

**SUPPORTING THE NEEDS FOR
INTEGRATED ASSESSMENT OF COASTAL
WATERS BY LEVERAGING MONITORING
REQUIRED FOR SHELLFISH GROWING
WATER CLASSIFICATION**

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Protection*

Water Monitoring and Standards



Overview

- National Shellfish Sanitation Program (NSSP) samples
- Information also used for the Integrated Assessment Report
- Cost savings by collecting water quality data in conjunction with NSSP sampling (fecal coliform and nutrient data)



Bureau Goals and Objectives

- Maintain New Jersey's compliance with the National Shellfish Sanitation Program
- Provide water quality information to be used for assessing the status and trends of surface water quality in coastal New Jersey
- Provide monitoring support for NPS load estimation, source tracking and BMP effectiveness.



National Shellfish Sanitation Program (NSSP)

- Required by the Food & Drug Administration for the safe harvest and consumption of shellfish.
- Although NJ is one of the largest shellfish producing states in the country there are 23 other coastal states that monitor water quality.
- NJ had a dockside value of approximately \$100 million in 2006.

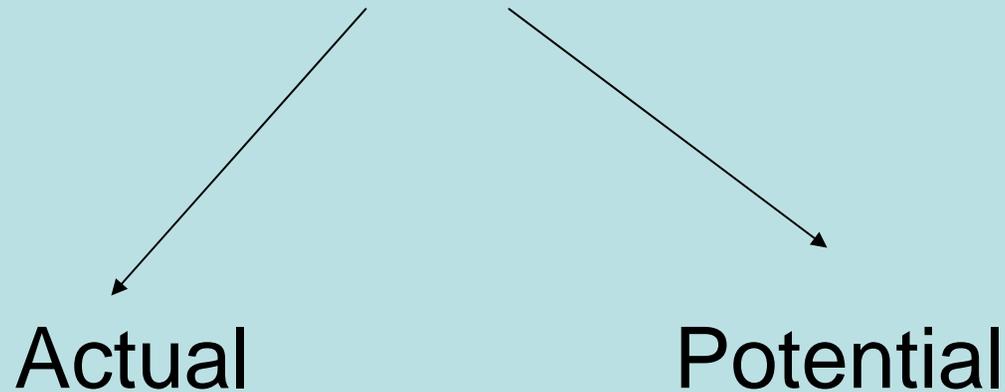


NSSP Components

- Water Quality Monitoring
 - bacterial
 - phytoplankton
- Pollution Source Surveys
- Hydrographic Surveys



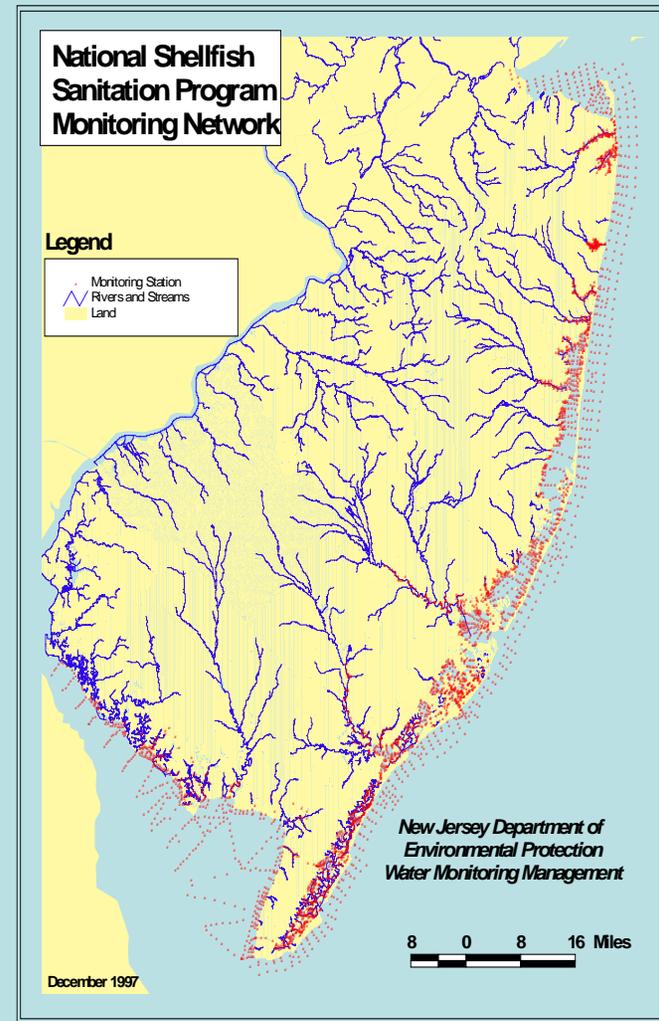
NSSP is concerned with Pollution Sources



