

Monitoring: Use & Coordination in NJ Water Resource Management

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**NJ Water Monitoring Technical Workshop
April 20, 2006**

Water Monitoring in NJDEP

Commissioner
Lisa P. Jackson

**Land Use
Management**
Mark Mauriello

Watershed
Management

**Water Monitoring
& Standards**
Leslie McGeorge

Water Supply

NJ Geological
Survey

Land Use
Regulation

**Freshwater & Biological
Monitoring**

Al Korndoerfer

**Marine Water
Monitoring**

Bob Connell

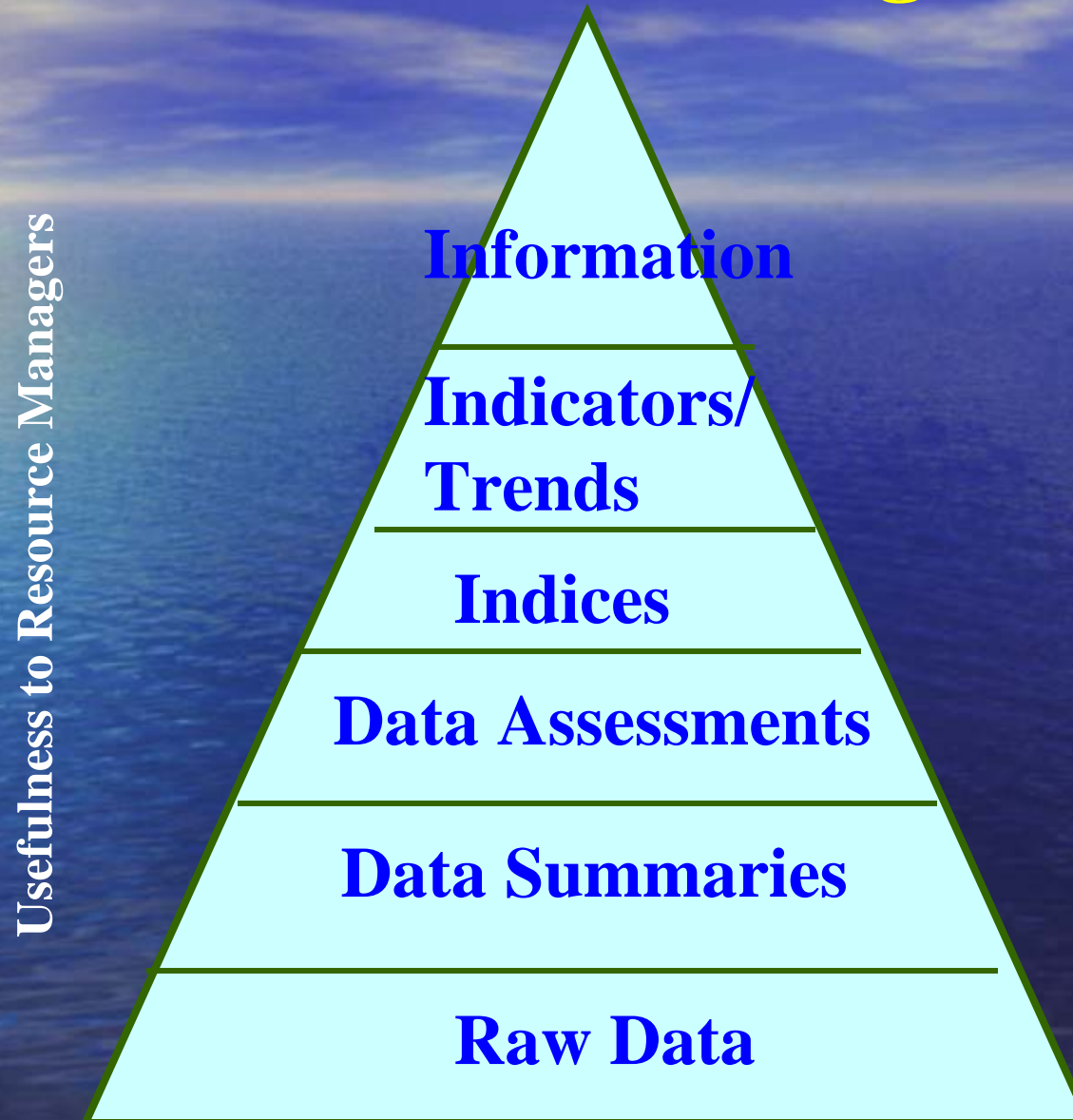
**Water Quality Standards
& Assessment**

Debra Hammond

Overview

- Water Information - Types and Access
- Uses of Monitoring Data in NJ
- State Monitoring & Assessment Requirements
- Monitoring Collaboration Needs
- NJ Water Monitoring Coordinating Council (NJWMCC)

Types of Water Monitoring Information



Better Access to Water Monitoring Information

- **WM&S Water Quality Information Initiative**

- improve awareness of/access to data & information
- use technological innovations for data collection/data management (**breakout session**)

