What Exit are You From?
Great Bay, Tuckerton, NJ
Oswego River, Pine Barrens, N J
The Great Falls are the second-highest on the east coast (second only to Niagara).
Scott’s Landing Creek, Leeds Point, NJ
• Population NJ 8.7 million people
• 7,505 square miles

18,126 miles of rivers & streams
DEP’s latest evaluation 18% of the State’s Waters are fully assessed
Myths of Using Volunteer Collected Data

• Quality Assurance & Quality Control
• Volunteers have “hidden agendas”
• Volunteers are not scientists
Reality of Using Volunteer Collected Data

- Need more data at a higher frequency
- EPA encourages the use of volunteer collected
- Volunteer groups are sophisticated
  - Trained
  - Well equipped
- Volunteers want to do it right
NJ Watershed Watch Network

≈ 30 River/Stream Monitoring Organizations

≈ 58 Lake Monitoring Organizations
Watershed Watch Network Council

- NGO, Volunteer Monitoring Coordinators
  - Watershed Associations
  - Riverkeepers
- Volunteers (paid and unpaid)
- EPA
- Office of Quality Assurance
- NJDEP, Water Monitoring & Standards
NJ’s 4 Tiered Approach

 Allows for volunteers to choose level of monitoring involvement based on:

- Intended purpose for monitoring
- Intended data use
- Intended data users
Tier A-Environmental Education

Data Users
• Participants
• Students
• Watershed residents

Data Use
• Promote stewardship
• Raise their level of understanding of watershed ecology

Quality Needed
• Low level of rigor, but use sound science
• Wide variety of study designs are acceptable
• Quality assurance (QA) optional
## Tier B - Stewardship

<table>
<thead>
<tr>
<th>Data User</th>
<th>Data Use</th>
<th>Quality Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Understanding of existing conditions and how any changes over time</td>
<td>Low to medium rigor</td>
</tr>
<tr>
<td>Watershed residents</td>
<td>Screen for and identify problems and positive attributes</td>
<td>Variety of study designs is acceptable</td>
</tr>
<tr>
<td>Landowners</td>
<td></td>
<td>Training</td>
</tr>
<tr>
<td>Local decision makers (optional)</td>
<td></td>
<td>QAPP recommended</td>
</tr>
</tbody>
</table>
## Tier C-Community &/or Watershed Assessment

<table>
<thead>
<tr>
<th>Data Users</th>
<th>Data Use</th>
<th>Quality Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local decision-makers</td>
<td>Assess current conditions</td>
<td>Medium/high level of rigor</td>
</tr>
<tr>
<td>Watershed association</td>
<td>Track trends</td>
<td>Data needs to reliably detect changes over time &amp; space</td>
</tr>
<tr>
<td>Environmental organizations</td>
<td>Source track down of Nonpoint source pollution</td>
<td>QAPP approved &amp; on file w/ intended data user.</td>
</tr>
<tr>
<td>Possibly DEP</td>
<td></td>
<td>Training required</td>
</tr>
</tbody>
</table>
## Tier D-Indicators & Regulatory Response

<table>
<thead>
<tr>
<th>Data Users</th>
<th>Data Use</th>
<th>Quality Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NJDEP</td>
<td>• Assess current conditions</td>
<td>• High level of rigor</td>
</tr>
<tr>
<td>• Local decision-makers</td>
<td>• Supplement agency data collection</td>
<td>• Study design &amp; methods need to be equivalent &amp; recognized by agencies using data</td>
</tr>
<tr>
<td>• Watershed associations</td>
<td>• Research</td>
<td>• Training required</td>
</tr>
<tr>
<td>• Environmental organizations</td>
<td>• Evaluate best management practices (BMP) measures</td>
<td>• QAPP approved by Office of Quality Assurance &amp; data user, annual recertification</td>
</tr>
<tr>
<td></td>
<td>• Regulatory Response</td>
<td>• Possible audit</td>
</tr>
</tbody>
</table>
Education/Awareness → Problem ID, Assess Impairment, Local Decisions → Legal & Regulatory

Increasing Time - Rigor - QA - Expense $$
Potential Data Uses

- Education
- Identifying potential sources of pollution
- Local decision making
- Research
- NPS assessment
- TMDL
- Watershed planning/open space acquisition
- Monitoring the success/failure of restoration projects
- 303d & 305b Integrated Report
THE STATE’S MONITORING MATRIX

NJ Water Monitoring & Assessment Strategy 2005-2014
2008 Integrated Report
85 volunteer monitored sites

- Pequannock River Coalition
- Pompeston Creek W A
- South Branch W A
- Stony Brook Millstone W A
4 Groups added to 2010 Report

- Craft’s Creek & Spring Hill Brook WA
- Great Swamp WA
- Musconetcong WA
- Upper Raritan WA
Addressing Data Quality Issues

• Quality Assurance Criteria
• QAPP or Study Design is needed
• Program Specific Training & Support
  • Individual Evaluation of each Monitoring Program
• There needs to be “translator” between volunteer community & regulatory agency
• Communication, Communication, Communication
Data Use

• Organizations need to *Take Ownership* of their Information

• Organizations need Guidance on Different Types of Data Use

• *Sometimes it may take another person to find your story*…. 
  • share success and failures stories
  • get the word out-articles, press releases
  • find examples of data uses at all levels, local, state, & national
June: NRDC states that 27% of Beachwood Beach West’s water samples (33 total) and 15% of Pine Beach West Beach’s samples (26 total) from 2010 exceeded the daily maximum bacterial standard.

Sources: njbeaches.org, Nrdc.org
Quality Assurance

- DEP approved Tier B plan
- Recognition of research
- Accuracy of data
Coliscan Easygel & IDEXX Enterolert
A Rainy Day on the Toms River
Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it’s the only thing that ever has.”--Margaret Mead