



12-2002

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### Recommended Citation

Finnigan, Jayne S., "Laboratory Analyses of Water and Shellfish from Coastal Waters and Watershed of New Hampshire" (2002). *PREP Reports & Publications*. 314.  
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# **LABORATORY ANALYSES OF WATER AND SHELLFISH FROM COASTAL WATERS AND WATERSHED OF NEW HAMPSHIRE**

A Final Report to

The New Hampshire Estuaries Project

Submitted by

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December 2002

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



***Table of Contents***

Executive Summary.....3

Introduction.....3

Project Goals and Objectives.....3

Methods.....3

Results and Discussion.....4

Conclusions.....4

Recommendations.....4

Appendix A: Shellfish Growing Water Results

Appendix B: Paralytic Shellfish Poisoning Results

## **Executive Summary:**

The Department of Health and Human Services-New Hampshire Public Health Laboratories (DHHS-NHPHL) has participated in providing laboratory analyses as part of the National Estuary Program since its inception in New Hampshire in 1995. The NHPHL has continued to carry out various actions dealing with the monitoring program as listed in the NH Estuaries Project Management Plan.

## **Introduction:**

The NHPHL implemented selected actions from the NH Estuaries Project Management Plan and Year Six workplan to help address the environmental problems affecting the state's estuarine systems.

## **Project Goals and Objectives:**

The NHPHL succeeded in meeting the following goals and objectives:

The NHPHL assisted in the evaluation of the sanitary quality of the state's shellfish growing waters by providing laboratory analyses for bacterial contamination, salinity, and pH. The data obtained is used to evaluate the sanitary quality of the state's shellfish waters.

The NHPHL supplemented efforts to monitor for the presence of Paralytic Shellfish Poisoning in the state's shellfish resources by providing laboratory analyses of shellfish samples from two sites in coastal NH.

## **Methods:**

All laboratory analyses were conducted according to applicable FDA methods. All analyses met FDA-required Quality Assurance/Quality Control standards. All testing was performed using guidelines conforming to the National Shellfish Sanitation Program. The NHPHL implemented and successfully participated in a split sample proficiency program designed specifically for analysis of fecal coliforms with levels in ranges important to the Shellfish Program.

The NHPHL maintained a minimum of 6 full-time employees including support personnel to provide timely and accurate laboratory testing as needed throughout the calendar year. Two personnel, as part of the New England Laboratory Evaluation Officers and Managers (NELEOM), received the FDA Commissioner's Special Citation for achievement for sustained and continuous support of FDA and the National Shellfish Sanitation Program advancing uniformity, consistent policies and increased trust in laboratory procedures and practices. The NHPHL personnel participated in known NHEP meetings, workshops, and other events.

The NHPHL maintained and provided all analytical results in hard copy and in a computerized database to the DES Shellfish Program for inclusion in their final report to NHEP. Data is available to any cooperating agency upon request and is included in the appendices of this report.

### **Results and Discussion:**

Shellfish Water Monitoring: Bacterial Analyses. The NHPHL received 904 shellfish growing water samples in 2002. 893 samples were tested for fecal coliforms. 462 fecal coliform tests were applied to the match. 431 fecal coliform tests were supported by the NHEP. The salinity and pH were performed on 901 samples and were used as match. This activity is relevant to NHEP Management Plan Action SHL-1 and SHL-4.

Shellfish Water Monitoring: Paralytic Shellfish Poisoning (PSP) Analyses. The NHPHL received and tested 49 shellfish tissue samples for PSP toxin in 2002. 32 samples were used as match. 17 samples were supported by the NHEP. This activity is relevant to NHEP Management Plan Action SHL-6.

### **Conclusions:**

All aspects of the DHHS-NHPHL portion of the Management Plan were carried out. The total number of samples this year were slightly lower than anticipated, however, sample collections are weather dependent. Eleven of the 904 samples (1.2%) were not processed due to quality assurance issues. Each of these samples was investigated as to the cause, and corrective action was undertaken to prevent future occurrences.

### **Recommendations:**

The upcoming year will include providing continued laboratory analyses of shellfish growing water samples for fecal coliform bacteria, salinity and pH; providing continued laboratory analyses for the presence of PSP; and assist in evaluating the sanitary quality of the state's shellfish by performing shellfish meat fecal coliform testing on samples taken during dry and wet weather conditions.