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## Summary of Coastal and Estuarine Monitoring Programs in New Hampshire (2004), Trowbridge, P

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# 2004

New Hampshire Estuaries Project



## Summary of Coastal and Estuarine Monitoring Programs in New Hampshire

**Prepared by:**

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NHEP Coastal Scientist  
New Hampshire Department of  
Environmental Services**

**December 2004**



## Introduction

The New Hampshire Estuaries Project (NHEP) compiles data from many coastal and estuarine monitoring programs to assess the status and trends of environmental indicators in the Great Bay and Hampton/Seabrook Harbor. The full list of NHEP environmental indicators has been published in the NHEP Monitoring Plan.

<http://www.state.nh.us/nhep/publications/pdf/nhepmonitoringplan-nhep-04.pdf>

The following catalog is a summary of the coastal and estuarine monitoring programs that provide data for NHEP indicators or for State water quality assessments. This list is limited to long-term monitoring programs that do not have an end date.

Direct any questions about this list to Phil Trowbridge, NHEP Coastal Scientist, at (603) 271-8872 or [ptrowbridge@des.state.nh.us](mailto:ptrowbridge@des.state.nh.us).

**PROGRAM: AMBIENT RIVER MONITORING PROGRAM (ARMP)**

**PROJECT: AMBIENT RIVER MONITORING PROGRAM (ARMP)**

**PROJECT ID: ARMP**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE

CONCORD, NH 03302-0000

TELEPHONE: 603-271-8863

WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: PAUL PISZCZEK, WATERSHED MGMT BUREAU - WATER QUALITY SECTION

PROJECT MANAGER EMAIL: [PPISZCZEK@DES.STATE.NH.US](mailto:PPISZCZEK@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/1989      DURATION: YEARS

PURPOSE: TO CONDUCT WATER QUALITY SAMPLING OF RIVERS AND STREAMS TO DETERMINE IF WATER QUALITY SUPPORTS USES (I.E. SWIMMING, FISHING) DESIGNATED BY LEGISLATIVE CLASSIFICATION.

STUDY AREA: PRIMARY FOCUS WAS ON THE ANDROSCOGGIN, SACO AND PISCATAQUA RIVER BASINS PLUS 17 TREND MONITORING STATIONS LOCATED THROUGHOUT THE STATE.

STUDY DESIGN: MAJORITY OF SAMPLES ARE COLLECTED FROM JUNE THROUGH AUGUST. MONTHLY SAMPLES FROM MARCH TO DECEMBER ARE COLLECTED AT NINE TRIBUTARIES TO GREAT BAY AND LITTLE HARBOR AS PART OF THE NH ESTUARIES PROJECT MONITORING PROGRAM. THE TRIBUTARY SAMPLES ARE TAKEN AT THE HEAD OF TIDE IN THE WINNICUT, SQUAMSCOTT, LAMPREY, OYSTER, BELLAMY, COCHECO, SALMON FALLS, SAGAMORE CREEK, AND BERRYS BROOK. ESTUARINE TRIBUTARY SAMPLES ARE ANALYZED FOR: DO, TEMPERATURE, CONDUCTIVITY, PH, TURBIDITY, TOTAL KJELDAHL NITROGEN, AMMONIA, SUM OF NITRATE AND NITRITE, TOTAL PHOSPHOROUS, BOD, E. COLI, CHLOROPHYLL-A, AND TSS. FUNDING FOR TRIBUTARY SAMPLES IS PROVIDED BY USEPA VIA THE NH ESTUARIES PROJECT.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: ARMP BOOKSHELF      H:\QAPPS\QAPP DOCS\AMBIENT RIVER MONITORING

**PROGRAM: BEACH MONITORING PROGRAM**

**PROJECT: BEACH DATA**

**PROJECT ID: BEACH**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE

CONCORD, NH 03302-0000

TELEPHONE: 603-271-8863

WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: SARA SUMNER, WATERSHED MGMT BUREAU - BIOLOGY SECTION

PROJECT MANAGER EMAIL: [SSUMNER@DES.STATE.NH.US](mailto:ssumner@des.state.nh.us)

**PROJECT INFORMATION**

START DATE: 01/01/1989      DURATION: YEARS

PURPOSE: MONITOR AND SAMPLE FRESHWATER AND MARINE PUBLIC BEACHES ON A ROUTINE BASIS THROUGHOUT THE SWIM SEASON. ISSUE AND POST ADVISORIES FOR BACTERIA AND CYANOBACTERIA.

STUDY AREA: STATEWIDE

STUDY DESIGN: FRESHWATER BEACHES ARE SAMPLED ONCE PER MONTH FROM MID-JUNE THROUGH LABOR DAY. TIER I MARINE BEACHES ARE SAMPLED WEEKLY AND TIER II MARINE BEACHES ARE SAMPLED BI-WEEKLY FROM JUNE 1ST THROUGH LABOR DAY. ALL FRESHWATER BEACH SAMPLES ARE ANALYZED FOR E. COLI, WHILE ALL MARINE BEACH SAMPLES ARE ANALYZED FOR ENTEROCOCCI.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: <H:QAPPS/QAPPDOCS/BEACH/FINALVERSION>

**PROGRAM: EELGRASS MAPPING PROGRAM**

**PROJECT: EELGRASS MAPPING PROGRAM**

**PROJECT ID: EELGRASS**

**RESPONSIBLE ORGANIZATION**

UNIVERSITY OF NEW HAMPSHIRE  
JACKSON ESTUARINE LABORATORY  
DURHAM, NH 03824-0000

TELEPHONE: 603-862-2175

WEBSITE: [HTTP://MARINE.UNH.EDU/JEL/HOME.HTM](http://MARINE.UNH.EDU/JEL/HOME.HTM)

PROJECT MANAGER: FRED SHORT, UNH/SEAGRASS ECOLOGY GROUP

PROJECT MANAGER EMAIL: [FRED.SHORT@UNH.EDU](mailto:FRED.SHORT@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1986      DURATION: ONGOING

PURPOSE: TO MONITOR THE DISTRIBUTION OF EELGRASS IN THE GREAT BAY ESTUARY

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- DISTRIBUTION OF EELGRASS MAPPED USING LOW ALTITUDE AERIAL IMAGERY AND GROUNDTRUTHING BY BOAT. SAMPLING FREQUENCY -- ANNUALLY. STATIONS -- THE ENTIRE ESTUARY IS MAPPED EACH YEAR. METHODS -- THE METHOD FOR EELGRASS MAPPING IN THE GREAT BAY ESTUARY FOLLOWS THE STANDARDIZED "C-CAP" NOAA PROTOCOL FOR MAPPING SUBMERGED AQUATIC VEGETATION. METHODS DETAILS ARE AVAILABLE IN THE QAPP. COMMENTS -- THE MAPPING IS CONDUCTED BY THE UNH SEAGRASS ECOLOGY GROUP. WEBSITE [HTTP://MARINE.UNH.EDU/JEL/FACULTY/FRED2/FREDSHORT.HTM](http://MARINE.UNH.EDU/JEL/FACULTY/FRED2/FREDSHORT.HTM)

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: NHDES H:\QAPPS\QAPP DOCS\NHEP PROJECTS\EELGRASS

**PROGRAM: ASMFC-MANAGED SPECIES MONITORING PROGRAMS (ACFCMA REPORTING)**  
**PROJECT: ESTUARINE JUVENILE FINFISH SEINE SURVEYS**  
**PROJECT ID: FGFFISH**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT  
225 MAIN STREET  
DURHAM, NH 03824-0000  
TELEPHONE: 603-868-1095  
WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION  
PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1996      DURATION: ONGOING  
PURPOSE: TO MONITOR THE ABUNDANCE OF JUVENILE FINFISH IN NH'S ESTUARIES.

STUDY AREA: GREAT BAY ESTUARY, HAMPTON HARBOR

STUDY DESIGN: PARAMETERS -- ABUNDANCE OF JUVENILE FINFISH AND SHELLFISH PREDATORS (GREEN CRAB) BY BEACH SEINE HAULS. SAMPLING FREQUENCY -- MONTHLY FROM JUNE TO NOVEMBER. A SINGLE SEINE HAUL IS MADE AT EACH STATION EACH MONTH. STATIONS -- 11 STATIONS IN THE GREAT BAY AND PISCATAQUA RIVER, 4 STATIONS IN HAMPTON HARBOR. METHODS -- SEINE HAULS ARE COLLECTED BY BOAT USING A 30.5 M LONG BY 1.8 M HIGH BAG SEINE WITH 6.4 MM MESH DEPLOYED 10 - 15 M FROM THE BEACH. SEINE HAULS ARE CONDUCTED DURING DAYLIGHT HOURS AND ARE CONSTRAINED TO THE PERIOD OF APPROXIMATELY TWO HOURS BEFORE TO TWO HOURS AFTER LOW TIDE. SEINES ARE SET INTO THE CURRENT AND IN WATER DEPTHS LESS THAN SIX FEET. WITH EACH SEINE HAUL, SURFACE SALINITY AND TEMPERATURE ARE MEASURED AND SUBSTRATE TYPE AT THE STATION IS OBSERVED AND RECORDED. ALL FISH CAPTURED ARE IDENTIFIED TO THE LOWEST POSSIBLE TAXON (SPECIES LEVEL IS THE TARGET) AND ENUMERATED. ALL FINFISH AND CRUSTACEANS CAPTURED ARE MEASURED TOTAL LENGTH TO THE NEAREST MILLIMETER UP TO A MAXIMUM OF 25 INDIVIDUALS PER SPECIES PER SEINE HAUL. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICES IN DURHAM (SEE ANNUAL ACFCMA REPORT)

**PROGRAM: ANADROMOUS FISH INVESTIGATIONS (F-61R REPORTING)**

**PROJECT: RIVER HERRING RESTORATION PROGRAM**

**PROJECT ID: FGHERRIN**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1972      DURATION: ONGOING

PURPOSE: TO RESTORE RIVER HERRING (*ALOSA PSEUDOHARENGUS* AND *ALOSA AESTIVALIS*) TO THEIR FORMER ABUNDANCE AND DISTRIBUTION IN THE COASTAL AREAS OF NEW HAMPSHIRE TO THE EXTENT POSSIBLE, AND MONITOR THE ADULT SPAWNING POPULATIONS.

STUDY AREA: GREAT BAY ESTUARY, HAMPTON HARBOR

STUDY DESIGN: PARAMETERS -- HERRING COUNTS, SEX, SIZE/AGE DISTRIBUTION OF RETURNING ADULT FISH. SAMPLING FREQUENCY -- DAILY DURING SPRING RUNS. STATIONS -- FISH LADDERS IN THE COCHECO, EXETER, OYSTER, LAMPREY, TAYLOR AND WINNICUT RIVERS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICE IN DURHAM NH (SEE ANNUAL GRANT F-61R REPORT)



**PROGRAM: ASMFC-MANAGED SPECIES MONITORING PROGRAMS (ACFCMA REPORTING)**

**PROJECT: JUVENILE LOBSTER SURVEYS**

**PROJECT ID: FGLOBJUV**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: CLARE MCBANE, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [CMCBANE@NHFGD.ORG](mailto:CMCBANE@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1992      DURATION: ONGOING

PURPOSE: TO MONITOR THE ABUDANCE OF JUVENILE LOBSTERS IN NH WATERS

STUDY AREA: GREAT BAY ESTUARY; ATLANTIC COAST

STUDY DESIGN: PARAMETERS -- JUVENILE LOBSTER ABUNDANCE MONITORED BY SCUBA DIVERS. SAMPLING FREQUENCY -- MONTHLY FROM APRIL TO JANUARY. STATIONS -- ADAMS PT, WOODMAN PT, NANNIE ISLAND, PISCATAQUA AND SQUAMSCOTT RIVERS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICES IN DURHAM (SEE ANNUAL ACFCMA REPORT)

**PROGRAM: ASMFC-MANAGED SPECIES MONITORING PROGRAMS (ACFCMA REPORTING)**  
**PROJECT: LOBSTER SEA SAMPLING PROGRAM**  
**PROJECT ID: FGLOBSEA**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT  
225 MAIN STREET  
DURHAM, NH 03824-0000  
TELEPHONE: 603-868-1095  
WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: CLARE MCBANE, NHF&G MARINE FISHERIES DIVISION  
PROJECT MANAGER EMAIL: [CMCBANE@NHFGD.ORG](mailto:CMCBANE@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1992      DURATION: ONGOING  
PURPOSE: TO MONITOR THE ABUNDANCE AND SIZE OF LOBSTERS IN NH COASTAL WATERS

STUDY AREA: PISCATAQUA RIVER AND ATLANTIC OCEAN

STUDY DESIGN: PARAMETERS -- LOBSTER ABUNDANCE AND SIZE CLASSES. SAMPLING FREQUENCY -- MONTHLY FROM JUNE TO OCTOBER. STATIONS -- THROUGHOUT THE PISCATAQUA RIVER, ALONG THE NEW HAMPSHIRE COAST, AND AT THE ISLES OF SHOALS. METHODS -- SAMPLES ARE TAKEN DURING DAY TRIPS ABOARD A COMMERCIAL LOBSTER BOAT. MOST TRAWLS CONSIST OF A 10 TRAP SET LINE. DURING EACH TRIP, ALL LOBSTERS ARE SAMPLED FROM EVERY TRAWL. THE FOLLOWING MEASUREMENTS ARE MADE ON THE SEA SAMPLED LOBSTERS: SEX, LENGTH, SHELL CONDITION, AND THE V-NOTCHED AND OVIGEROUS CONDITION FOR FEMALES. THE DATA COLLECTED ENABLE THE CALCULATION OF TOTAL CATCH PER TRAP HAUL SET-OVER-DAY (CTHSOD) AND MARKETABLE CATCH PER TRAP HAUL (CTH). COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICE IN DURHAM NH (SEE ANNUAL ACFCMA REPORT)

**PROGRAM: OYSTER RESOURCE MONITORING PROGRAMS**

**PROJECT: OYSTER RECREATIONAL HARVEST SURVEY**

**PROJECT ID: FGOYSHAR**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1996      DURATION: ONGOING

PURPOSE: TO DETERMINE NUMBER OF OYSTERS HARVESTED DURING A SEASON

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- RECREATIONAL HARVEST OF OYSTERS FROM ALL BEDS IN GREAT BAY. SAMPLING FREQUENCY -- AS NEEDED. STATIONS -- THERE ARE NO FIXED STATIONS FOR THIS PROGRAM. METHODS -- OYSTER HARVEST INFORMATION IS COLLECTED VIA A MAIL SURVEY OF OYSTER LICENSEES FOLLOWING THE SAME METHODS AS WERE USED FOR THE 1997 SURVEY BY NHF&G. COMMENTS -- INFORMATION ON OYSTER LICENSE SALES FROM NHF&G IS ALSO RELEVANT. THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICES IN DURHAM

**PROGRAM: OYSTER RESOURCE MONITORING PROGRAMS**

**PROJECT: OYSTER DISEASE MONITORING PROGRAM**

**PROJECT ID: FGOYSMSX**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRUCE SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [RJOHNSTON@NHFGD.ORG](mailto:rjohnston@nhfgd.org)

**PROJECT INFORMATION**

START DATE: 01/01/1991      DURATION: ONGOING

PURPOSE: TO DETERMINE THE PREVALENCE OF INFECTION AMONG OYSTERS IN GREAT BAY REEFS

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- PREVALENCE OF MSX AND DERMO IN OYSTERS. SAMPLING FREQUENCY -- ANNUALLY. STATIONS -- 4 SITES TESTED BIENNIALY (ADAMS POINT BED, WOODMAN POINT BED, OYSTER RIVER BED). ONE SITE TESTED ANNUALLY (NANNIE ISLAND BED). OTHER SITES (PISCATAQUA RIVER BED AND SQUAMSCOTT RIVER BED) TESTED LESS FREQUENTLY. METHODS -- DETAILS PROVIDED IN APPROVED QAPP. COMMENTS -- FUNDING PROVIDED BY USEPA VIA THE NH ESTUARIES PROJECT. THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: NHDES FILES H:\QAPPS\QAPP DOCS\NHEP PROJECTS\NH F&G OYSTER PATHOGENS

**PROGRAM: OYSTER RESOURCE MONITORING PROGRAMS**

**PROJECT: OYSTER DENSITY MONITORING PROGRAM**

**PROJECT ID: FGOYSRES**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRUCE SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [RJOHNSTON@NHFGD.ORG](mailto:rjohnston@nhfgd.org)

**PROJECT INFORMATION**

START DATE: 01/01/1991      DURATION: ONGOING

PURPOSE: TO ASSESS THE ABUNDANCE AND COMMUNITY STRUCTURE OF OYSTERS AT BEDS IN THE GREAT BAY ESTUARY

STUDY AREA: MAJOR OYSTER BEDS IN THE GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- ADULT, JUVENILE, AND SPAT OYSTER DENSITY AT MAJOR OYSTER BEDS. SAMPLING FREQUENCY -- ANNUALLY IN OCTOBER/NOVEMBER. STATIONS: 6 SITES: ADAMS POINT, NANNIE ISLAND, WOODMAN POINT, OYSTER RIVER BED, PISCATAQUA RIVER BED, AND SQUAMSCOTT RIVER BED. METHODS -- DIVERS WILL COLLECT SAMPLES FROM EACH BED TO PROVIDE A REPRESENTATIVE SAMPLE OF THE OYSTERS IN WHOLE BED. A 0.25 M<sup>2</sup> QUADRAT WILL BE RANDOMLY PLACED AT EACH REPRESENTATIVE LOCATION AND ALL OYSTER SHELL WILL BE COLLECTED BY DIVERS FROM WITHIN THE QUADRAT. LIVE OYSTERS WILL BE ENUMERATED AND SHELL LENGTH WILL BE MEASURED TO THE NEAREST MM FOR ADULTS AND SPAT. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICES IN DURHAM

**PROGRAM: ANADROMOUS FISH INVESTIGATIONS (F-61R REPORTING)**

**PROJECT: COASTAL SHAD RESTORATION PROGRAM**

**PROJECT ID: FGSHAD**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1983      DURATION: ONGOING

PURPOSE: TO RESTORE AMERICAN SHAD TO THE COASTAL RIVER SYSTEMS OF NEW HAMPSHIRE TO A LEVEL THAT WILL PRODUCE SELF-SUSTAINING SPAWNING RUNS AND TO MONITOR THE EFFECTS OF RESTORATION EFFORTS.

