

Section 208

Area-Wide Water Quality Management Plan Update

Mid Cape Area



CAPE COD
COMMISSION

watersheds.capecodcommission.org

Why Are We Here?



Prince's Cove, Marstons Mills – May 2013

The 208 Plan: What is It?

- Clean Water Act Section 208
- Much more known/done now
- Focus on 21st Century Problems
 - Nitrogen:** Saline waters
 - Phosphorus:** Fresh Waters
 - Growth & Title 5 Limitations**
- Directed to update the existing plan by the Commonwealth
- Provided \$3 million to complete it

Approach to the 208 Plan Update

- **Update to 1978 Plan**
- **Watershed-Based**
- **Stakeholder Engagement – Cape-Wide & Watershed-Based**
- **Maximize Benefits of Previous Planning**
- **No Optimal Solution. Diverse Technologies**
- **Adaptive – Technology Development, Pilot Projects, Progress Monitoring**
- **Coordination with MassDEP and U.S. EPA**
- **Support and expedite targeted watershed solutions under existing plans**

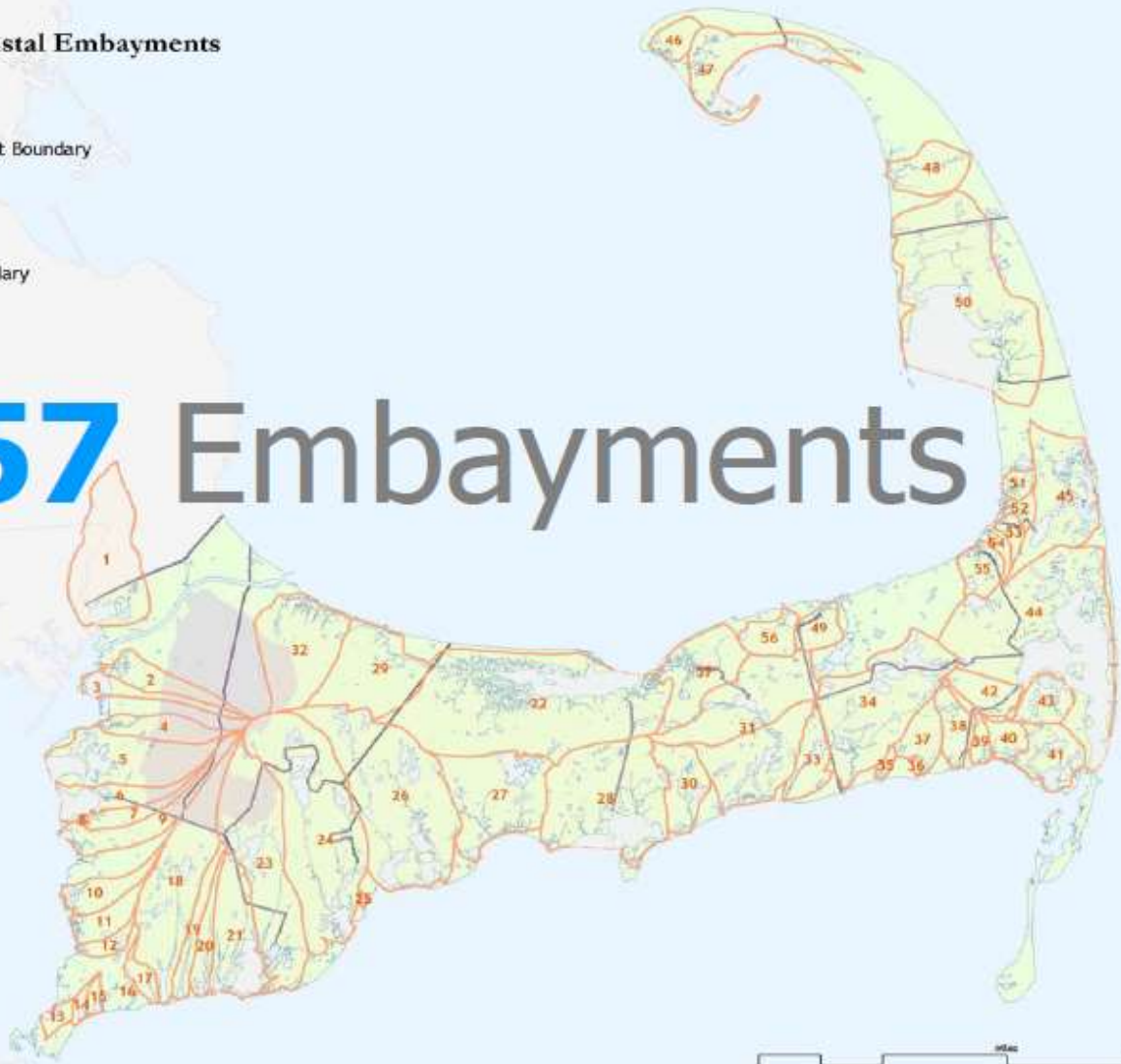
105 Watersheds



57 Major Coastal Embayments

- ◇ Embayment Boundary
- Creeks
- Townline
- ▣ Ponds
- MMR Boundary

