium |
| 0 | 1 | <u>2</u> | <u>3</u> | Other metals: Ag, Cu, Ni, Zn, Ti, Mn, Sn, Sb, Se, As, Fe |
| 0 | 1 | <u>2</u> | 3 | Other: Al, Si |

- 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 | <u>1</u> | 2 | 3 | Nekton: Winter flounder |
| 0 | <u>1</u> | 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:** 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:
 3. Cognizant Individual: Mr. Milton Anderson
 4. Address: New England Electric Company
25 Research Drive
Westborough, MA 01582
 5. Phone(s): (617) 366-9011 ext. 2078
 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
- 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: 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
5. Phone(s): (617) 647-8213
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

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

XX Other: % solids vs. % water, chemical oxygen demand, total Kjeldahl 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
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:** 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 4, 1986

1. Citation Number: 76
 2. Program Title:
 3. Cognizant Individual: Mr. Steve Bliven
 4. Address: Office of Coastal Zone Management
Executive Office of Environmental Affairs
100 Cambridge Street
Boston, MA 02202
 5. Phone(s): (617) 727-9530
 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
- 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:** 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
 5. Phone(s): (617) 727-3267
 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
- 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 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:
3. Cognizant Individual: Dr. Michael Bothner
4. Address: U.S. Geological Survey
U.S. Department of Interior
Woods Hole, MA 02543
5. Phone(s): (617) 548-8700
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
- 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: 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 31, 1986

1. Citation Number: 70
 2. Program Title:
 3. Cognizant Individual: Dr. Cheryl Ann Butman
 4. Address: Ocean Engineering Department
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
 5. Phone(s): (617) 548-1400
 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
- 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:** 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
 5. Phone(s): (617) 999-8216
 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
- 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: 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
 5. Phone(s): (617) 292-5648
 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
- 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: 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
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 = 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. 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
 11. Phone(s): (617) 990-0505
 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
Amount:
Code: 1
 19. Program Duration: On-going, < 1 year anticipated
Code: 1
 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
Code: 3
 23. Data Restrictions: Data will be available following publication
Code: 0

24. Region of Buzzards Bay Covered: Present eelgrass distribution-all of Buzzards Bay. Historical changes-Westport River, Apponagan-sett Bay, New Bedford Outer Harbor, Nasketucket Bay, Great Neck, Buttermilk Bay, Nagansett Harbor, Wild Harbor and West Falmouth Harbor.

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

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)

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:

BUZZARDS BAY INFORMATION SHEET

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
Other: None of the above
- XX
- 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: 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
 5. Phone(s): (617) 548-1400
 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 = 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: 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
 5. Phone(s): (617) 548-1400 ext. 2783
 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
- 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:** 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
5. Phone(s): (617) 548-3705
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: XX On-going research
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
XX 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)

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 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
 5. Phone(s): (617) 759-3406
 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
- 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:

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

1. Citation Number: 97
 2. Program Title:
 3. Cognizant Individual: Mr. George Hampson
 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:
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:** 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
 5. Phone(s): (617) 990-0505
 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 = 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 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
 5. Phone(s): (617) 548-1400
 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:

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 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

1. Citation Number: 95
2. Program Title:
3. Cognizant Individual: Dr. Eugene Heyerdahl
4. Address: National Marine Fisheries Service
National Oceanic and Admospheric Admin.
U.S. Department of Commerce
Woods Hole, MA 02543
(617) 548-5123
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
XX
- 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: 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: Septebmer 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.

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)

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
XX			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: Iron
0	1	<u>2</u>	<u>3</u>	Other: Basic sulfur and other organic chemistry

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 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
 5. Phone(s): (617) 366-4479
 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
- 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.

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
5. Phone(s): (617) 888-1155
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: None of the above
XX
- 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:

1. Estuarine Investigation Project for the Westport River (Monograph). To obtain report, write to: Boston DMF Office Library, 100 Cambridge Street, Leverett Salton Stall Bldg., Boston, MA 02202.
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.
4. Monograph with various lobster larvae papers by C. Wheeler (NOAA), Collings, Lawton, et al. NOAA Tech Report NMFS SSRF-775, 1983. (In our bibliography).

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale

Date: February 24, 1986

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
5. Phone(s): (617) 759-3441
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 = 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
XX Other: Copepod eggs distribution and abundance
- Code: 4
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
 22. Data Availability: Available in publication (Mar. Ecol Progr. Ser. 15: 47-54
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.

25. Purpose of Program: Basic research. Determination of copepod egg abundance and distribution in sediments of Buzzards Bay.

