

Cape Cod Commission

208 Area Wide Water Quality Management Plan Update Stakeholder Summit



*February 6, 2013
8am - 2pm
Resort and Conference Center
Hyannis, MA*

Agenda

- 7:15 *Registration*
- 8:00 Welcome & Introduction – Paul Niedzwiecki, Cape Cod Commission
- 8:30 Wendy Northcross, CEO, Cape Cod Chamber of Commerce
- 8:45 The Cost of Doing Nothing – EPA & Industrial Economics, Inc
- 9:15 Commissioner Ken Kimmell, MassDEP
- 9:30 Reflecting on the last 6 months of stakeholder engagement – CBI
- What did we learn on both process and substance for addressing water quality issues on a watershed basis?
- 10:00 Breakout Sessions – 4 subregional groups with rotating presenters and discussion on the following topics:
- scenario planning
 - triple bottom line analysis
 - regulatory, legal, & institutional issues
 - implementation (monitoring, adaptive management, financing)
 - stakeholder involvement over the next 6 months: self-organizing for subregional stakeholder groups
- 10:05 Breakout Session 1
- 10:40 Breakout Session 2
- 11:10 Break
- 11:20 Breakout Session 3
- 11:50 Breakout Session 4
- 12:20 Breakout Session 5
- 12:50 Return to Main Room and Lunch is Served
- 1:00 State Treasurer Steven Grossman
- 1:15 Watershed Governance – Ben Grumbles, President of U.S. Water Alliance
- 2:00 Adjourn

Breakout Sessions

Upper Cape: Cape Cod Room

Mid Cape: Hyannisport East

Lower Cape: Hyannis Port West

Outer Cape: Barnstable Room #2 (first floor)

- **Scenario Planning**

- Schedule: 10:10-10:40 Upper Cape
- 10:40-11:10 Mid Cape
- 11:10-11:20 Break
- 11:20-11:50 Lower Cape
- 11:50-12:20 Outer Cape

- **Triple Bottom Line Analysis**

- Schedule: 10:10-10:40 Mid Cape
- 10:40-11:10 Lower Cape
- 11:10-11:20 Break
- 11:20-11:50 Outer Cape
- 11:50-12:20 Upper Cape

- **Regulatory, Legal, and Institutional Discussion**

- Schedule: 10:10-10:40 Lower Cape
- 10:40-11:10 Outer Cape
- 11:10-11:20 Break
- 11:20-11:50 Upper Cape
- 11:50-12:20 Mid Cape

- **Implementation**

- Schedule: 10:10-10:40 Outer Cape
- 10:40-11:10 Upper Cape
- 11:10-11:20 Break
- 11:20-11:50 Mid Cape
- 11:50-12:20 Lower Cape

- **Stakeholder involvement over the next 6 months**

- Schedule: Last session for every group

Speakers

Wendy Northcross

Commissioner Ken Kimmell

Treasurer Steve Grossman

Ben Grumbles

Wendy Northcross



“Water quality is not only a quality of life issue, it is an economic issue. It is critical that we find the best science to sustain Cape Cod’s water, at the best price possible.”

Wendy is Chief Executive Officer of the Cape Cod Chamber of Commerce and has been with the organization since 1997. She is a Certified Chamber Executive and in 2009 completed a Fellowship for Regional Sustainable Development from the Ford Foundation and the Association of Chamber of Commerce Executives (ACCE).

She has served on the transition teams for both Governors Cellucci and Patrick, and is chair of the Massachusetts Regional Tourism Councils.

A founder of the John F. Kennedy Hyannis Museum, Northcross continues to serve on its foundation board. She currently serves on the board of directors of The Cooperative Bank of Cape Cod, the Cape & Islands Workforce Investment Board, the Graduate Center of Cape Cod, Job Training & Employment Corp., and the Arts Foundation of Cape Cod. She is the immediate past chair of the New England Association of Chamber of Commerce Executives. In 2013 she joined the board of the national Association of Chamber of Commerce Executives.

Northcross grew up on Cape Cod and lives in West Barnstable with her husband, Van who is regional marketing director for Cape Cod Healthcare.

Commissioner Ken Kimmell



“It has become equally clear that the most effective and affordable approach to this problem is a regional effort. Nitrogen-loading is a Cape-wide problem, with estuaries and watersheds often crossing municipal boundaries.”

Kenneth L. Kimmell was appointed in January 2011 as Commissioner of the MassDEP by Secretary of Energy and Environmental Affairs Richard K. Sullivan Jr. Since the time of his appointment, MassDEP has launched a clean energy results program to focus on the permitting and siting of clean energy facilities, such as anaerobic digesters, which tap the hidden energy value of organic waste; announced completion of a sustainable water management initiative framework to balance competing human needs for water and the long-term health of Massachusetts rivers and streams; completed a top-to-bottom review of all of MassDEP's permit programs and identified over twenty regulatory changes to streamline permitting; and commenced an overhaul of MassDEP's information technology systems to make the agency more efficient, transparent, and accessible to the regulated community and the public. Mr. Kimmell has been elected Chair of the Board of Directors of the Regional Greenhouse Gas Initiative, Inc., the nation's first mandatory greenhouse gas cap and trade program, and was instrumental in the recent nine-state agreement to strengthen RGGI by lowering the cap on carbon dioxide emissions. Mr. Kimmell is also active in efforts to promote RGGI as a national model for reducing greenhouse gases in a cost-effective manner.

Mr. Kimmell joined the Patrick Administration in January 2007 as general counsel of the Executive Office of Energy and Environmental Affairs. In that capacity, he focused on major legislative initiatives, such as the merger of energy and environmental agencies into one secretariat; the Green Communities Act, the Global Warming Solutions Act, and the Oceans Act; state and federal permitting of the Cape Wind project, the nation's first off-shore wind project; and development and early implementation of policy initiatives such as the MEPA Greenhouse Gas policy, a first-in-the-nation policy that requires developers of major projects to identify, avoid, and mitigate greenhouse gas emissions.

Prior to joining the Patrick Administration, Mr. Kimmell was in private practice and focused on environmental and land use law and litigation. Mr. Kimmell graduated from Wesleyan University and UCLA School of Law. He lives in Newton, where he has served on the Newton Community Preservation Act Committee. He is also a former Board Member of the Massachusetts Association of Conservation Commissions.

Treasurer Steve Grossman



“Maintaining and enhancing water quality is critical to Cape Cod and all its residents. Solving this problem will have a dramatic impact on the Cape’s economy, tourism and property values for generations to come.”

Steve Grossman brings to the office of Treasurer a family heritage of public service, a lifetime dedicated to helping others, and years of experience as a hard-working businessman with a sense of responsibility for the well-being of his colleagues and his community.

He is committed to using the full potential of the Treasurer’s office to protect the public’s money, help create jobs, boost small businesses, and bring new standards of transparency and disclosure to state government. Throughout his career, Grossman has had an unshakable commitment to recruiting and hiring the most qualified people to help him develop the most effective and cost-efficient ways of doing business. These principles have guided his administration as Treasurer.

By delivering on his promise to put all Treasury contracts out to competitive bid, Grossman has saved taxpayers over \$11 million in reduced service fees and administrative costs. He has established the Small Business Banking Partnership, which has deposited over \$250 million of Treasury cash reserve funds in community banks to help grow Massachusetts small businesses and promote job creation. And by reforming management practices and utilizing innovative marketing approaches, Grossman oversaw a record-breaking fiscal year in 2012, with the Massachusetts State Lottery earning an unprecedented \$981 million in net profit for taxpayers and the Unclaimed Property Division returning over \$93 million worth of cash, stock and mutual funds to their rightful owners.

Prior to being elected Treasurer in 2010, Grossman spent 35 years creating jobs, managing money, dealing with crises, and finding commonsense solutions to problems as CEO of Grossman Marketing Group in Somerville, a 102-year-old, fourth-generation family business. He also served as chairman of both the Massachusetts and national Democratic parties, where he established a track record as a reformer and builder, worked aggressively to implement effective management and financial controls, and empowered more activists to participate in political life.

