

Water Quality Monitoring for Shellfish Classification

**Massachusetts Division of Marine Fisheries
Shellfish Sanitation and Management Program**

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Water Quality Monitoring for Shellfish Classification

What is the mission of the Sanitation Program?

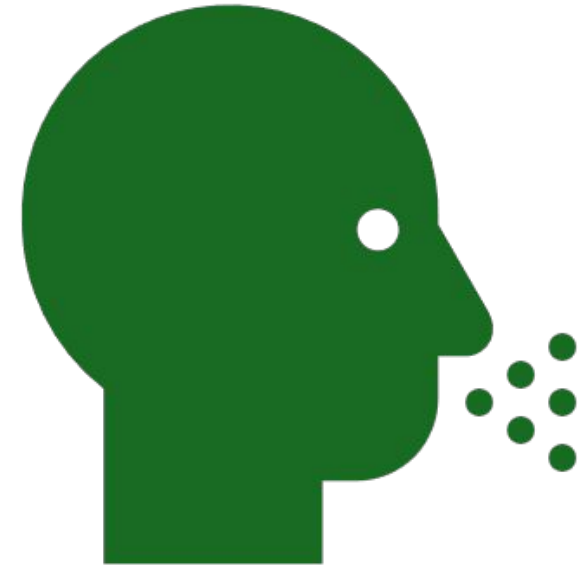
What is the NSSP and how do we fulfill the Requirements?

What are the results of our work?

Our Mission



**Direct and Indirect management of
the molluscan shellfish resources**



Public Health Protection

Following guidelines in the National Shellfish
Sanitation Program (NSSP)

What is the NSSP?

The NSSP is a document that defines the criteria for Shellfish area classifications

- Approved
- Conditionally Approved
- Restricted
- Conditionally Restricted
- Prohibited

Created by the Interstate Shellfish Conference made up of state regulators, industry members, and the FDA.

- Followed by Shellfish Producing States
- Compliance is overseen by FDA

How do we classify our shellfish areas?

