

APPROVED

**MINUTES
SELECTMEN'S MEETING
MULTI-PURPOSE ROOM, HARWICH COMMUNITY CENTER
JOINT MEETING WITH WASTEWATER IMPLEMENTATION COMMITTEE
WEDNESDAY, JUNE 17, 2015
6:00 P.M.**

SELECTMEN PRESENT: Cebula, Hughes, LaMantia, MacAskill

OTHERS PRESENT: David Young, Peter DeBakker, and others.

PUBLIC HEARINGS/PRESENTATIONS

The following items were discussed. The attached Power Point presentation was delivered. No action or votes were taken.

- A. **Workshop** – Comprehensive Wastewater Management Plan
 - 1. History of Wastewater in the Town
 - 2. Where we are Today
 - 3. Needs for the Future
 - 4. Questions and Answers
- B. **Public Hearing** – Cost Recovery Model – Wastewater Implementation

ADJOURNMENT

Submitted by,

Ann Steidel
Recording Secretary

Board of Selectmen and Wastewater Implementation Committee Joint Workshop on Wastewater Planning
Town of Harwich, Massachusetts




Peter Hughes
BOS Chairman

Peter de Bakker
WIC Chairman

David Young, P.E.
CDM Smith

Presentation on
June 17, 2015
6 pm



Board of Selectmen (BOS)



- BOS Members:
 - Peter S. Hughes, Chair
 - Linda A. Cebula, Vice Chair
 - Jannell M. Brown, Clerk
 - Angelo S. LaMantia
 - Michael D. MacAskill
- Former BOS Members: Larry Ballantine and Ed McManus
- Town Administrator: Chris Clark



Town of Harwich - Cost Recovery Model for Wastewater

Wastewater Implementation Committee (WIC)



- WIC Members:
 - Peter de Bakker, Chair
 - Chris Harlow, Vice Chair
 - Allin Thompson, Clerk
 - Jeremy Gingras
 - Danette Gonsalves
 - Heinz Proft
 - Bob Cafarelli
- Liaisons: Michael MacAskill, Chris Clark, Noreen Donahue
- Consultant: CDM Smith (David Young, Rob Musci)



Town of Harwich - Cost Recovery Model for Wastewater

Meeting Agenda



- Wastewater Informational Workshop
 - Why is Harwich studying wastewater?
 - What is our proposed solution?
- Questions and answers.
- Public Hearing on Cost Recovery Model
 - How do we plan to pay for it?



Town of Harwich - Cost Recovery Model for Wastewater

Meeting Agenda

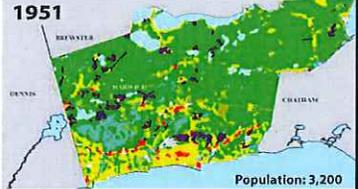
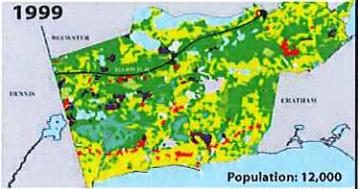


- Why is Harwich studying wastewater?



Town of Harwich - Cost Recovery Model for Wastewater

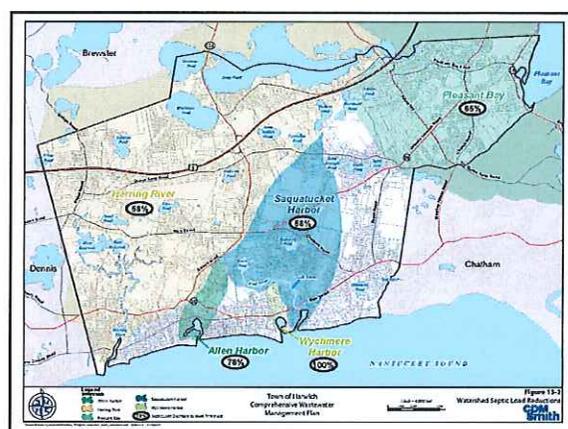
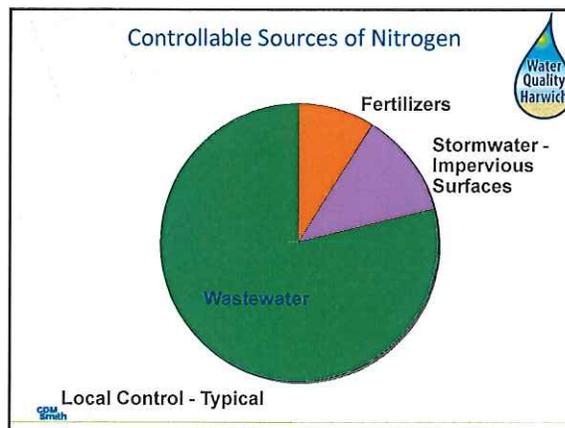
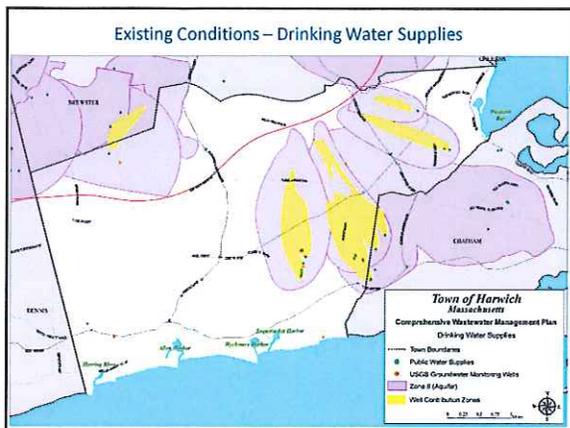
Harwich Land Use Development 1951 and 1999

