

A scenic photograph of a sunset over a body of water, likely Barnegat Bay. The sun is a bright, glowing orb on the horizon, casting a warm orange and yellow light across the sky and water. The sky is filled with wispy, white and grey clouds. In the foreground, the dark silhouette of a pier or dock structure is visible on the left side, with a few masts or poles extending upwards. The water in the foreground is dark and calm, reflecting the light from the sun.

The Role of Partnerships in the Barnegat Bay Action Plan

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NJDEP Division of Water Monitoring and Standards
NJ Clean Water Council Meeting
October 13th, 2015

Public Process as a Foundation

- 3 Facilitated Public Meetings Held in Summer/Spring 2010
 - May 5th 2010- Scientific Inventory
 - May 27th 2010- Inventory of Actions
 - June 25th 2010- Stakeholder Recommendations
 - Problems, Causes, Goals, Actions



- December 9th Governor Announces BBay Plan

Governor's Action Plan for Barnegat Bay

December 9, 2010



1. Close Oyster Creek Nuclear Facility Early
2. Fund Stormwater Mitigation Projects
3. **Reduce Nutrient Pollution from Fertilizers**
4. Require Post-Construction Soil Restoration
5. **Acquire Land in the Watershed**
6. Est. Special Area Management Plan
7. **Adopt More Rigorous Water Quality Standards**

Monitoring Consortium & Model Development

8. Educate the Public
9. **Fill Research Gaps – 10 projects developed**

e.g. benthic macroinvertebrates, hard clam pops

10. **Reduce Water Craft Impacts**

Action Item 3 – Reduce Nutrient Pollution from Fertilizer

- January 5th, 2011 Legislation signed
- Fertilizer law effective Jan 5, 2013
- Fertilizer products for turf now contain at least 20 % slow-release nitrogen, and zero phosphorus (unless a soil test demonstrates a need for more)
- Healthy Lawns-Healthy Water Workgroup