57 Embayments

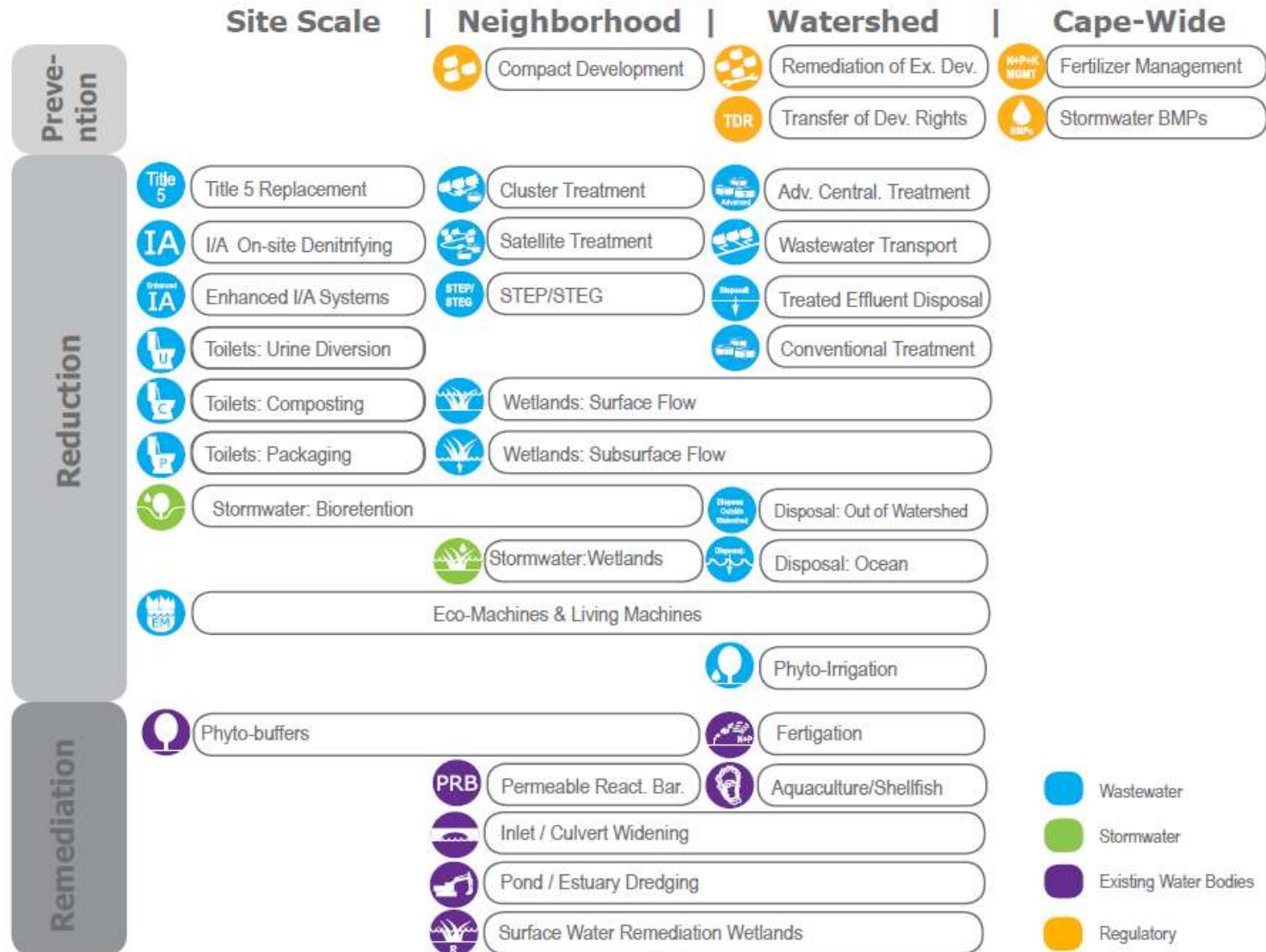


1 Sole Source Aquifer



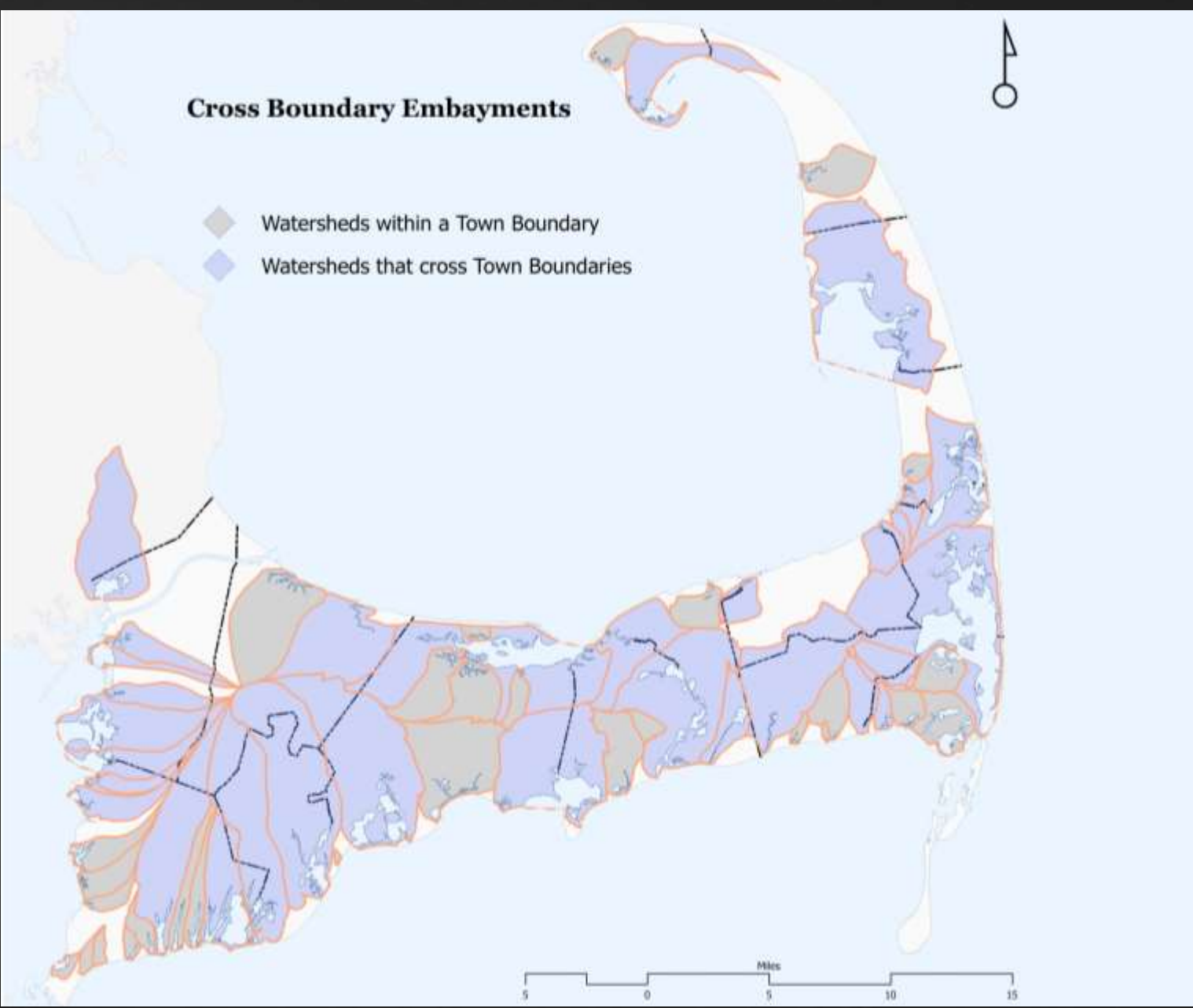
NO Single Solution

Diverse Mix of Technologies



Cross Boundary Embayments

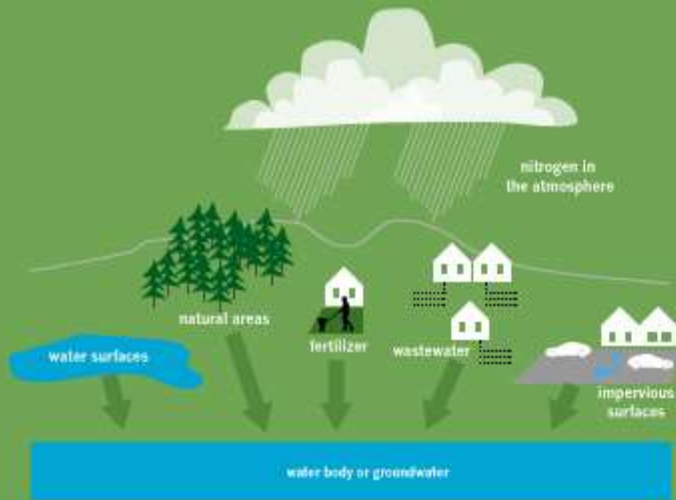
- ◆ Watersheds within a Town Boundary
- ◆ Watersheds that cross Town Boundaries



Nitrogen Sources/Facts

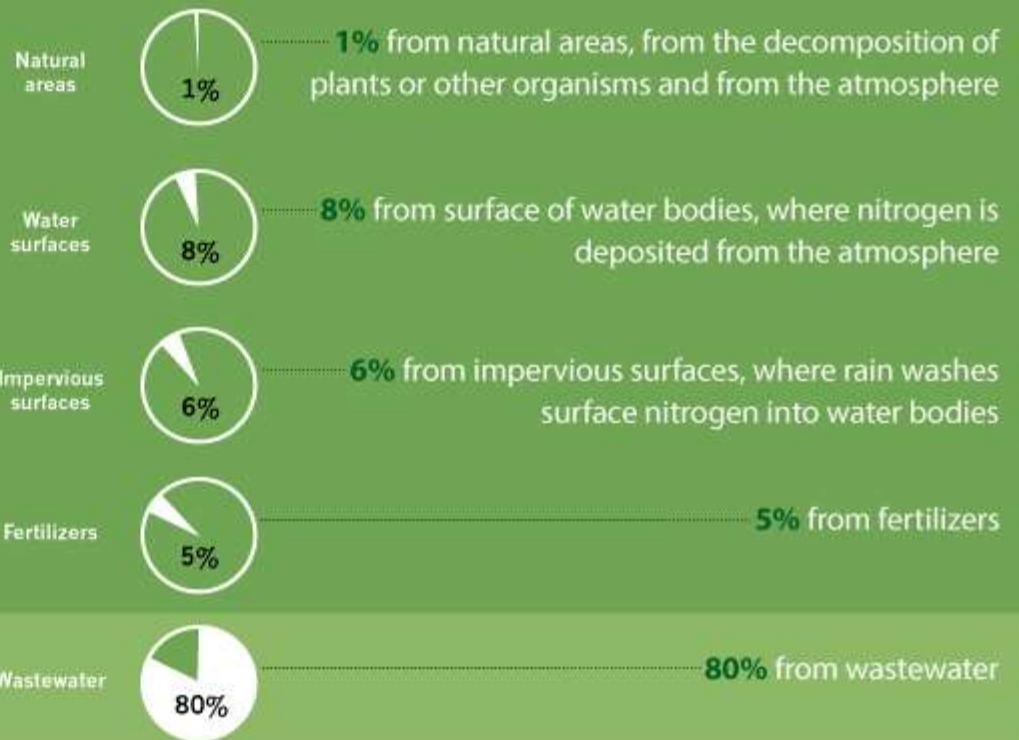
NITROGEN

Nitrogen is an element abundant in the environment. Nitrogen is a nutrient that is common in all living things and essential for growth.

