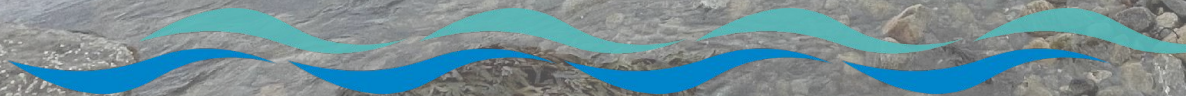
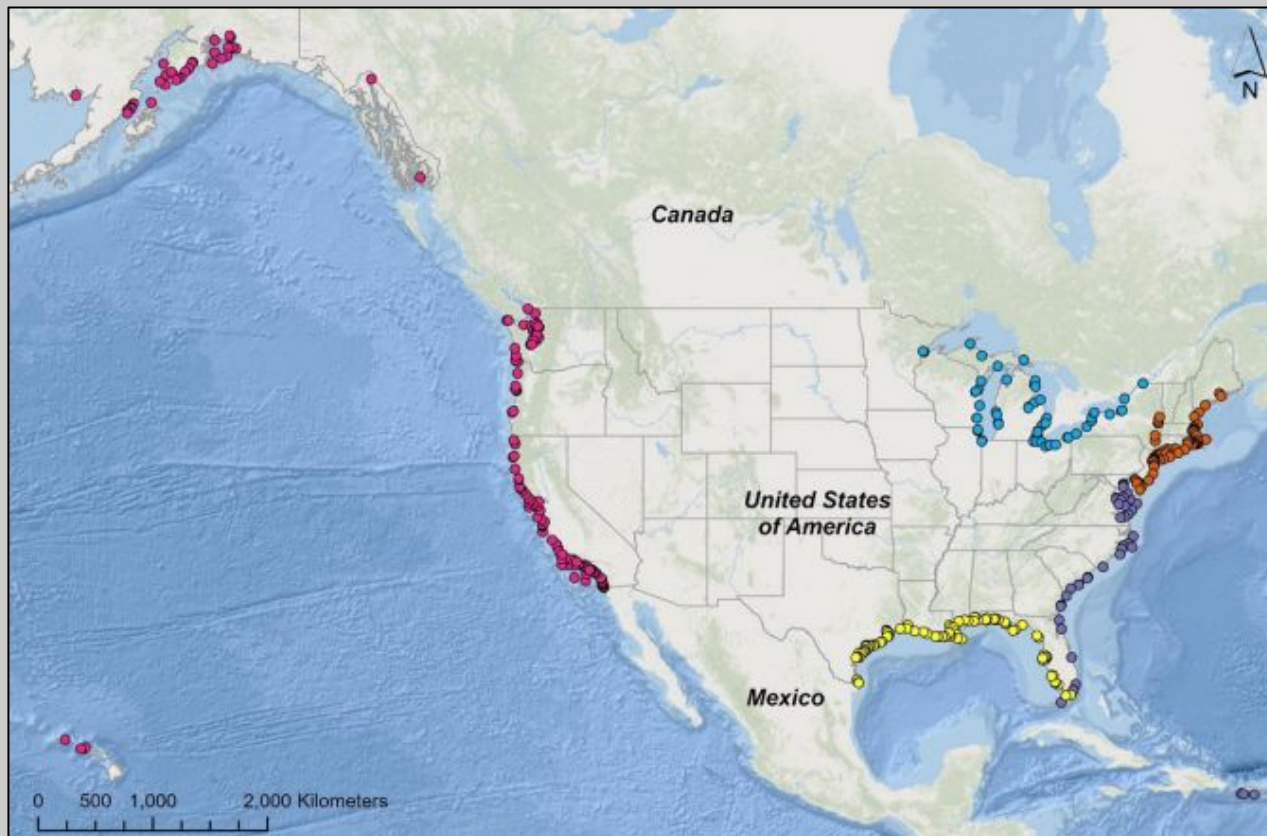


NOAA Mussel Watch Program

Lauren Jaramillo
Dr. Dennis Apeti
Dr. Michael Edwards



Program History



Started in 1986



400+ sites



600+ contaminants



5-year regional rotation

Program Goals

We strive to evaluate:

- 1) Temporal and spatial trends in chemical distribution to identify potential areas of risk
- 2) Impacts of unforeseen events such as oil spills and hurricanes
- 3) Status of MPAs
- 4) Resource and ecosystem service trends
- 5) Impacts on aquaculture
- 6) Effectiveness of regulations that ban toxic chemicals



PC: Buzzards Bay Coalition (2025)

Big Picture

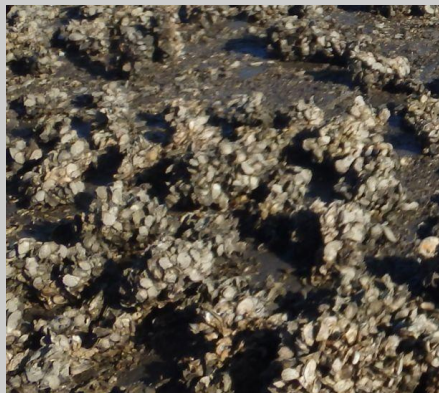
Utilize shellfish and sediment as indicators of environmental health

Blue mussels



Mytilus spp.

Oysters



Crassostrea virginica

Zebra mussels



Dreissena spp.

Monitor spatial and temporal trends of chemical contaminants

What We Sample

Legacy Organic Contaminants (257)

Butyltins	Endosulfans
Chlordanes	HCHs
Chlorobenzenes	Mirex
Chlorpyrifos	PAHs
DDTs	PCBs
Dieldrins	

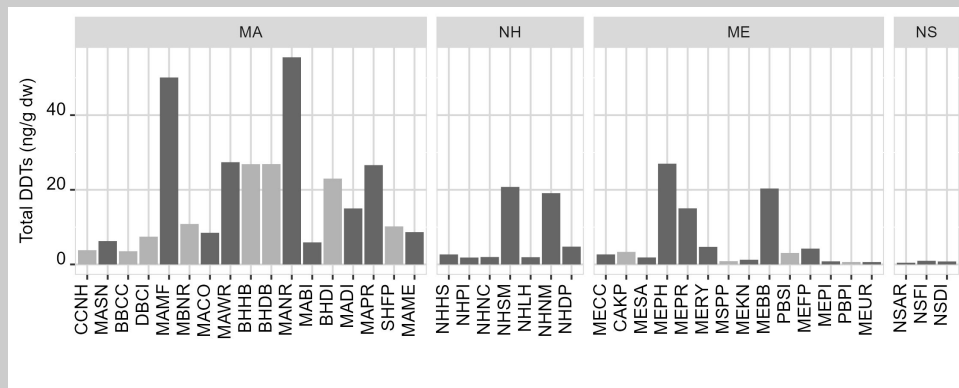
Contaminants of Emerging Concern (281)

Alkylphenols
Flame Retardants
Current Use Pesticides
PBDEs/PBBs
PFAS
PPCPs

Trace Metals (19)

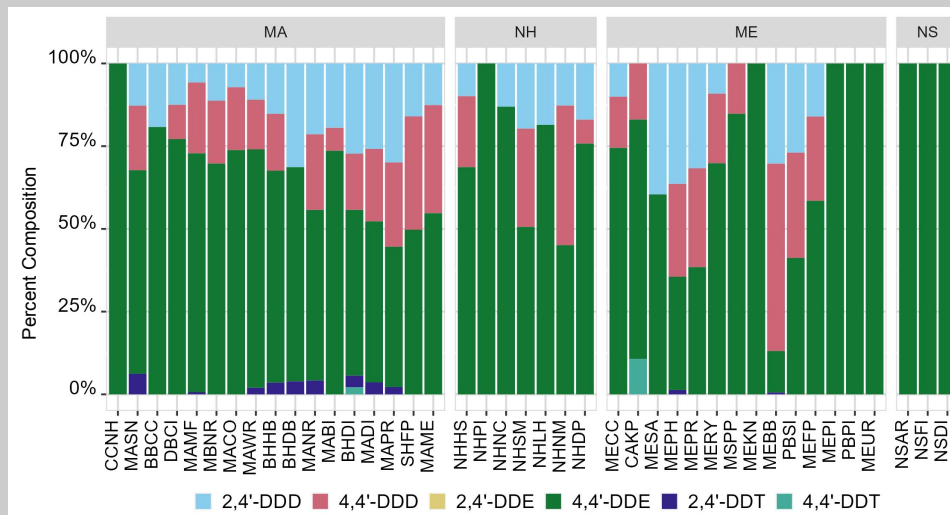
Aluminum	Manganese
Arsenic	Mercury
Barium	Nickel
Cadmium	Selenium
Chromium	Silver
Cobalt	Tin
Copper	Uranium
Iron	Vanadium
Lead	Zinc
Lithium	