NSSP MONITORING NETWORK

Actual Pollution Source

- 2500 active monitoring locations
- Sampling 5-12 times/year
- Total and fecal coliform bacteria
- Approximately 15,000 samples/year



Potential Source Surveys

What are you looking for?

By actually going out in the field to observe the coastline of a specific area you can record situations such as:

- **Discharges from pipes that may have a foul odor.**
- **New development that might disturb the natural coastline.**
- **Increased animal populations, for example, migrating birds, horseshoe crabs etc.**
- **Hazardous waste disposal sites..**



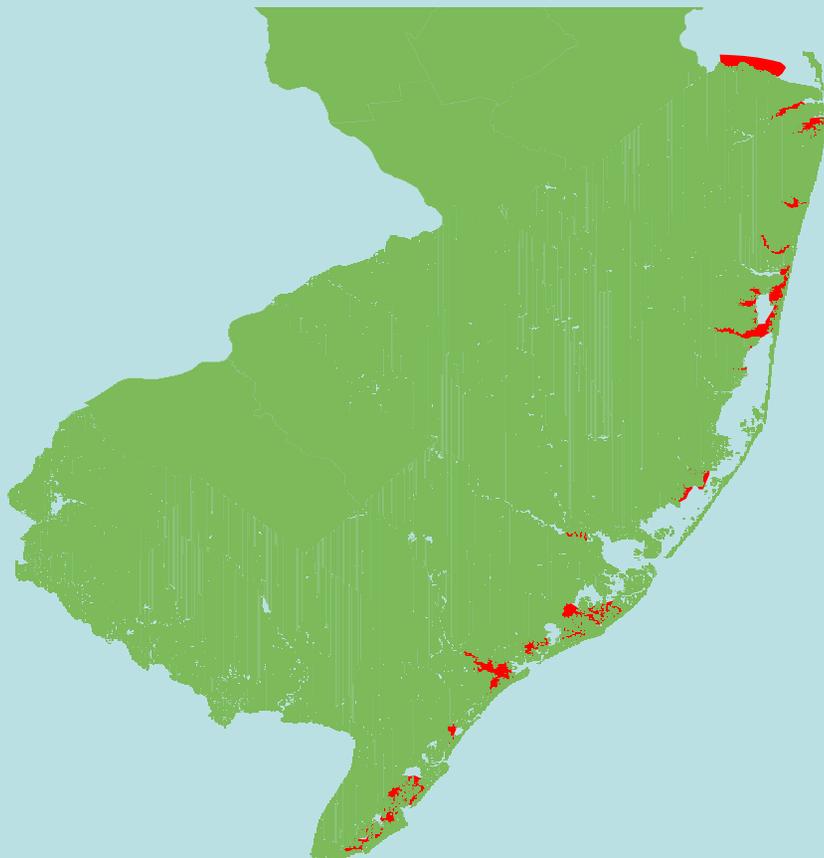
Expansions in marina, (ie. Additional docks).