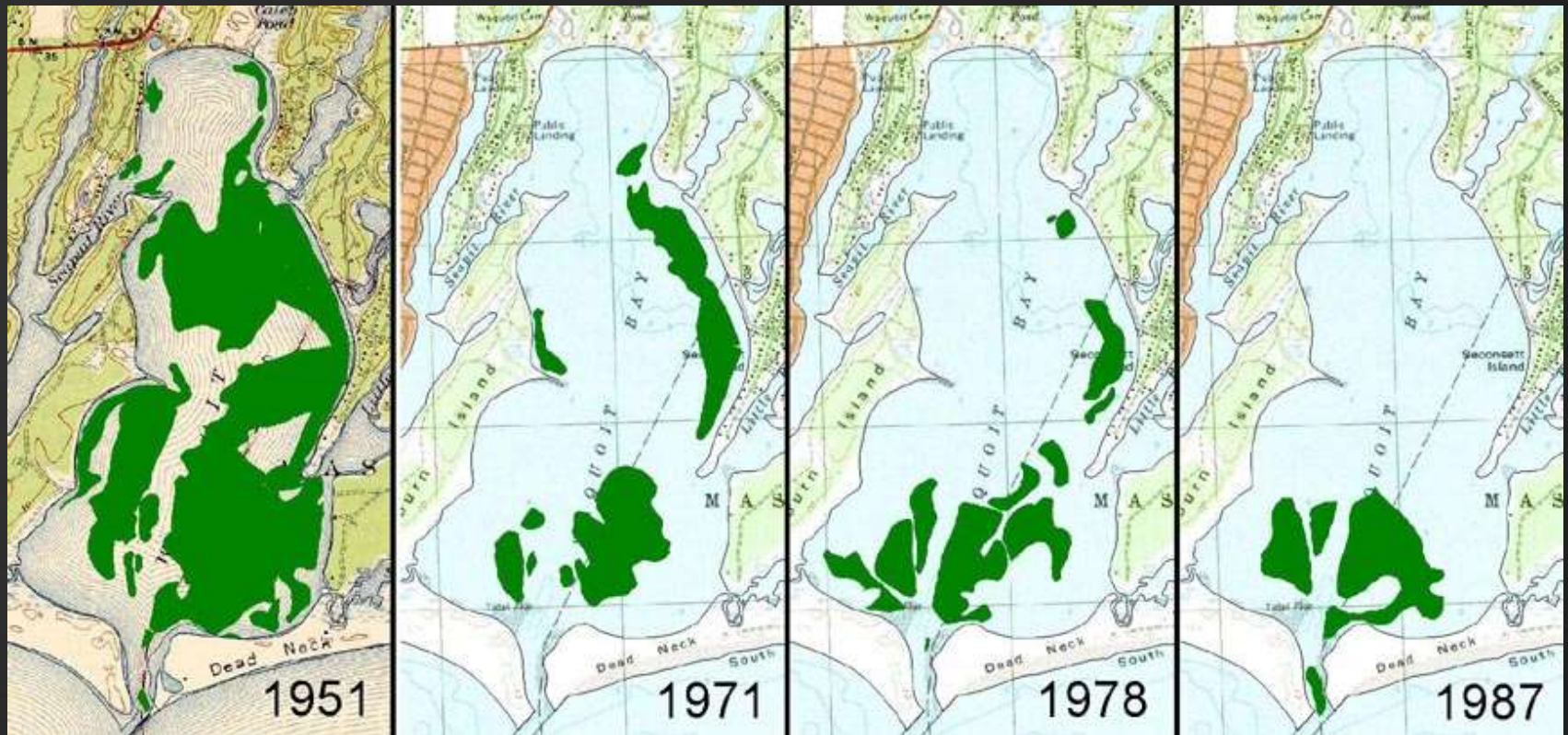


CAPE COD NITROGEN FACTS

Nitrogen enters our water bodies from a variety of natural and human sources



Coastal Water Quality Problem



Reduction in eel grass

Waquoit Bay - Falmouth and Mashpee

A map of the state of Massachusetts is shown against a light blue background. The landmass is white with thin black lines representing county boundaries. Numerous small, irregular blue patches are scattered across the land, representing the locations of ponds. The text "1,036 Ponds" is overlaid in the center of the map. The number "1,036" is in a large, bold, blue font, and the word "Ponds" is in a smaller, grey font with a drop shadow.

1,036 Ponds

Phosphorus and Freshwater

PHOSPHORUS

Phosphorus is an essential nutrient for all life on earth. Our bodies need phosphorus for healthy bones and teeth.

Plants need phosphorus to grow, but there is a limit. When there is too much phosphorus in a pond, lake or stream, algae may bloom and plant life and fish can die as a result of eutrophication.



Common sources of phosphorus entering our fresh and coastal water bodies are:

Runoff from mining, farming, animal waste, and home lawn fertilizers



Wastewater from our septic tanks -- including human wastes, food residues, detergents, and soaps.

Phosphorus can be reduced to harmless amounts as it travels through varying soils, which act as a filter for phosphorus.



Homes located close to pond shore



Homes located away from pond shore

Locating development -- including septic systems, lawns, and drainage from paved surfaces -- away from pond shores helps to protect the quality of our fresh water bodies.

Project Team

Consultants:

AECOM, Consensus Building Institute
Emerson College, Engagement Game Lab,
Offshoots Productive Landscapes

Staff:

Cape Cod Commission

Stakeholder Engagement

CAPE-WIDE

Advisory Board
Communications Strategy
Communications Campaign
Benchmarking & Assessing
Program Branding

Regulatory
Coordination

Technical Advisory
Committee

WATERSHED

Stakeholder Communication
Workshop Facilitation
Capacity Building
Watershed Status Portal

watersheds.capecodcommission.org

208 Advisory Board

Meets 3rd Tuesday of each month

Members:

Robert Churchill: Churchill Associates

Robert Lawton: Interim Harwich Town Administrator, Former Yarmouth Admin

Wendy Northcross: CEO of the Cape Cod Chamber of Commerce

Sheila Vanderhoef: Eastham Town Administrator

Virginia Valiela: Member- Falmouth Water Quality Mngmt Committee

Robin Wilkins: Former Town of Harwich Selectman

Regulatory, Legal & Institutional Work Group

Members:

Cape Cod Commission

MassDEP

U.S. EPA

U.S. Army Corps of Engineers

Regulatory Flexibility, Financial Affordability

- Provides the basis for state & federal support
- Seek regulatory flexibility for innovative and shared solutions
- Seek funding covering 50% of capital costs

New Tools/Resources

The Commission is developing a set of innovative tools to assist with decision making.

