

2008 Draft NJ Integrated Water Quality Monitoring and Assessment Report

NJ Water Monitoring Council
September 12, 2008

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Water Monitoring & Standards



Integrated Report Process

305 B

**Integrated
Report**

303 D

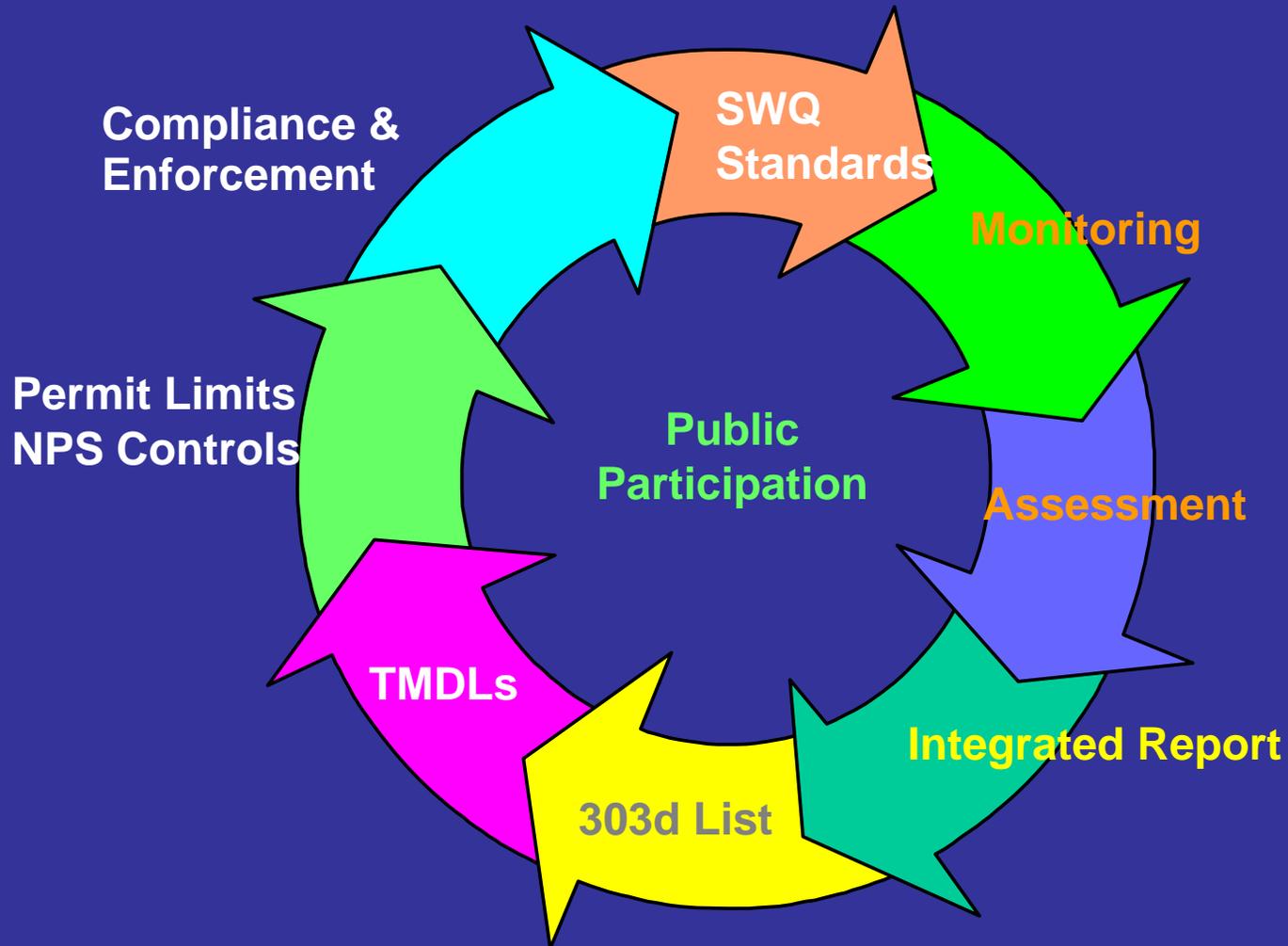


2008 Schedule

- ▶ **February 20, 2007** - Solicitation for data collected between 2002 and 2006. Submissions accepted until August 20, 2007.
- ▶ **July 2, 2007** - Published draft Methods Document for public comment.
- ▶ **August 18, 2008** - Published draft 2008 303(d) List **AND** draft 2008 Integrated Report.
- ▶ **September 11, 2008**- Public Info Session
- ▶ **October 20, 2008**- Public comments due
- ▶ **December 2008**- Finalize 2008 303(d) List and submit to EPA for approval



Water Resource Management: Assessing Use Attainment



Integrated Report Approach

- ▶ 305(b) and 303(d) use the same data
- ▶ Data assessed once in the same manner
- ▶ Avoids conflicting conclusions
- ▶ Formalizes the use of Assessment Methods
- ▶ Expands public participation
- ▶ Encourages use of all readily available data
- ▶ Satisfies both CWA requirements with one report



Integrated Report Components

- ▶ Assessment Methods Document
- ▶ Summary of the assessment results, monitoring plan, program descriptions, and cost benefit analysis
- ▶ Integrated List of Waterbodies- all waterbodies on one of five sublists
- ▶ 303(d) List- all pollutants causing non-attainment
- ▶ Two year TMDL schedule
- ▶ Identify delisted waters

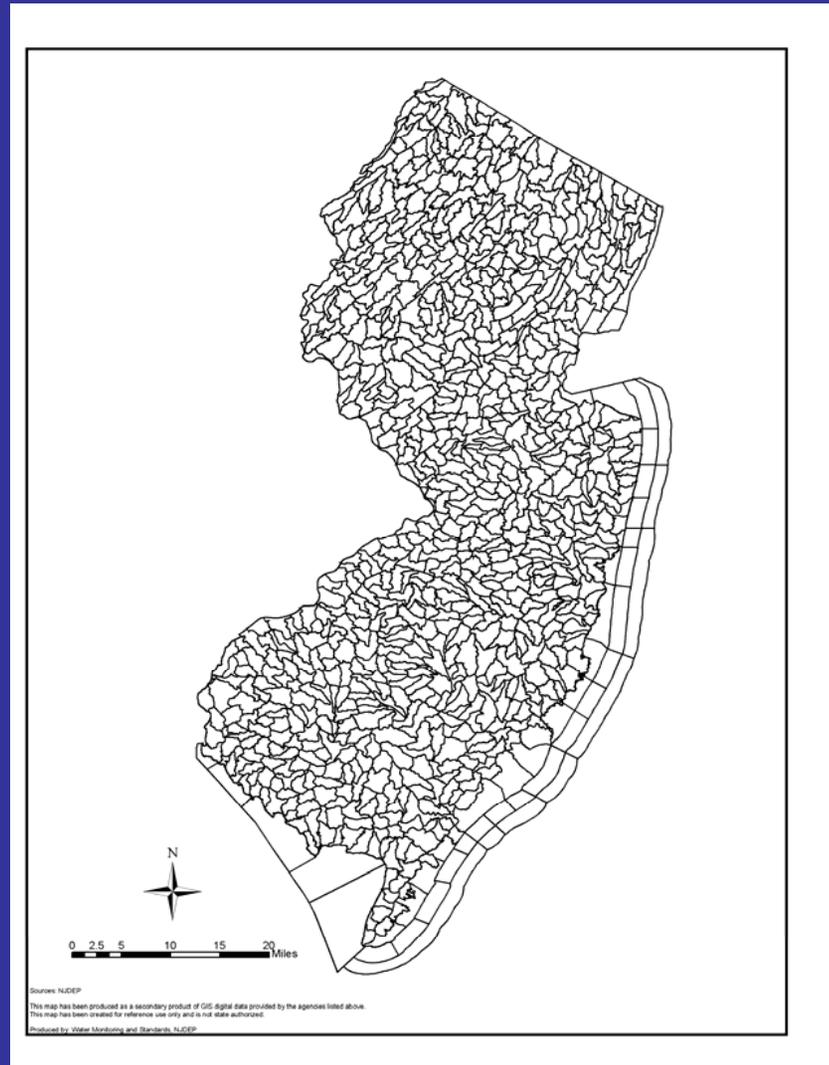


Sublists

- ▶ **Sublist 1:** Sufficient data available to assess all applicable designated uses and all uses are attained.
- ▶ **Sublist 2:** An assessment for an individual designated use indicates full attainment but other designated uses within the same waterbody are unassessed, impaired or have an approved TMDL.
- ▶ **Sublist 3:** Insufficient or no data to assess the designated use.
- ▶ **Sublist 4:** Designated use indicates non attainment due to pollutants and a TMDL has been adopted in New Jersey Register and approved by the USEPA.
- ▶ **Sublist 5:** Designated use indicates non attainment. The pollutant will be listed if known or as “cause unknown”.