- **EPA National Environmental Information Exchange Grant**

- improve data exchange, access, and integration among water monitoring programs (**poster session**)

NJ Monitoring Uses

1. Identify Impaired Waters
2. Determine Causes and Sources of Impairment
3. Identify Waters Needing Special Protection
4. Determine Water Quality Status and Trends
5. Establish Water Quality Standards & Classify waters
6. Evaluate Management Program Effectiveness
7. Respond to Environmental Spills

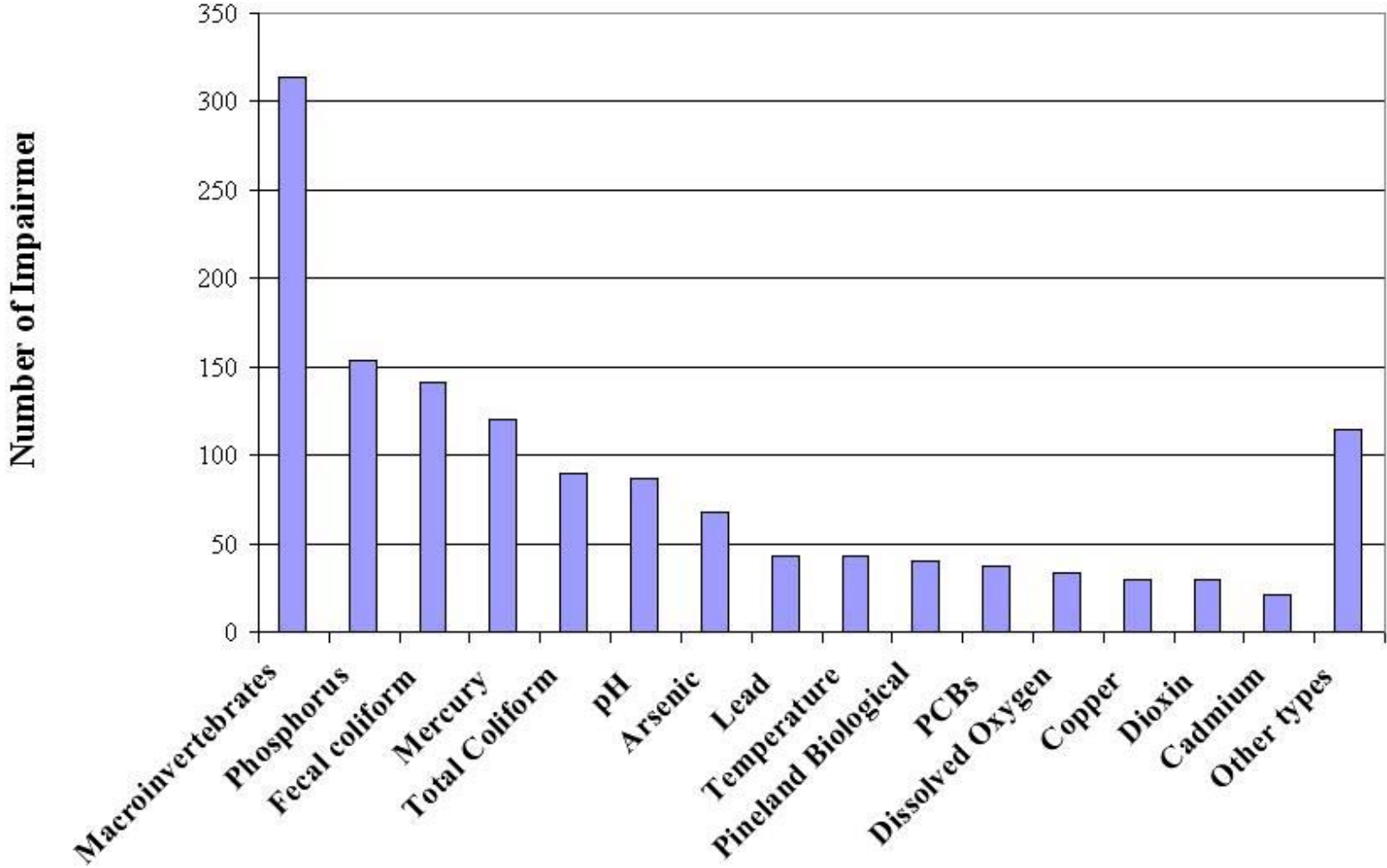
Water Resource Management: Impaired Waters



