Approach to the 208 Plan Update

**Goal:**
To generate a series of approaches in each watershed that will meet water quality standards
Watershed Working Group Process

Public Meetings
- Goals, Work Plan & Roles
- Affordability, Financing

Watershed Working Groups
- Baseline Conditions
- Technology Options Review
- Watershed Scenarios

July | August | September | October | December
Standing Sub Regional Meeting Topics

**Scenario Planning**
- Mtg. 1: One representative watershed
- Mtg. 2: All shared watersheds & TBL model
- Mtg. 3: Subregional scenarios & TBL model

**Regulatory, Legal, Institutional**
- Challenges & opportunities associated with permitting the watershed scenario
- Tools to support intermunicipal cooperation
- Structures for permitting

**Implementation**
- Adaptive management plans
- Monitoring
- Financing & affordability
Standing Sub Regional Meeting Topics

Meeting 1 Goals:

Identify regulatory, legal, and institutional challenges, constraints, and opportunities associated with the 208 Plan approach for water quality

Clarify the definition and components of an adaptive management plan that can be permitted
Scenario Planning

Three Bays
Attenuated wastewater load contributions

Barnstable: 93%
Mashpee: 0%
Sandwich: 7%
Septic Load TMDL = 60%
Total Load TMDL = 46%
Traditional Approach

- Entire Watershed Collection & Treatment
- MEP Nitrogen Reduction Targets
- Targeted Collection/Maximum Collection Footprint
- Targeted Collection with Fertilizer and Stormwater Reduction
- Minimized Collection Footprint

Fertilizer Reduction

Non-Traditional Approach

- MEP Nitrogen Reduction Targets
- Low Barrier to Implementation
- Watershed Embayment Options
- Alternative On-Site Options
- Minimum Collection Footprint
<table>
<thead>
<tr>
<th>Site Scale</th>
<th>Neighborhood</th>
<th>Watershed</th>
<th>Cape-Wide</th>
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<tbody>
<tr>
<td><strong>Prevention</strong></td>
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<td><strong>Title 5</strong></td>
<td>Standard Title 5 Systems</td>
<td>Remediation of Existing Development</td>
<td>Fertilizer Management</td>
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<td>I/A Title 5 Systems</td>
<td>Clustering &amp; Satellite Treatment Systems</td>
<td>Transfer of Development Rights</td>
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<td>Wastewater Collection Systems</td>
<td>Effluent Disposal Systems</td>
<td>Stormwater BMPs</td>
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<td><strong>Toilets: Urine Diverting</strong></td>
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<td>Constructed Wetlands: Surface Flow</td>
<td>Compact Development</td>
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<td><strong>Toilets: Composting</strong></td>
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<td><strong>Toilets: Packaging</strong></td>
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<td>Stormwater: Bioretention / Soil Media Filters</td>
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<td>Inlet / Culvert Widening</td>
<td>Fertigation Wells</td>
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<td>Pond and Estuary Dredging</td>
<td>Shellfish and Salt Marsh Habitat Restoration</td>
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<td>Constr. Wetlands - Groundwater, Salt Water, Floating</td>
<td>Aquaculture/Shellfish Farming</td>
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Problem Solving Approach

1. Identify Current N Removal Needs (Targets/Reduction Goals)
   - Present Load: \( X \) kg/day
   - Target: \( Y \) kg/day
   - Reduction Required: \( N \) kg/day

2. Additional N Removal Needs
   - A. Title 5 Problem Areas
   - B. Pond Recharge Areas
   - C. Growth Management

3. Low Barrier Technologies
   - A. Fertilizer Management
   - B. Stormwater Mitigation

4. Watershed Alternative Technologies
   - A. Permeable Reactive Barriers
   - B. Inlet/Culvert Openings
   - C. Constructed Wetlands
   - D. Aquaculture

5. On-Site Alternative Technologies
   - A. Eco-toilets (UD & Compost)
   - B. I/A Technologies
   - C. Enhanced I/A Technologies
   - D. Shared Systems

6. Priority Collection/Sewer Areas
   - A. Greater Than 1 Dwelling Unit/acre
   - B. Village Centers
   - C. Economic Centers
   - D. Growth Incentive Zones

7. Supplemental Collection / Sewer Areas
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<tr>
<th>Technology/Approach</th>
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<th>BOH</th>
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Additional permits may apply. Other agencies involved could include:
- MA Natural Heritage and Endangered Species Program
- MA Historical Commission
- US Fish & Wildlife Service/Division of Marine Fisheries
Regulatory, Legal, and Institutional Interactions

What are some of the hurdles and opportunities associated with permitting the above scenarios?
Regulatory Purposes

MEPA
CCC
DEP
Joint MEPA/CCC Review:
Projects Requiring Environmental Impact Report (EIR)

**APPLICANT** files:
- MEPA Environmental Notification Form (ENF)
- CCC DRI/Joint Review Application

within 20-day MEPA comment period:
- MEPA and CCC hold joint scoping session and public hearing.

within 30-day MEPA comment period:
- MEPA issues certificate on ENF, scope of review.
- CCC Subcommittee meets to consider report to MEPA.

**APPLICANT** files Draft Environmental Impact Report (DEIR).

within 30-day MEPA comment period:
- MEPA issues certificate on DEIR and issues to be addressed in FEIR.
- CCC Subcommittee meets to consider DEIR report to MEPA.

**APPLICANT** files Final Environmental Impact Report (FEIR).

within 30-day MEPA comment period:
- MEPA and CCC hold joint public hearing.
- CCC Subcommittee meets to consider FEIR report to MEPA.

within 45 days:
- CCC formally begins DRI review process.

**MEPA** issues certificate on FEIR.

**CCC Subcommittee** meets to consider FEIR report to MEPA.
Traditional technology permitting path

Fertilizer and stormwater reduction credit

Alternative technology permitting paths
Need for Permitting Flexibility
“Adaptive management acknowledges the uncertainties in design and implementation of projects, carefully monitors outcomes, assesses progress in a transparent fashion and requires recalibration of plans and projects as necessary.”

“The FEIR represents an evolution towards the development and implementation of a Targeted Watershed Management Plan for each of the Town’s coastal watersheds and includes concrete commitments to projects...that will provide significant reductions in nitrogen loading.”

The Secretary certified the plan “to support the towns adaptive management approach to developing long-term solutions and in acknowledgement of the town and its residents concrete support for projects that will reduce nitrogen in the short-term.”

“MassDEP comments indicate that an approvable TWMP will satisfy SRF requirements necessary to secure 0% financing.”
MEPA/CCC Special Review Procedure
Regulatory, Legal, and Institutional Interactions

What are some of the hurdles and opportunities associated with permitting the above scenarios?
What components of an adaptive management plan are needed to achieve permitability and water quality goals?
Adaptive Management

Definition

A structured approach that monitors outcomes for meeting water quality goals, assesses progress over time, and requires recalibration of plans and projects, as necessary, based on review and evaluation of monitoring.
All materials and resources for the Mid Cape Sub Regional Group will be available on the Cape Cod Commission website: