Focus on Waterbody Health
Moving from Assessment to Action

2015 FOLA Annual Conference
May 1, 2015

Jeff Myers
Bureau of Water Assessment Management
NYS DEC
DOW Water Wheel
Many “Players” In the WQ Management Game

- DEC/Division of Water
- Fed/State Watershed Programs
- NYSARC and Regional Planning
- Local SWCD, NYSFOLA
- Citizen Groups, and MORE
- State/Local Health Departments
- Local Municipalities
- Environmental Organizations
- Academics/Researchers

“I Got It!”
“You Take it!”
Waterbody Health Plan

Think of Waterbodies as if they are Patients

Then…
Progress Toward Waterbody Health

Monitor, or Doctor’s Visit
   (RIBS Screening, CSLAP, WAVE, Other)
Assess, or Diagnose
   (WI/PWL, 303(d))
Develop Plan/Strategy, or Prescription
   (TMDL, Watershed Plans)
Funding, or Do You Have INSURANCE!
   (WQIP, NRCS, Ag Nonpoint....)
Implementation, or Are You Following Dr’s Orders?
   (TMDL/Wshd Plan Implementation)
Reassessment, See You in 6 Months
Water Quality Management

- Impaired Waters
  - 303(d) Listed
- Stressed Minor Impact Waters
- Good Waters
  - No Known Impact

- TMDL Strategy
- Watershed Plan
- Regulated Sources (Permits)
- Unregulated Sources (BMPs)
- Protection Strategies
Top Ten (or Leading Causes of) WQ Problems in NYS

- Urban Stormwater Runoff
- Aging WW Infrastructure
- Nutrient Eutrophication
- Atmospheric Dep/Acid Rain
- Legacy Pollutants
- Atmospheric Dep/Mercury
- Habitat/Hydro Mod
- Aquatic Weeds/Invasives
- Pathogens/Shellfish
- Inadequate Onsite (Septics)

Note: Frequency totals do not equal 100% because categories are not mutually exclusive.
Mixed Metaphors

Health of the Waterbodies

Making the Grade, or
No Waters Left Behind
The Waterbody Inventory and Priority Waterbodies List

The Waterbody Inventory

Class Roster

No Water Left Behind
The Waterbody Inventory and Priority Waterbodies List

Priority Waterbodies List

Problem
Children
Middle Bay (1701-0208)  

Impaired

Waterbody Location Information  
Revised: 08/01/2014

<table>
<thead>
<tr>
<th>Water Index No.</th>
<th>Hydro Unit Code</th>
<th>Drain Basin</th>
<th>Water Type/Size</th>
<th>Reg/County</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MW8.3) MDB (portion 1)</td>
<td>0203020202SA</td>
<td>Atlantic-Long Island Sound</td>
<td>Estuary 1210.3 Acres</td>
<td>1/Nassau Co. (50)</td>
</tr>
</tbody>
</table>

Description: entire bay, as delineated

Water Quality Problem/Issue Information

<table>
<thead>
<tr>
<th>Uses Evaluated</th>
<th>Severity</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Shellfish</td>
<td>Precluded</td>
<td>Known</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Recreation</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>Unassessed</td>
<td>-</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>Stressed</td>
<td>Suspected</td>
</tr>
</tbody>
</table>

Conditions Evaluated: Habitat/Hydrology, Fair, Aesthetics, Fair

Type of Pollutant(s) (CAPS indicate MAJOR Pollutants/Sources)

Known: PATHOGENS

Suspected: Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (alva/sea lettuce)

Unconfirmed: - - -

Source(s) of Pollutant(s)

Known: URBAN/STORM RUNOFF

Suspected: Other Source (migratory fish species), Municipal, Habitat Alteration

Unconfirmed: - - -

Resolution/Management Information

Management Status: Strategy Implementation Scheduled or Underway

Lead Agency/Office: DOW/Reg1

IR/360(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview

Middle Bay is assessed as impaired due to shellfishing use that is known to be precluded by pathogens from stormwater and urban nonpoint runoff. Public bathing and recreational uses are also thought to be affected by the presence of macroalgalae in the Bay. Fish consumption is considered to experience minor impacts due to precautionary health advisories limiting the consumption of certain species due to elevated PCB levels.

Use Assessment

Middle Bay is a class SA waterbody, classified for shellfishing, public bathing, general recreation uses and support of aquatic life.
# The Waterbody Inventory and Priority Waterbodies List

## Water Uses Supported

<table>
<thead>
<tr>
<th>Activity</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Supply</td>
<td>Class A</td>
</tr>
<tr>
<td>Shellfishing</td>
<td>Class SA</td>
</tr>
<tr>
<td>Public Bathing</td>
<td>Class B,SB</td>
</tr>
<tr>
<td>Recreation</td>
<td>All Waters</td>
</tr>
<tr>
<td>Aquatic Life</td>
<td>All Waters</td>
</tr>
<tr>
<td>Fish Consumption</td>
<td>All Waters</td>
</tr>
</tbody>
</table>

## Other Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>All Waters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat/Hydrology</td>
<td>All Waters</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>All Waters</td>
</tr>
</tbody>
</table>
The Waterbody Inventory and Priority Waterbodies List

<table>
<thead>
<tr>
<th>Use Evaluations</th>
<th>Class Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Supported</td>
<td>A</td>
</tr>
<tr>
<td>Threatened</td>
<td>A- to B+ (Kinda)</td>
</tr>
<tr>
<td>Stressed</td>
<td>C to B</td>
</tr>
<tr>
<td>Impaired</td>
<td>D to F</td>
</tr>
<tr>
<td>Precluded</td>
<td>F</td>
</tr>
</tbody>
</table>
# Class Syllabus