Stormwater outfalls



Stormwater Impacts

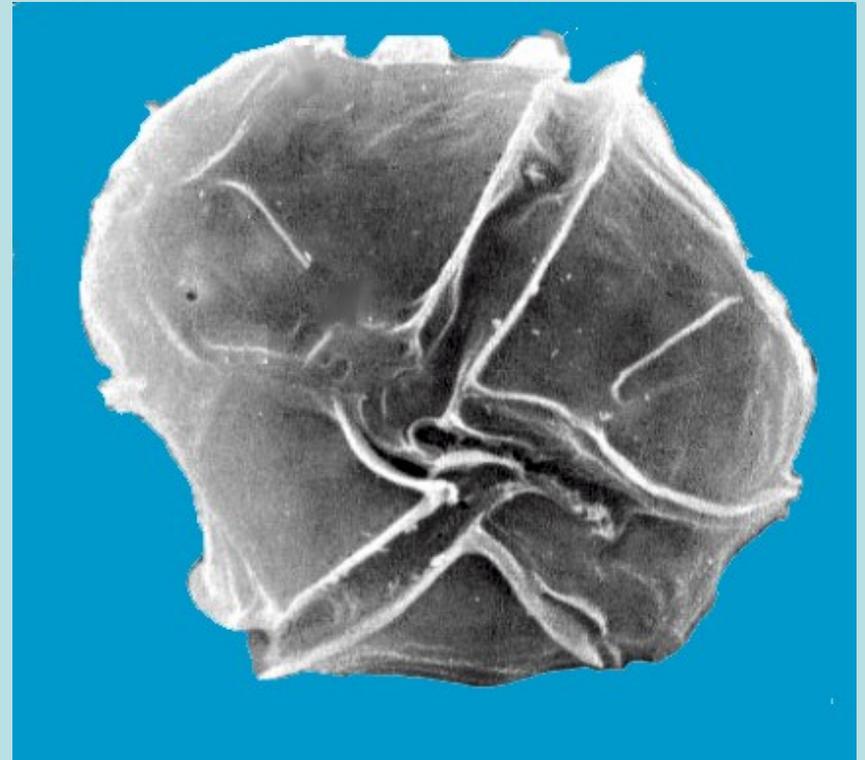


Based on NSSP data the areas shaded red represent coastal waters where fecal coliform levels are elevated following a storm event.



Monitor for the presence of Harmful Algal Blooms

- Shellfish waters must be closed if blooms occur of phytoplankton responsible for various shellfish illnesses such as Paralytic Shellfish Poisoning (PSP) and Neurological Shellfish Poisoning (NSP)