* Sublist 5 of Integrated List of Waterbodies

Impaired Waters - NonTidal Waters

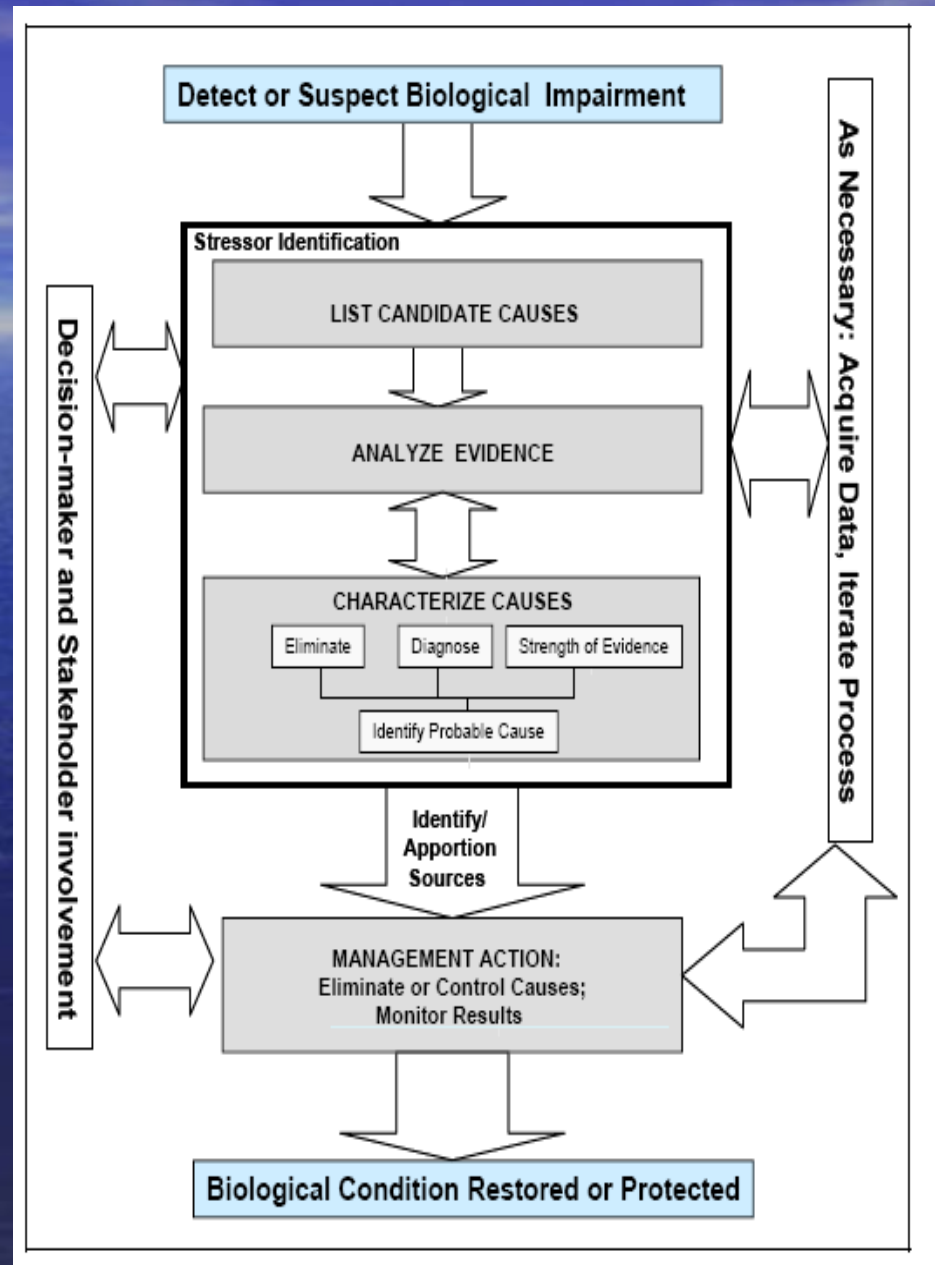
2004 Impairment Status



Sources & Causes of Impairment

Example 1: Stressor Identification for Macroinvertebrate Biology Impairment (**poster session**)

Example 2: Microbial Source Trackdown (**breakout session**)



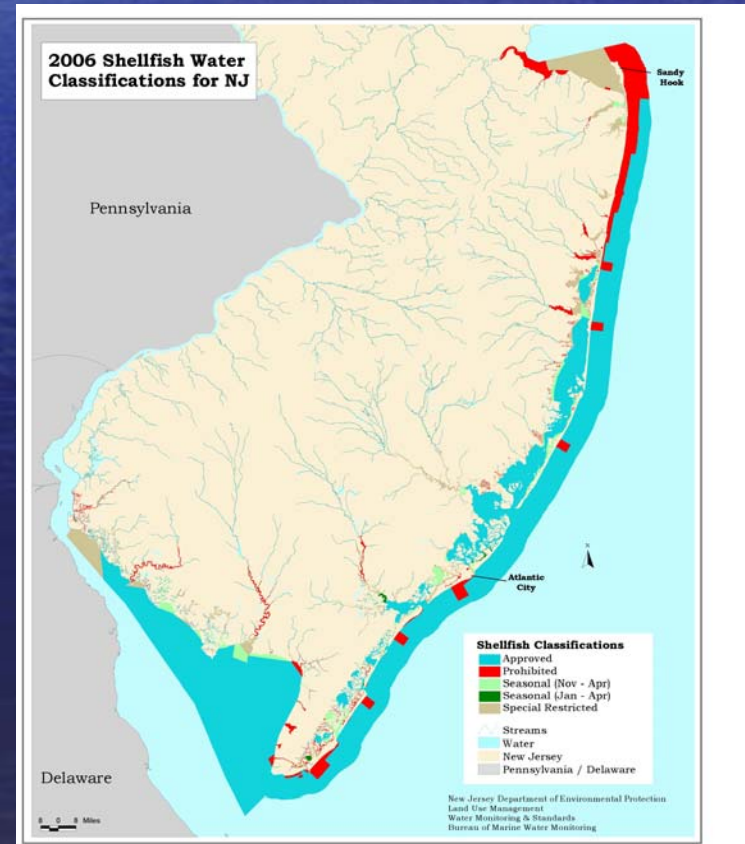
Waters Needing Special Protection (e.g., C-1)