Sanitary Surveys

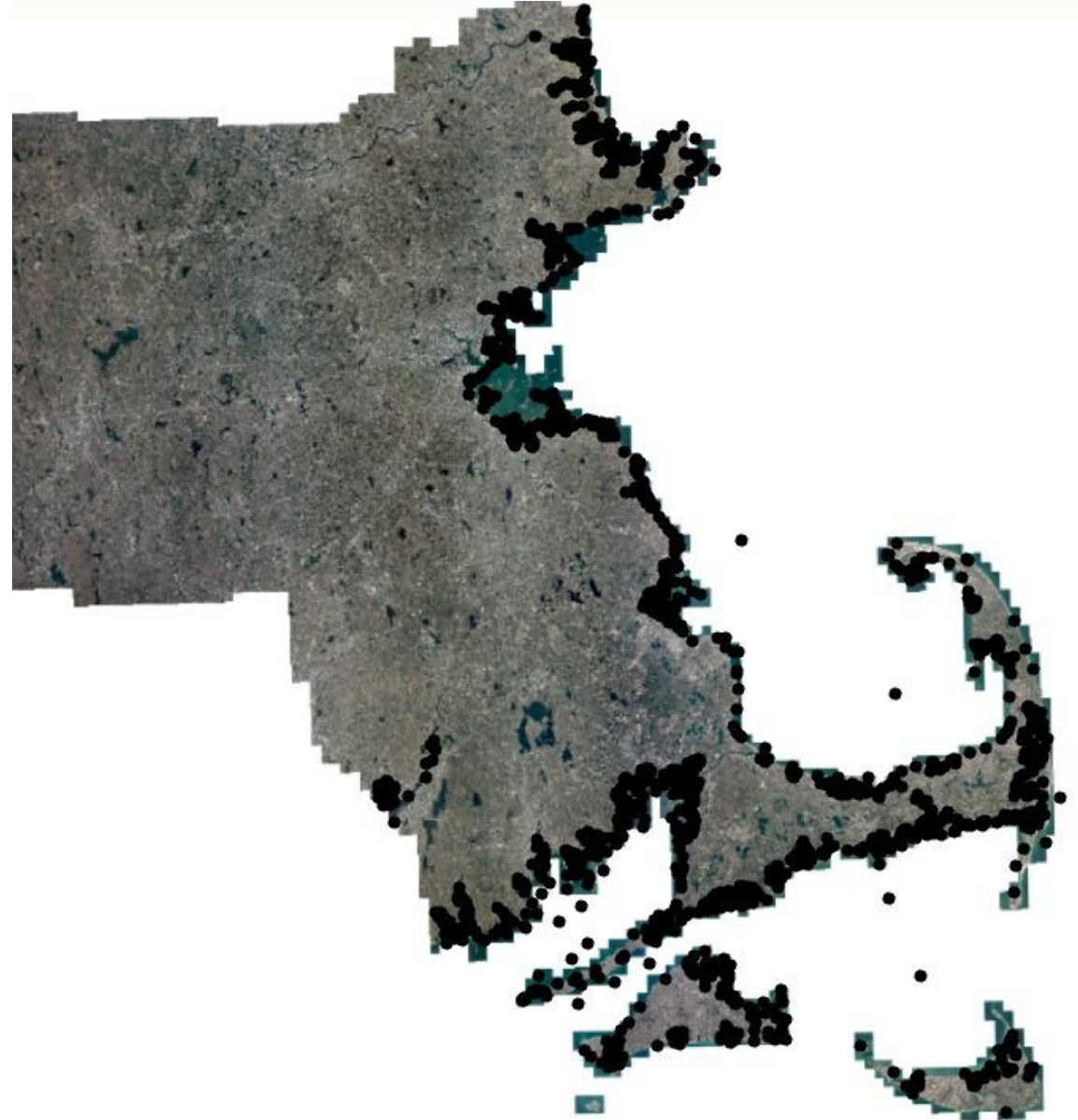
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How do we classify our shellfish areas?

Sanitary Surveys

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 - A. Assess water quality
 - i. Test for fecal coliforms at each sampling station
 - ii. Minimum of 15 samples from each station



How do we classify our shellfish areas?

- Sample collection:
 - Boat



How do we classify our shellfish areas?