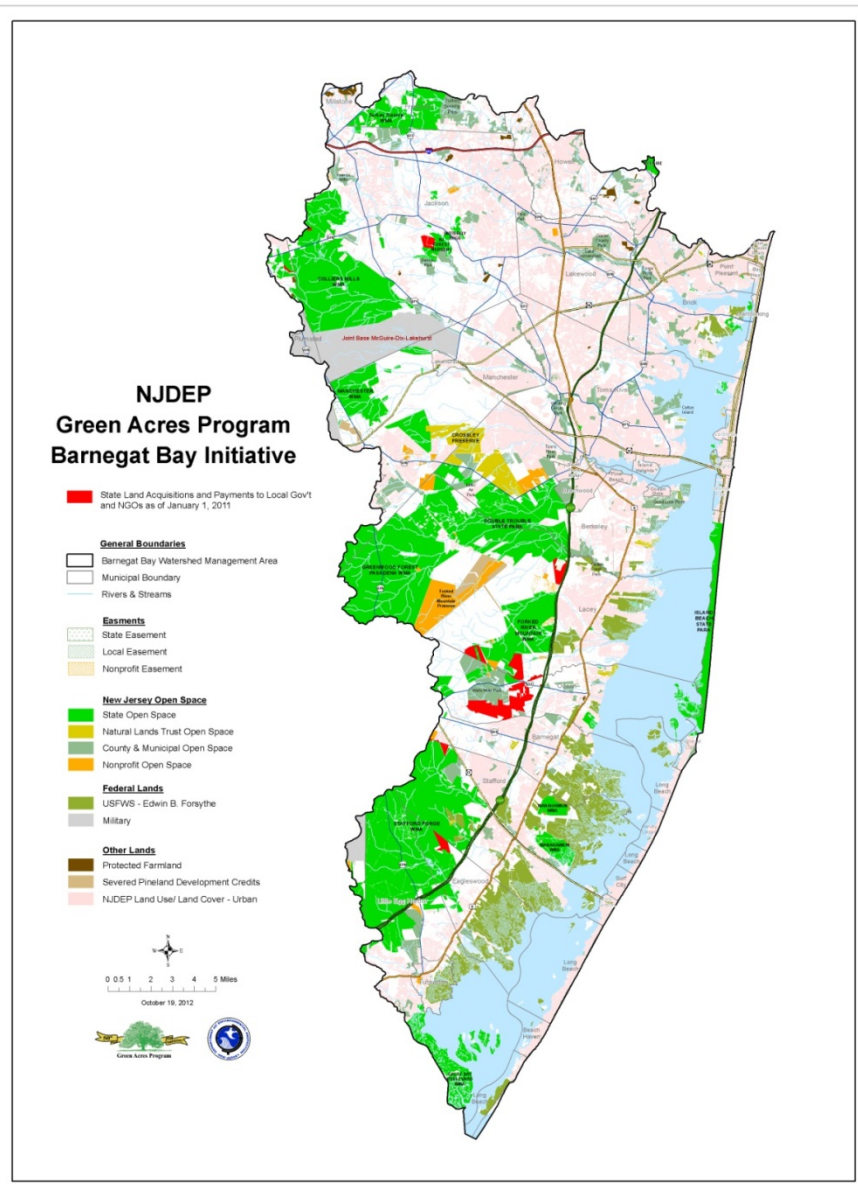


HEALTHY LAWNS – HEALTHY WATER



Action Item 5 – Acquire Land in the Watershed

- Since 2011 more than 3,000 acres acquired in Barnegat Bay Watershed



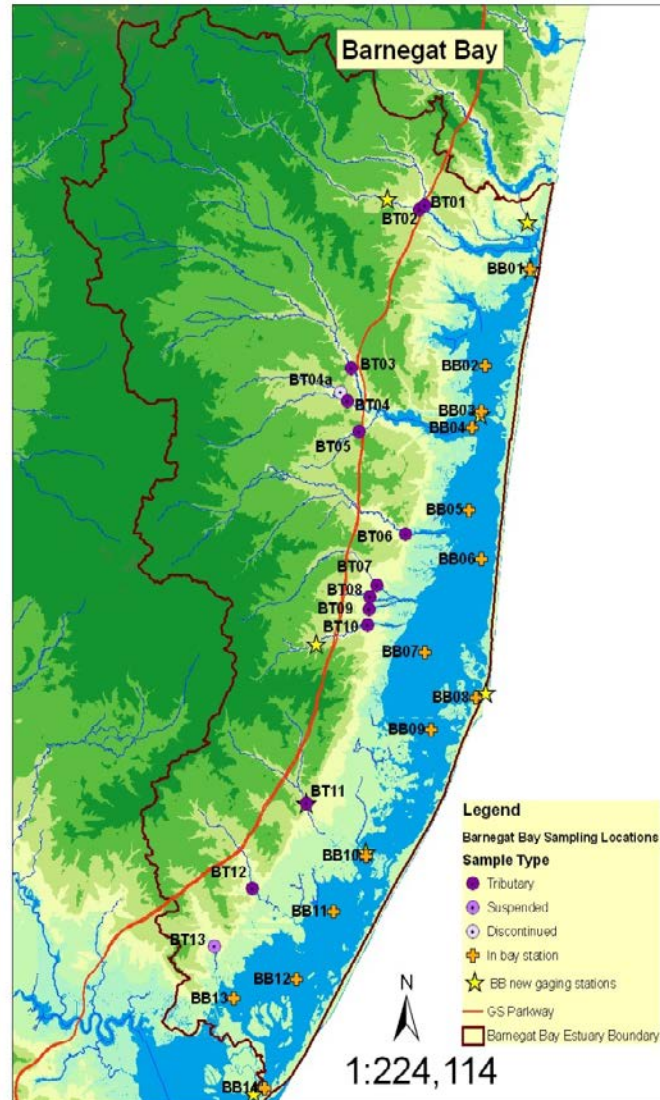
Action Item 8 – Educate the Public



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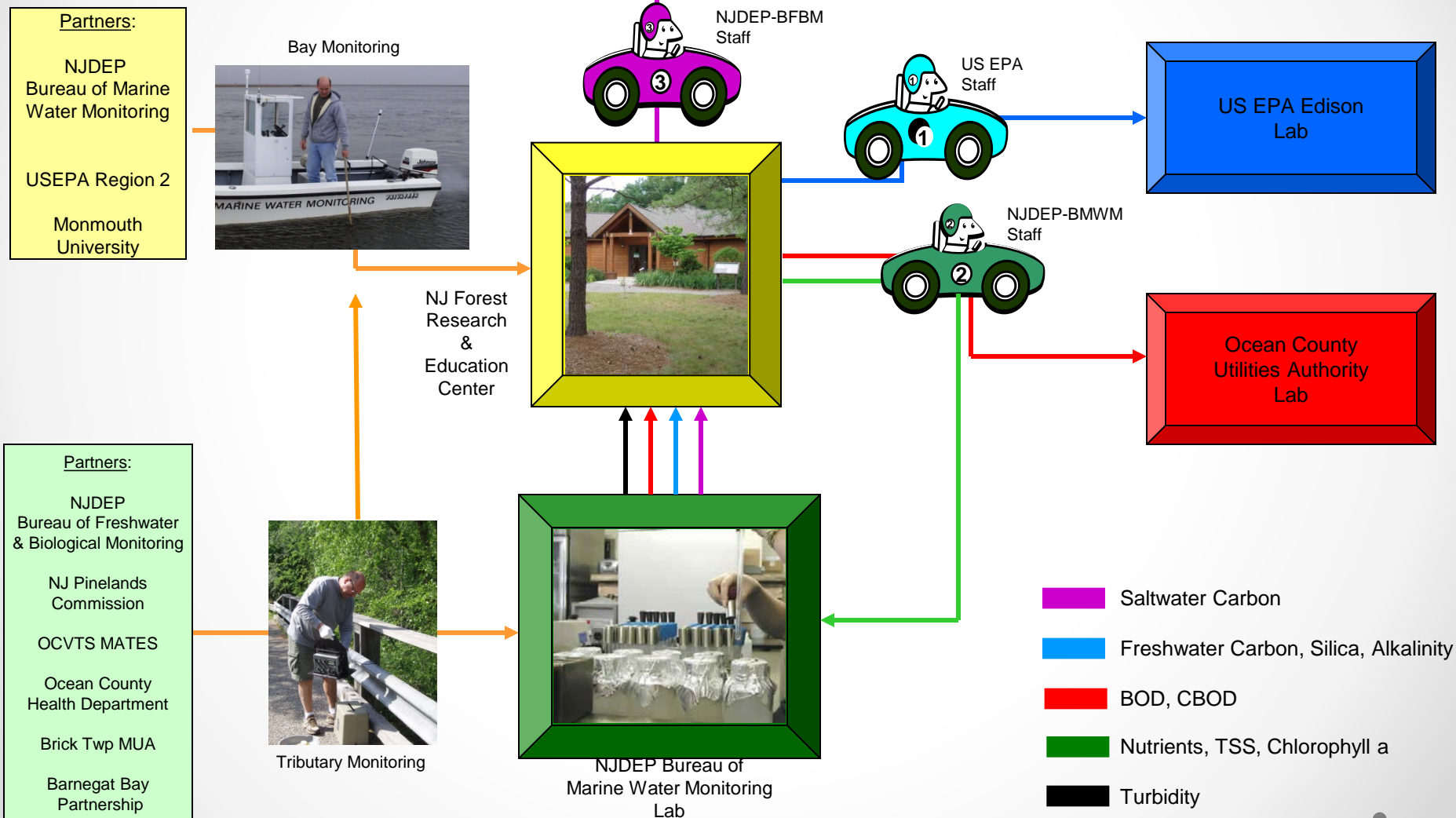
Action Item 7 – Adopt more Rigorous Water Quality Standards



Action Item 7 We Need Help!

- Simultaneous sampling tributary and bay sites
- Monitoring and sample prep exceeds DEP-DWMS capacity
- First 6 Months:
 - 75,000 field measurements
 - 10,000 bottles, going to 4 different labs
 - > 100 flow measurements

Complex Sample Collection & Transport Logistics



Partnership Development

How to find interested & willing partners?

- Start w/ existing partners
- Meet w/ entities - ask what they can do?
- Add monitoring & lab partners
- Find partners in our own agency
- Retask existing partner work



Partnership Development

Monitoring Agreements

- Written agreements with each entity specifying project commitments



Partnership Development

Comprehensive Quality Assurance Plan

- Referred to in all Partner Agreements
- Assure data of known quality & comparability of results

Includes:

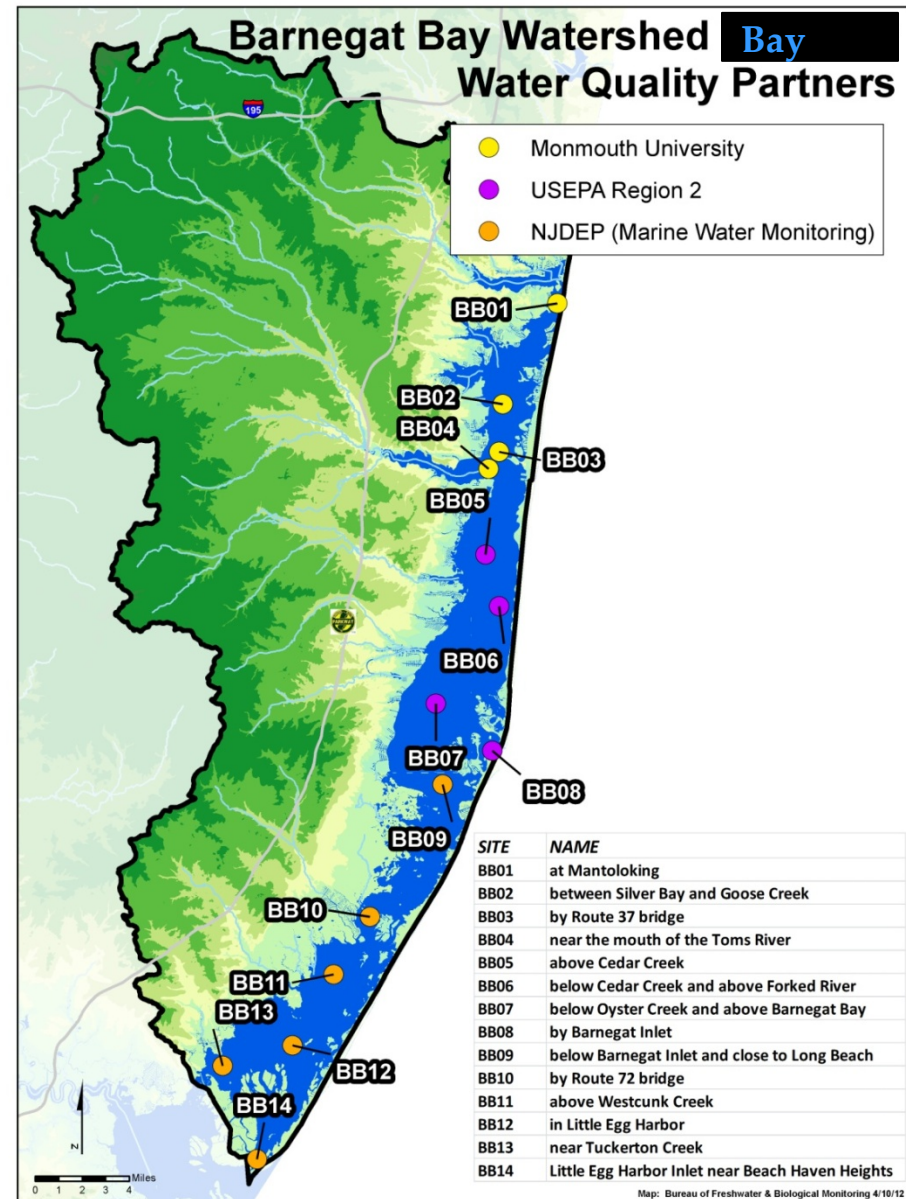
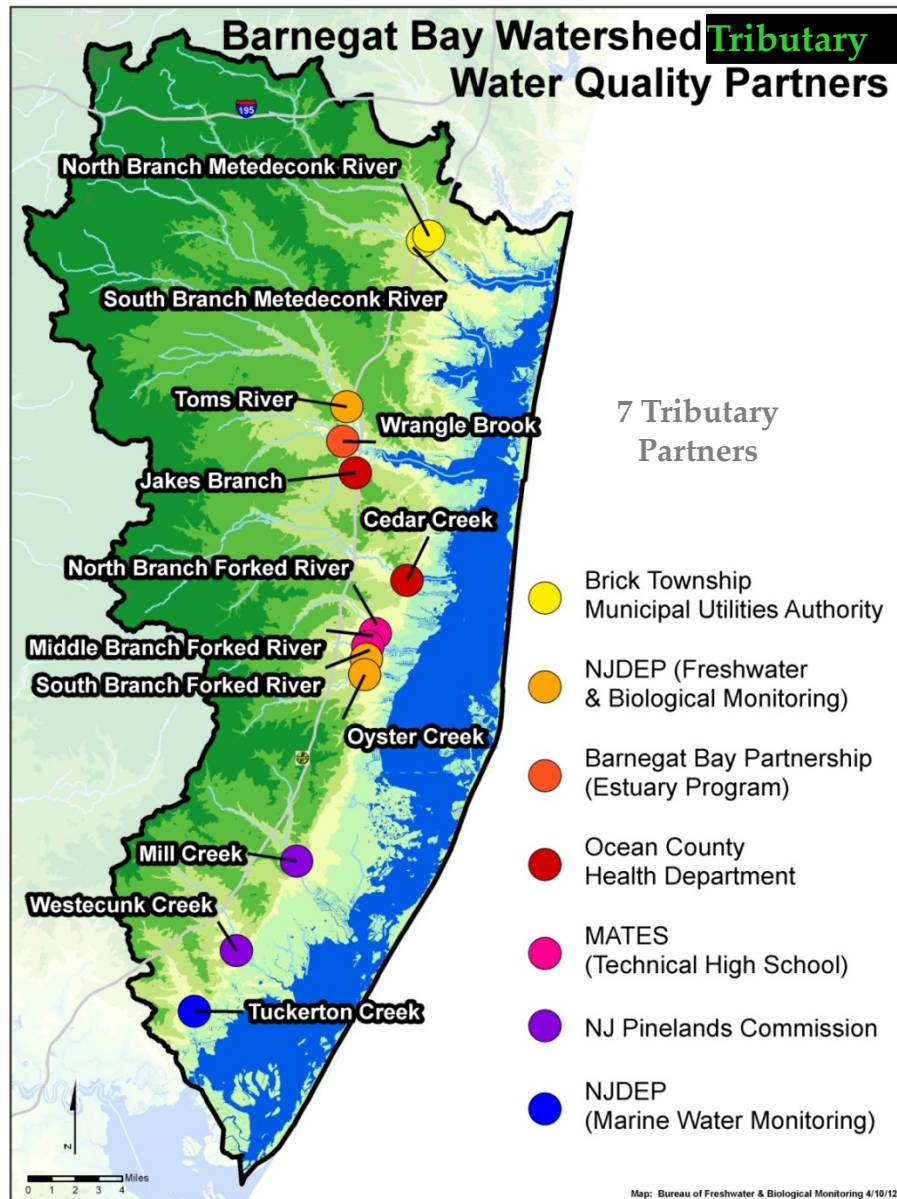
- Station locations/dates/ times
- Sample preparation – preservation & filtering in 2 labs
- Parameters, analytical & field methods
- Data quality requirements/ review
- Sample routing
- Chain of custody forms