- **Category 1 waters:**
antidegradation designation - no measurable or predictable water quality change
- **One basis - Exceptional Ecological Significance**
- **Monitoring data used -**
macroinvertebrates, fish IBI, aquatic-dependent T&E species, habitat, physical/chemical



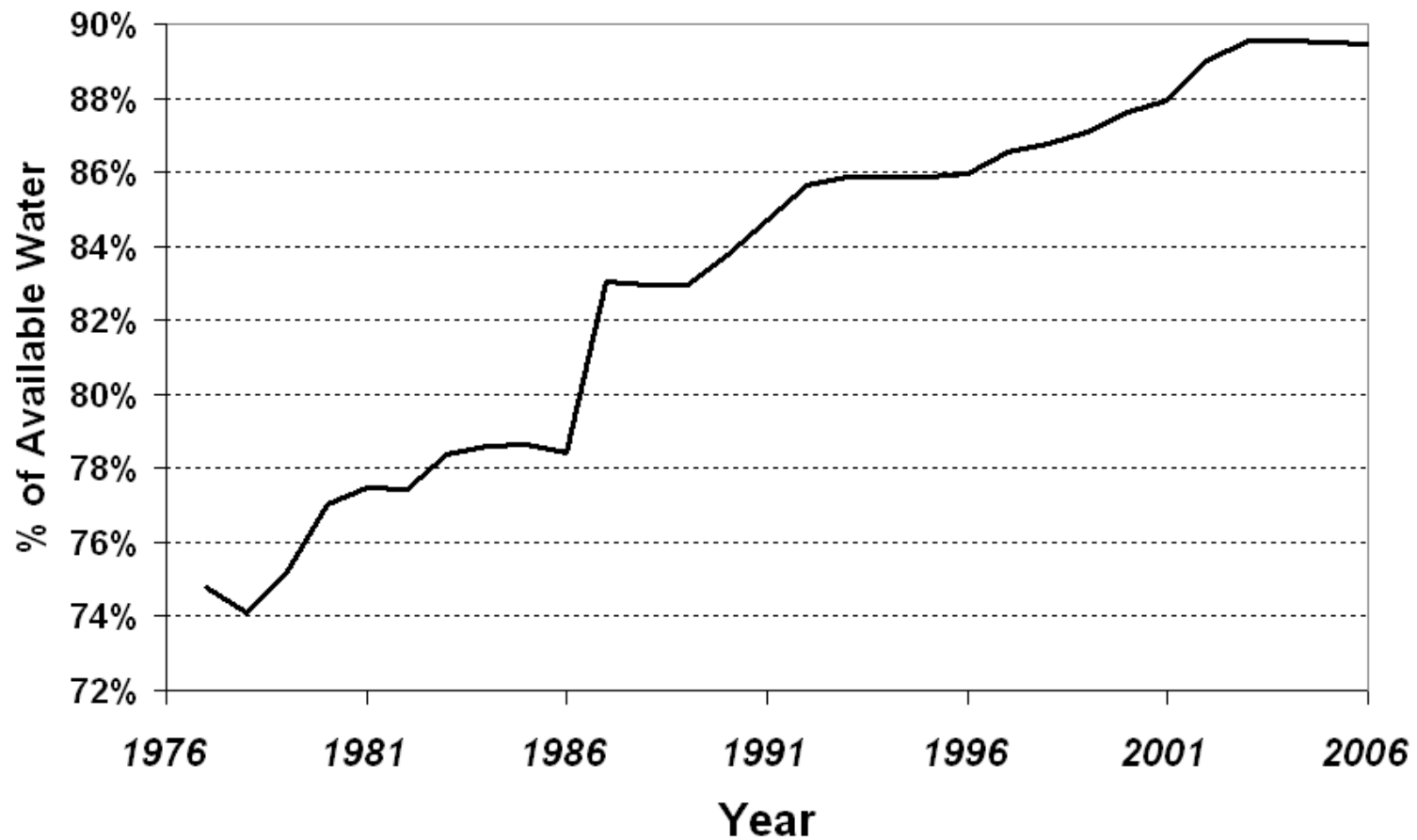
WQ Standards & Classifying Waters

Example: Microbiological data for classification of shellfish waters - *approved, special restricted, seasonal, prohibited*