- Watershed MVP
- Systems Dynamics Model
- Green Infrastructure Site Selection Process
- Game-based Planning

Outreach

208 Town Meetings

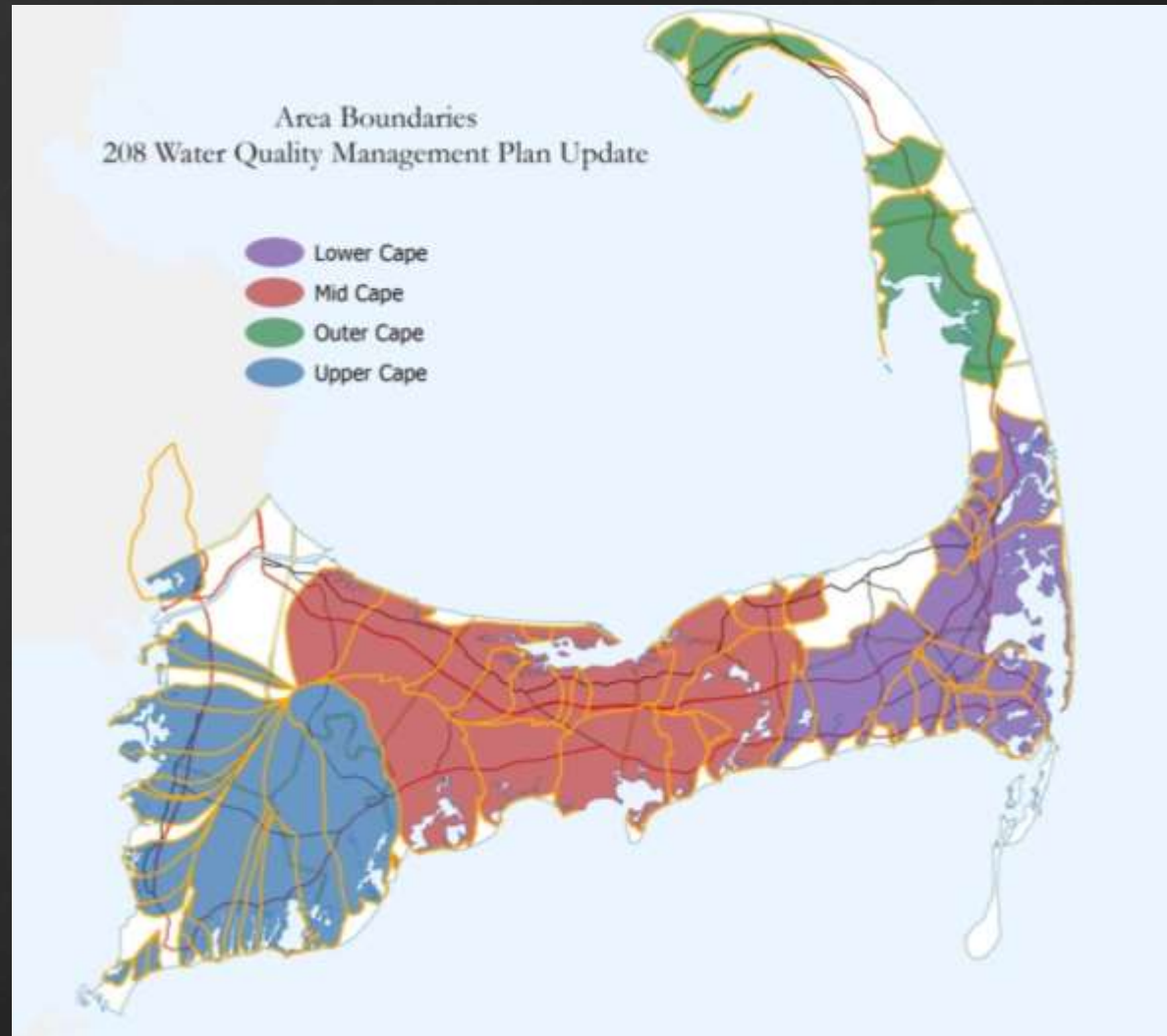
Discussion

- 208 watershed planning process
- Status of local planning to date

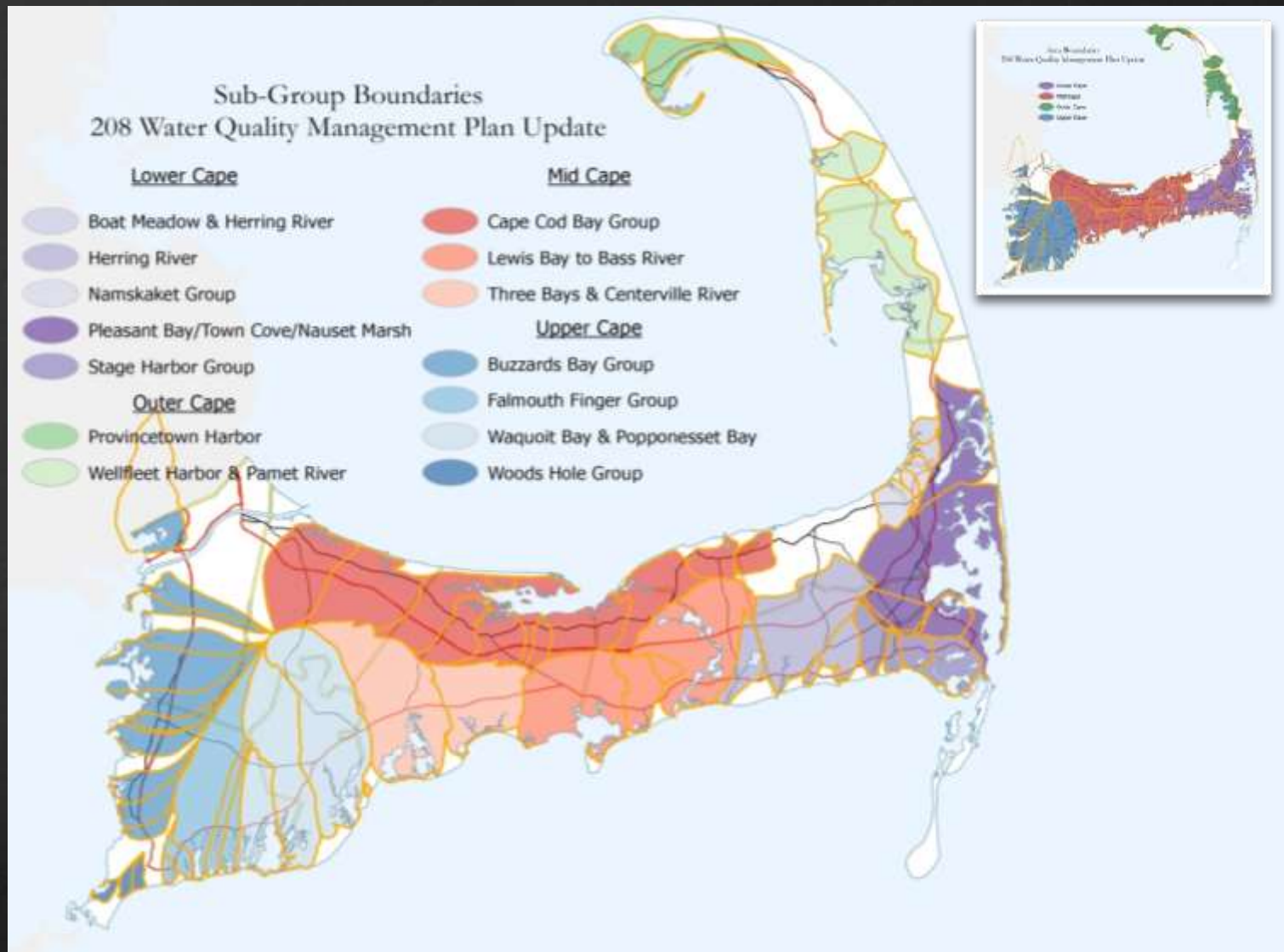
Public Meetings – Work Plan & Project Goals