Spatial Extent - Using HUC 14's



**933 HUC 14's in the
State of NJ**



Data Requirements

- ◆ Suite of parameters required for each use assessment
- ◆ Minimum of eight water chemistry samples over five years
- ◆ If two exceedances of SWQS, consider:
 - ▶ Frequency of exceedance, age of data, type of monitoring, severity of exceedance, environmental conditions, other parameters, other stations.
- ◆ Can list as “not-attained” with less data than for listing as “attained”

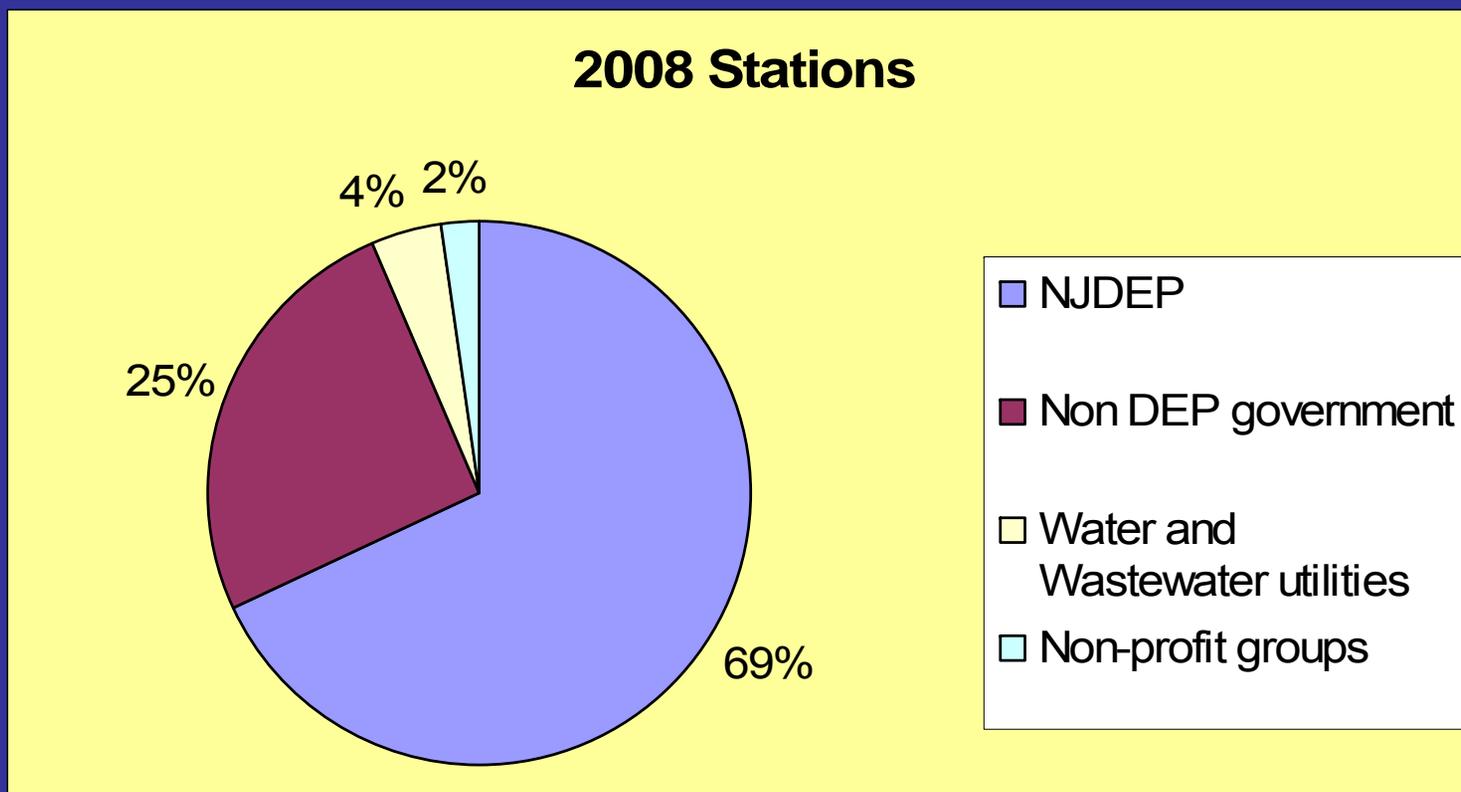


Minimum Suite of Parameters

Aquatic Life Support	<ol style="list-style-type: none"> 1. Biological data or 2. pH, DO, temperature, TP, TDS and TSS (non- tidal); DO in tidal water
AL Trout Use	<ol style="list-style-type: none"> 1. Biological data, temperature and DO or 2. pH, DO, temperature, total phosphorus, TDS and TSS
Recreation	Enterococcus, fecal coliform or E. coli
Fish Consumption	Fish Consumption Advisories
Shellfish Harvesting	Shellfish Classification
Drinking Water Supply	Nitrate
Industrial Water Supply	TSS and pH
Agricultural Water Supply	TDS and salinity



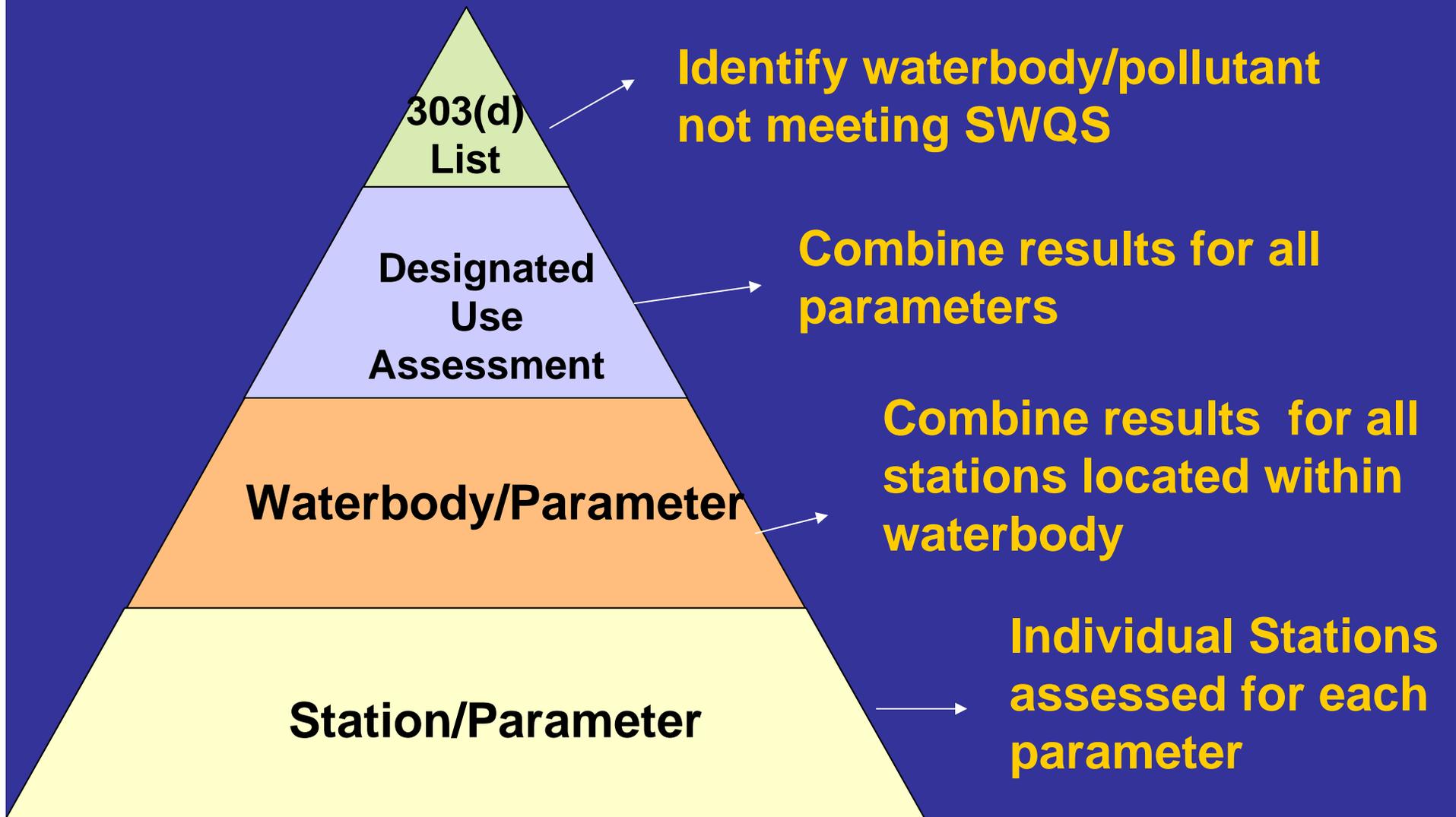
Sources of Data Used for the 2008 Integrated Report



***Does not include 3700 shellfish stations used for Shellfish Classification**



Assessment Process



Overall Assessment for 2008

Overall Assessment without Fish Consumption

Waterbody Sublist 5

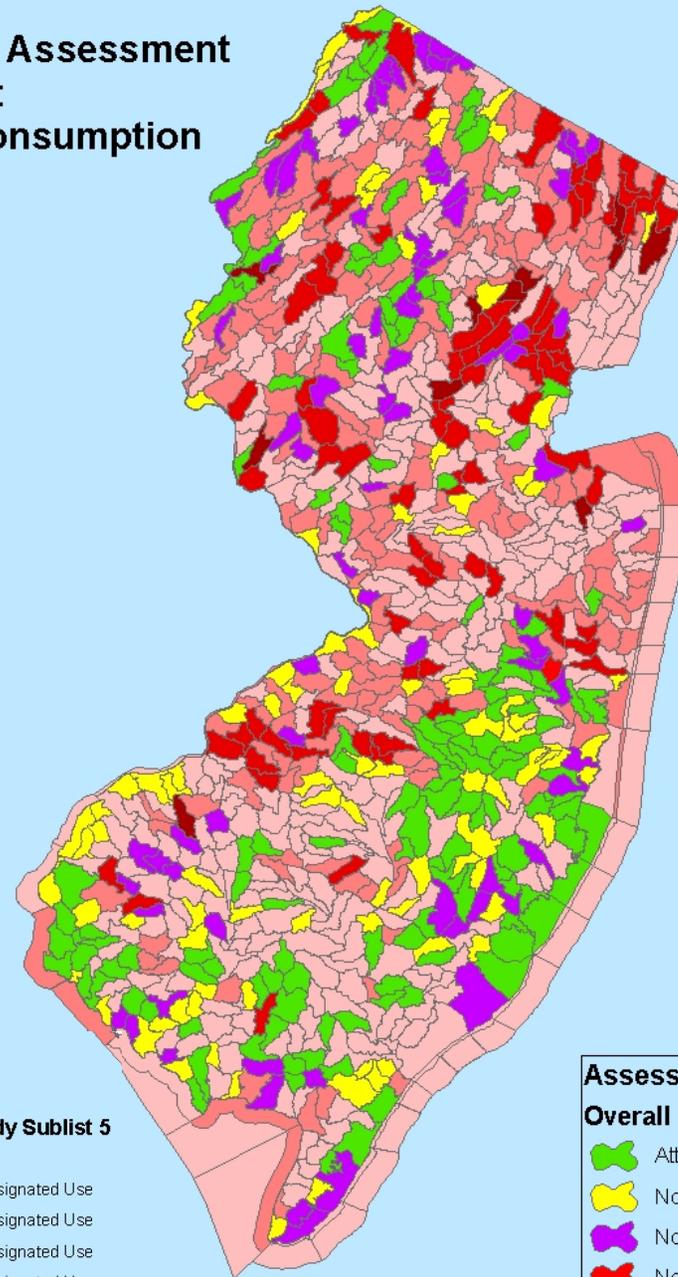
Overall

- 1 Designated Use
- 2 Designated Use
- 3 Designated Use
- 4 Designated Use

Assessment Units

Overall

- Attain
- Not Assessed
- Non Attain - TMDL
- Non Attain

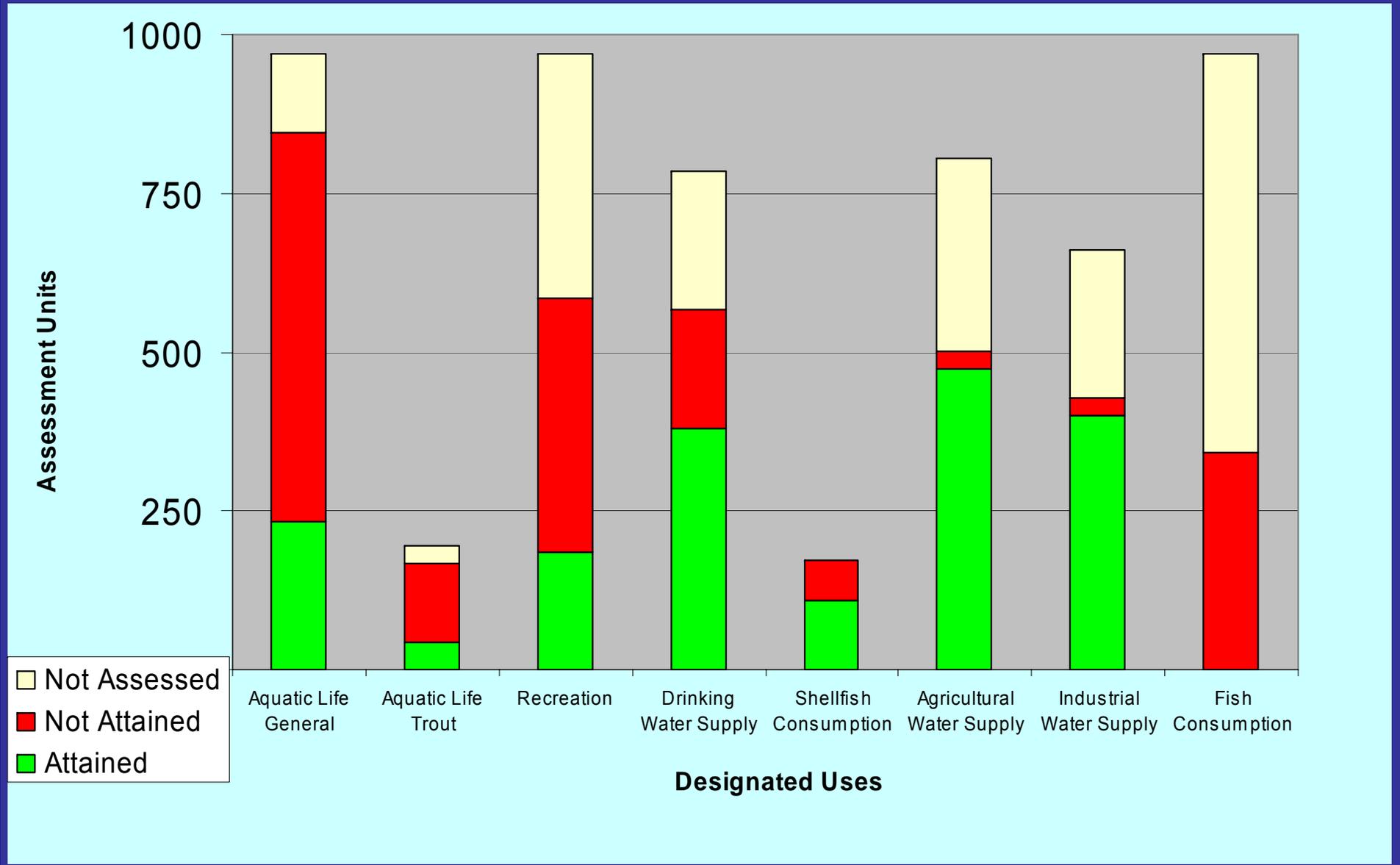


Assessment Unit Results

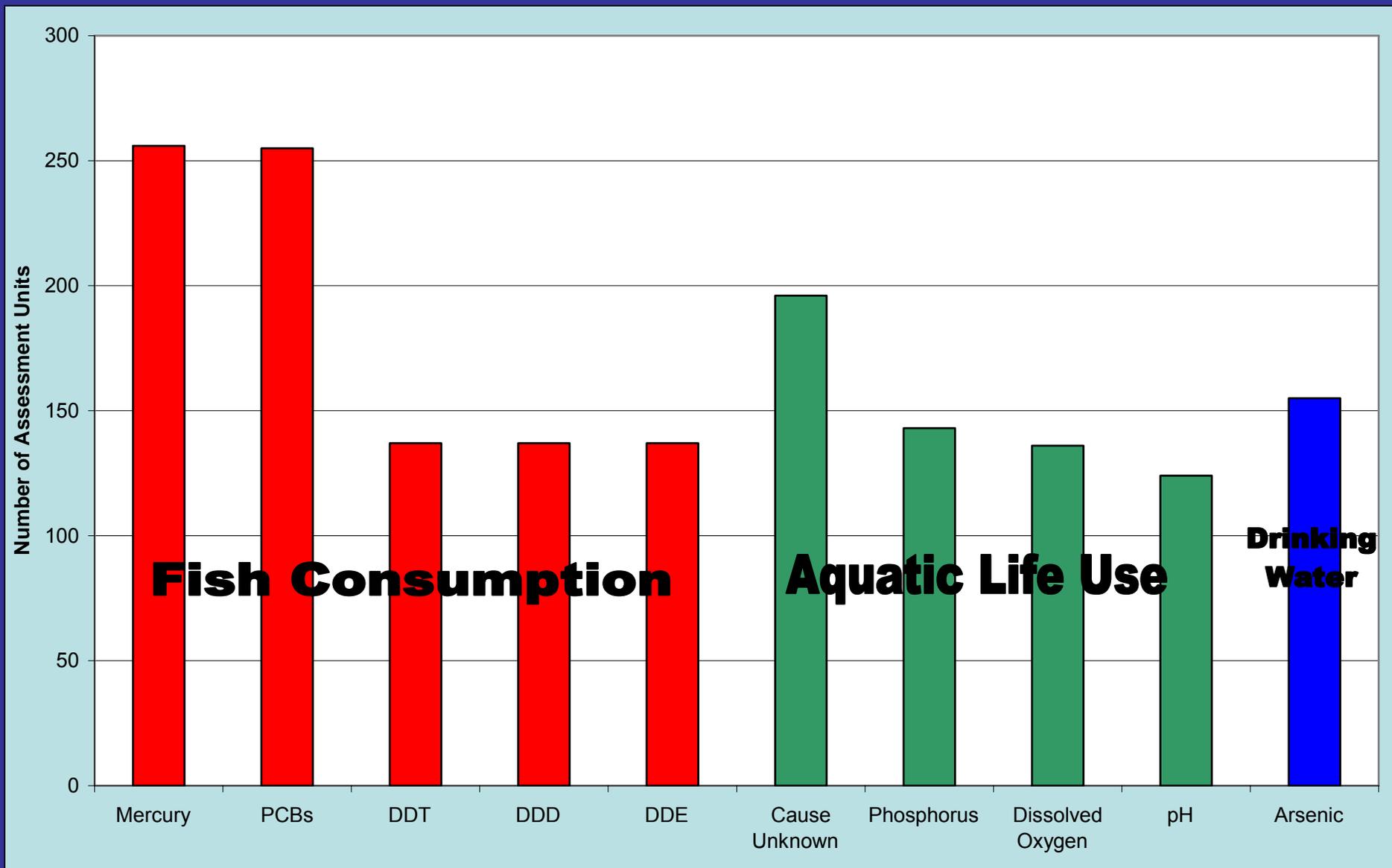
- More sampling resulted over 90% of assessment units having at least one designated use assessed
- 54% of assessment units have all of the designated uses assessed, an increase of almost 10% from 2006
- 30% increase of assessment units with all designated uses attaining
- 75% of assessment units are non attaining overall, 3% increase from 2006