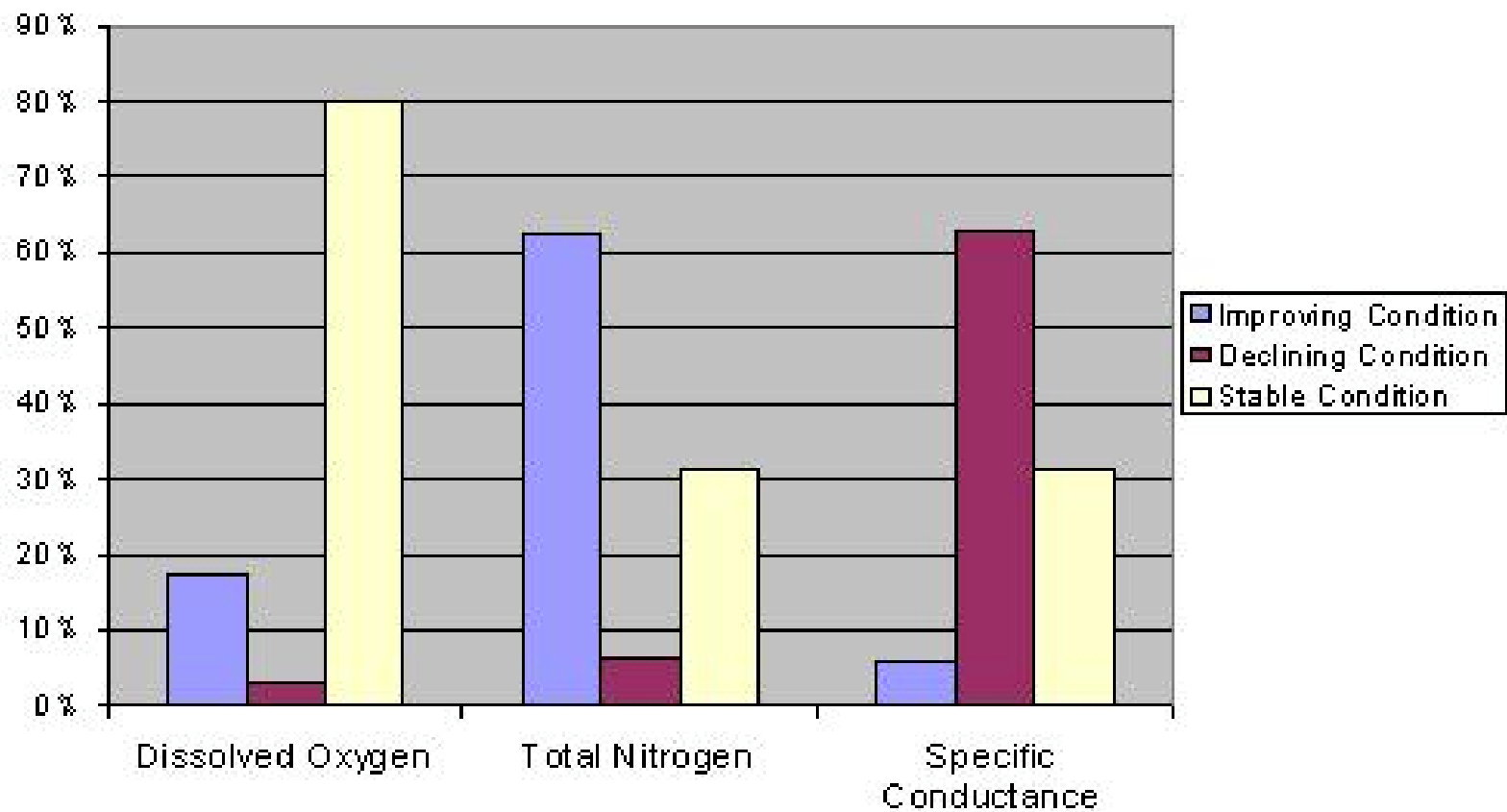
WQ Status & Trends

New Jersey Harvestable Shellfish Waters



WQ Status & Trends

Rivers and Streams 1985 - 2005