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- SHAD COUNT, SEX, SIZE/AGE DISTRIBUTION OF RETURNING ADULT FISH. SAMPLING FREQUENCY -- DAILY FROM APRIL TO JUNE. STATIONS -- FISH LADDERS AT COCHECO, EXETER AND LAMPREY RIVERS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICE, DURHAM, NH (SEE ANNUAL GRANT F-61R REPORT)

**PROGRAM: ANADROMOUS FISH INVESTIGATIONS (F-61R REPORTING)**

**PROJECT: RAINBOW SMELT PROGRAM**

**PROJECT ID: FGSMELT**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1978      DURATION: ONGOING

PURPOSE: TO ANNUALLY MONITOR THE RESOURCE OF RAINBOW SMELT (OSMERUS MORDAX) AND ITS FISHERY IN THE GREAT BAY ESTUARY SYSTEM.

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- ABUNDANCE, SEX, AND AGE OF ADULT RAINBOW SMELT AND EGG DENSITY. SAMPLING FREQUENCY -- ANNUALLY DURING THE WINTER MONTHS (EGGS IN MARCH). STATIONS -- BELLAMY, OYSTER, LAMPREY, WINNICUT AND SQUAMSCOTT RIVERS. METHODS -- DATA COLLECTED THROUGH ANGLER INTERVIEWS, FISH MEASUREMENTS ON ANGLER HARVEST, AND EGG COUNTS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICES IN DURHAM (SEE ANNUAL GRANT F-61R REPORT)

**PROGRAM: WATERFOWL MONITORING PROGRAM**  
**PROJECT: ANNUAL WATERFOWL AERIAL SURVEY**  
**PROJECT ID: FGWFOWL**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT  
225 MAIN STREET  
DURHAM, NH 03824-0000  
TELEPHONE: 603-868-1095  
WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: ED ROBINSON, NH FISH AND GAME DEPARTMENT  
PROJECT MANAGER EMAIL: [EROBINSON@WILDLIFE.STATE.NH.US](mailto:EROBINSON@WILDLIFE.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/1955      DURATION: ONGOING  
PURPOSE: TO MONITOR TYPE AND QUANTITY OF WATERFOWL WINTERING IN GREAT BAY

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- ABUNDANCE AND TYPE OF WATERFOWL PRESENT IN THE ESTUARY DURING WINTER MONTHS. SAMPLING FREQUENCY -- ANNUALLY IN JANUARY. STATIONS -- NO FIXED STATIONS, ONE DAY AERIAL OVERFLIGHT. METHODS -- FROM AN AIRCRAFT FLYING ABOUT 60 MPH AND 500 FEET ABOVE THE GROUND, 2 OBSERVERS COUNT BIRDS VISIBLE ON EITHER SIDE OF THE PLANE. FLYWAY STATES WITH EXTENSIVE HABITAT FLY ABOVE PREDETERMINED TRANSECTS OF HABITAT THAT ADEQUATELY SAMPLE WATERFOWL POPULATIONS. IN NEW HAMPSHIRE, BIOLOGISTS OF THE FISH AND GAME DEPARTMENT SURVEY ALL COASTAL HABITAT INCLUDING GREAT BAY, THE COASTLINE, THE HAMPTON AND SEABROOK MARSHES, AND THE ISLES OF SHOALS (ABOUT 50 LINEAR MILES, TOTAL). COMMENTS -- SIMULTANEOUS COUNT WITH OTHER EASTERN STATES. DATA ARE AGGREGATED FOR THE ATLANTIC FLYWAY TO ESTIMATE THE TOTAL POPULATION OF MIGRATING WATERFOWL. THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY  
DOCUMENT AVAILABLE: NHF&G OFFICES IN CONCORD



**PROGRAM: WATER QUALITY MONITORING PROGRAM**

**PROJECT: GREAT BAY COAST WATCH HARMFUL ALGAL BLOOM MONITORING PROGRAM**

**PROJECT ID: GBCWHAB**

**RESPONSIBLE ORGANIZATION**

GREAT BAY COAST WATCH

UNH KINGMAN FARM

DURHAM, NH 03824-3512

TELEPHONE: 603-749-1565

WEBSITE: [HTTP://WWW.GBCW.UNH.EDU](http://www.gbcw.unh.edu)

PROJECT MANAGER: CANDACE DOLON, GREAT BAY COAST WATCH

PROJECT MANAGER EMAIL: [CANDACE.DOLON@UNH.EDU](mailto:CANDACE.DOLON@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1999      DURATION: ONGOING

PURPOSE: TO MONITOR THE OCCURRENCE OF HARMFUL PHYTOPLANKTON SPECIES IN NH COASTAL WATERS.

STUDY AREA: GREAT BAY AND ATLANTIC COAST

STUDY DESIGN: PARAMETERS -- PHYTOPLANKTON SPECIES FROM A 3 MINUTE TOW, TEMPERATURE, SALINITY, DO, AND SECCHI DEPTH. SAMPLING FREQUENCY-- WEEKLY FROM APRIL TO NOVEMBER. STATIONS -- 7 STATIONS ALONG THE NH COAST. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. THIS IS A VOLUNTEER MONITORING PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: GBCW OFFICE IN DURHAM

**PROGRAM: WATER QUALITY MONITORING PROGRAM**

**PROJECT: GREAT BAY COAST WATCH WATER QUALITY MONITORING PROGRAM**

**PROJECT ID: GBCWTWQ**

**RESPONSIBLE ORGANIZATION**

GREAT BAY COAST WATCH

UNH KINGMAN FARM

DURHAM, NH 03824-3512

TELEPHONE: 603-749-1565

WEBSITE: [HTTP://WWW.GBCW.UNH.EDU](http://www.gbcw.unh.edu)

PROJECT MANAGER: ANN REID, GREAT BAY COAST WATCH

PROJECT MANAGER EMAIL: [ANN.REDI@UNH.EDU](mailto:ANN.REDI@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1990      DURATION: ONGOING

PURPOSE: TO MONITOR THE FECAL COLIFORM CONTENT OF WATER SAMPLED AT A WIDE-ARRAY OF STATIONS AND TO REPORT UNUSUALLY HIGH OR LOW COUNTS TO APPROPRIATE INDIVIDUALS AND AGENCIES.

STUDY AREA: GREAT BAY, PORTSMOUTH HARBOR

STUDY DESIGN: PARAMETERS -- FECAL COLIFORMS, TEMPERATURE, SALINITY, PH, DISSOLVED OXYGEN, SECCHI DEPTH. SAMPLING FREQUENCY -- MONTHLY AT HIGH AND LOW TIDES FROM APRIL TO NOVEMBER. STATIONS -- 21 SITES. COMMENTS -- THIS IS A VOLUNTEER MONITORING PROGRAM.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: GBCW OFFICE AT UNH

**PROGRAM: GULFWATCH PROGRAM**

**PROJECT: GULFWATCH PROGRAM**

**PROJECT ID: GULFWTCH**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE

CONCORD, NH 03302-0000

TELEPHONE: 603-271-8863

WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: PHIL TROWBRIDGE, WATERSHED MGMT BUREAU

PROJECT MANAGER EMAIL: [PTROWBRIDGE@DES.STATE.NH.US](mailto:PTROWBRIDGE@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/1991      DURATION: ONGOING

PURPOSE: TO MONITOR MARINE SENTINEL SPECIES' EXPOSURE TO ORGANIC AND INORGANIC CONTAMINANTS.

STUDY AREA: GREAT BAY ESTUARY, RYE HARBOR, HAMPTON-SEABROOK HARBOR

STUDY DESIGN: PARAMETERS -- HEAVY METALS AND TOXIC ORGANIC CONTAMINANTS IN BLUE MUSSEL, OYSTER, AND CLAM TISSUE. SAMPLING FREQUENCY -- THREE ANNUAL TREND SITES FOR BLUE MUSSELS AND A ROTATING SCHEDULE FOR OTHER SITES. OYSTER AND CLAM TISSUE SAMPLES ARE TAKEN EVERY THREE YEARS. STATIONS -- THE THREE ANNUAL TREND SITES ARE LOCATED IN CLARKS COVE (PORTSMOUTH HARBOR), DOVER POINT, AND HAMPTON/SEABROOK HARBOR. ONE OR TWO OTHER STATIONS FOR BLUE MUSSELS ARE SAMPLED EACH YEAR. OYSTER AND CLAM TISSUE STATIONS ARE LOCATED AT NANNIE ISLAND AND HAMPTON HARBOR, RESPECTIVELY. COMMENTS -- THE GULF OF MAINE COUNCIL GULFWATCH PROGRAM FUNDS TWO SITES PER YEAR AND USEPA VIA THE NH ESTUARIES PROGRAM FUNDS 2 SITES/YEAR. WEBSITE -- [HTTP://WWW.GULFOFMAINE.ORG/GULFWATCH](http://www.gulfofmaine.org/gulfwatch).

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: ON FILE WITH NHDES PROJECT MANAGER

**PROGRAM: UNH TIDAL WATER QUALITY MONITORING PROGRAM**

**PROJECT: UNH DATASONDE PROGRAM**

**PROJECT ID: JELSND**

**RESPONSIBLE ORGANIZATION**

UNIVERSITY OF NEW HAMPSHIRE  
JACKSON ESTUARINE LABORATORY  
DURHAM, NH 03824-0000

TELEPHONE: 603-862-2175

WEBSITE: [HTTP://MARINE.UNH.EDU/JEL/HOME.HTM](http://MARINE.UNH.EDU/JEL/HOME.HTM)

PROJECT MANAGER: JONATHAN PENNOCK, UNH JACKSON ESTUARINE LABORATORY

PROJECT MANAGER EMAIL: [JONATHAN.PENNOCK@UNH.EDU](mailto:JONATHAN.PENNOCK@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1995      DURATION: ONGOING

PURPOSE: TO PROVIDE A NEARLY CONTINUOUS RECORD OF PHYSICO-CHEMICAL WATER QUALITY IN GREAT BAY AND ITS TRIBUTARIES.

STUDY AREA: GREAT BAY, PORTSMOUTH HARBOR

STUDY DESIGN: PARAMETERS -- SALINITY, WATER LEVEL, CONDUCTIVITY, TEMPERATURE, PH, TURBIDITY, AND DISSOLVED OXYGEN. SAMPLING FREQUENCY -- MEASUREMENTS ARE MADE WITH IN-SITU DATASONDES AT 30 MINUTE INTERVALS. THE DATASONDES ARE DEPLOYED FOR TWO WEEK PERIODS DURING NON-WINTER MONTHS (MAY TO DECEMBER). STATIONS -- 2 SITES; COASTAL MARINE LABORATORY IN PORTSMOUTH HARBOR (COASTLAB) AND SALMON FALLS RIVER (SFRSONDE).  
COMMENTS -- PARTIAL FUNDING PROVIDED BY USEPA VIA THE NH ESTUARIES PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: ON FILE WITH UNH PROJECT MANAGER

**PROGRAM: UNH TIDAL WATER QUALITY MONITORING PROGRAM**

**PROJECT: UNH TIDAL WATER QUALITY MONITORING PROGRAM**

**PROJECT ID: JELTWQ**

**RESPONSIBLE ORGANIZATION**

UNIVERSITY OF NEW HAMPSHIRE  
JACKSON ESTUARINE LABORATORY  
DURHAM, NH 03824-0000

TELEPHONE: 603-862-2175

WEBSITE: [HTTP://MARINE.UNH.EDU/JEL/HOME.HTM](http://MARINE.UNH.EDU/JEL/HOME.HTM)

PROJECT MANAGER: JONATHAN PENNOCK, UNH JACKSON ESTUARINE LABORATORY

PROJECT MANAGER EMAIL: [JONATHAN.PENNOCK@UNH.EDU](mailto:JONATHAN.PENNOCK@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1988      DURATION: ONGOING

PURPOSE: TO MONITOR TRENDS IN PHYSICOCHEMICAL, NUTRIENT, AND EUTROPHICATION PARAMETERS IN THE GREAT BAY AND PORTSMOUTH HARBOR.

STUDY AREA: GREAT BAY, PORTSMOUTH HARBOR

STUDY DESIGN: PARAMETERS -- WATER SAMPLES ANALYZED FOR: SALINITY, TEMPERATURE, PH, DO, TSS, POM, CHLOROPHYLL-A, PHAEOPIGMENTS, AMMONIA, SUM OF NITRATE AND NITRITE, ORTHOPHOSPHATE, DISSOLVED ORGANIC NITROGEN, PARTICULATE ORGANIC NITROGEN, AND LIGHT ATTENUATION. SAMPLING FREQUENCY -- MONTHLY SAMPLES COLLECTED AT HIGH AND LOW TIDE FOR ALL STATIONS. SAMPLES NOT COLLECTED DURING JANUARY AND FEBRUARY. STATIONS -- 3 SITES IN THE GREAT BAY ESTUARINE SYSTEM: ADAMS POINT (ADAMSPT), COASTAL MARINE LABORATORY IN PORTSMOUTH HARBOR (COASTLAB), AND SQUAMSCOTT RIVER AT CHAPMANS LANDING (CHAPLAND). COMMENTS -- PARTIAL FUNDING PROVIDED BY THE USEPA VIA THE NH ESTUARIES PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: FOLLOWS SOPS FROM GBNERR TIDAL WATER QUALITY MONITORING PROGRAM, QAPP FOR LIGHT ATTENUATION AT NHDES H:\QAPPS\QAPP DOCS\NHEP PROJECTS\UNH NUTRIENTS-PAR MONITORING

**PROGRAM: ASMFC-MANAGED SPECIES MONITORING PROGRAMS (ACFCMA REPORTING)**

**PROJECT: MARINE RECREATIONAL FISHING STATISTICAL SURVEYS**

**PROJECT ID: MRFSS**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT

225 MAIN STREET

DURHAM, NH 03824-0000

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, NHF&G MARINE FISHERIES DIVISION

PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE: 01/01/1990      DURATION: ONGOING

PURPOSE: TO OBTAIN ESTIMATES OF TOTAL CATCH, TOTAL EFFORT, CATCH PER UNIT EFFORT, PERCENT SPECIES COMPOSITION OF THE CATCH, AND LENGTH FREQUENCY DATA FOR HARVESTED FISH.

STUDY AREA: ALL TIDAL WATERS

STUDY DESIGN: PARAMETERS -- RECREATIONAL HARVEST OF STRIPED BASS, COD, BLUEFISH, POLLOCK, MACKEREL, AND WHITE FLOUNDER. SAMPLING FREQUENCY -- PEAK TIMES DURING FISHING SEASON. STATIONS -- VARIABLE. METHODS -- RECREATIONAL FISHERMAN ARE SURVEYED AT DOCKS AND OVER THE TELEPHONE USING A STATISTICALLY-BASED STUDY DESIGN. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE [HTTP://WWW.ST.NMFS.GOV/ST1/RECREATIONAL/THE\\_MRFSS.HTML](http://www.st.nmfs.gov/st1/recreational/the_mrfss.html)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICE IN DURHAM NH (SEE ANNUAL ACFCMA REPORT)

**PROGRAM: NATIONAL ATMOSPHERIC DEPOSITION PROGRAM**

**PROJECT: NATIONAL ATMOSPHERIC DEPOSITION PROGRAM**

**PROJECT ID: NADP**

**RESPONSIBLE ORGANIZATION**

NATIONAL ATMOSPHERIC DEPOSITION PROGRAM

ILLINOIS STATE WATER SURVEY, 2204 GRIFFI

CHAMPAIGN, IL 61820-7495

TELEPHONE: 217-333-7873

WEBSITE: [HTTP://NADP.SWS.UIUC.EDU](http://NADP.SWS.UIUC.EDU)

PROJECT MANAGER: CLYDE SWEET, NATIONAL ATMOSPHERIC DEPOSITION PROGRAM

PROJECT MANAGER EMAIL:

**PROJECT INFORMATION**

START DATE: 01/01/1978      DURATION: ONGOING

PURPOSE: TO MONITOR TRENDS IN ATMOSPHERIC DEPOSITION OF MERCURY AND NITROGEN

STUDY AREA: NATIONWIDE

STUDY DESIGN: PARAMETERS -- DEPOSITION OF MERCURY (WET AND DRY), OTHER METALS, AND

NITROGEN. SAMPLING FREQUENCY -- VARIABLE. STATIONS -- NO ACTIVE SITES IN COASTAL NH.

NITROGEN DEPOSITION MONITORED AT HUBBARD BROOK STATION IN THE WHITE MOUNTAINS.

COMMENTS -- INFORMATION ON DEPOSITION IN NH CAN BE INTERPOLATED FROM NEARBY SITES IN

MAINE. DATA CAN BE DOWNLOADED FROM WEBSITE. THE DES WATER QUALITY DATABASE DOES NOT

CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE: [HTTP://NADP.SWS.UIUC.EDU/MDN/](http://NADP.SWS.UIUC.EDU/MDN/)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: [HTTP://NADP.SWS.UIUC.EDU/QA/](http://NADP.SWS.UIUC.EDU/QA/)

**PROGRAM: NATIONAL COASTAL ASSESSMENT**

**PROJECT: NATIONAL COASTAL ASSESSMENT PROBABILITY BASED MONITORING**

**PROJECT ID: NCAPBM**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE

CONCORD, NH 03302-0000

TELEPHONE: 603-271-8863

WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: PHIL TROWBRIDGE, NHDES WATERSHED MANAGEMENT BUREAU

PROJECT MANAGER EMAIL: [PTROWBRIDGE@DES.STATE.NH.US](mailto:PTROWBRIDGE@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/2000      DURATION: ONGOING

PURPOSE: TO ASSESS THE HEALTH AND CONDITION OF NH ESTUARIES USING A PROBABILITY BASED SAMPLING DESIGN.

STUDY AREA: ALL ESTUARINE WATERS

STUDY DESIGN: PARAMETERS -- THREE MEDIA ARE TESTED: SEDIMENT, WATER QUALITY, AND FISH COMMUNITY. SEDIMENT IS TESTED FOR: METALS, PAH'S, PCB'S, PESTICIDES, SEDIMENT TOXICITY, TOTAL ORGANIC CARBON, GRAIN SIZE, AND BENTHIC INFAUNA COMMUNITY COMPOSITION AND ABUNDANCE. THE WATER COLUMN IS TESTED FOR: TEMPERATURE, SALINITY, PH, DISSOLVED OXYGEN, SECCHI DEPTH, LIGHT ATTENUATION, NUTRIENTS (NO<sub>2</sub>+NO<sub>3</sub>, NH<sub>4</sub>, PO<sub>4</sub>, SI), CHLOROPHYLL-A, AND BACTERIA INDICATOR SPECIES (FECAL COLIFORMS, E.COLI, ENTEROCOCCUS). THE FISH COMMUNITY IS EVALUATED THROUGH STANDARDIZED TRAWLS. A SUBSET OF THE TARGET FISH SPECIES (WINTER FLOUNDER AND ATLANTIC TOMCOD) ARE SAMPLED FOR TOXIC CONTAMINANTS IN FISH TISSUE. SAMPLING FREQUENCY -- STATIONS ARE TESTED EVERY OTHER YEAR FOR WATER AND FISH COMMUNITY PARAMETERS. FOR SEDIMENT PARAMETERS, THE STATIONS ARE ASSESSED ONCE EVERY 4 YEARS. STATIONS -- 82 SITES IN A PROBABILISTIC SAMPLING DESIGN COVERING ALL OF NH'S ESTUARINE WATERS. COMMENTS -- FUNDING PROVIDED FROM USEPA VIA NH DEPARTMENT OF ENVIRONMENTAL SERVICES. ADDITIONAL RESEARCH ACTIVITIES ARE ASSOCIATED WITH THIS PROGRAM.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: [HTTP://WWW.EPA.GOV/EMAP/NCA/HTML/DOCS/QAPROJPLAN.HTML](http://www.epa.gov/emap/nca/html/docs/qaprojplan.html)



**PROGRAM: NATIONAL COASTAL ASSESSMENT**

**PROJECT: NATIONAL COASTAL ASSESSMENT TIDAL WATER QUALITY MONITORING**

**PROJECT ID: NCATWQ**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

29 HAZEN DRIVE

CONCORD, NH 03302-0000

TELEPHONE: 603-271-8863

WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: PHIL TROWBRIDGE, NHDES WATERSHED MANAGEMENT BUREAU

PROJECT MANAGER EMAIL: [PTROWBRIDGE@DES.STATE.NH.US](mailto:PTROWBRIDGE@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/2002      DURATION: ONGOING

PURPOSE: TO ASSESS TRENDS IN THE HEALTH AND CONDITION OF NH ESTUARIES BY MONITORING SEASONAL CHANGES IN WATER AND SEDIMENT QUALITY.

STUDY AREA: ALL ESTUARINE WATERS

STUDY DESIGN: PARAMETERS -- BACTERIA INDICATOR CONCENTRATIONS (FECAL COLIFORMS, ENTEROCOCCI, AND E. COLI), NUTRIENTS (NITROGEN, PHOSPHORUS, SILICA), CHLOROPHYLL-A, DISSOLVED OXYGEN, PH, SALINITY, AND TEMPERATURE. SAMPLING FREQUENCY -- MONTHLY BETWEEN MARCH AND DECEMBER. 13 STATIONS ARE SAMPLED ONCE AT LOW TIDE EACH MONTH. 4 STATIONS ARE SAMPLED MONTHLY AT HIGH AND LOW TIDE ON THE SAME DAY. STATIONS -- 13 NCA SITES FROM THE NCA PROBABILISTIC SAMPLING DESIGN, PLUS FOUR STATIONS THAT WERE PREVIOUSLY MONITORED BY GBNERR FROM 1988-2001 (ADAMSPT, CHAPLAND, LMPSONDE, COASTLAB). COMMENTS -- FUNDING PROVIDED FROM USEPA VIA NH DEPARTMENT OF ENVIRONMENTAL SERVICES. SAMPLES FROM FORMER GBNERR STATIONS ARE ANALYZED MONTHLY FOR JUST BACTERIA TO EXTEND RECORDS OF HISTORIC TRENDS BEGUN IN THE 1980'S.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: NHDES H:\WATER QUALITY\MONITORING PROGRAMS\TIDAL\NCA\QAPP\20031204\_NCA\_QAPP\_ADDENDUM.PDF

**PROGRAM: SYSTEM WIDE MONITORING PROGRAM**

**PROJECT: GBNERR DATASONDE PROGRAM**

**PROJECT ID: NERRSND**

**RESPONSIBLE ORGANIZATION**

GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE

225 MAIN STREET

DURHAM, NH 03824-4372

TELEPHONE: 603-868-1095

WEBSITE: [HTTP://WWW.GREATBAY.ORG](http://www.greatbay.org)

PROJECT MANAGER: JONATHAN PENNOCK, UNH JACKSON ESTUARINE LABORATORY

PROJECT MANAGER EMAIL: [JONATHAN.PENNOCK@UNH.EDU](mailto:JONATHAN.PENNOCK@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1995      DURATION: ONGOING

PURPOSE: TO PROVIDE A NEARLY CONTINUOUS RECORD OF PHYSICO-CHEMICAL WATER QUALITY IN GREAT BAY AND ITS TRIBUTARIES.

STUDY AREA: GREAT BAY AND ITS TIDAL TRIBUTARIES

STUDY DESIGN: PARAMETERS -- SALINITY, WATER LEVEL, CONDUCTIVITY, TEMPERATURE, PH, TURBIDITY, AND DISSOLVED OXYGEN. SAMPLING FREQUENCY -- MEASUREMENTS ARE MADE WITH IN-SITU DATASONDES AT 30 MINUTE INTERVALS. THE DATASONDES ARE DEPLOYED FOR TWO WEEK PERIODS DURING NON-WINTER MONTHS (MAY TO DECEMBER). STATIONS -- 4 SITES; GREAT BAY (GBESONDE), SQUAMSCOTT RIVER (SQMSONDE), LAMPREY RIVER (LMPSONDE), AND OYSTER RIVER (OYSSONDE). COMMENTS -- FUNDING PROVIDED BY NOAA VIA THE GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DOWNLOAD METADATA ON METHODS FROM [HTTP://CDMO.BARUCH.SC.EDU/](http://cdmo.baruch.sc.edu/).

**PROGRAM: SYSTEM WIDE MONITORING PROGRAM**  
**PROJECT: GBNERR TIDAL WATER QUALITY MONITORING PROGRAM**  
**PROJECT ID: NERRTWQ**

**RESPONSIBLE ORGANIZATION**

GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE  
225 MAIN STREET  
DURHAM, NH 03824-4372  
TELEPHONE: 603-868-1095  
WEBSITE: [HTTP://WWW.GREATBAY.ORG](http://www.greatbay.org)

PROJECT MANAGER: JONATHAN PENNOCK, UNH JACKSON ESTUARINE LABORATORY  
PROJECT MANAGER EMAIL: [JONATHAN.PENNOCK@UNH.EDU](mailto:JONATHAN.PENNOCK@UNH.EDU)

**PROJECT INFORMATION**

START DATE: 01/01/1988      DURATION: ONGOING

PURPOSE: TO MONITOR TRENDS IN PHYSICOCHEMICAL, NUTRIENT, AND EUTROPHICATION PARAMETERS IN THE GREAT BAY AND ITS TRIBUTARIES.