Partnership Development

- Training & QA Approval- Partner meetings
- Partner Communication –
 - 1 point agency contact overall project,
 - 1 field contact for tribes
 - 1 for bay
 - frequent emails
- Data access – Website w/ Interactive map



7 Tributary and 3 Bay Monitoring Partners

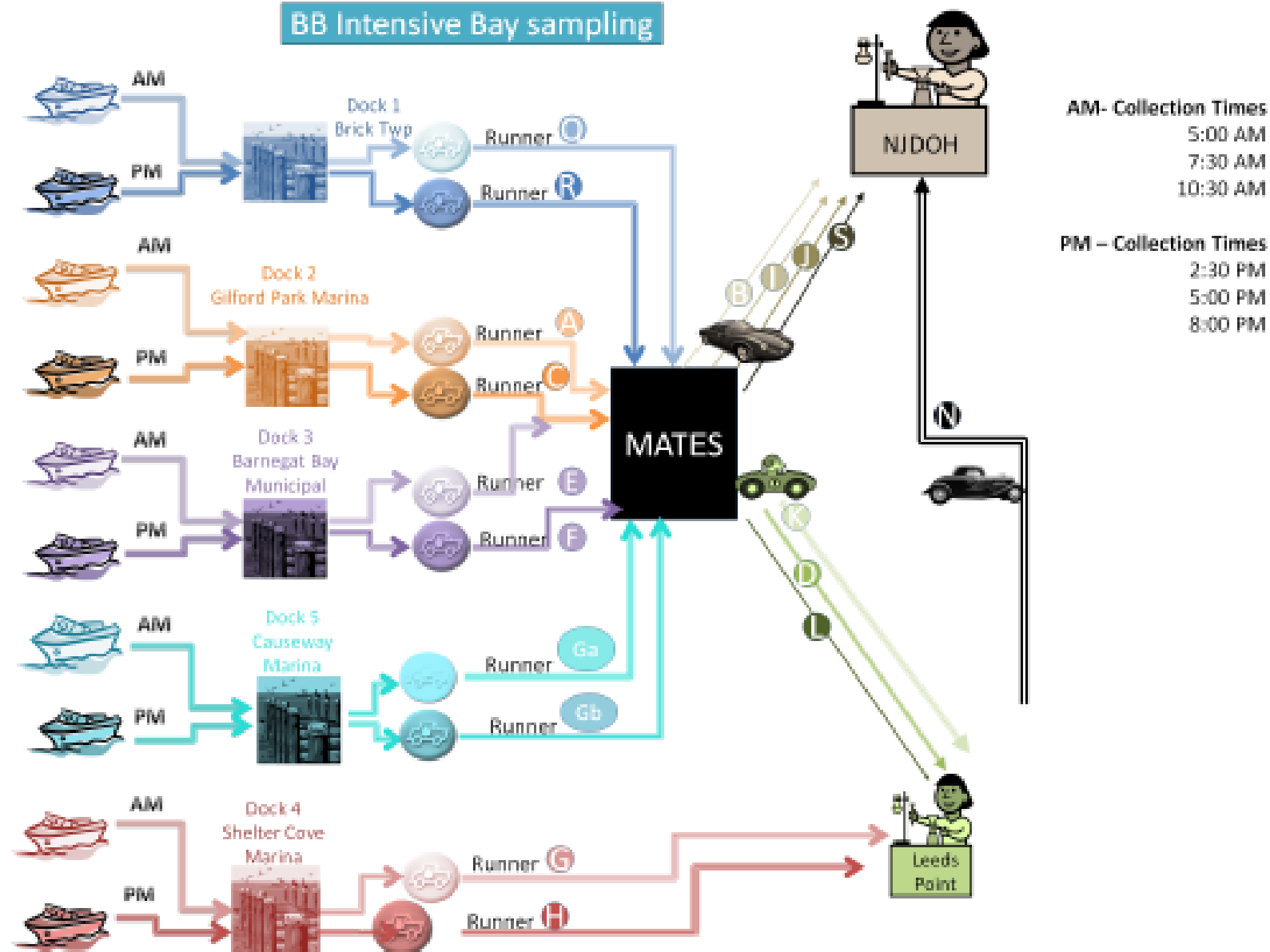


Intensive Monitoring Partnerships

- Ambient samples all taken between 8:00-10:00
- How does the chemistry change throughout the day?
- 27 samples locations, 6 samples a day...



BB Intensive Bay sampling



Intensive Monitoring (July & Aug 2012 and June, 2013)

- 27 sampling locations
- 6 boats
- 13 sampling teams
- 30 runner routes
- 75 people per day
- Over 140 NJDEP staff involved
- 4332 total samples





The Partner Approach

- 17 partner organizations beyond DEP:
 - BBP, EPA, Brick Twp MUA, OCHD, Pinelands Commission, USGS, OCMUA, Monmouth Univ, MATES, NJDHSS, ReClam the Bay, Cattus Island, Brick Twp Marina, Gilford Park Marina, Barnegat Bay Municipal Dock, Causeway Marina, Shelter Cove Marina
- Samples collected and delivered to 2 field labs for filtration and preservation
 - DEP Marine Water Laboratory
 - DEP Forest Resource Education Center
- Preserved samples to 5 laboratories for analysis
 - DEP Marine Water Laboratory, OCUA, EPA Region 2 Edison, Maryland University Laboratory , NJDHSS

Lessons Learned

- Don't be afraid to ask
- QA needs to be a focus- It all starts with the QAPP
- Communicate, communicate, communicate
- Be Flexible
- Build in a safety net
- Expect the unexpected



Barnegat Bay as a Model for DWMS

- Using NJDEP Leeds Point Lab for freshwater analysis
 - Hammonton Sampling
- Working with Partners in other networks
 - Summer Pathogen sampling
- Cross bureau training/support
 - BMWM flow
 - BEAR sample collection
 - BFBM AmeriCorps NJWAP support

Comprehensive Management

Partnering within the Plan

Action Item # 7:

- Action Item # 2 and #3
 - Oyster Creek Closure- Monitoring and Modeling
 - Fertilizer Law- Monitoring data
- Action Item #8
 - Sampling Video
- Action Item #9
 - Nutrient Criteria Development support
 - Sample collection support



Barnegat Bay Website: **www.state.nj.us/dep/barnegatbay/**

Adapted from:

"Developing A Water Monitoring Consortium to Support NJ's Barnegat Bay Action Plan" NWQC Conference, May 4th 2012. Leslie McGeorge, Jill Lipoti, Tom Vernam, Bob Schuster, Trish Ingelido, Jeff Reading, Alena Baldwin-Brown

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Our Dedicated Partners !!!



URBAN COAST INSTITUTE