- Sample collection:
 - Boat
 - Shore



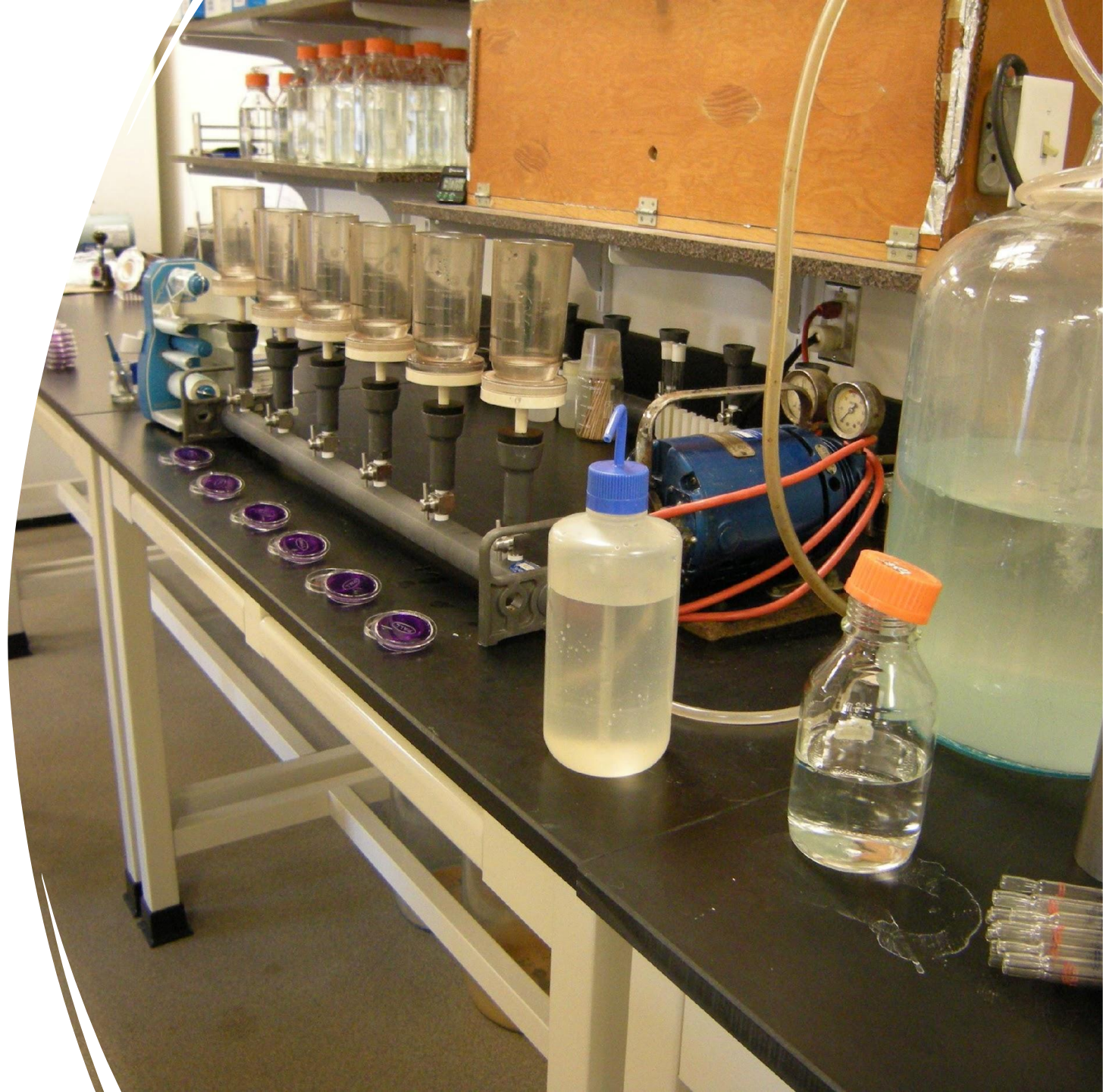
How do we classify our shellfish areas?

- Sample collection:
 - Boat
 - Shore
 - Year-Round



How do we classify our shellfish areas?

- Water quality criteria for classifications:
 - APPROVED: Geomean ≤ 14 cfu/100mL, and $\leq 10\%$ of samples not greater than 31cfu/100mL
 - RESTRICTED: Geomean ≤ 88 cfu/100mL, and $\leq 10\%$ of samples not greater than 163cfu/100mL
 - CONDITIONAL: An area meets the criteria for Approved or Restricted most of the time, and periods when the area doesn't meet are known and predictable.
 - PROHIBITED: Don't meet the above criteria or do not have a Sanitary Survey.



How do we classify our shellfish areas?

Sanitary Surveys

1. Defined in the NSSP and includes the need to:
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 - i. Test for fecal coliforms at each sampling station
 - ii. Minimum of 15 samples analyzed
 - B. Conduct shoreline surveys for potential and actual pollution sources



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Sanitary Surveys

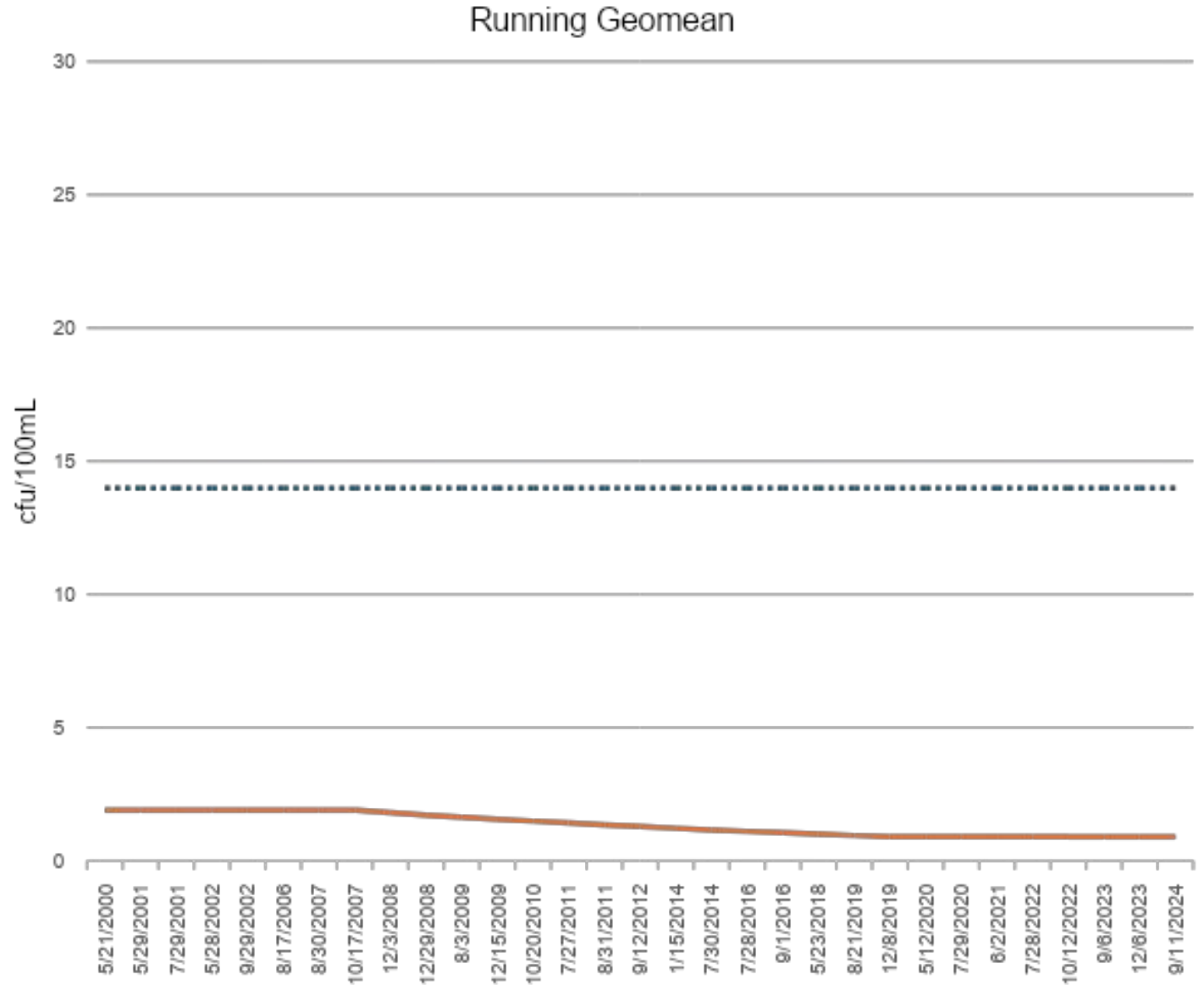
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 - A. Assess water quality
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 - B. Conduct shoreline surveys for potential and actual pollution sources
 - C. Evaluate hydrographic and meteorological characteristics that may affect distribution of pollutants