- 400% population growth from 1951 to 1999



Town of Harwich - Cost Recovery Model for Wastewater

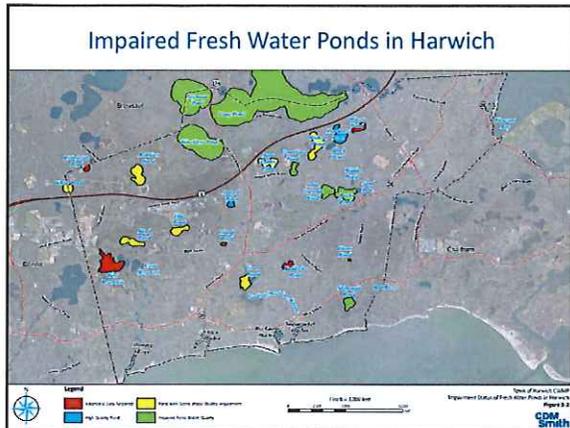


Total Maximum Daily Load (TMDL) for Total Nitrogen

- MassDEP (Department of Environmental Protection) has issued pre-draft TMDLs for total nitrogen for the Herring River Estuarine System and the Allen, Wychmere and Saquatucket Harbor Embayment Systems.
- TMDLs based on information presented in the MEP reports.
- Public hearings will be held and formal permits issued in the next few months.
- Authority is provided by Federal Clean Water Act (CWA)

Conservation Law Foundation

- “Nitrogen pollution is driving the Cape to the brink of ecological disaster; how we enforce wastewater management is critical to restoring Cape’s waters to health”