Our Results – Most Recent Data Summary

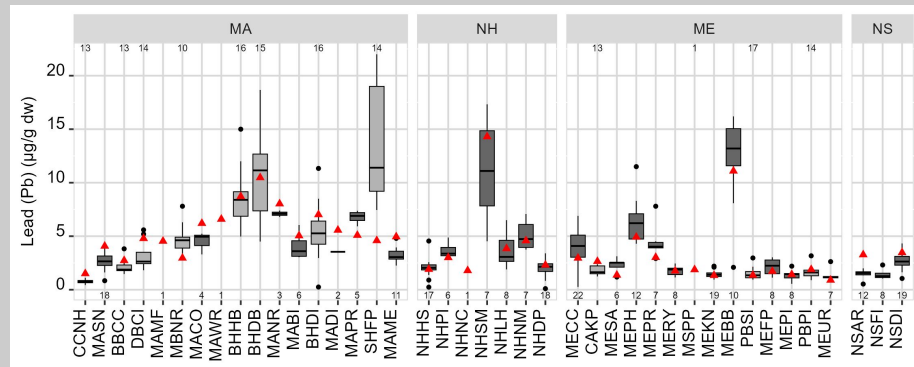


Sum of DDT concentrations found in 2016

Breakdown of 6 DDT compounds included in total sum in 2016

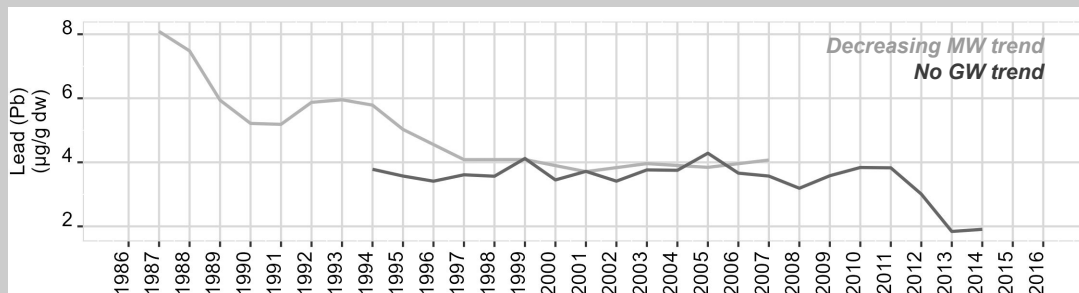
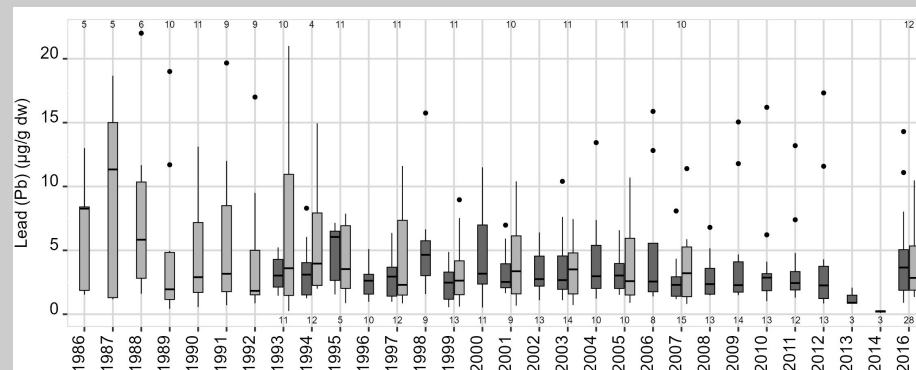


Our Results – Temporal Analysis



← How 2016 data (red triangles) relates to site-specific historic dataset (boxplots)