STUDY AREA: GREAT BAY AND ITS TIDAL TRIBUTARIES

STUDY DESIGN: PARAMETERS -- WATER SAMPLES ANALYZED FOR SALINITY, TEMPERATURE, PH, DO, TSS, POM, CHLOROPHYLL-A, PHAEOPIGMENTS, AMMONIA, SUM OF NITRATE AND NITRITE, ORTHOPHOSPHATE, DISSOLVED ORGANIC NITROGEN, PARTICULATE ORGANIC NITROGEN, AND LIGHT ATTENUATION. SAMPLING FREQUENCY -- MONTHLY SAMPLES COLLECTED AT LOW TIDE ALL STATIONS EXCEPT FOR THE OYSTER RIVER SITE WHERE 10 SAMPLES/DAY ARE COLLECTED EVERY MONTH TO EVALUATE TIDAL EFFECTS ON WATER QUALITY AND THE LAMPREY RIVER SITE WHERE HIGH AND LOW TIDE SAMPLES ARE COLLECTED MONTHLY. SAMPLES NOT COLLECTED DURING JANUARY AND FEBRUARY. STATIONS -- 4 SITES COINCIDENT WITH THE FOUR GBNERR DATASONDES IN THE SQUAMSCOTT R., LAMPREY R., OYSTER R., AND MIDDLE OF GREAT BAY (STATIONS SQMSONDE, LMPSONDE, OYSSONDE, AND GBESONDE, RESPECTIVELY). COMMENTS -- FUNDING PROVIDED BY NOAA VIA THE GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE. FUNDING FOR LIGHT ATTENUATION AND ORGANIC NITROGEN AND PARTICULATE NITROGEN SPECIES PROVIDED BY US EPA VIA THE NH ESTUARIES PROJECT. A QAPP WAS APPROVED ON 8/8/03 FOR THESE COMPONENTS OF THE PROJECT. FROM 1988 TO 2001, THIS PROGRAM ALSO COLLECTED DATA ON BACTERIA INDICATOR SPECIES AT THE STATIONS UNDER THE DIRECTION OF DR. STEPHEN JONES OF UNH/JEL. THE BACTERIA MONITORING PROGRAM WAS TAKEN OVER BY THE NATIONAL COASTAL ASSESSMENT PROGRAM IN 2002.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DOWNLOAD METADATA FROM [HTTP://CDMO.BARUCH.SC.EDU/](http://cdmo.baruch.sc.edu/). QAPP FOR LIGHT ATTENUATION AT `NHDES H:\QAPPS\QAPP DOCS\NHEP PROJECTS\UNH NUTRIENTS-PAR MONITORING`

**PROGRAM: WATERFOWL MONITORING PROGRAM**  
**PROJECT: WINTER WATERFOWL VOLUNTEER SURVEYS**  
**PROJECT ID: NERRWWS**

**RESPONSIBLE ORGANIZATION**

N.H. FISH AND GAME DEPARTMENT  
225 MAIN STREET  
DURHAM, NH 03824-0000  
TELEPHONE: 603-868-1095  
WEBSITE: [HTTP://WWW.WILDLIFE.STATE.NH.US](http://www.wildlife.state.nh.us)

PROJECT MANAGER: BRIAN SMITH, GREAT BAY NATIONAL ESTUARINE RESEARCH RESERVE  
PROJECT MANAGER EMAIL: [BSMITH@NHFGD.ORG](mailto:BSMITH@NHFGD.ORG)

**PROJECT INFORMATION**

START DATE:                                  DURATION: ONGOING

PURPOSE: TO MONITOR TYPE AND QUANTITY OF WATERFOWL WINTERING IN THE GREAT BAY

STUDY AREA: GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- ABUNDANCE AND TYPE OF WATERFOWL PRESENT DURING WINTER MONTHS. SAMPLING FREQUENCY -- EVERY 2 WEEKS FROM JANUARY TO MARCH. STATIONS -- 3 OR 4 TEAMS COVER THE ENTIRE BAY. COMMENTS -- THIS IS A VOLUNTEER MONITORING PROJECT COORDINATED BY THE GREAT BAY ESTUARINE RESEARCH RESERVE. THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE: [HTTP://WWW.GREATBAY.ORG/](http://www.greatbay.org/)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: NHF&G OFFICE IN DURHAM NH

**PROGRAM: NHEP MONITORING PROGRAMS**  
**PROJECT: NHEP OYSTER BED MAPPING PROGRAM**  
**PROJECT ID: NHEPOYS**

**RESPONSIBLE ORGANIZATION**

N.H. ESTUARIES PROJECT  
50 INTERNATIONAL DRIVE  
PORTSMOUTH, NH 03801-0000  
TELEPHONE: 603-559-1500  
WEBSITE: [HTTP://WWW.NH.GOV/NHEP/](http://www.nh.gov/nhep/)

PROJECT MANAGER: PHIL TROWBRIDGE, WATERSHED MGMT BUREAU  
PROJECT MANAGER EMAIL: [PTROWBRIDGE@DES.STATE.NH.US](mailto:PTROWBRIDGE@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/2001      DURATION: ONGOING

PURPOSE: TO MAP THE DIMENSIONS OF THE MAJOR OYSTER BEDS IN GREAT BAY. THE BED DIMENSIONS ARE USED IN THE CALCULATION OF OYSTER STANDING STOCK.

STUDY AREA: THE MAJOR OYSTER BEDS IN THE GREAT BAY ESTUARY

STUDY DESIGN: PARAMETERS -- BED DIMENSIONS (IN THE FORM OF ARCVIEW SHAPEFILES) AND BED AREA IN ACRES. SAMPLING FREQUENCY -- EVERY THREE YEARS. STATIONS -- THE SIX MAJOR OYSTER BEDS IN GREAT BAY (ADAMS PT, WOODMAN PT, NANNIE ISLAND, OYSTER RIVER, SQUAMSCOTT RIVER, AND PISCATAQUA RIVER BEDS). METHODS -- ACOUSTIC AND VIDEOGRAPHY TECHNIQUES COMBINED WITH DIVER GROUNDTRUTHING. MORE DETAILS ARE AVAILABLE IN THE QAPP. COMMENTS -- FOUR BEDS WERE MAPPED IN 2001 BY NHF&G AND TWO BEDS WERE MAPPED IN 2003 BY UNH BOTH WITH FUNDING FROM USEPA VIA THE NH ESTUARIES PROJECT.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: ON FILE AT NHDES AT H:\QAPPS\QAPP DOCS\NHEP PROJECTS\UNH OYSTER AND CLAM ASSESSMENTS

**PROGRAM: COMMERCIAL FISHERY LANDING MONITORING PROGRAM**

**PROJECT: COMMERCIAL FISHERY LANDING MONITORING PROGRAM**

**PROJECT ID: NMFS**

**RESPONSIBLE ORGANIZATION**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1305 EAST WEST HIGHWAY

SILVER SPRING, MD 20910-0000

TELEPHONE:

WEBSITE: [HTTP://WWW.NOAA.GOV](http://www.noaa.gov)

PROJECT MANAGER: GERRY GAIPO, NOAA NATIONAL MARINE FISHERIES SERVICE

PROJECT MANAGER EMAIL: [GERRY.GAIPO@NOAA.GOV](mailto:GERRY.GAIPO@NOAA.GOV)

**PROJECT INFORMATION**

START DATE: 01/01/1950      DURATION: ONGOING

PURPOSE: TO COMPILE DATA ON ANNUAL COMMERCIAL FISH CATCH TO CREATE ESTIMATES OF POPULATION

STUDY AREA: ALL TIDAL WATERS

STUDY DESIGN: PARAMETERS -- COMMERCIAL CATCH (LBS) FOR 33 FISH SPECIES, 11 INVERTEBRATE SPECIES. SAMPLING FREQUENCY -- STATISTICS COMPILED YEARLY. STATIONS -- COMMERCIAL FISH PIERS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE: [HTTP://WWW.ST.NMFS.GOV/COMMERCIAL/INDEX.HTML](http://www.st.nmfs.gov/commercial/index.html)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: [HTTP://WWW.ST.NMFS.GOV/ST1/COMMERCIAL/INDEX.HTML](http://www.st.nmfs.gov/st1/commercial/index.html)

**PROGRAM: NATIONAL STATUS AND TRENDS PROGRAM**

**PROJECT: MUSSEL WATCH PROGRAM**

**PROJECT ID: NOAANST**

**RESPONSIBLE ORGANIZATION**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1305 EAST WEST HIGHWAY

SILVER SPRING, MD 20910-0000

TELEPHONE:

WEBSITE: [HTTP://WWW.NOAA.GOV](http://www.noaa.gov)

PROJECT MANAGER: GUNNAR LAUENSTEIN, NOAA NATIONAL STATUS AND TRENDS PROGRAM

PROJECT MANAGER EMAIL: [GUNNAR.LAUENSTEIN@NOAA.GOV](mailto:GUNNAR.LAUENSTEIN@NOAA.GOV)

**PROJECT INFORMATION**

START DATE: 01/01/1986      DURATION: ONGOING

PURPOSE: TO MONITOR CHEMICAL CONTAMINANTS IN MUSSEL TISSUE TO DETERMINE WHICH COASTAL REGIONS ARE AT GREATEST RISK IN TERMS OF ENVIRONMENTAL QUALITY

STUDY AREA: NATIONWIDE

STUDY DESIGN: PARAMETERS -- HEAVY METALS AND TOXIC ORGANICS IN BLUE MUSSEL TISSUE.  
SAMPLING FREQUENCY -- BIENNIALY AT NH SITE. STATIONS -- 1 SITE AT DOVER POINT IN NH.  
COMMENTS -- THE STATION AT DOVER POINT WAS ESTABLISHED IN 1997 AND IS SAMPLED EVERY OTHER YEAR. WEBSITE [WWW8.NOS.NOAA.GOV/CIT/NSANDT/DOWNLOAD/MW\\_MONITORING.ASPX](http://www8.nos.noaa.gov/cit/nsandt/download/mw_monitoring.aspx).