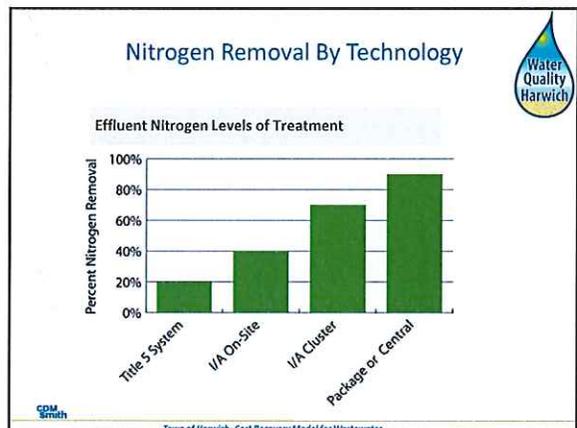
Meeting Agenda

- Why is Harwich studying wastewater?
- **What is our proposed solution?**

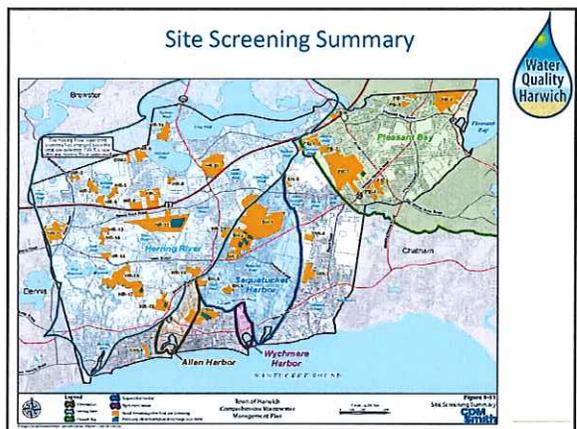
Water Quality Harwich

CDM Smith

Town of Harwich - Cost Recovery Model for Wastewater



- ### Treatment Site Screening Criteria
1. Outside of a Well Contribution Zone
 2. Parcel Size Greater than 5 Acres
 3. Outside of a 100-Year Floodplain Zone
 4. Sites With Permeable Soils
 5. Undeveloped Property
 6. Parcels Outside of Wetlands
 7. Favorable Depth to Groundwater
 8. Outside Priority Habitat
 9. Outside Municipal Wellhead Protection Zones
 10. Town-Owned Property
- Water Quality Harwich
- CDM Smith



Alternative Solutions Evaluated

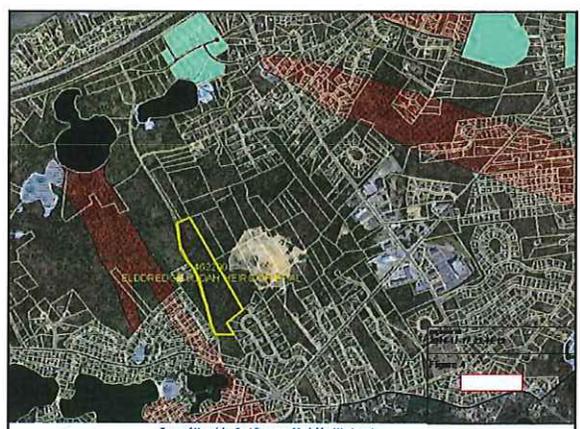
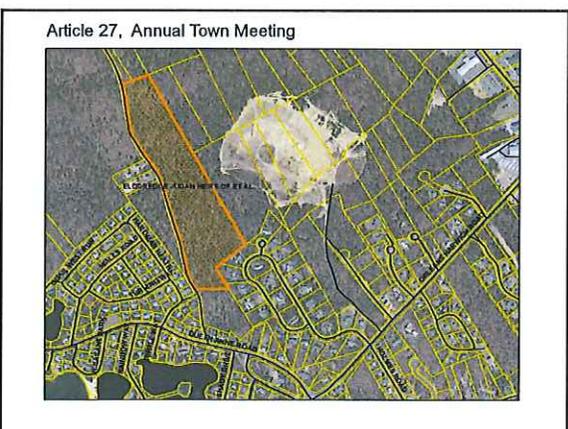
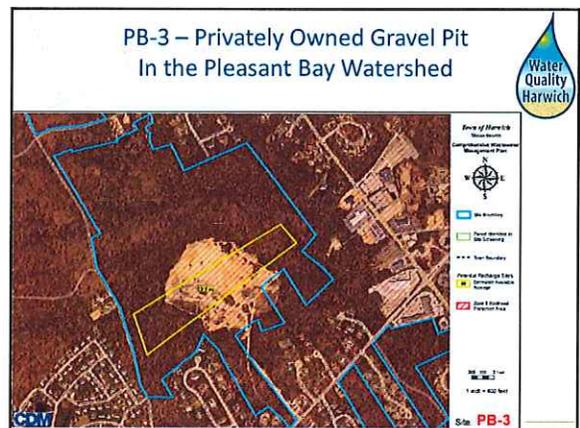
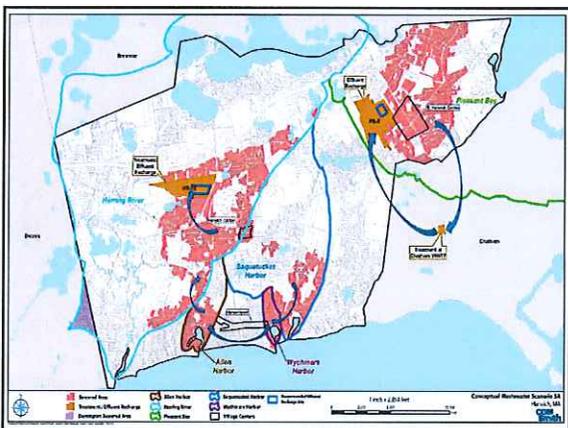
- On-site Innovative/ Alternative (I/A) systems
- Small treatment plants
- Large treatment plants
- Single and multiple treatment plants
- Single and multiple effluent recharge locations
- Ocean outfall for effluent recharge
- Natural nitrogen attenuation systems
- Hybrid solutions