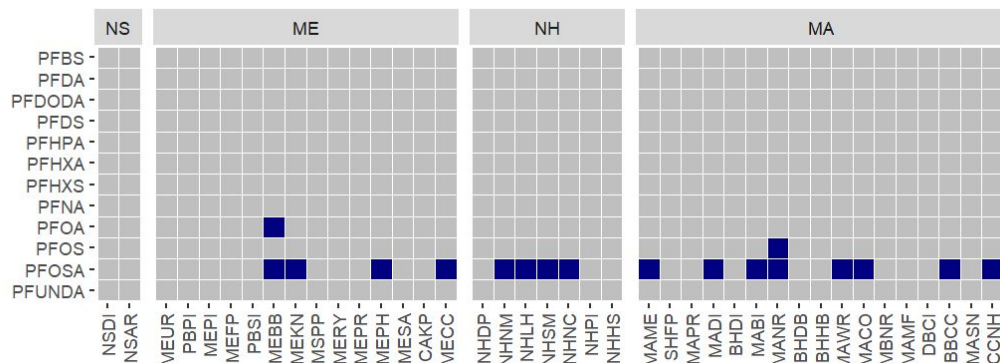
Concentrations over time →



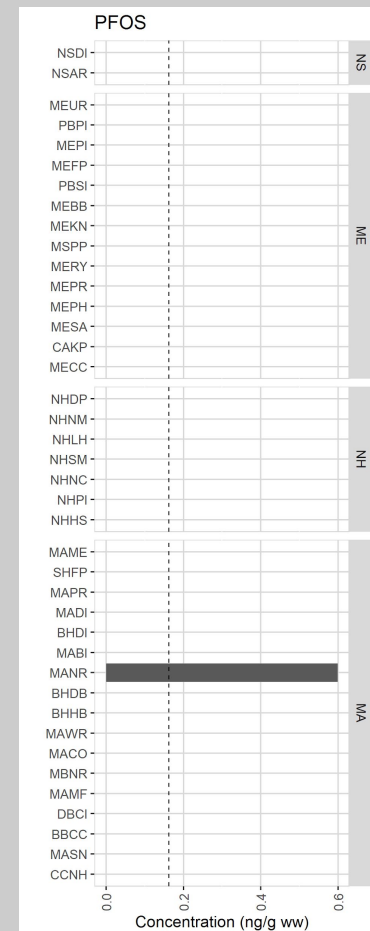
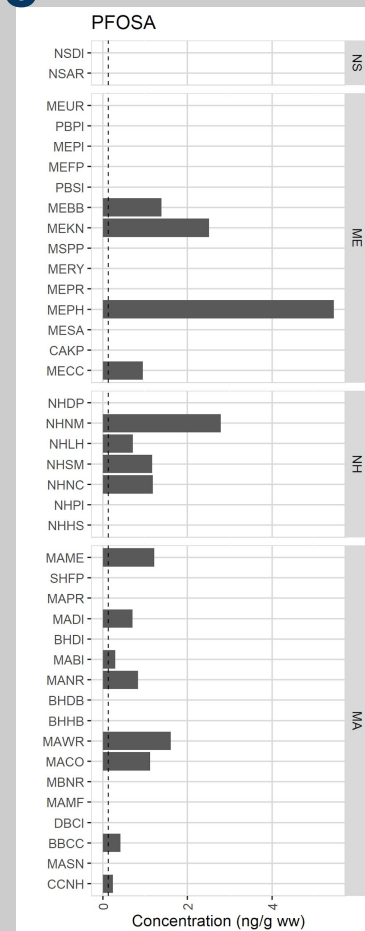
← Regional trend over time

Our Results – Presence/Absence

Concentrations found
in 2016



Presence or absence of
individual contaminants



Reporting and Communication



Lauren M. Swam-Jaramillo
Mary M. Rider
Dennis A. Apeti

February 2025



NOAA TECHNICAL MEMORANDUM NOS NCCOS 355
NOAA NCCOS Monitoring and Assessment Branch



November 2024



NOAA TECHNICAL MEMORANDUM NOS NCCOS 346
NOAA NCCOS Monitoring and Assessment Branch



January 2025



NOAA TECHNICAL MEMORANDUM NOS NCCOS 351
NOAA NCCOS Monitoring and Assessment Branch