Designated Uses Final Results



2008 Top Ten Listed Pollutants



Pollutants: Key New Listings

- Total of 589 new parameters on the 2008 303(d) List
 - Cause Unknown (135)
 - Pathogens (60)
 - Arsenic (42)
 - Dissolved Oxygen (36)
 - Mercury (27)
 - pH (34)
 - Unionized Ammonia (18)
- NY Harbor changes
 - Pesticides replaced by hexachlorobenzene, Heptachlor epoxide, and Dieldrin
 - PAHs replaced by Bezno(a)Pyrene
 - Mercury, DDx (DDT, DDD, DDE) non attaining throughout the Harbor

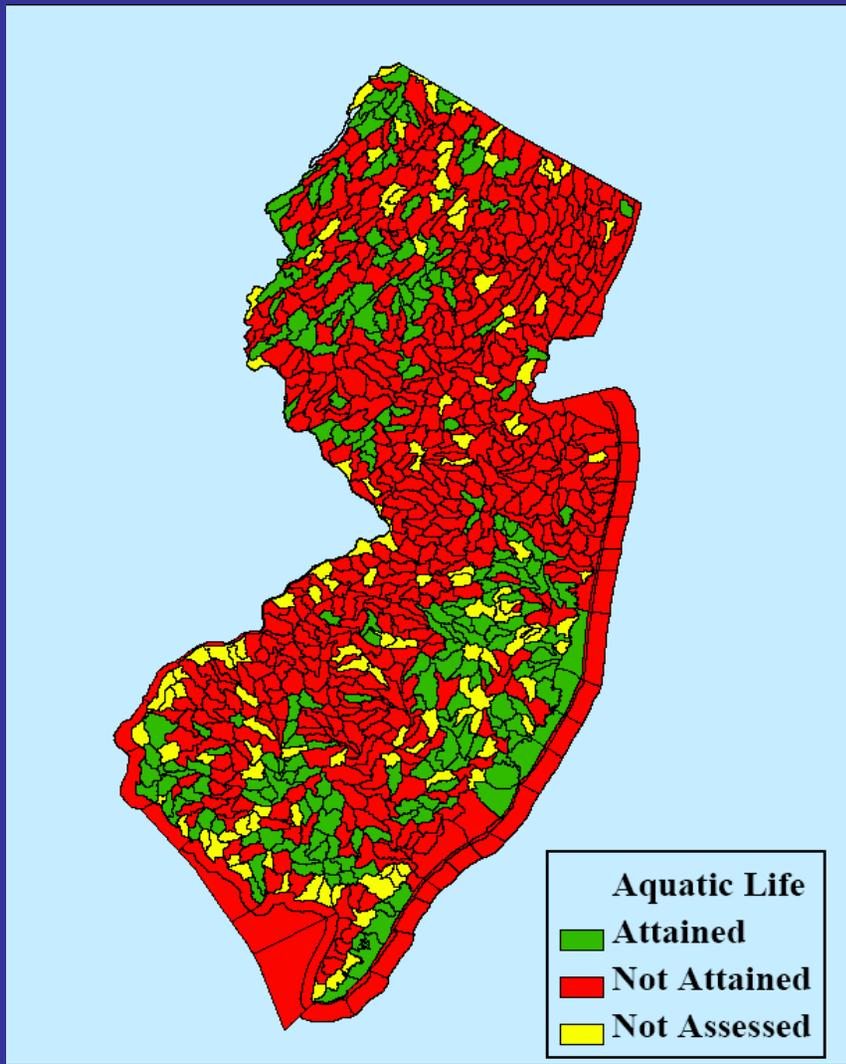


Pollutants: Key Delistings

- Total of 499 parameters removed from the 2006 303(d) List
 - Pathogens (104)
 - pH (103)
 - Phosphorus (55)
 - Cause Unknown (41)
 - Mercury (35)
 - Copper (18)
 - Chromium (12)



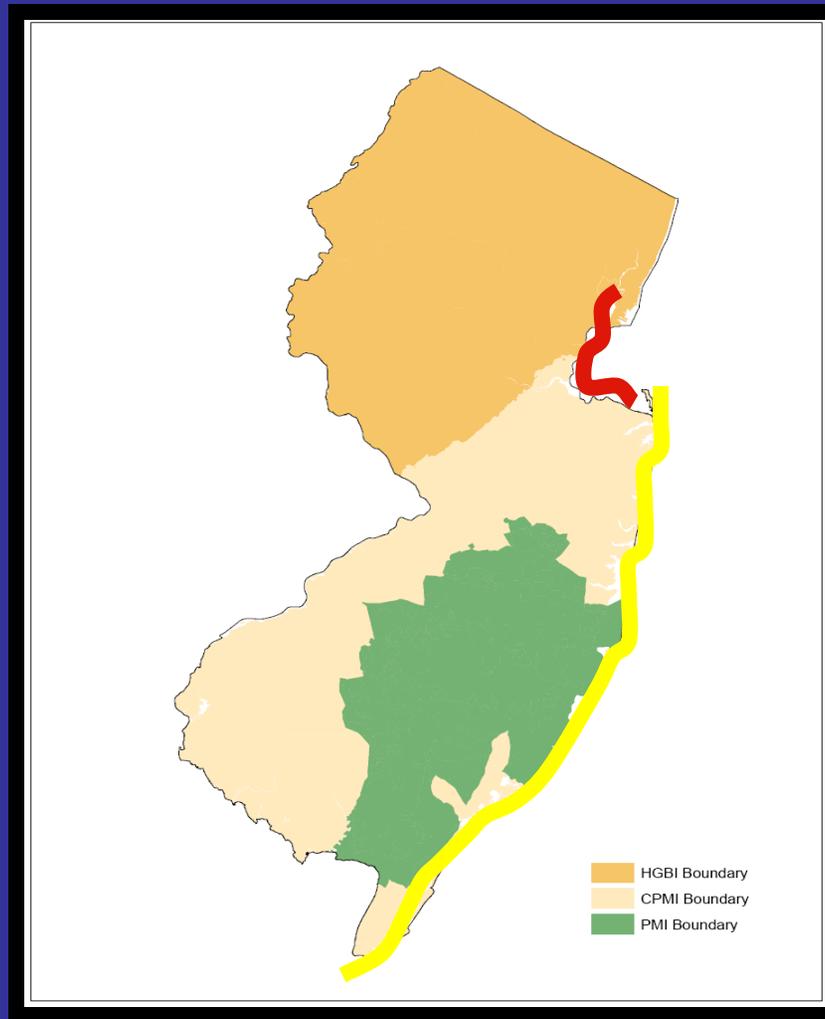
Assessment Results for General Aquatic Life



- 846 of 970 AUs assessed:
 - 27% Attained the use
 - 73% did not attain the use
- Parameters of most concern: total phosphorus, dissolved oxygen, pH, biological



Benthic Indicators



Completed

 HGMI

 CPMI

 PMI

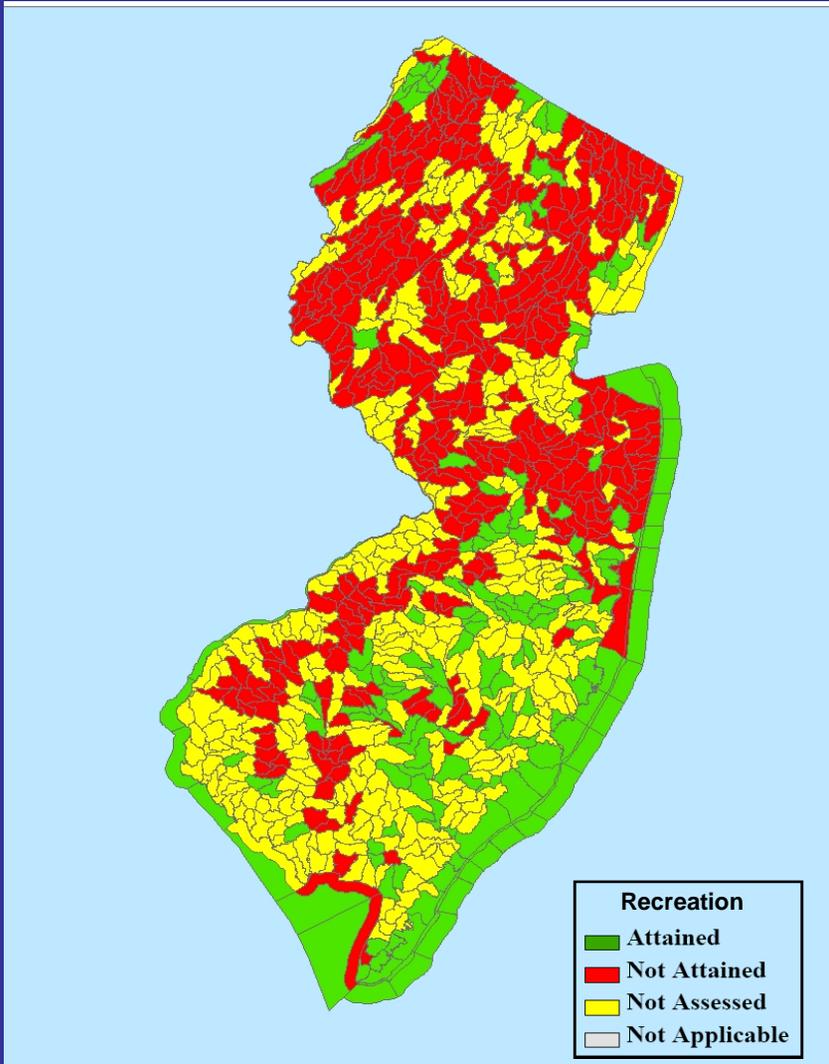
 NY-NY Harbor Water

Under Development

 NJ Estuarine and
Ocean Waters



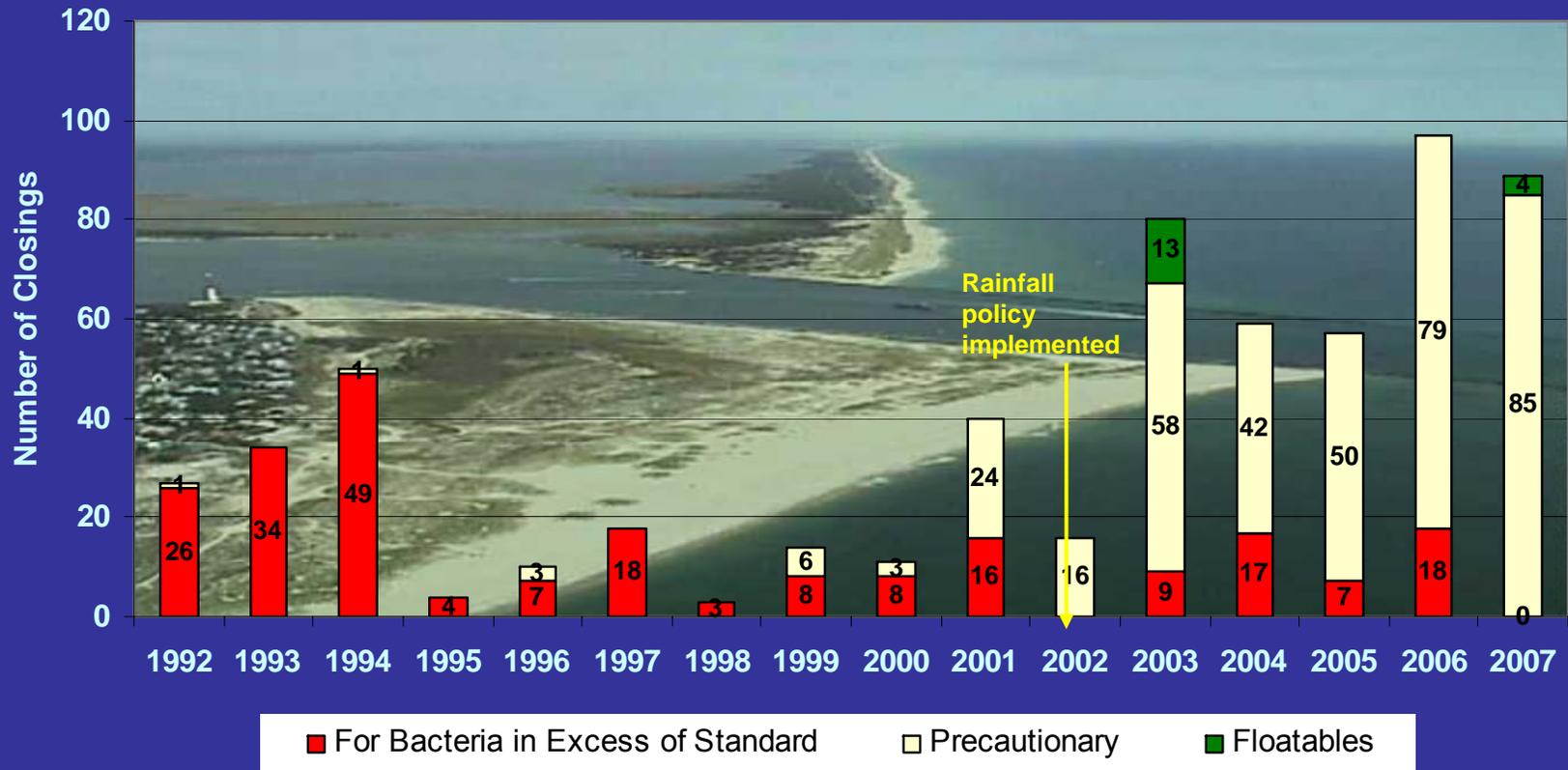
Assessment Results for Recreational Use