Summary of Wastewater Scenarios and Effluent Recharge Sites

Wastewater Service	Herring River Recharge Site	Saquetucket Harbor Recharge Site	Pleasant Bay Recharge Site	Outside MEP Watershed Recharge Site	Treatment Only At HR-18 : Ocean Used for Recharge
Scenario	HR-12	SH-2	PB-3	OW-2	Outfall
1A	X	X	X		
2A	X	X	X		
3A	X				
4A	X		X		
5A	X		X		
6A	X	X	X	X	
7A	X	X	X	X	
8A					X





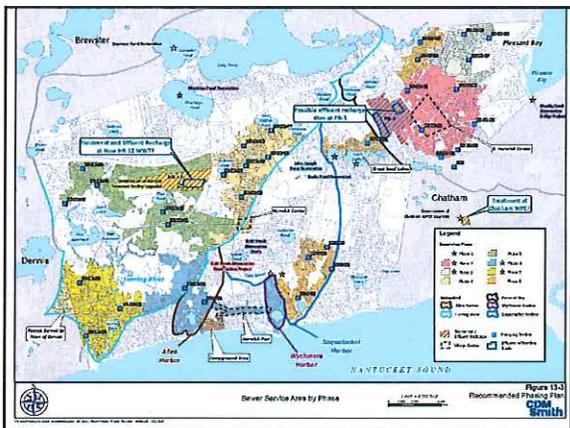
Nitrogen Reduction via Increased Flushing at Muddy Creek





Nitrogen Reduction by Natural Attenuation at Cold Brook Bogs – Bank Street



Why East Harwich in Early Phases



- Phase 1 focuses on natural nitrogen attenuation aspects.
- Phases 2 and 3 address East Harwich
 - Pleasant Bay watershed is largest watershed requiring greatest amount of nitrogen removal.
 - Utilizes regional approach for cost efficiencies
 - Protects only Harwich drinking water wells which have shown some impact from nitrogen.
 - Provides sewer utility to East Harwich Village Commercial District.
 - Pushes Harwich only treatment plant out 15 years.



Town of Harwich – Cost Recovery Model for Wastewater

Summary



- This is a complex planning process – one that will continue indefinitely – as things will change – adaptive management
- The CWMP is intended to be a living document that will adapt depending on results of earlier implementation phases
- Most properties in town contribute to the problem – not just those along a water body or those proposed for sewerage
- All benefit from improved water quality



The Consequences...



- “The cost of doing nothing is economically devastating to every Cape homeowner.”
 - Cape Cod Commission, 2014
 - Draft 208 Water Quality Plan



Algae Bloom in Swan Pond, Dennis and in Mill Creek, Yarmouth



Town of Harwich – Cost Recovery Model for Wastewater

Questions and Comments:





Board of Selectmen Public Hearing – Cost Recovery Model

Town of Harwich, Massachusetts



Peter Hughes
BOS Chairman

David Young, P.E.
CDM Smith

Presentation on
June 17, 2015




Meeting Agenda



- Why is Harwich studying wastewater?
- What is our proposed solution?
- How do we plan to pay for it?



Town of Harwich- Cost Recovery Model for Wastewater

WIC Strategy



- Wastewater program is proposed to be implemented in eight phases over 40 years. Many variables will change over that timeframe.
- Focus cost recovery model on first three implementation phases.
- Keep the cost model simple.



Town of Harwich- Cost Recovery Model for Wastewater

WIC Strategy



- Everyone in town contributes to the nitrogen problem so everyone should help pay for the restoration of water quality.
- Develop a dedicated funding source that will help stabilize costs over the life of the program.
- Include a component that links water use (nitrogen contributed) to the amount a resident or business owner pays.



Town of Harwich- Cost Recovery Model for Wastewater

Recommended WIC Cost Recovery Model Components - Percentages



- Infrastructure investment fund at 1.5% of annual property tax (lower CPA from 3% to 1.5%).
- For remaining debt service:
 - Town-wide property tax for 75%.
 - Sewer enterprise account/ water use surcharge for 25%.