- Standards/Criteria
- Surrogate Indicators
- Administrative Restrictions

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## Table 4: Recreation Use Evaluation Criteria

<table>
<thead>
<tr>
<th>Conditions Frequently Prevent Use</th>
<th>Use Evaluation Criteria</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY State Health Department or local health entities have issued a closure of public bathing beach(es) in the waterbody for period of more than 25 days.</td>
<td></td>
<td>Precluded</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions Occasionally Prevent or Frequently Discourage Use</th>
<th>Use Evaluation Criteria</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY State Health Department or local health entities have issued temporary/occasional closures of public bathing beach(es) in the waterbody for between 10 and 25 days, or Presence of harmful algal bloom (HABs)</td>
<td></td>
<td>Impaired</td>
</tr>
<tr>
<td>Monitoring data show exceedence of one or more parameter-specific use evaluation criteria.*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions Occasionally Discourage Use</th>
<th>Use Evaluation Criteria</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY State Health Department or local health entities have issued temporary/occasional closures of public bathing beach(es) in the waterbody for less than 10 days, Occasional occurrence of harmful algal blooms (HABs) of less than 2 week duration, Additional measures (e.g., algae control) are deemed necessary to support public bathing use, Monitoring data show exceedence of one or more parameter-specific use evaluation criteria* value more than 10% of the time.</td>
<td></td>
<td>Stressed</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions Fully Support Use</th>
<th>Use Evaluation Criteria</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY State Health Department or local health entities have not restricted swimming, and Available monitoring data does not exceed use evaluation criteria, and No significant occurrence of HABs have been reported, and Additional measures are not necessary for support of swimming use.</td>
<td></td>
<td>Fully Supported</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions Support Use, but Threats Noted</th>
<th>Use Evaluation Criteria</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific use evaluation criteria; see definition of Threatened</td>
<td></td>
<td>Threatened</td>
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* Parameter-Specific Use Evaluation Criteria

- Chlorophyll a (mean) $^3 \geq 3$, TBD $^4$ ug/l
- Clarity/Secchi Disc (mean) < 1.2 meters
- Pathogen Indicators see Public Bathing Use Evaluation Criteria (Table 3) 

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* Closures are based on ambient water quality/contamination.
2 As defined by NYSDEN Harmful Algal Bloom notification criteria; occurrence on multiple days and verified over more than a 2 week period, at multiple locations covering significant spatial extent, with likelihood of annual recurrence.
3 In some instances, the need for additional measures is so acute that an evaluation indicating impaired recreational use is appropriate however such conditions are typically accompanied by exceedence of other impaired criteria.
4 Threatened waters include those waters where uses are Fully Supported, however: 1) changing land use patterns may result in restricted use or ecosystem disruption, or 2) decreasing trends or sub-optimum water quality suggest future impacts, or 3) support of a specific/distinctive use make the waterbody more susceptible to water quality threats.
5 Application of the Chlorophyll a criteria assumes a corresponding elevated nutrient level in the waterbody.
6 Specific criteria have yet to be established, but a value in the range of 10-15 ug/l is under consideration.
7 For Class C, SC and D waters that are used for more intensive public bathing use, the public bathing use pathogen criteria may also be applied to evaluate Recreation use.
Middle Bay (1701-0208)  

Waterbody Location Information  

- Water Index No: (MW8.3) MDB (portion 1)  
- Drain Basin: Atlantic-Long Island Sound  
- Hydro Unit Code: 0203020202  
- Class: SA  
- Water Type/Size: Estuary  
- Acres: 1210.3  
- Reg/County: 1/Nassau Co. (30)  
- Description: entire bay, as delineated  

Revised: 08/01/2014

Water Quality Problem/Issue Information

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Conditions Evaluated

- Habitat/Hydrology: Fair
- Aesthetics: Fair

Type of Pollutant(s)

- Known: PATHOGENS
- Suspected: Priority Organics (PCBs/migratory fish), Nutrients (nitrogen), Algal/Plant Growth (ulva/sea lettuce)
- Unconfirmed: - - -

Source(s) of Pollutant(s)

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Further Details

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The Waterbody Inventory and Priority Waterbodies List

Recommended Management Actions

• UnAssessed
• Assessment/Reassessment Scheduled
• Verification of Use Support Needed
• Verification of Pollutants/Causes Needed
• Verification of Sources Needed
• Restoration/Protection Strategy Needed
• Funding for Strategy Implementation Needed
• Strategy Implementation Scheduled or Underway
• Reassessment Needed
• No Action Needed
Middle Bay (1701-0208)  

Waterbody Location Information  

Water Index No.: (MW3.3) MDB (portion 1)  
Hydro Unit Code: 0209020292  
Class: SA  
Water Type/Size: Estuary  
Description: entire bay, as delineated  

Drain Basin: Atlantic-Long Island Sound  
Reg/County: L/Nassau Co. (59)  

Water Quality Problem/Issue Information  

Uses Evaluated  
Water Supply  
Shellfishing  
Public Bathing  
Recreation  
Aquatic Life  
Fish Consumption  

Severity  
N/A  
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The Use of the WI/PWL in the WQIP

Moving from…
Money Looking for Projects

To…
Projects Looking for Money
Moving from Assessment To Action

Questions?

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