Long Term Trends

Long-term trends in fecal coliform concentrations

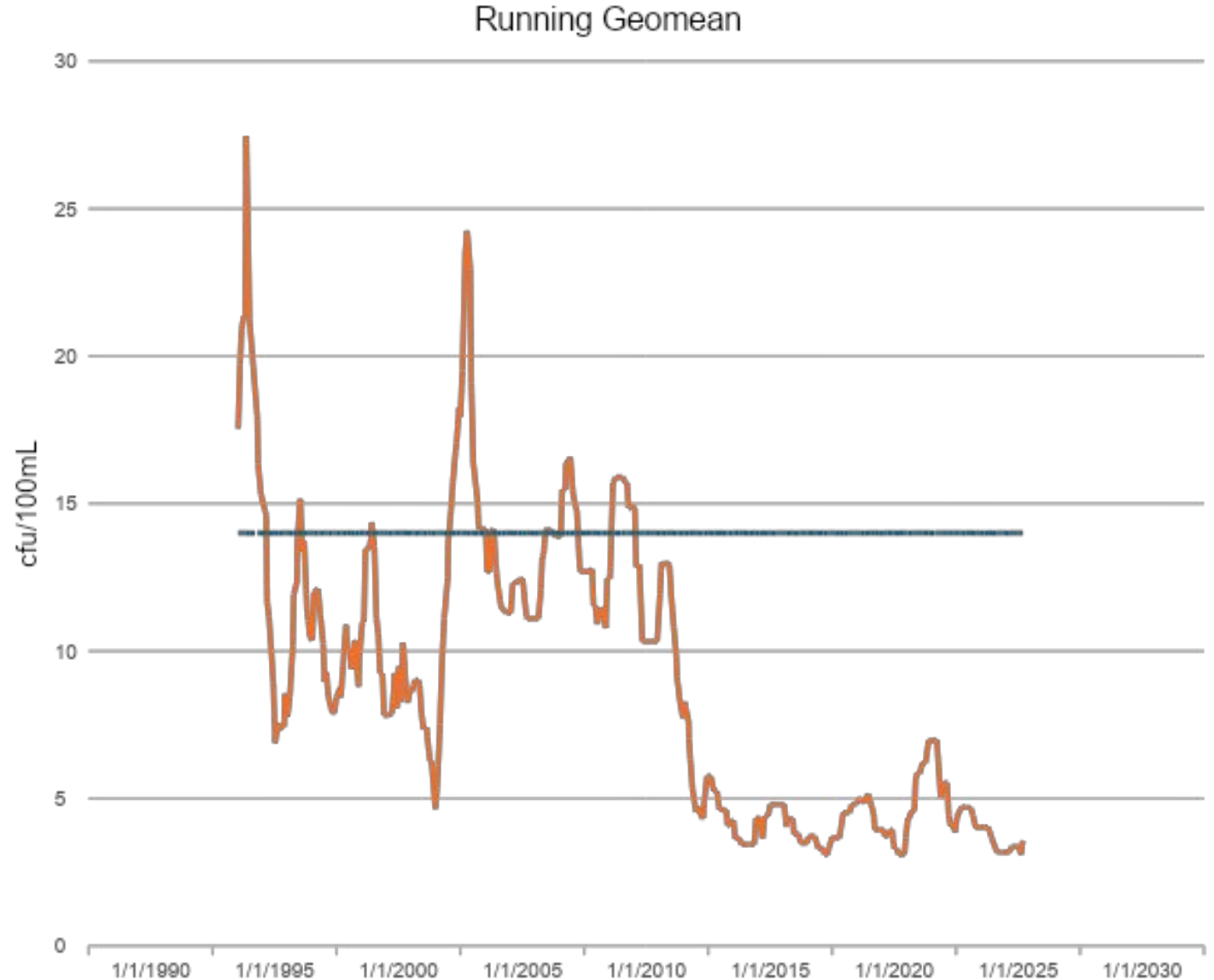
1. Areas in open waters of Cape Cod Bay have not seen significant change



Long Term Trends

Long-term trends in fecal coliform concentrations

1. Areas in open waters of Cape Cod Bay have not seen significant change
2. Areas of Greater Boston Harbor have the potential for a classification upgrade due to improvements in Sewer Systems and WWTP effluent