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: ON FILE WITH NOAA PROJECT OFFICER

**PROGRAM: SHELLFISH PROGRAM**  
**PROJECT: SHELLFISH PSP/RED TIDE MONITORING PROGRAM**  
**PROJECT ID: SHELLPSP**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES  
29 HAZEN DRIVE  
CONCORD, NH 03302-0000  
TELEPHONE: 603-271-8863  
WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: CHRIS NASH, WATERSHED MGMT BUREAU - SHELLFISH PROGRAM  
PROJECT MANAGER EMAIL: [CNASH@DES.STATE.NH.US](mailto:CNASH@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: DURATION: ONGOING

PURPOSE: TO DETERMINE WHETHER SHELLFISHING CLOSURES ARE NEEDED TO PROTECT THE PUBLIC FROM PARALYTIC SHELLFISH POISONING (PSP) TOXIN CAUSED BY PHYTOPLANKTON BLOOMS IN THE GULF OF MAINE.

STUDY AREA: ATLANTIC COAST

STUDY DESIGN: PARAMETERS -- PSP TOXIN IN BLUE MUSSEL TISSUE. SAMPLING FREQUENCY -- WEEKLY APRIL TO OCTOBER. STATIONS -- 2 SITES LOCATED AT THE HAMPTON-SEABROOK HARBOR AND ISLES OF SHOALS. WEBSITE: [WWW.DES.STATE.NH.US/WMB/SHELLFISH](http://WWW.DES.STATE.NH.US/WMB/SHELLFISH)

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: [NHDES H:\QAPPS\QAPP DOCS\SHELLFISH\PSP](H:\QAPPS\QAPP DOCS\SHELLFISH\PSP)



**PROGRAM: SHELLFISH PROGRAM**  
**PROJECT: SHELLFISH ROUTINE MONITORING PROGRAM**  
**PROJECT ID: SHELLRMP**

**RESPONSIBLE ORGANIZATION**

NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES  
29 HAZEN DRIVE  
CONCORD, NH 03302-0000  
TELEPHONE: 603-271-8863  
WEBSITE: [HTTP://WWW.DES.STATE.NH.US/](http://www.des.state.nh.us/)

PROJECT MANAGER: CHRIS NASH, WATERSHED MGMT BUREAU - SHELLFISH PROGRAM  
PROJECT MANAGER EMAIL: [CNASH@DES.STATE.NH.US](mailto:CNASH@DES.STATE.NH.US)

**PROJECT INFORMATION**

START DATE: 01/01/1988      DURATION: ONGOING

PURPOSE: THE SHELLFISH PROGRAM REGULARLY COLLECTS WATER QUALITY SAMPLES TO ENSURE THAT INFORMATION USED TO MAKE DECISIONS ON OPEN/CLOSED AREAS IS KEPT CURRENT, AND TO TRACK CHANGES IN WATER QUALITY OVER TIME.

STUDY AREA: ALL TIDAL WATERS

STUDY DESIGN: PARAMETERS -- FECAL COLIFORMS, TEMPERATURE, SALINITY, PH. SAMPLING FREQUENCY -- APPROXIMATELY MONTHLY (9-12 SAMPLES PER STATION PER YEAR). STATIONS -- 60-75 SITES. WEBSITE [WWW.DES.STATE.NH.US/WMB/SHELLFISH](http://www.des.state.nh.us/wmb/shellfish)

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: [NHDES H:\QAPPS\QAPP DOCS\SHELLFISH\WATER QUALITY](H:\QAPPS\QAPP DOCS\SHELLFISH\WATER QUALITY)

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**

**PROJECT: MARINE MACROBENTHOS MONITORING PROGRAM**

**PROJECT ID: SSBETHOS**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION

P.O. BOX 300

SEABROOK, NH 03874-0000

TELEPHONE: 603-773-7729

WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION

PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1978      DURATION: ONGOING

PURPOSE: THE OBJECTIVE OF THIS PROGRAM IS TO DETERMINE WHETHER DIFFERENCES THAT EXIST AMONG MARINE MACROBENTHIC COMMUNITIES AT NEARFIELD AND FARFIELD SITES IN THE HAMPTON-SEABROOK AREA CAN BE ATTRIBUTED TO THE OPERATION OF SEABROOK STATION.

STUDY AREA: HAMPTON HARBOR, ATLANTIC COAST

STUDY DESIGN: PARAMETERS -- ATTACHED EPIFAUNA AND EPIFLORA. SAMPLING FREQUENCY -- 3 TIMES PER YEAR. STATIONS -- 6 SITES OUTSIDE THE ESTUARIES. METHODS -- DESTRUCTIVE AND NON-DESTRUCTIVE METHODS USED. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE  
[HTTP://WWW.FPL.COM/ABOUT/NUCLEAR/CONTENTS/ABOUT\\_SEABROOK\\_STATION.SHTML](http://www.fpl.com/about/nuclear/contents/about_seabrook_station.shtml).

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DETAILS OF METHODS PROVIDED IN SEABROOK STATION ANNUAL REPORTS

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**

**PROJECT: SOFT SHELL CLAM MONITORING PROGRAM**

**PROJECT ID: SSCLAM**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION

P.O. BOX 300

SEABROOK, NH 03874-0000

TELEPHONE: 603-773-7729

WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION

PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1970      DURATION: ONGOING

PURPOSE: TO DETERMINE THE SPATIAL AND TEMPORAL PATTERNS OF ABUNDANCE OF VARIOUS LIFE STAGES OF SOFT-SHELL CLAMS IN THE VICINITY OF HAMPTON HARBOR, NH, AND DETERMINE WHETHER THESE PATTERNS HAVE BEEN AFFECTED BY OPERATION OF SEABROOK STATION.

STUDY AREA: HAMPTON HARBOR

STUDY DESIGN: PARAMETERS -- BIVALVE LARVAE, CLAM DENSITY, GREEN CRAB CPUE, HARVEST PRESSURE, AND SARCOMATOUS NEOPLASIA IN CLAMS. SAMPLING FREQUENCY -- WEEKLY FOR LARVAE, YEARLY FOR DENSITY, TWICE PER MONTH FOR CRABS, WEEKLY FOR HARVEST PRESSURE, AND APPROXIMATELY EVERY THREE YEARS FOR NEOPLASIA. STATIONS -- 3 FOR LARVAE, VARIABLE FOR DENSITY, 4 FOR CRAB ABUNDANCE. METHODS -- THE CLAM FLATS ARE SURVEYED FOR ADULT AND SPAT DENSITY IN LATE FALL USING A RANDOM SAMPLING DESIGN. AT EACH SITE, A 1X2 FT<sup>2</sup> QUADRAT IS DUG TO A DEPTH OF 45 CM WITH A CLAM FORK. LARGE CLAMS ARE ENUMERATED, MEASURED, AND RELEASED. FOR CLAM SPAT, THREE 4 INCH DIAMETER BY 4 INCH DEEP CORES ARE TAKEN FROM WITHIN A 1X2 FT<sup>2</sup> QUADRAT. SPAT SAMPLES ARE SIEVED WITH A 1-MM MESH. THE SPAT RETAINED BY THE MESH ARE COUNTED AND MEASURED. GREEN CRABS ARE COLLECTED USING 13-MM MESH, BAITED CRAB TRAPS DEPLOYED OVER 24 HOURS AT A DEPTH SUCH THAT THEY ARE AWASH AT MEAN LOW TIDE. THE TRAPS ARE SET AT FOUR STATIONS TWO TIMES PER MONTH APRIL THROUGH JANUARY. HARVEST PRESSURE IS ESTIMATED BY RECORDING THE NUMBER OF HARVESTERS ON THE FLATS DURING FRIDAYS WHEN THE FLATS ARE OPEN. THE NUMBER OF HARVESTERS ON THE FOLLOWING SATURDAY IS ESTIMATED BASED ON A HISTORICAL RELATIONSHIP BETWEEN FRIDAY AND SATURDAY HARVEST PRESSURE. THE TOTAL HARVEST FOR THE DAY IS ESTIMATED BY ASSUMING THAT EACH HARVESTER TAKES THE LEGAL LIMIT. THE METHODS FOR NEOPLASIA MEASUREMENTS VARY. COMMENTS -- NORMANDEAU ASSOCIATES CONDUCTS THE MONITORING UNDER CONTRACT WITH SEABROOK STATION. THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE  
[HTTP://WWW.FPL.COM/ABOUT/NUCLEAR/CONTENTS/ABOUT\\_SEABROOK\\_STATION.SHTML](http://www.fpl.com/about/nuclear/contents/about_seabrook_station.shtml)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DETAILS OF METHODS PROVIDED IN SEABROOK STATION ANNUAL REPORTS

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**

**PROJECT: EPIBENTHIC CRUSTACEA MONITORING PROGRAM**

**PROJECT ID: SSCRUST**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION

P.O. BOX 300

SEABROOK, NH 03874-0000

TELEPHONE: 603-773-7729

WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION

PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1978      DURATION: ONGOING

PURPOSE: THE OBJECTIVE OF THE EPIBENTHIC CRUSTACEA MONITORING PROGRAM IS TO DETERMINE IF SEASONAL, SPATIAL, AND ANNUAL TRENDS IN LARVAL DENSITY AND CATCH PER UNIT EFFORT OF THE JUVENILE AND ADULT STAGES OF THE AMERICAN LOBSTER, JONAH CRAB, AND ROCK CRAB ARE RELATED TO EFFECTS FROM THE OPERATION OF SEABROOK STATION.