Reporting and Communication

Data

The National Mussel Watch Program provides unique data that is vital to evaluating the health of the nation's estuarine and coastal waters, particularly describing the levels of chemical contamination. The program's long-term data supports the assessment of potential impacts of unforeseen events such as oil spills and hurricanes, the evaluation of the effectiveness of regulations that ban toxic chemicals, and legislation such as the Clean Air and Clean Water Acts. The goal of the National Mussel Watch Program is to support ecosystem-based management through integrated nationwide environmental monitoring, assessment, and research to describe the status and trends of our nation's estuaries and coasts.



Explore our Data Dashboard
Explore National Mussel Watch data spatially to see available information.



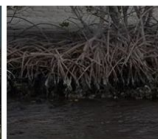
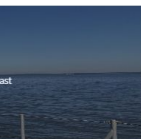
Download Our Data
Access National Mussel Watch contamination data on the NOAA National Centers for Environmental Information data portal.



Download GLRI Data
Access contamination data acquired through the Great Lakes Restoration Initiative (GLRI), a component of the Mussel Watch Program.

Publications

The National Mussel Watch Program collects sediment and bivalve samples from one of five regions each year. For each data reports summarizing the status and trends of chemical contamination at the sites assessed for (1) contaminants and (2) legacy organic contaminants. Each year of collection is summarized within the pages linked below and the rest of the bottom of each page for that year.



Partnerships

The National Mussel Watch Program would not be successful without the support from our network of partners throughout the U.S. These groups have assisted our program with the collection of samples throughout the years and we are continuously grateful for their support and assistance.

Gulf Coast **Pacific Coast, Alaska, Hawaii** **North Atlantic Coast** **South Atlantic Coast, Puerto Rico** **Great Lakes**

- City of Naples Public Works Department [at](#)
- Florida Fish and Wildlife Conservation Commission [at](#)
- Rookery Bay National Estuarine Research Reserve [at](#)
- Southeast Fisheries Science Center
- U.S. Fish and Wildlife Service

Contact Us

If you have any questions, would like more information about the program, or would like to get involved with our sampling efforts, please reach out.



Dr. Dennis Apeti | Mussel Watch Program Manager
Lauren Jaramillo (Swan) | Mussel Watch Program Coordinator
Felipe Arzayus | Monitoring and Assessment Branch Chief

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[Get the latest news](#)

[Program handout \(PDF\)](#)

*Pictured: NOAA Monitoring and Assessment Branch and field support team conducting field work in the Great Lakes in 2022.
From left: Dr. Erik Desjardis, Andrew Tognola (GLERL), Mary Alden, Luke Pritz (GLERL), Felipe Arzayus, Lauren Jaramillo, Dr. Dennis Apeti, James Daugherty, Dr. Michael Edwards, Dr. Tony Pelt.*

Reporting and Communication

ISSUE #1 • September 2024



National Mussel Watch Program



Newsletter

Welcome to the inaugural issue of the bi-annual Mussel Watch Program newsletter! We at the MWP have decided to begin a newsletter series to connect our stakeholders and collaborators as well as provide a way for us to continually communicate our data, advertise our field sampling, and keep you abreast of our program activities.

As someone that we have collaborated with in the past, you have been automatically added to our subscriber list, but if you wish to unsubscribe, you can easily do so by clicking "Manage Subscriptions" below. We hope you stay tuned for periodic information on our publications, updates, and activities! Please also feel free to share this with others in your network so that they may also subscribe to future updates.

CURRENT FIELD SAMPLING

California, Oregon, Washington, Alaska, Hawaii



Ongoing - September 2024

UPCOMING FIELD SAMPLING

Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware



November 2024 - March 2025

ISSUE #2 • March 2025



National Mussel Watch Program



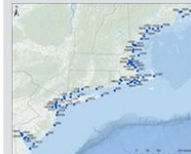
Meet the MWP Team

Dr. Dennis Apeti is the Program Manager for the NOAA Mussel Watch Program (MWP) and has held this position since 2013. He leads the program's strategic initiatives, ensuring seamless coordination and efficient resource management to support NOAA's mission and the MWP's objectives. With expertise in ecosystem conservation, protection, and monitoring, combined with a background in program management, he fosters collaboration across monitoring organizations at local, state, and federal levels, driving collective efforts toward long-term environmental sustainability.