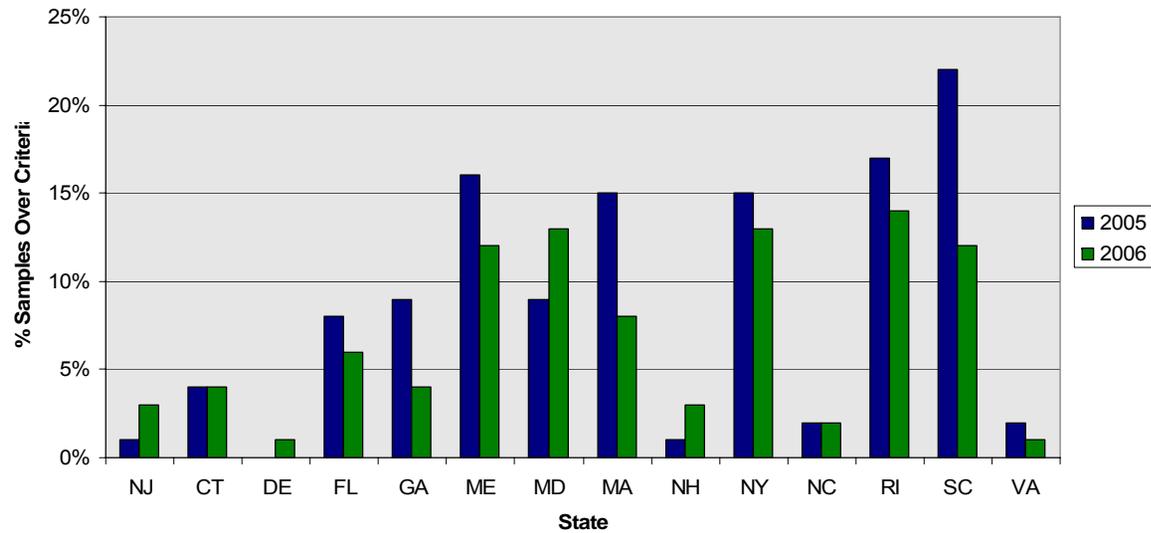
- 584 of 970 AUs assessed:
 - 32% Attained the use
 - 68% did not attain the use



Ocean Beach Closings 1992 - 2007

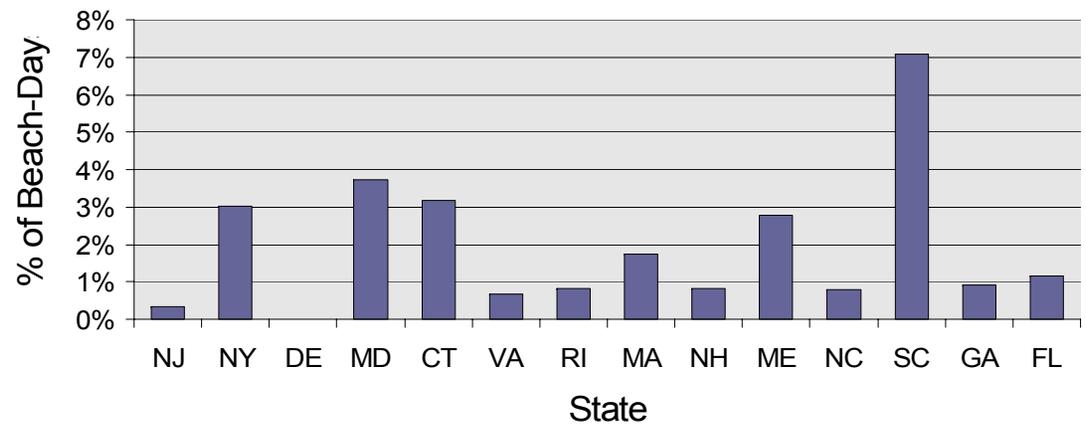


East Coast Bathing Beach Water Quality

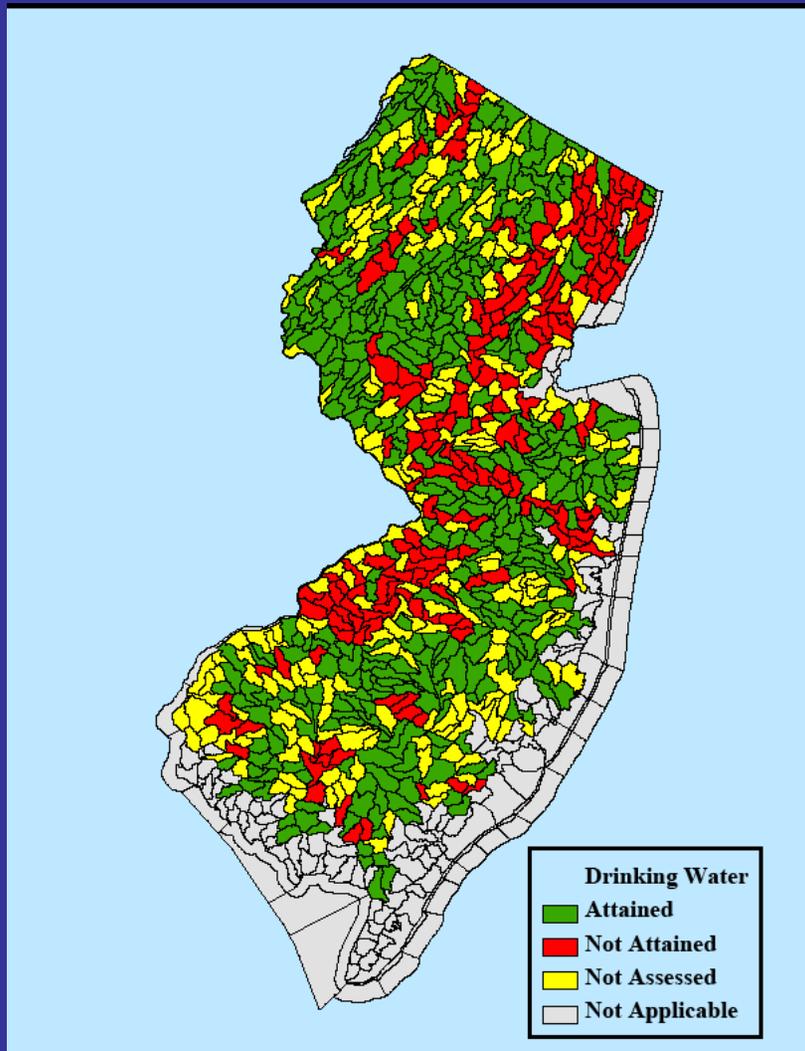


Source: NRDC Testing the Waters, A Guide to Water Quality at Vacation Beaches, Seventeenth Edition