Phytoplankton Monitoring Locations



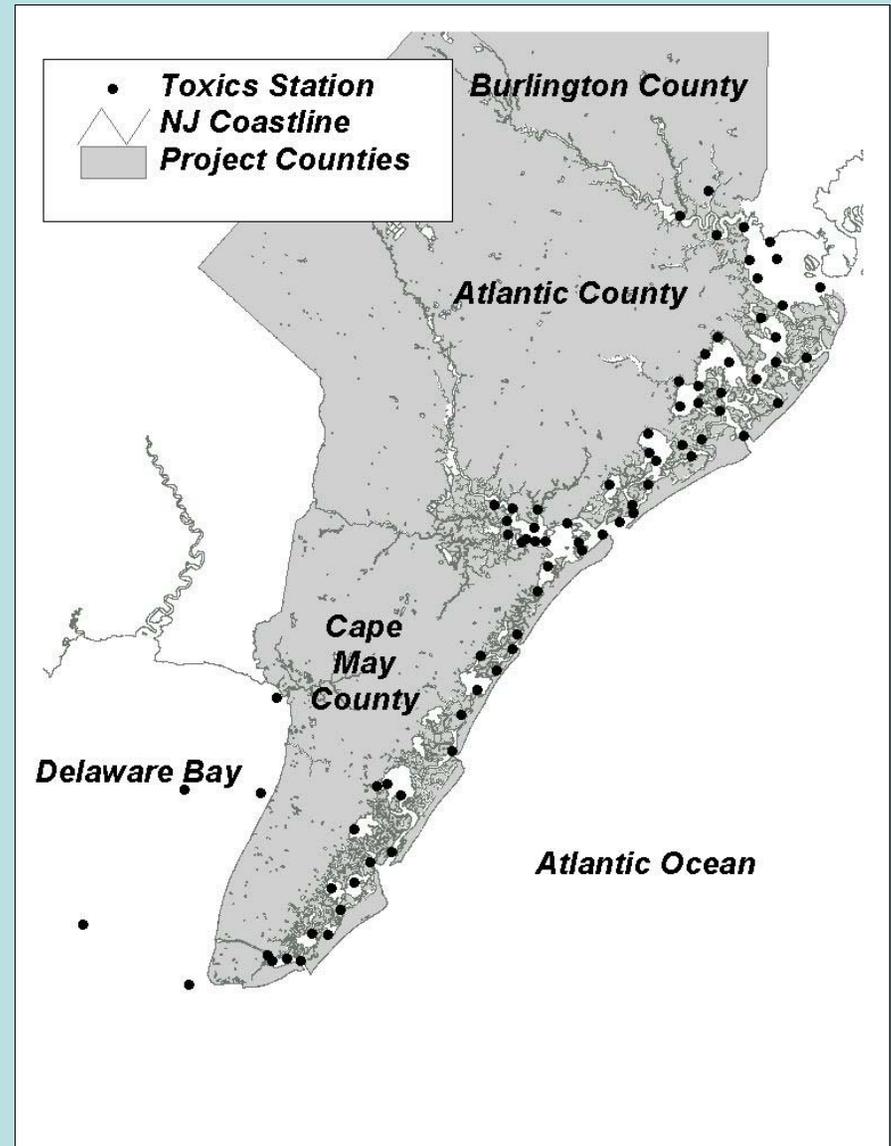
Coastal Monitoring Programs

Shellfish Toxics and Continuous
Water Quality

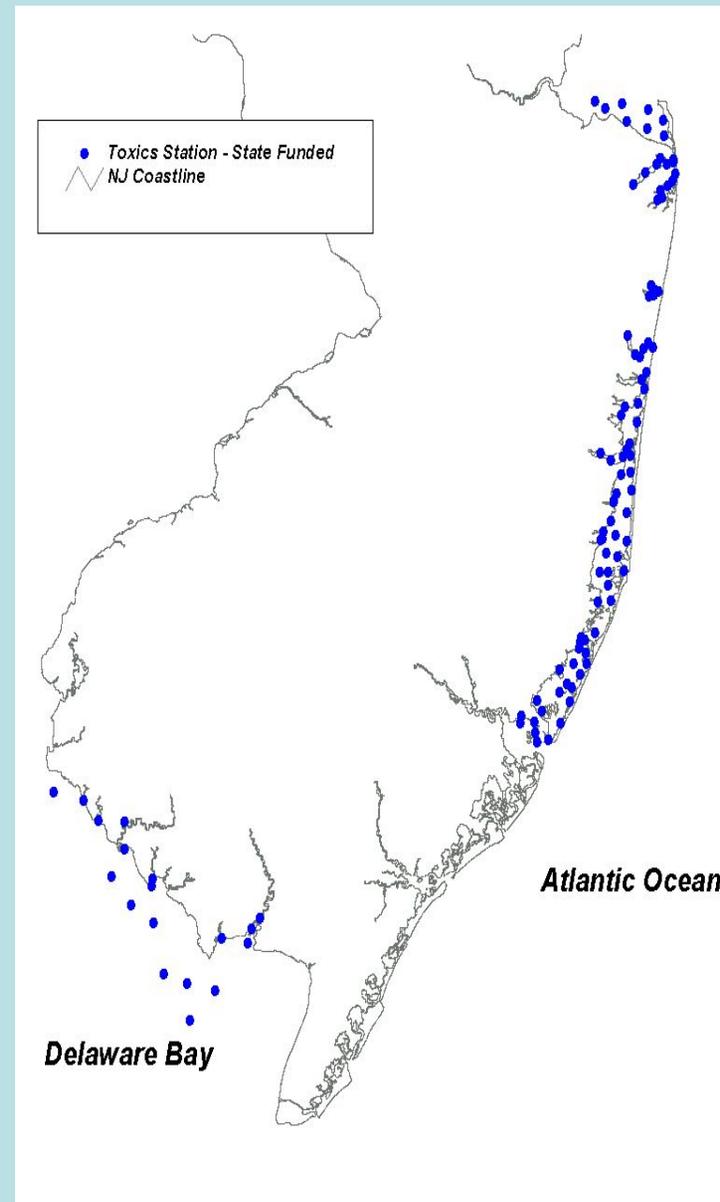


Due to the lack of routine monitoring for toxics in shellfish tissue a routine monitoring program for toxic pollutants in shellfish was established.

EPA's EMPACT funding initially covered this work in 3 NJ counties (shown here).



Federal supplemental
106 grant funding
has been used to
expand the program
to the remaining
coastal counties
which include Ocean
Monmouth and
Cumberland county.