Lauren Jaramillo (Swam) is the Program Coordinator and Data Analyst for the MWP and has held this position since 2022. Her primary responsibilities include the coordination of

CURRENT SAMPLING: North Atlantic Coast

Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware



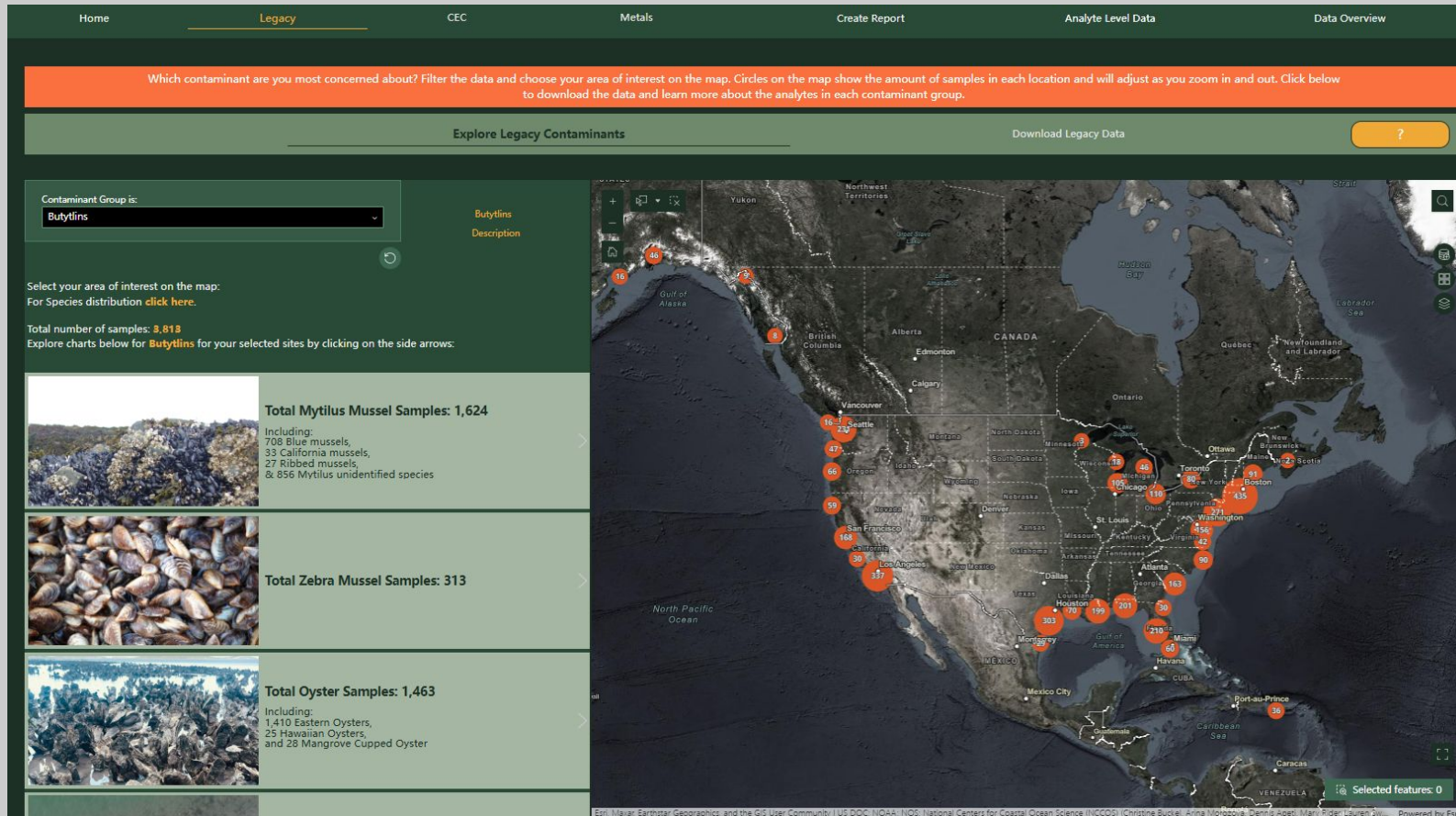
November 2024 - March 2025

UPCOMING SAMPLING: South Atlantic Coast

Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Puerto Rico



Reporting and Communication



NATIONAL CENTERS FOR
COASTAL OCEAN SCIENCE