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

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)

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 to the 6th 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Betsy Brown
Date: November 25, 1985

1. Citation Number: 35
2. Program Title: Development of Alternative Bioassay Organisms
3. Cognizant Individual: Dr. Nancy Marcus
4. Address: Woods Hole Oceanographic Institution
Wood Hole, MA 02543
5. Phone(s): (617) 548-1400
6. Performing Organization: Same as above
7. Address:
8. Phone(s):
9. Funding Organization: Steve Shimmel
U.S. EPA
10. Address: Narragansett, RI
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: None
Code: 0
14. Comments on the Study: Dr. Marcus is examining copepod eggs as potential resources for bioassay test organisms that can be stored and when ready for use, cultured to nauplii in two days. Purpose is to demonstrate that the sensitivity of the copepod nauplii is in the same ballpark as for standard plankton used in bioassays (i.e., Acartia, Artemia, mysids). Using cadmium chlorida and silver nitrate as toxic compounds in bioassay.
15. Program Start Date: 1985
16. Program End Date: 1986
17. Other Date Information:
18. Level of Effort:
Amount: \$10,000
Code: 1
19. Program Duration: Ongoing, 1 year
Code: 2
20. Form of Data: Hard Copy
Code: 1
21. Data Location: Dr. Nancy Marcus
22. Data Availability: Unknown
Code: 0
23. Data Restrictions:
Code:
24. Region of Buzzards Bay Covered: Laboratory study - no stations in Buzzards Bay.
25. Purpose of Program: Basic Research
Code: 0

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: Silver
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:** 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:
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: Dr. Matthiessen has not done any research in Buzzards Bay that falls into the topic areas. He suggested we contact George Hampson at WHOI.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 18, 1986

1. Citation Number: 88
 2. Program Title:
 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:
 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:

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: 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

1. Citation Number: 37
 2. Program Title: Finfish Resources of Buzzards Bay
 3. Cognizant Individual: Dr. Sandy Moss
 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:
 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				
	Species (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. 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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: January 24, 1986

1. Citation Number: 51
 2. Program Title:
 3. Cognizant Individual: David Oliver
 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
Other: None of the above
- XX
- 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:

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
Lobster Landings
Toxic substances in organisms and sediments
Water quality and nutrient data
XX Other: None of the above
- Code: 0,4
13. Study Subtopic:
Code:
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

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)

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:
 3. Cognizant Individual: Joseph Pauline
 4. Address: Shellfish Constable
Town Hall
40 Center Street
Fairhaven, MA 02719
 5. Phone(s): (617) 992-5416, 992-4339 home
 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
- 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: 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
 4. Address: National Marine Fisheries Service
National Oceanic and Atmospheric Admin.
U.S. Department of Commerce
Woods Hole, MA 02543
 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
- XX
- 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: 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
 5. Phone(s): (617) 223-1951
 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
- 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:** 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
 5. Phone(s): (617) 956-5000 Ext. 6923
 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

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:** 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
- Code:
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: 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 surface 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
 5. Phone(s): (305) 465-2400
 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
- 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: 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
 5. Phone(s): (617) 548-1400
 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
- Code: 4
13. Study Subtopic:
Code:
 4. 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: 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
 5. Phone(s): (617) 849-8933
 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
- XX
- 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:** 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

Interviewer: Judith Gale
Date: January 24, 1986

1. Citation Number: 50
 2. Program Title:
 3. Cognizant Individual: Michael Scully
Assistant to Commissioner Walter Bickford
 4. Address: Division of Fisheries and Wildlife
100 Cambridge Street, Room 1901
Boston, MA 02202
 5. Phone(s): (617) 727-1614
 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
- 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:

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
 5. Phone(s): (413) 545-3516
 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
- 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:

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.

BUZZARDS BAY INFORMATION SHEET

Interviewer: Judith Gale
Date: February 24, 1986

1. Citation Number: 100
 2. Program Title:
 3. Cognizant Individual: Robert Sheehy
 4. Address: Harbormaster
Wareham Town Hall
54 Marion Road
Wareham, MA 02571
 5. Phone(s): (617) 295-0800
 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
- 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: 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:
 3. Cognizant Individual: John Sherman for
 4. Address: John Freitas, Shellfish Constable
Massachusetts Department of Natural Resources
Town Hall
Russells Mill Road
South Dartmouth, MA 02748
 5. Phone(s): (617) 999-0719
 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
- 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: 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
- XX
- 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: 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
 5. Phone(s): (617) 281-3600
 6. Performing Organization: National Marine Fisheries Service
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
- XX
- Code: 4
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
 21. Data Location: National Marine Fisheries Service
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

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:

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:** 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
Other: None of the above
- XX
- 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:** 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
 5. Phone(s): (617) 548-5123
 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
Toxic substances in organisms and sediments
Water quality and nutrient data
Other: None of the above
XX
- 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:** 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:
 3. Cognizant Individual: Mr. Richard Toner
 4. Address: Marine Research, Incorporated
Falmouth, MA 02541
 5. Phone(s): (617) 548-0700
 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
- 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: 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:
 3. Cognizant Individual: Dr. Jefferson Turner
 4. Address: Southeastern Massachusetts University
Dartmouth, MA 02714
 5. Phone(s): (617) 999-8229
 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
- 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:

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
 5. Phone(s): (617) 291-0950
 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
- 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 company does not conduct any research relevant to the topics of interest.

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. 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.