% of Beach-Days affected by a Closure/Advisory



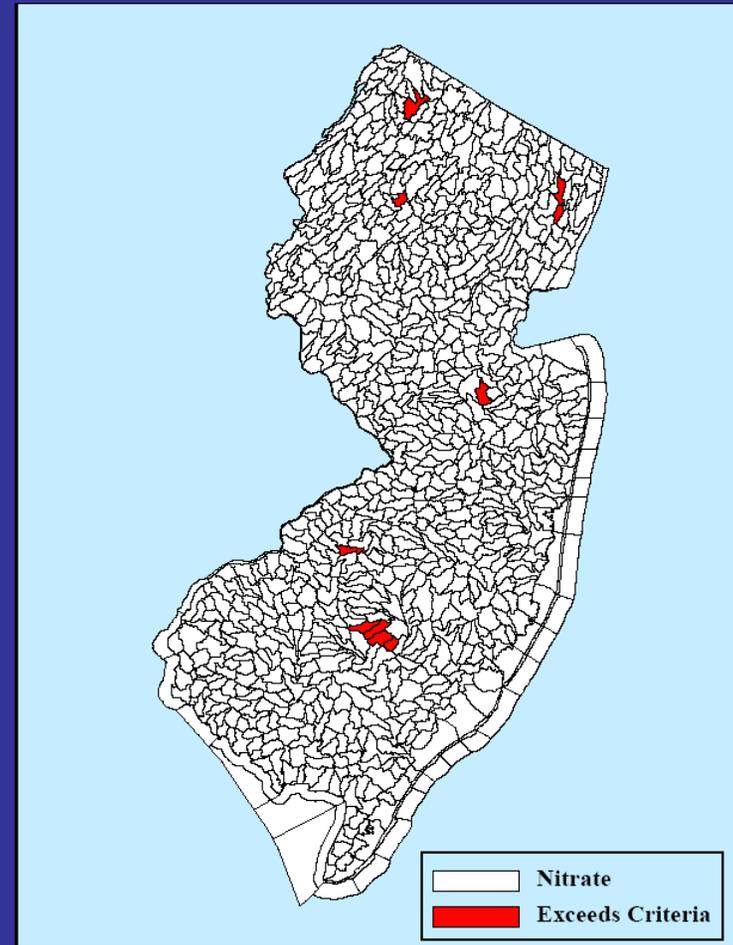
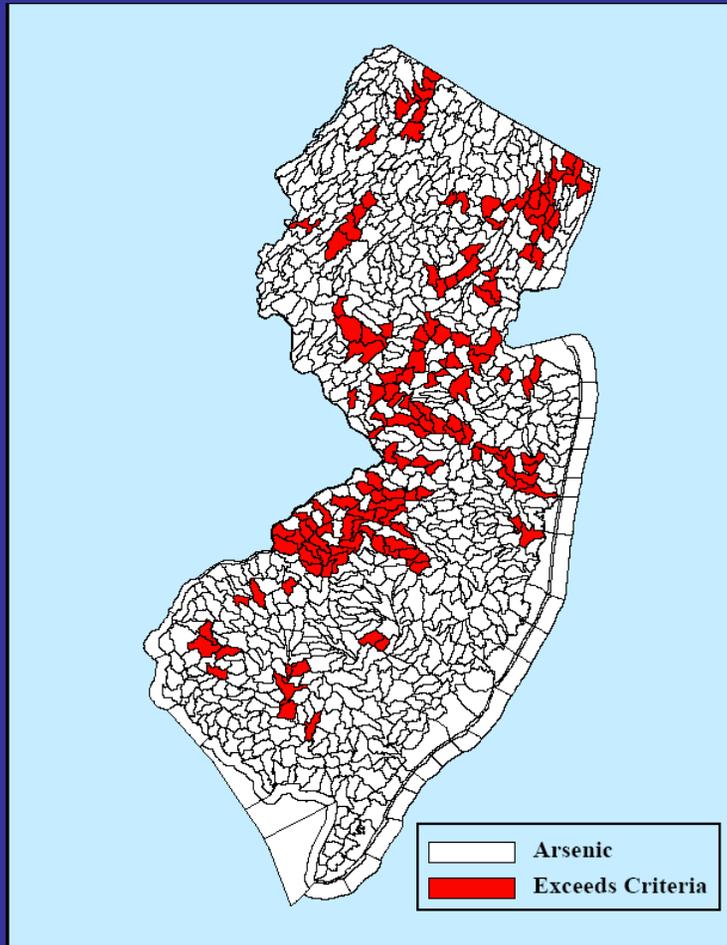
Assessment Results for Drinking Water Supply Use



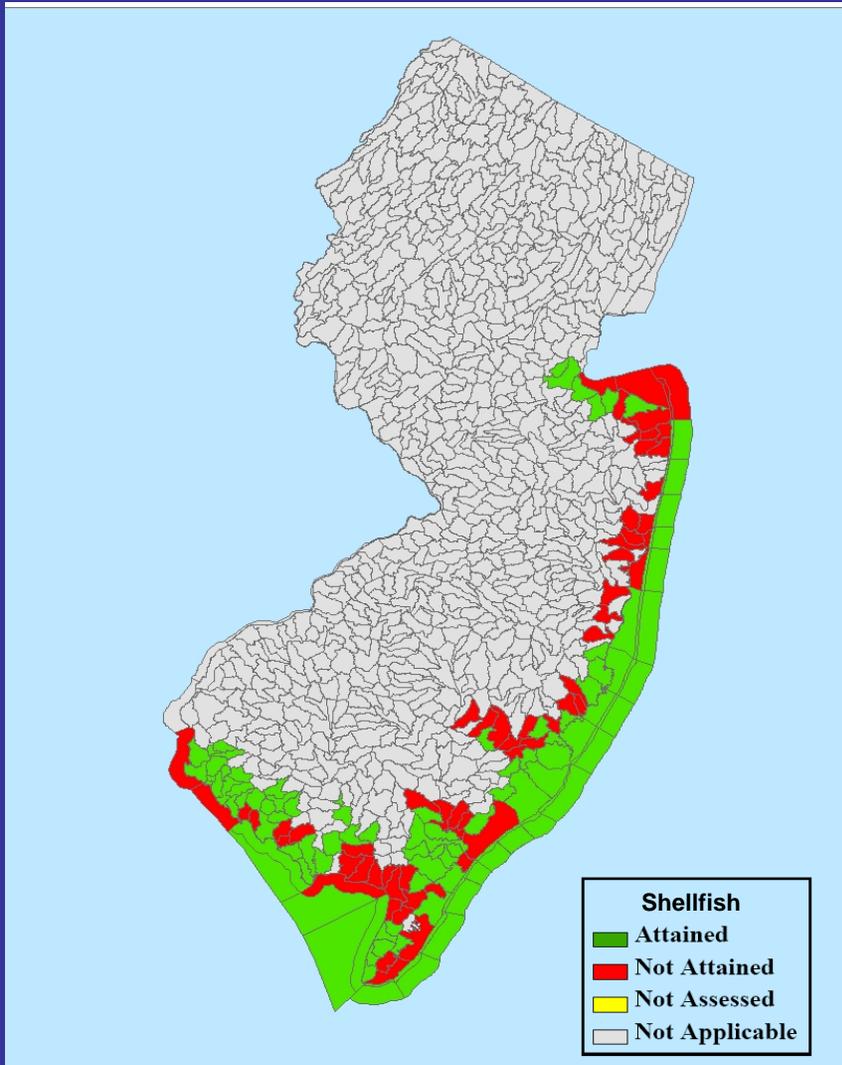
- 566 of 786 AUs assessed:
 - 67% Attained the use
 - 33% did not attain the use



Parameters Responsible for Non-Attainment of Drinking Water Supply Uses: Arsenic & Nitrate



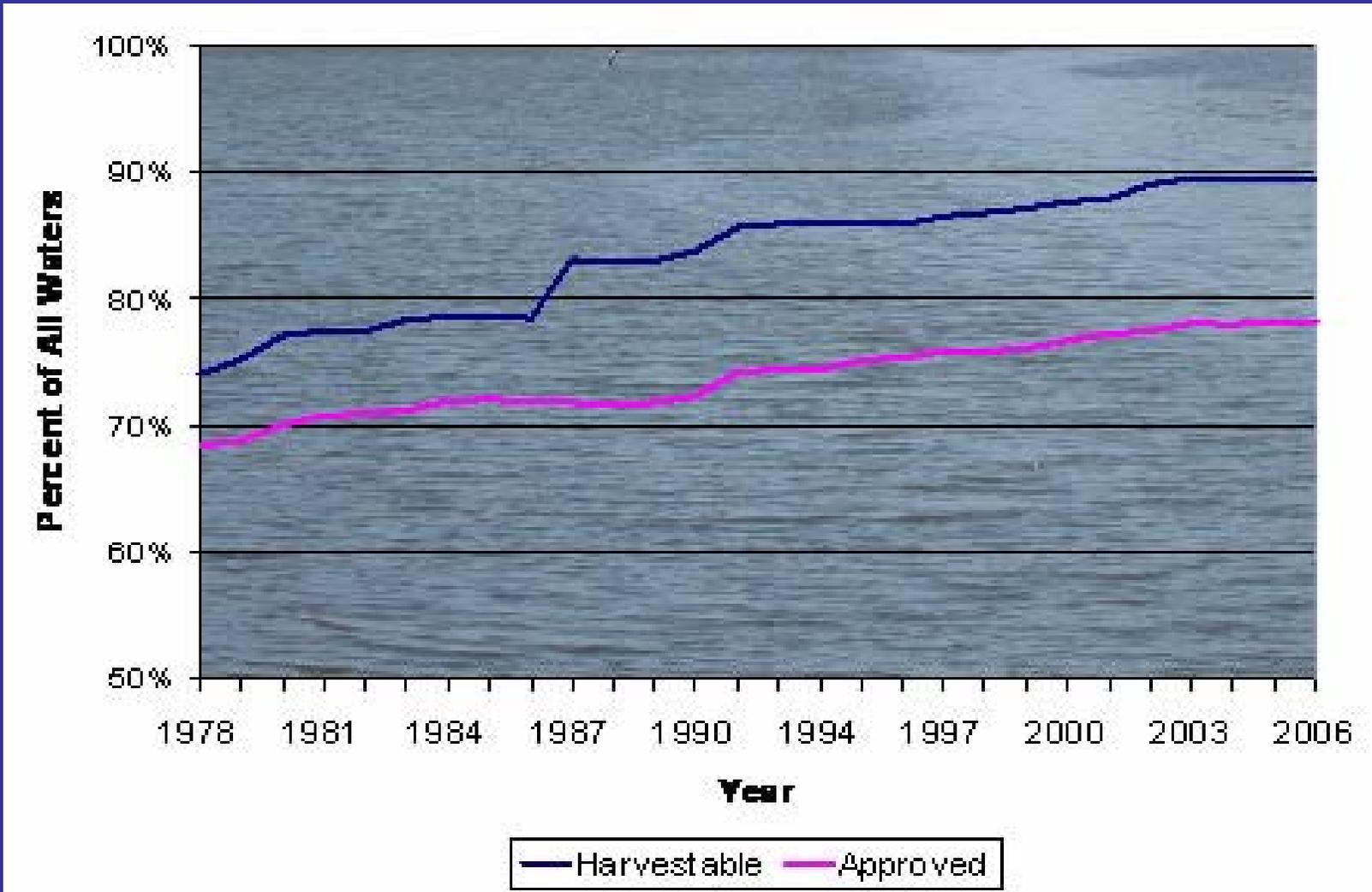
Assessment Results for Shellfish Harvesting for Consumption