Town of Harwich- Cost Recovery Model for Wastewater

Recommended WIC Cost Recovery Model Components



- Infrastructure investment fund
- Town-wide property tax
- Sewer enterprise account/ water use surcharge

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Town of Harwich- Cost Recovery Model for Wastewater

Infrastructure Investment Fund



- Pro: Town-wide program dedicated to wastewater infrastructure.
- Pro: Progressive and doesn't count against Prop 2.5
- Pro: Could shift percentage away from existing CPA program (no net increase).
- Pro: Tax deductible.
- Con: In essence, an additional tax.
- Con: Still have to pay off land bank

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Town-wide Property Tax



- Pro: Town-wide funding source as all property owners contribute to water quality degradation (and solution).
- Pro: Simple to implement.
- Pro: Property tax system is progressive and aligns with property owner's ability to pay fair share.
- Pro: Could be used to pay capital and O&M costs.
- Con: All property owners will pay even though only half of town projected to be on a sewer.
- Con: Property owner nitrogen contributions are not proportional to assessed values.

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Sewer Enterprise Account



- Pro: Town-wide funding source dedicated to wastewater program (based on surcharge to water bill).
- Pro: Water use essentially proportional to amount of nitrogen contributed.
- Pro: Can be used to pay capital and O&M costs.
- Con: Requires formation of sewer district and enterprise account.
- Con: Requires means to capture fee from 250 residences using on-site wells.

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Wastewater Program Costs by Phase



- Phase 1: 2015 to 2016 \$2,550,000
Natural nitrogen attenuation projects (Muddy Creek and Cold Brook) and effluent recharge site.
- Phase 2: 2016 to 2020 \$24,300,000
Design and Construct Pleasant Bay collection system (south).
- Phase 3: 2021 to 2025 \$21,010,000
Additional Pleasant Bay sewers and Chatham connection costs.

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Harwich Cost Assumptions



- Average home assessed value is \$400,000.
- FY15 property tax revenue \$47 million and will increase at 2.5 % annually.
- Tax rate for FY15 is \$8.97/ \$1,000 valuation.
- Average homeowner water consumption is 70,000 gallons per year.
- Used 638 Million gallons average annual water volume billed to calculate average water rate.
- Highest debt service is in Year 2026

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Costs to Homeowner on Sewer



• Infrastructure investment fund	\$ 54
• Property tax increase	\$133
• Sewer enterprise cost	\$ 57
• Total	\$ 244
• Plus initial hook-up loan cost	
• Plus annual O&M cost initially estimated to be	\$145-\$175

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Costs to Homeowner Not on Sewer



• Infrastructure investment fund	\$ 54
• Property tax increase	\$133
• Sewer enterprise cost	\$ 57
• Total	\$ 244
• Plus O&M cost to pump their septic system once every three years estimated to be \$300 to \$350 and septic system replacement/upgrade every 20 to 25 years at \$13,000.	

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Comparison: Costs to Homeowner Using 100% Property Tax



• Infrastructure investment fund	\$ 0
• Property tax increase	\$254
• Sewer enterprise cost	\$ 0
• Total	\$ 254

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Comparison: Costs to Homeowner Using 75% Property Tax and 25% Sewer Enterprise Account



• Infrastructure investment fund	\$ 0
• Property tax increase	\$190
• Sewer enterprise cost	\$ 82
• Total	\$ 272

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2012 Sewer Rate Survey by T&B Typical Annual Costs



- Range of annual sewer service costs \$210 to \$1,440
- Average annual sewer cost \$690
- Median annual sewer cost \$646

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Summary of Harwich Utility



- 180 Miles of Utility Pipes
- 5 Pumping Stations
- 3 Storage Tanks
- Treatment Facility
- Administration Offices and Maintenance Garages
- Capital Cost Range (Today's Dollars):

\$215 to \$255 Million 

CDM Smith

Action Item

- Town needs to adopt a policy for cost recovery to implement the first phases of their recommended wastewater program so that it can be included in the filing of the Final Comprehensive Wastewater Management Plan (CWMP). That is the only missing component before re-filing the documents with the State and County. Goal is to do that this summer.



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Town of Harwich: Cost Recovery Model for Wastewater

Potential Motion

- The Harwich Board of Selectmen endorse a cost recovery policy for wastewater program implementation that utilizes the combination of town wide property taxes, an infrastructure investment fund and a sewer enterprise account based on water consumption. Where appropriate, grant funds will be applied for and if awarded will be used to offset costs as applicable.



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Town of Harwich: Cost Recovery Model for Wastewater

Potential Motion Cont'd

- This policy will be utilized to support the implementation of at least the first three phases of the eight phase program and is subject to change should other potential beneficial funding programs become available to the town and the actions of town meeting and subsequent ballot results.



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Town of Harwich: Cost Recovery Model for Wastewater

Questions and Comments:



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