Coastal Monitoring Programs

Estuarine Monitoring Program

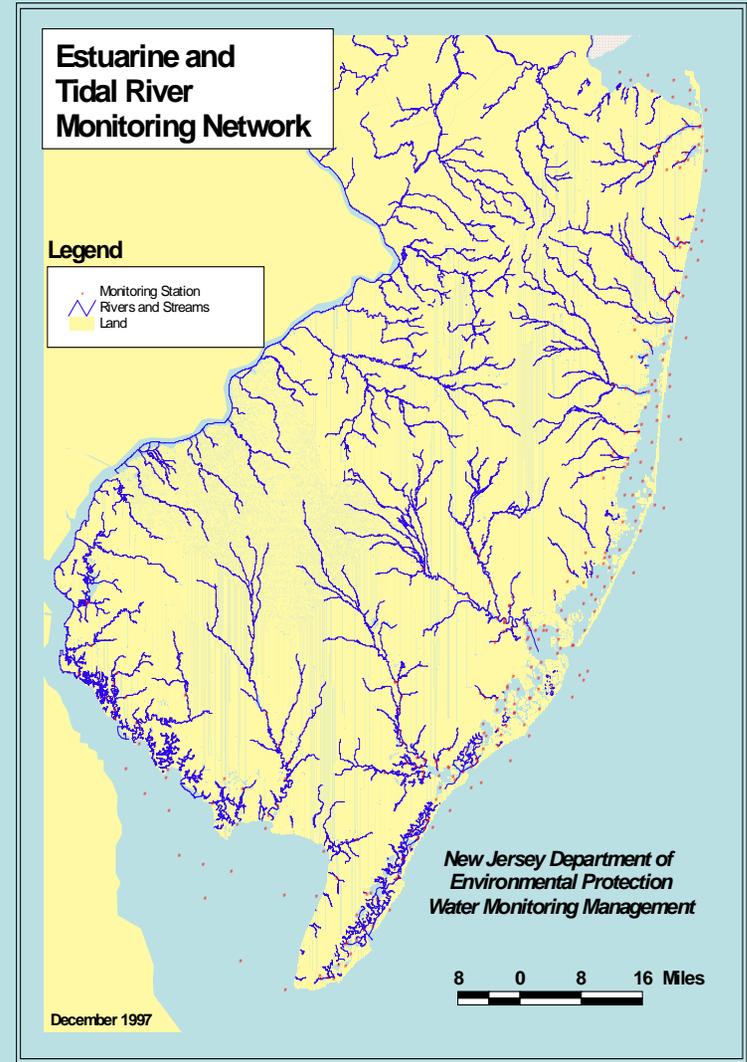
- Established in 1989 to provide consistent, long-term
- monitoring of basic water quality. Measurements include:

- | | | |
|-------------------|------------------|----------------|
| • Salinity | Temperature | Secchi Depth |
| • Diss. Oxygen | Chlorophyll a | Ammonia |
| • Nitrate&Nitrite | Total Nitrogen | Orthophosphate |
| | Total Phosphorus | Fecal Bacteria |



Monitoring - Nutrients

- 200 estuarine / ocean sites
- 50 tidal river sites
- 1000+ samples / year



Integrated Assessment Report

- The data collected for the NSSP requirements as well as the Estuarine Monitoring data is also useful data to be evaluated in the Integrated Assessment Report.



NJ Department of Environmental Protection
Water Monitoring and Standards

New Jersey Integrated Water Quality Monitoring and Assessment Report 2006



December 2006



Data sondes (automated sensors) have been placed on buoys in the bay.

Every four hours, the buoys transmit water quality measurements back to a computer at Leeds Point. This information is then posted on the Bureau's web page for public access.



Real-time Data on the Internet

NJDEP Marine Water Monitoring - Automated Sensor - Absecon Channel - Microsoft Internet Explorer

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Address <http://www.state.nj.us/dep/bmw/SondePages/759.htm>

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Marine Water Monitoring

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Automated Sensor - Absecon Channel

- Marine Water Home
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Location: Just north of the Vincent Haneman Bridge in Absecon Channel

Coordinates: 39° 23' 15" N 74° 25' 34" W

Sensors: Temperature salinity dissolved oxygen pH turbidity chlorophyll a

Status: Operational

CURRENT CONDITIONS

As of 9/27/2004 7:02:01 AM

Temperature	21.42	°C	Chart
Salinity	24.35	PPT	Chart
Dissolved Oxygen	6.23	mg/L	Chart
pH	8.07		Chart
Turbidity	127.00	JTU	Chart
Chlorophyll a	6.51	µg/L	Chart

Real-time data have not been reviewed. They are [Provisional Data](#). Use with caution.