- Outer Cape – 7/15
- Upper Cape – 7/16
- Lower Cape – 7/17
- Mid Cape – 7/18

Four Regions



Four Regions Into 14 Working Groups





SECTION 208 WATER QUALITY PLAN UPDATE


Mid Cape Area


Cape Cod Bay Group

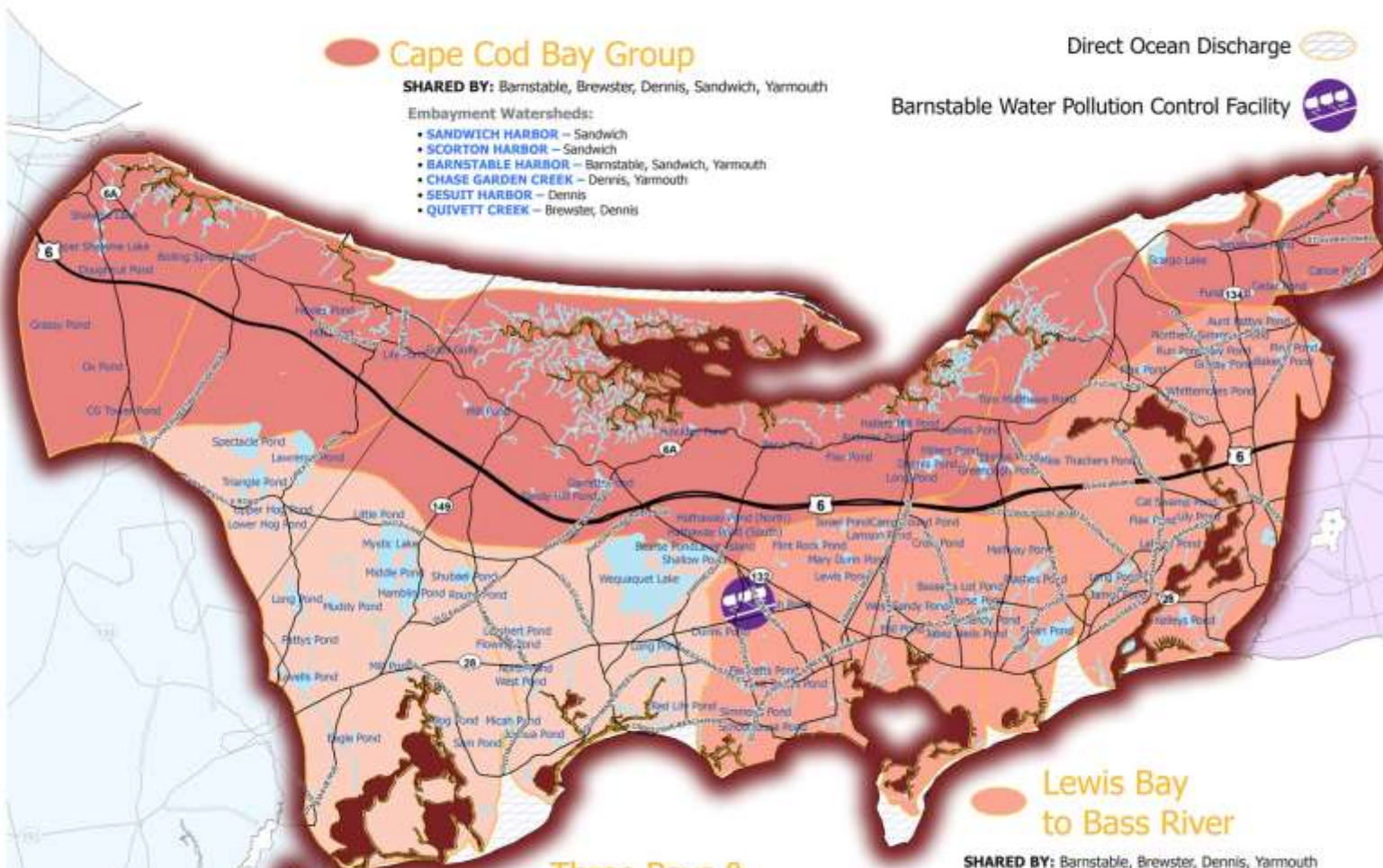
SHARED BY: Barnstable, Brewster, Dennis, Sandwich, Yarmouth

Embayment Watersheds:

- SANDWICH HARBOR – Sandwich
- SCORTON HARBOR – Sandwich
- BARNSTABLE HARBOR – Barnstable, Sandwich, Yarmouth
- CHASE GARDEN CREEK – Dennis, Yarmouth
- SESUIT HARBOR – Dennis
- QUIVETT CREEK – Brewster, Dennis

Direct Ocean Discharge 

Barnstable Water Pollution Control Facility 



Lewis Bay to Bass River

SHARED BY: Barnstable, Brewster, Dennis, Yarmouth

Embayment Watersheds:

- LEWIS BAY – Barnstable, Yarmouth
- PARKERS RIVER – Yarmouth
- LONG POND – Yarmouth
- BASS RIVER – Brewster, Dennis, Yarmouth

Three Bays & Centerville River

SHARED BY: Barnstable, Mashpee, Sandwich

Embayment Watersheds:

- RUSHY MARSH POND – Barnstable
- THREE BAYS – Barnstable, Mashpee, Sandwich
- CENTERVILLE RIVER – Barnstable



Three Mid Cape Working Groups

THREE BAYS & CENTERVILLE RIVER

SHARED BY: Barnstable, Mashpee, Sandwich

Embayment Watersheds:

- **RUSHY MARSH POND** – Barnstable
- **THREE BAYS** – Barnstable, Mashpee, Sandwich
- **CENTERVILLE RIVER** – Barnstable

LEWIS BAY TO BASS RIVER

SHARED BY: Barnstable, Brewster, Dennis, Yarmouth

Embayment Watersheds:

- **LEWIS BAY** – Barnstable, Yarmouth
- **PARKERS RIVER** – Yarmouth
- **LONG POND** – Yarmouth
- **BASS RIVER** – Brewster, Dennis, Yarmouth
-

CAPE COD BAY GROUP

SHARED BY: Barnstable, Brewster, Dennis, Sandwich, Yarmouth

Embayment Watersheds:

- **SANDWICH HARBOR** – Sandwich
- **SCORTON HARBOR** – Sandwich
- **BARNSTABLE HARBOR** – Barnstable, Sandwich, Yarmouth
- **CHASE GARDEN CREEK** – Dennis, Yarmouth
- **SESUIT HARBOR** – Dennis
- **QUIVETT CREEK** – Brewster, Dennis

Working Group Participants

- Target of 15-20 members per working group
- 8-10 Designated Seats
 - Local Elected Officials
 - Wastewater Committee Member
 - Town Professional Staff
 - Local Business Owner/Operator
 - Local Environmental Organization
 - Civic Group Member
 - Alternative Technology Interest
 - Development/Real Estate Community
- 5-7 open seats for each group
- Consensus Building Institute to facilitate selection process, decisions made by participants.

Stakeholders Should Expect to...

- Represent and articulate the diverse range of interests and concerns they represent.
- Seek input from constituents, and keep them informed about Working Group proceedings.
- Attend all meetings and participate actively in discussions.
- Engage in respectful and constructive dialogue with other participants
- Seek creative options to resolve wastewater problems.

Stakeholder Workshops

Three meetings for each of 14 Watershed Groups

MEETING 1:

Baseline Conditions & Impairments

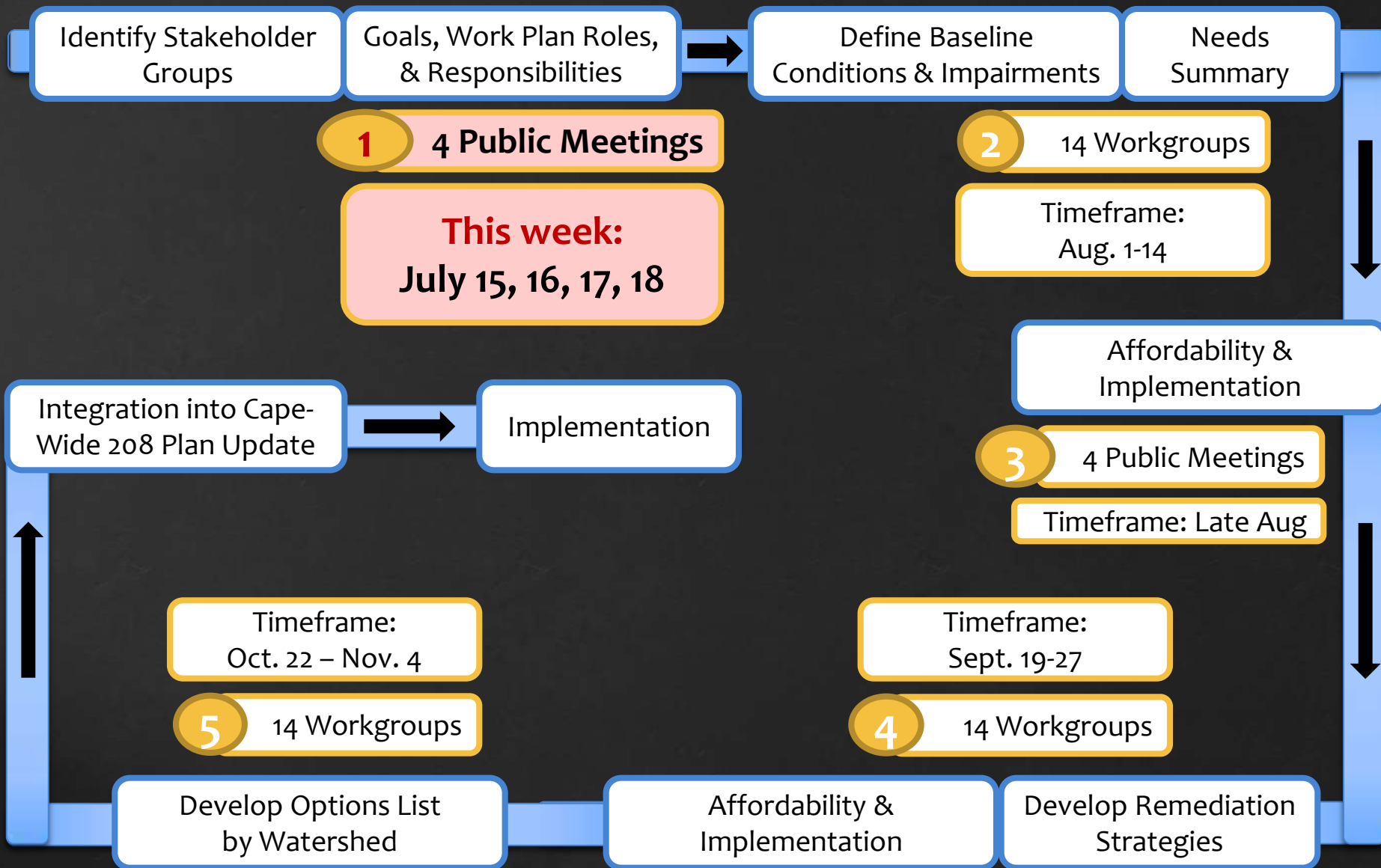
MEETING 2:

Develop Remediation Strategies

MEETING 3:

Develop Options List by Watershed

The 208 Process - Year 1



Mid Cape Working Groups

Cape Cod Bay Group

Cape Cod Commission Office		8:30 a.m – 12:30 p.m
Aug. 13	Sept. 24	Oct. 30

Three Bays & Centerville River

COMM Fire Headquarters		8:30 a.m – 12:30 p.m
Aug. 14	Sept. 19	Nov. 4

Lewis Bay to Bass River

C&I Association of Realtors Mid Tech Drive, West Yarmouth		8:30 a.m – 12:30 p.m
Aug. 14	Sept. 26	Oct. 29

QUESTIONS?



CAPE COD
COMMISSION

SECTION 208 WATER QUALITY PLAN UPDATE

Mid Cape Area

Cape Cod Bay Group

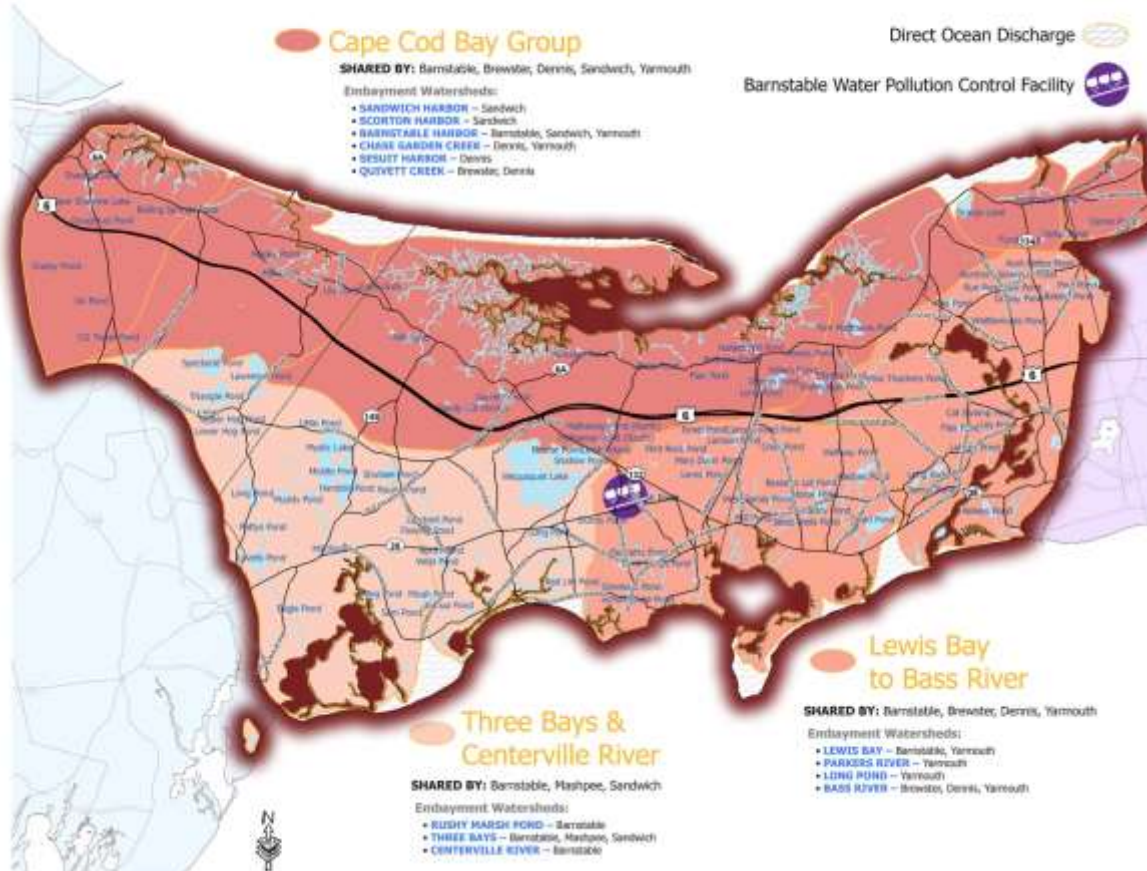
SHARED BY: Barnstable, Brewster, Dennis, Sandwich, Yarmouth

Embayment Watersheds:

- SANDWICH HARBOR – Sandwich
- SCORTON HARBOR – Sandwich
- BARNSTABLE HARBOR – Barnstable, Sandwich, Yarmouth
- CHASE GARDEN CREEK – Dennis, Yarmouth
- SESUET HARBOR – Dennis
- QUIVETT CREEK – Brewster, Dennis

Direct Ocean Discharge

Barnstable Water Pollution Control Facility



Thinking about this process...

What is our greatest opportunity?

What is our greatest challenge?

Take 15 minutes to talk these
over in small groups.

Register to Play Cape₂O

Cape₂



It's something in the water



communityplanit.org/capecod



CAPE COD
COMMISSION

watersheds.capecodcommission.org