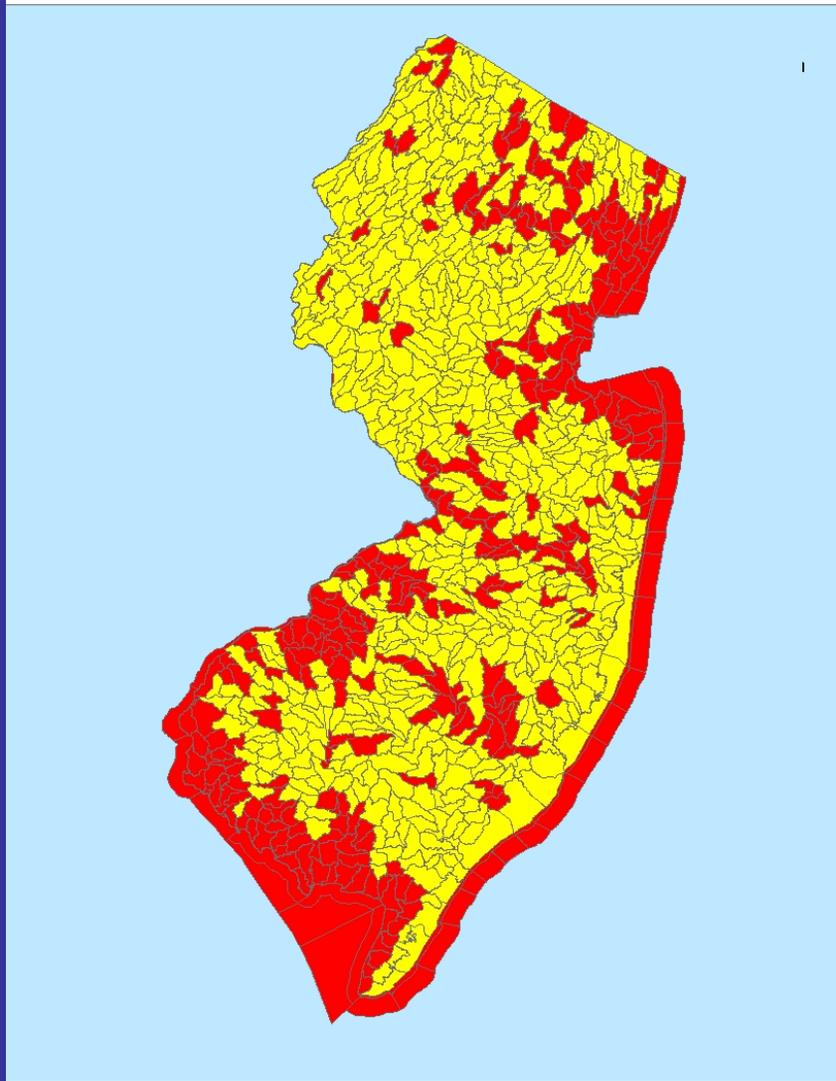
- 171 AUs assessed:
 - 64% Attained the use
 - 36% did not attain



Assessment Results for Shellfish Harvesting



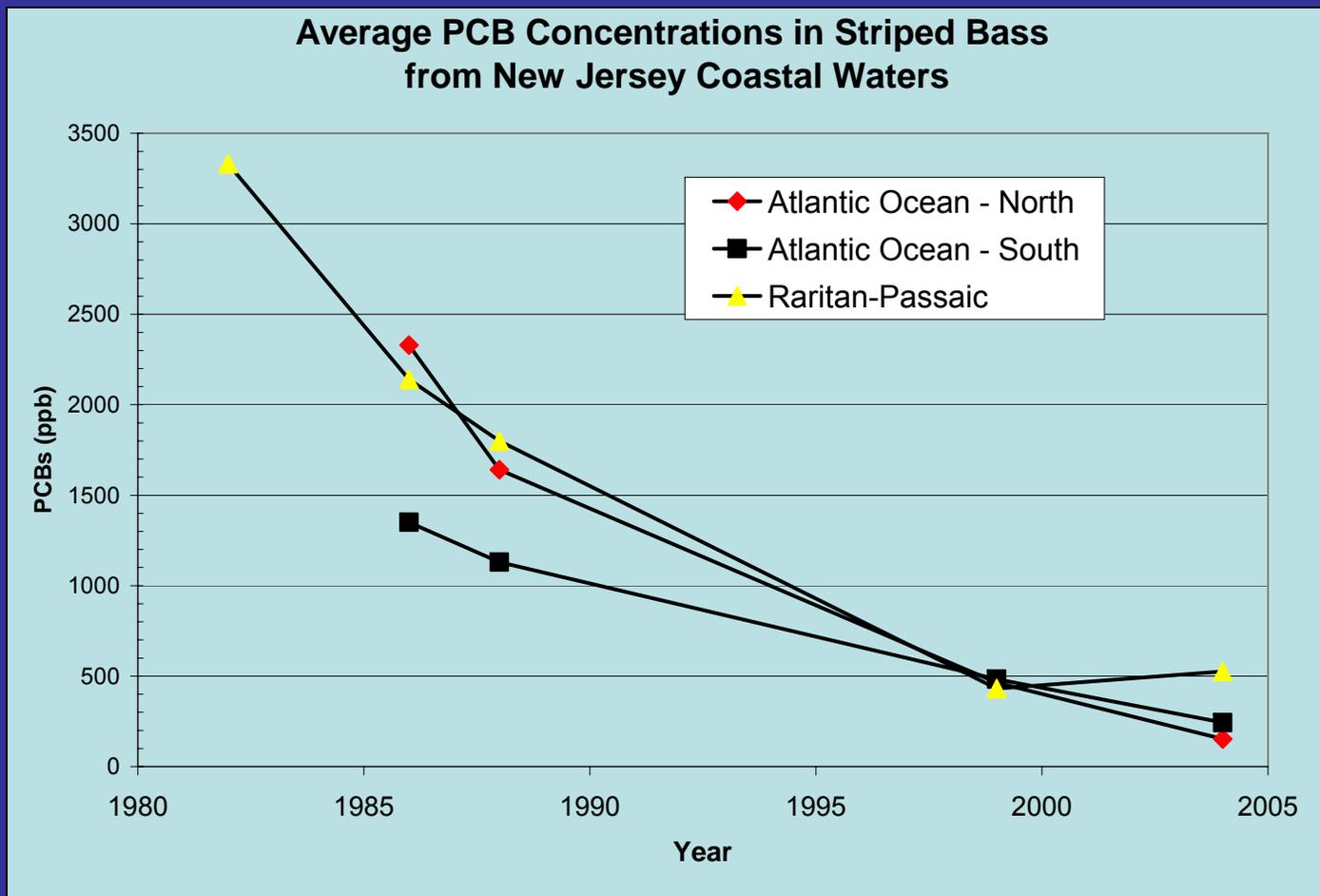
Assessment Results for Fish Consumption



- 343 of 970 AUs assessed:
 - 100% assessed sites did not attain the use
 - Fish consumption advisories for:
 - PCB, Mercury, DDX
 - Chlordane, Dioxin, Dieldrin



Assessment Results for Fish Consumption



PCB Concentrations in Striped Bass showing steady decline



2010 Schedule

- ▶ **October 2008** - Data solicitation for data collected through December 31, 2008.
- ▶ **March 2009**- Draft 2010 Methods Doc for comment
- ▶ **April 2010**- Final Integrated List to USEPA