STUDY AREA: HAMPTON HARBOR, ATLANTIC COAST

STUDY DESIGN: PARAMETERS -- LOBSTER, JONAH CRAB, AND ROCK CRAB ABUNDANCE (ADULTS AND LARVAE). SAMPLING FREQUENCY -- WEEKLY MONITORING FOR LARVAE. EVERY OTHER DAY FOR ADULTS BY TRAP HAULS (JUNE THROUGH NOVEMBER). STATIONS -- 3 SITES FOR LARVAE AND 2 SITES FOR ADULT TRAPS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE

[HTTP://WWW.FPL.COM/ABOUT/NUCLEAR/CONTENTS/ABOUT\\_SEABROOK\\_STATION.SHTML](http://www.fpl.com/about/nuclear/contents/about_seabrook_station.shtml)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DETAILS OF METHODS PROVIDED IN SEABROOK STATION ANNUAL REPORTS

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**

**PROJECT: FINFISH MONITORING PROGRAM**

**PROJECT ID: SSFISH**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION

P.O. BOX 300

SEABROOK, NH 03874-0000

TELEPHONE: 603-773-7729

WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION

PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1976      DURATION: ONGOING

PURPOSE: THE OBJECTIVE OF THE FINFISH STUDIES AT SEABROOK STATION IS TO ASSESS WHETHER POWER PLANT OPERATION SINCE 1990 HAS HAD ANY MEASUREABLE EFFECT ON THE NEARSHORE FINFISH POPULATIONS.

STUDY AREA: HAMPTON HARBOR, ATLANTIC OCEAN

STUDY DESIGN: PARAMETERS -- ICHTHYOPLANKTON AND FISH SPECIES (DEMERSAL AND ESTUARINE).  
SAMPLING FREQUENCY -- 1-2 SAMPLES PER MONTH FROM APRIL TO NOVEMBER. STATIONS -- 3  
OFFSHORE, 3 IN ESTUARY. METHODS --: ESTUARINE FISH COLLECTED BY SEINE HAULS, OFFSHORE FISH  
COLLECTED BY TRAWLS. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY  
DATA FOR THIS PROJECT. WEBSITE  
[HTTP://WWW.FPL.COM/ABOUT/NUCLEAR/CONTENTS/ABOUT\\_SEABROOK\\_STATION.SHTML](http://www.fpl.com/about/nuclear/contents/about_seabrook_station.shtml)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DETAILS OF METHODS PROVIDED IN SEABROOK STATION ANNUAL REPORTS

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**  
**PROJECT: CLAM FLAT DIMENSIONS MAPPING PROGRAM**  
**PROJECT ID: SSFLATS**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION  
P.O. BOX 300  
SEABROOK, NH 03874-0000  
TELEPHONE: 603-773-7729  
WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION  
PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1977      DURATION: ONGOING

PURPOSE: THE PURPOSE OF THIS PROJECT IS TO PERIODICALLY MAP THE DIMENSIONS OF THE FIVE MAJOR CLAM FLATS IN HAMPTON HARBOR. THE DIMENSIONS ARE USED TO ESTIMATE THE STANDING CROP OF HARVESTABLE CLAMS IN HAMPTON HARBOR.

STUDY AREA: HAMPTON HARBOR CLAM FLATS

STUDY DESIGN: PARAMETERS -- SIZE OF THE CLAM FLATS IN ACRES. SAMPLING FREQUENCY -- APPROXIMATELY EVERY FIVE YEARS. THE FLATS HAVE BEEN MAPPED IN 1977, 1979, 1981, 1983, 1984, 1995, AND 2002. STATIONS -- THE FIVE MAJOR CLAM FLATS IN HAMPTON HARBOR. METHODS -- THE SIZE OF THE CLAM FLATS IN HAMPTON HARBOR ARE ESTIMATED USING LOW ALTITUDE AERIAL IMAGERY. MONOCHROMATIC AERIAL IMAGERY IS ACQUIRED FROM A QUALIFIED CONTRACTOR DURING A LOW, SPRING TIDE AND WHEN GLARE IS LOW. THE SCALE OF THE HARDCOPY PHOTOGRAPHS SHOULD BE APPROXIMATELY 1:1,500. THE SAND-WATER AND SAND-MARSH BOUNDARIES OF THE FLATS ARE TRACED THREE TIMES USING EITHER A DIGITIZER OR A PLANIMETER. THE AVERAGE AREA OF THE THREE ITERATIONS OF THE BOUNDARY WILL BE USED AS THE AREA OF THE FLAT. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: ON FILE WITH SEABROOK STATION PROJECT MANAGER

**PROGRAM: SEABROOK STATION ENVIRONMENTAL MONITORING PROGRAM**

**PROJECT: ZOOPLANKTON MONITORING PROGRAM**

**PROJECT ID: SSZOOP**

**RESPONSIBLE ORGANIZATION**

SEABROOK STATION

P.O. BOX 300

SEABROOK, NH 03874-0000

TELEPHONE: 603-773-7729

WEBSITE: [HTTP://WWW.SEABROOKSTATION.COM](http://www.seabrookstation.com)

PROJECT MANAGER: MICHAEL OKEEFE, SEABROOK STATION

PROJECT MANAGER EMAIL: [MICHAEL\\_OKEEFE@FPL.COM](mailto:MICHAEL_OKEEFE@FPL.COM)

**PROJECT INFORMATION**

START DATE: 01/01/1978      DURATION: ONGOING

PURPOSE: THE OBJECTIVE OF THIS PROGRAM IS TO DETERMINE WHETHER DIFFERENCES THAT EXIST AMONG ZOOPLANKTON COMMUNITIES AT NEARFIELD AND FARFIELD SITES IN THE HAMPTON-SEABROOK AREA CAN BE ATTRIBUTED TO THE OPERATION OF SEABROOK STATION.

STUDY AREA: ATLANTIC COAST, HAMPTON HARBOR

STUDY DESIGN: PARAMETERS -- DENSITY OF BIVALVE LARVAE AND MACROZOOPLANKTON. SAMPLING FREQUENCY -- 2-4 TIMES PER WEEK FROM APRIL TO OCTOBER. STATIONS -- COOLANT INTAKE AND FAR FIELD. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT. WEBSITE

[HTTP://WWW.FPL.COM/ABOUT/NUCLEAR/CONTENTS/ABOUT\\_SEABROOK\\_STATION.SHTML](http://www.fpl.com/about/nuclear/contents/about_seabrook_station.shtml)

QUALITY ASSURANCE DOCUMENT: SOPS ONLY

DOCUMENT AVAILABLE: DETAILS OF METHODS PROVIDED IN SEABROOK STATION ANNUAL REPORTS

**PROGRAM: INTERIM OFFSHORE MONITORING PROGRAM**

**PROJECT: INTERIM OFFSHORE MONITORING PROGRAM**

**PROJECT ID: USNIOMP**

**RESPONSIBLE ORGANIZATION**

U.S. DEPARTMENT OF THE NAVY

NAVFAC, 10 INDUSTRIAL HWY, MS#82

LESTER, PA 19113-2090

TELEPHONE: 610-595-0567

WEBSITE: [HTTP://WWW.NAVFAC.NAVY.MIL](http://www.navfac.navy.mil)

PROJECT MANAGER: FRED EVANS, NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC)

PROJECT MANAGER EMAIL: [FREDERICK.J.EVANS@NAVY.MIL](mailto:FREDERICK.J.EVANS@NAVY.MIL)

**PROJECT INFORMATION**

START DATE: 01/01/1999      DURATION: ONGOING

PURPOSE: TO DETERMINE OCCURRENCE OF TOXIC CONTAMINANTS IN SEDIMENT AND MUSSEL TISSUE

STUDY AREA: PORTSMOUTH HARBOR AND PISCATAQUA RIVER

STUDY DESIGN: PARAMETERS -- METALS, PAHS, PCBS, AND PESTICIDES IN SEDIMENT AND MUSSEL TISSUE. SAMPLING FREQUENCY -- EVERY FIVE YEARS. STATIONS -- 14 SITES IN "AREAS OF CONCERN" NEAR PNSY, 4 REFERENCE SITES IN THE PISCATAQUA RIVER, BACK CHANNEL, AND SAGAMORE CREEK. COMMENTS -- THE DES WATER QUALITY DATABASE DOES NOT CONTAIN ANY DATA FOR THIS PROJECT.

QUALITY ASSURANCE DOCUMENT: FINAL QAPP

DOCUMENT AVAILABLE: ON FILE WITH USN PROJECT OFFICER