DE Dept Natural Resources

NJ Dept Enviro Protection

Hudson River Foundation

Billion Oyster Project

Hudson River Park Trust

NY Dept Enviro Conservation

University of RI

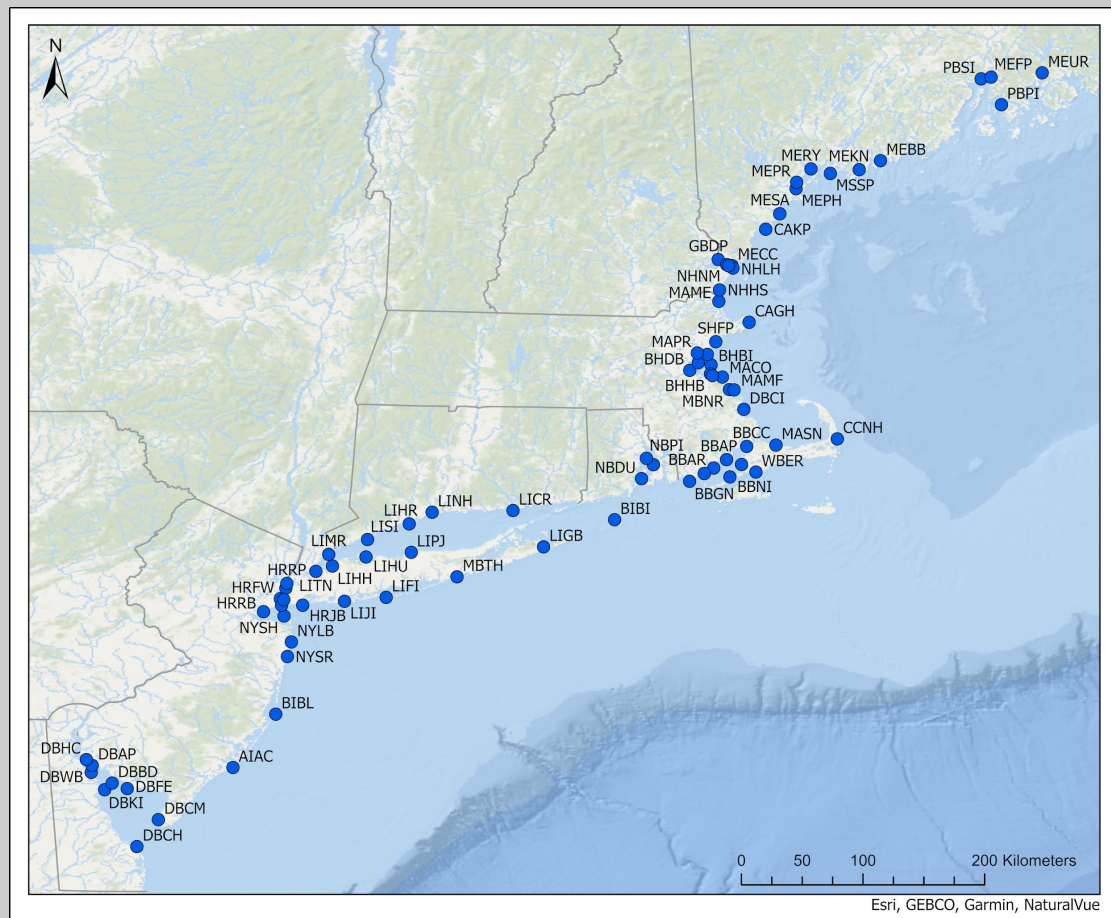
Buzzards Bay Coalition

MA Division of Marine Fisheries

ME Dept Enviro Protection

University of NH

Waquoit Bay NERR



Contact Us!

Email our team at
musselwatch@noaa.gov

Dr. Dennis Apeti
Program Manager

Lauren Jaramillo
Program Coordinator

Dr. Michael Edwards
Great Lakes Representative

[MWP Website](#)