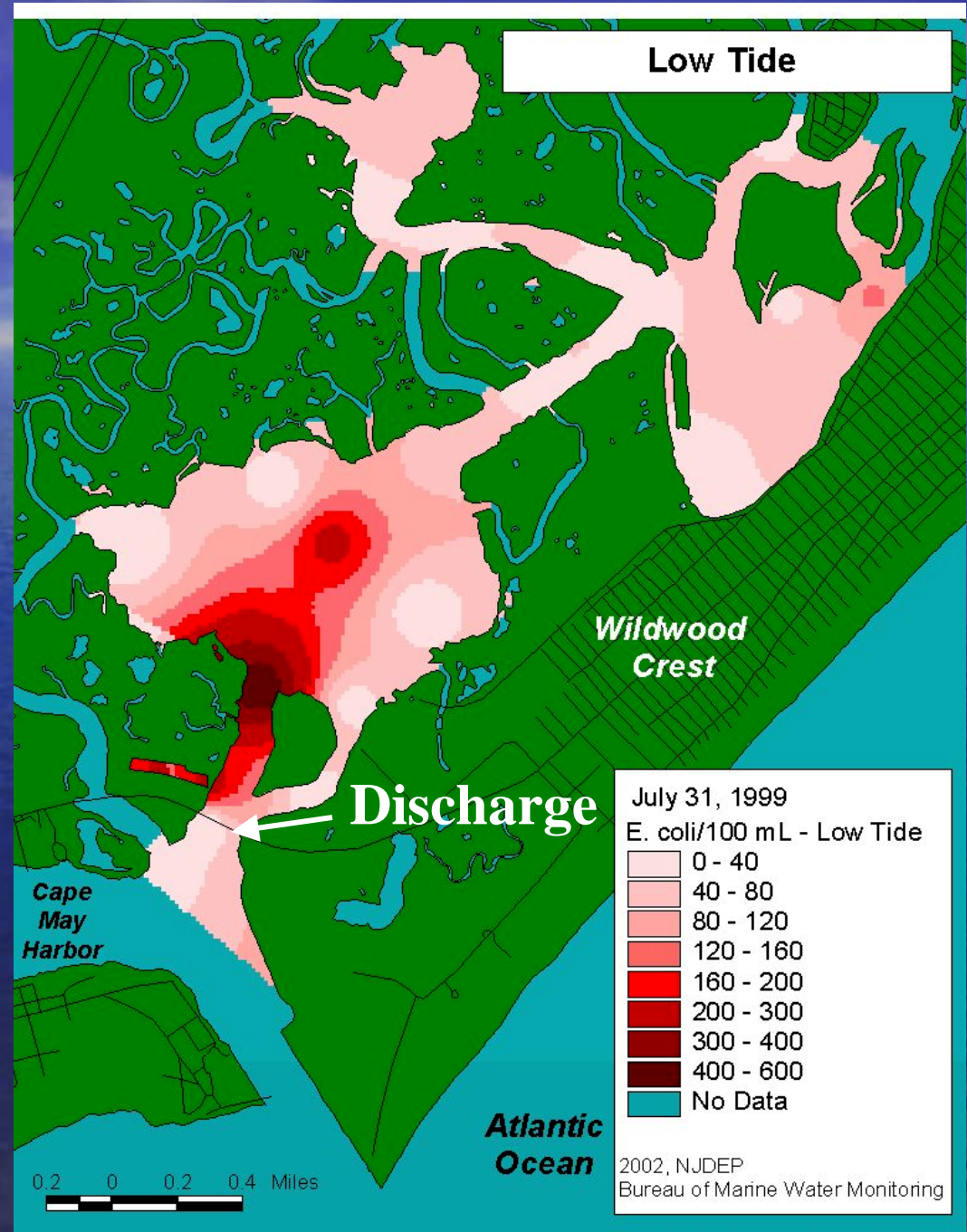


Program Effectiveness

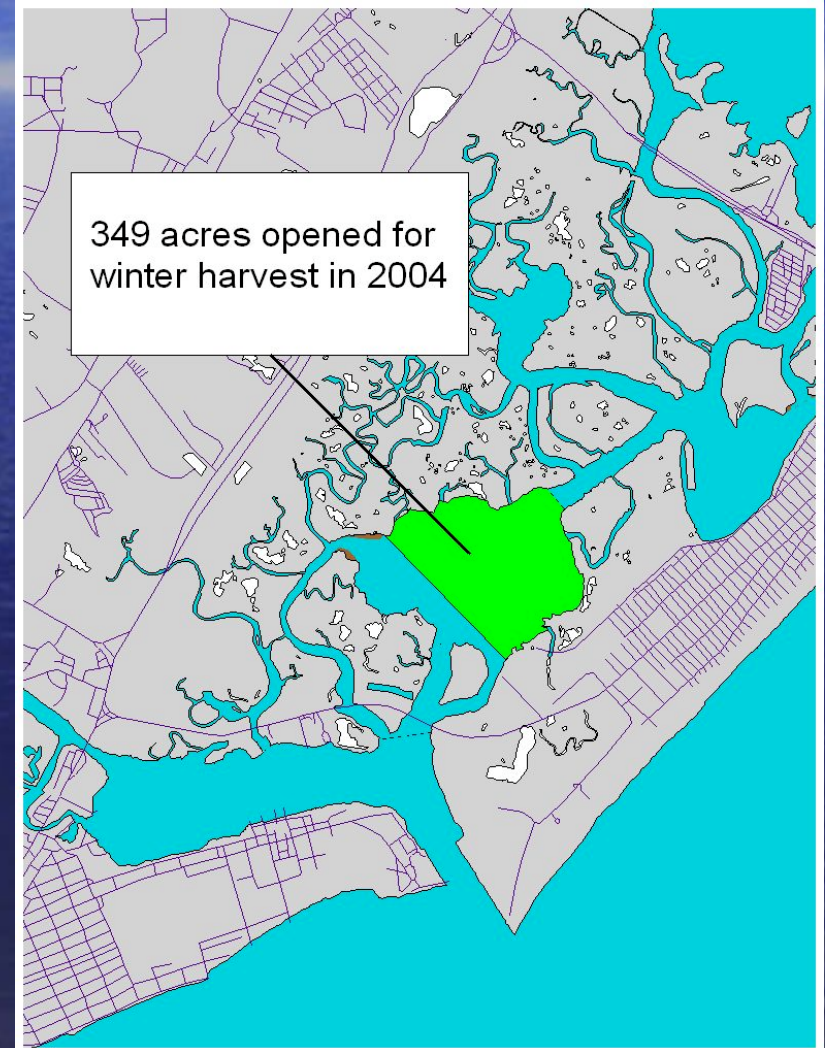
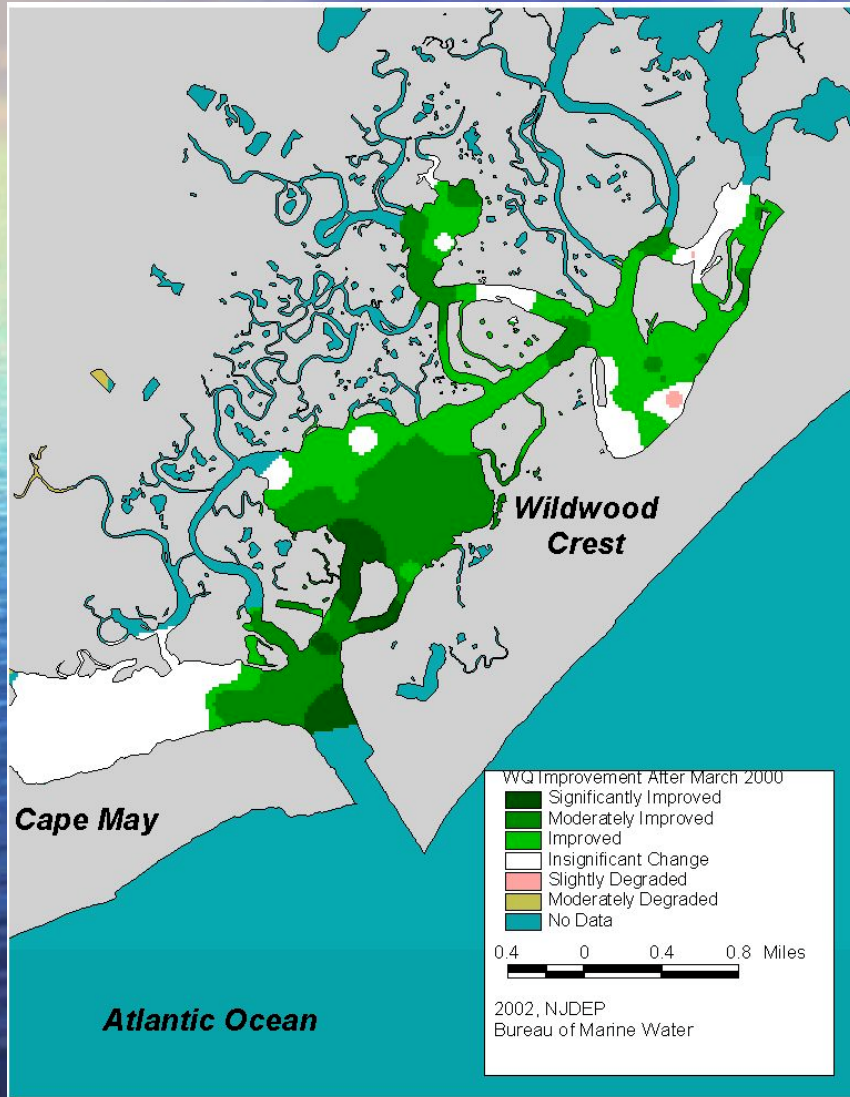
Sewer line break & repair

Cape May County - Jarvis Sound & Sunset Lake

Broken forced sewer main discovered underwater at the Ocean Drive Bridge.



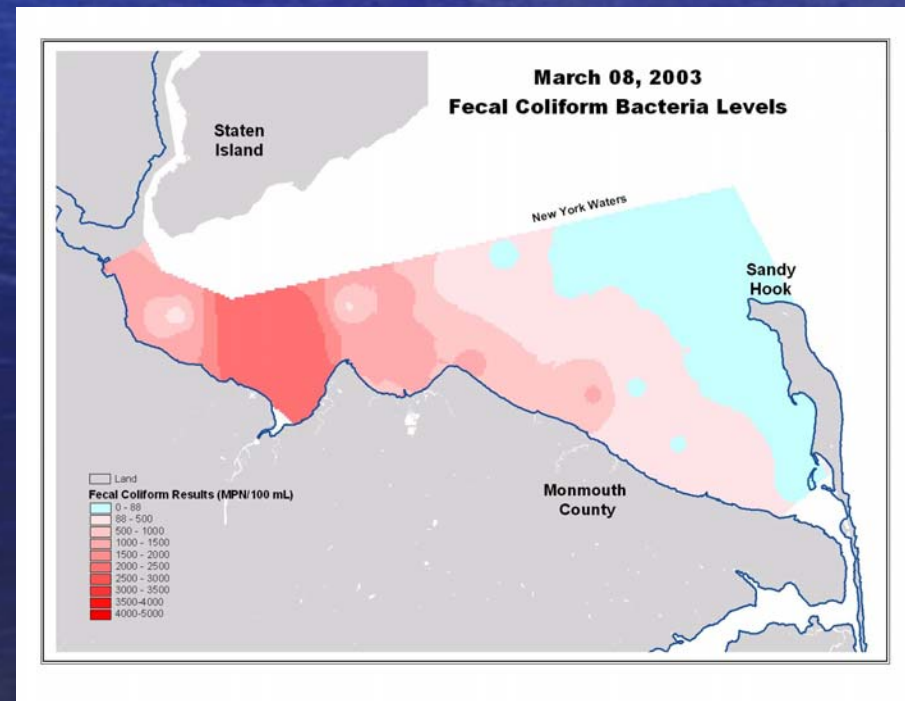
Water Quality Improvement following Sewer Line Repair



Spill Response

MCUA raw sewage spill in Sayreville

Fecal coliform monitoring of spill impacts causing shellfish closures in Raritan & Sandy Hook Bays



State Monitoring & Assessment Requirements

- **CWA - Assess all navigable waters & groundwaters**
- **EPA 2002 Guidance - Assess all waters of state (rivers, lakes, streams, reservoirs, estuaries, oceans, wetlands & groundwater)**
- **State Long Term (10 year) Monitoring & Assessment Strategies**

NJ Long-Term Water Monitoring Strategy

- Current NJ programs
- Strategic gaps
- Collaborative ways to fill gaps
 - monitoring
 - assessment methods

• www.nj.gov/dep/wmm/longtermstrategyreport.pdf

NEW JERSEY
WATER MONITORING &
ASSESSMENT STRATEGY
(2005-2014)



Water Monitoring and Standards Program
NJ Department of Environmental Protection

Bradley M. Campbell, Commissioner

September 2004

Collaboration Needs

- **Federal, state, county, local govts., volunteers, consultants, academia**
- **Integration of monitoring to assess all waters**
- **Data exchange & integration**

NJ Water Monitoring Council

- **Formed:** October 2003
- **Vision:** provide water information foundation for enhanced management and protection of NJ's aquatic environment
- **Mission:** enhance coordination, collaboration and communication of ambient water quality/quantity data to support effective environmental management
- **Scope:** biological, chemical and physical (inc., surface and ground waters, freshwater, estuarine, & marine waters)



NJ Water Monitoring Council

- 30 Members
- 15 Organizations

www.nj.gov/dep/wmm/wmcchome.html



NJ Water Monitoring Council

Member Organizations

- **NJDEP**
- **USGS/NJ Water Science Center**
- **USEPA Region 2**
- **NOAA**
- **Delaware River Basin Commission**
- **Interstate Environmental Commission**
- **Pinelands Commission**
- **Rutgers U. - IMCS, Coop. Extension Service**
- **NJ Water Resources Research Institute**
- **NJ Marine Sciences Consortium**
- **Passaic River Institute (Montclair State U.)**
- **Monmouth County Health Department**
- **Meadowlands Environmental Research Inst.**
- **NJ Water Supply Authority**
- **Volunteer Monitoring rep**



NJ Water Monitoring Council 2006 Products

- **Workshop**
- **Water Monitoring Inventory**
- **Council website - information exchange**

www.nj.gov/dep/wmm/wmcchome.html



Acknowledgements

- **Workshop Coordinator - Alena Baldwin-Brown**

- **Workshop Planning Committee**

Kirk Barrett, Kevin Berry, Tom Belton, Nancy Belonzi, Bob Connell, Becky Cosgrove, Danielle Donkersloot, Joan Ehrenfeld, Mike Kennish, Al Korndoerfer, Rick Kropp, Judy Louis, Leslie McGeorge Ed Santoro, Anna Marie Signor, Dave Stedfast, Bob Tudor

- **Rutgers Continuing Professional Education Office**

(Megan Ayers & Dalynn Knigge)

- **Supported by EPA Watershed Assessment Grant**