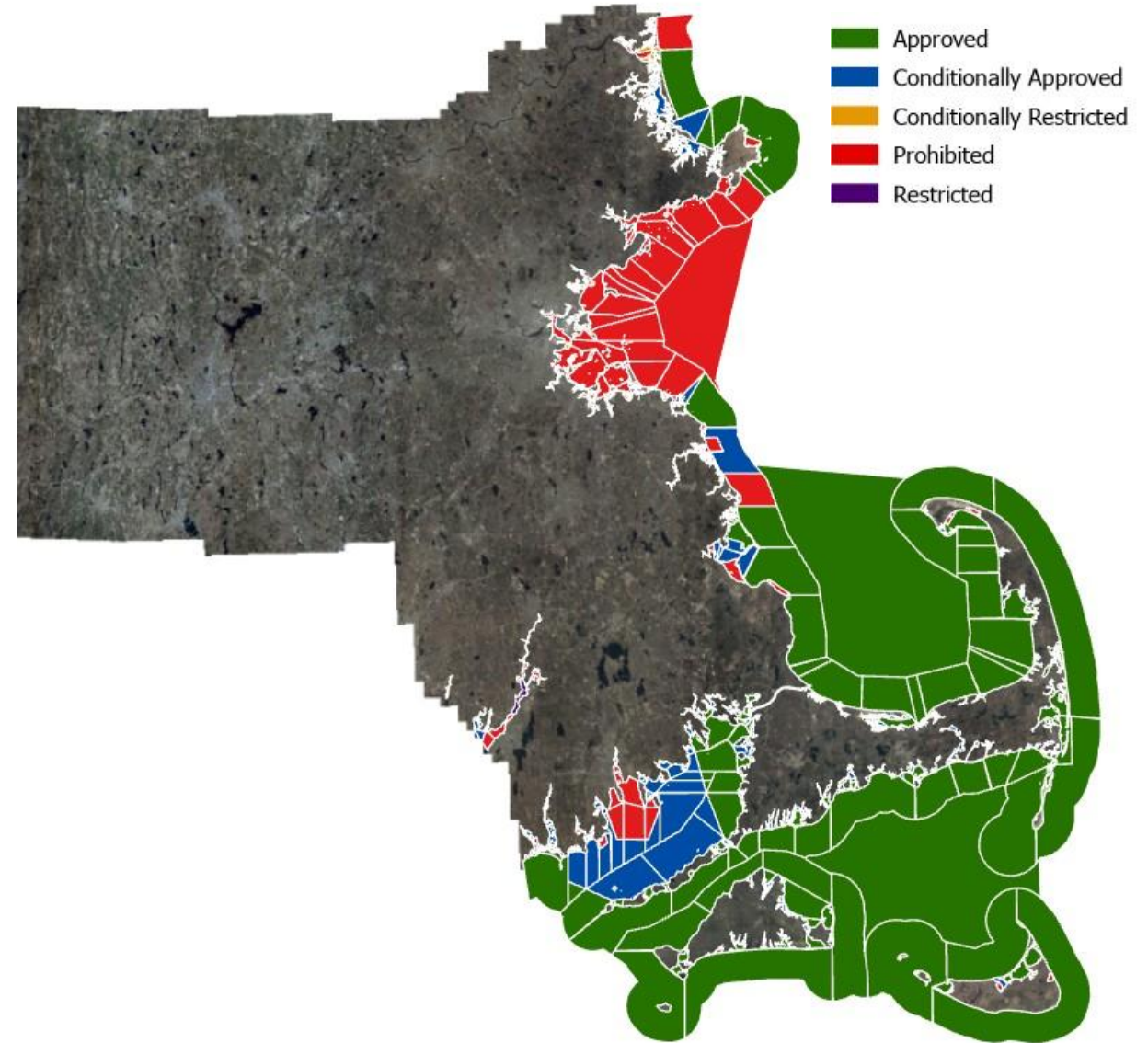
What are the Results of Our Work?

○ Designated Shellfish Growing Areas (DSGAs)

- Total: 303
- Within Mass Bay: 100
- Sub-areas within Mass Bay: 309

○ Sub-area Classifications:

- Approved: 33
- Conditionally Approved: 61
- Restricted: 3
- Conditionally Restricted: 40
- Prohibited: 172



Questions?

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