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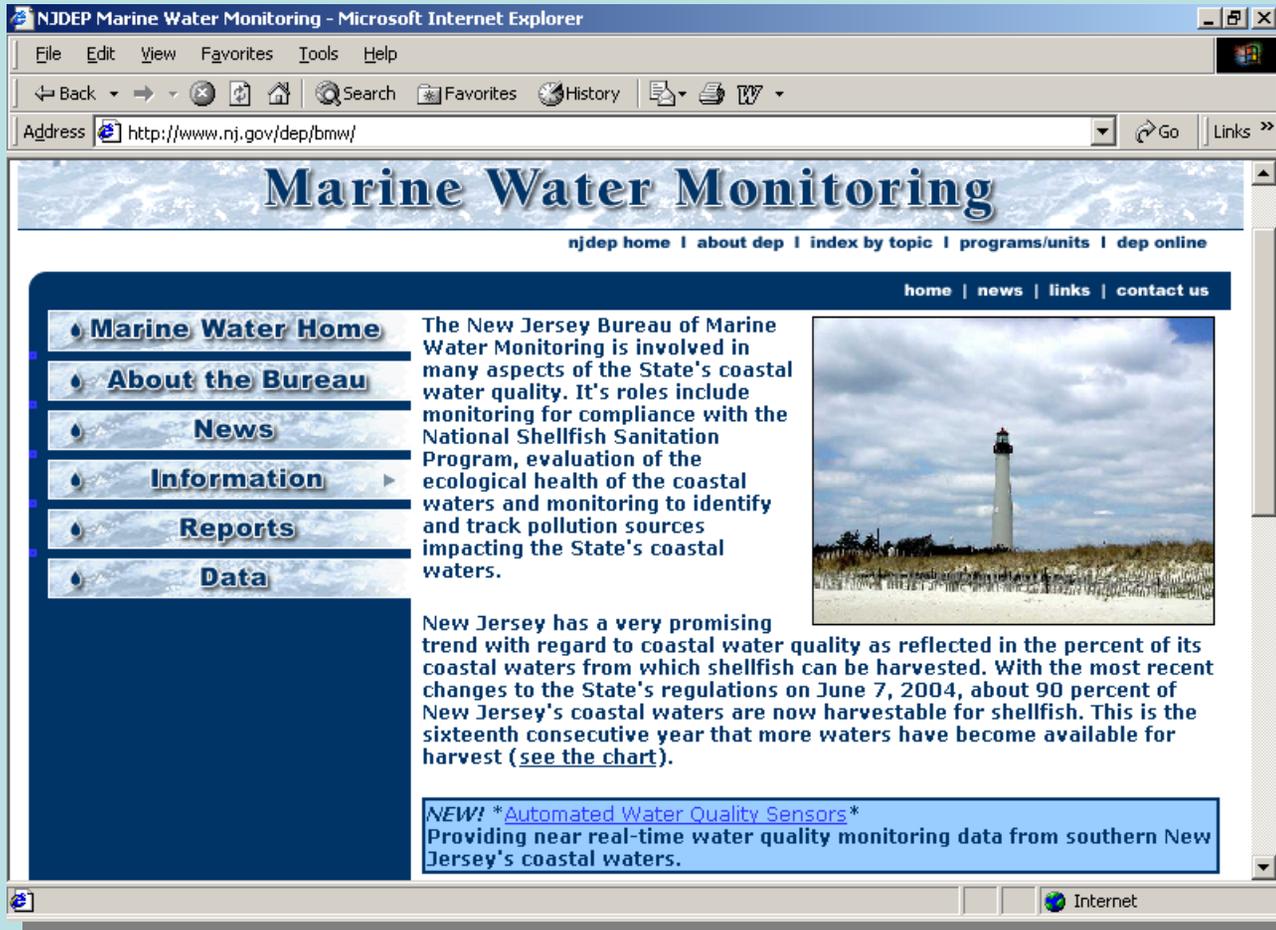
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BMWWM's Website

(www.nj.gov/dep/bmw)



Portal to the Public:
The BMWWM's website allows an access point for the general public to interact with our Bureau and also requires constant updating to reflex our current activities.



Conclusion

- The Department has utilized its resources by collecting NSSP data, nutrients and toxics data at the same time minimizing the use of boats for additional runs. This was found to be a more cost and time efficient manner of data collection.
- Additionally, this information continues to be valuable for other programs within the Department to allow the production of reports such as the Integrated Assessment Report as well as to the general public through the Bureaus' web page.





www.nj.gov/dep/bmw



NJDEP Water Monitoring and Standards