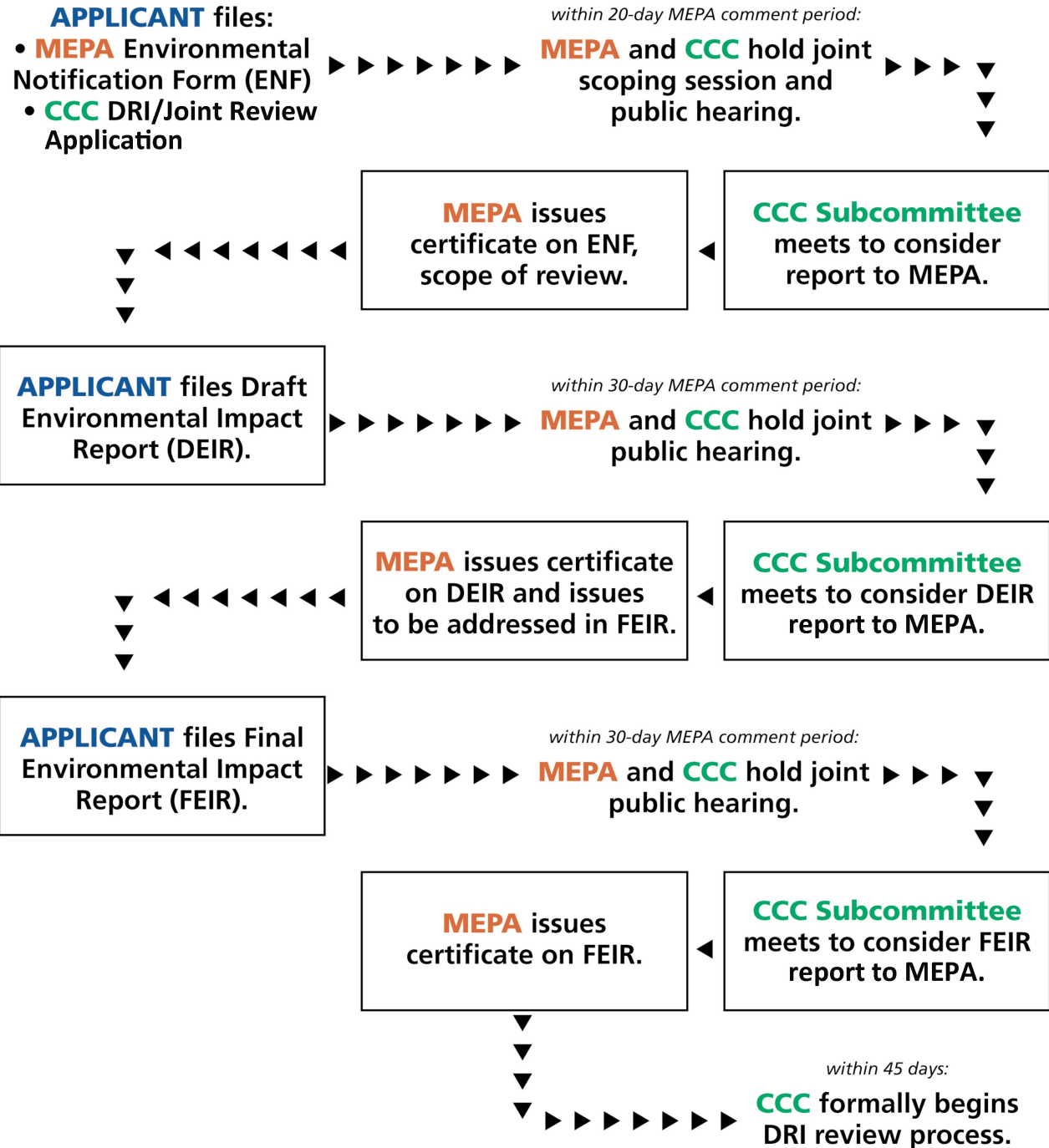
Grossman chairs the Advisory Board of Cambridge College and serves as an advisory board member of the Women’s Lunch Place. He was a founding board member of Massachusetts Institute for a New Commonwealth (MassINC), a former campaign chair of Combined Jewish Philanthropies, and a founding board member of the Lenny Zakim Fund.

Treasurer Grossman is a graduate of Princeton University and Harvard Business School. His wife, Dr. Barbara Wallace Grossman, a theater historian, author, and director, is a professor at Tufts University and serves as Vice Chair of the Massachusetts Cultural Council. They have three sons, David, Ben, and Josh.

RLI

Regulatory, Legal and Institutional
Breakout Session

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



Water Quality: Federal and State Laws

There are a number of Federal and State laws that apply to water quality issues. The following is a brief description of each.

Federal Clean Water Act

The US Environmental Protection Agency regulates water quality under the Federal Water Pollution Control Act of 1972 and its subsequent amendments in 1977, 1981, and 1987. Collectively these are known as the Clean Water Act. The objective of the act is to maintain and restore the chemical, physical, and biological integrity of US waters. The act requires states to establish ambient water quality standards for water bodies based on the need to protect the use(s) designated for that water body.

Massachusetts Surface Water Quality Standards

Following the Federal law, the Commonwealth of Massachusetts has adopted surface water standards for individual water bodies. The standards designate the most sensitive uses for which the water body must be “enhanced, maintained, and protected” (whether or not the designated use is currently attained); prescribe minimum water quality criteria necessary to sustain the designated uses; and contain the regulations necessary to achieve and maintain the designated use and, where appropriate, prohibit discharges.

Massachusetts has divided the coastal and marine surface waters into three classes: SA, SB, and SC, in descending order of the most sensitive uses that water body must attain. Additionally the state has special designations of Outstanding Resource Waters, Special Resource Waters, Shellfish (waters), and Warm Water. A brief description of these classes and special designations follows. For more information see M.G.L. c. 21, § 27. 314 CMR 4.00: Massachusetts Surface Water Standards.

Impaired Waters and Total Maximum Daily Loads

The Clean Water Act requires states to assess the quality of surface waters based on the intended uses on a regular basis and to develop a list of impaired waters—those waters that do not meet the intended uses. The most recent list for Cape Cod waters is the Cape Cod Coastal Drainage Areas 2004-2008 Surface Water Quality Assessment Report. Under Section 303(d) of the Clean Water Act, states are required to:

- Identify those water bodies that are not expected to meet the Surface Water Quality Standards from technology-based controls; and,
- Establish for those waters Total Maximum Daily Loads (TMDLs)—the maximum amount of a pollutant from any source and of any kind that a water body can have without violating water quality standards.

TMDLs are based on technical reports prepared by the Massachusetts Estuaries Project. TMDLs are formulated by the Massachusetts Department of Environmental Protection (MassDEP) and submitted to the US Environmental Protection Agency (US EPA) for approval after public comment. TMDLs are enforceable under the federal Clean Water Act.

Massachusetts submits a list of the conditions of surface waters to the US EPA every two years in compliance with the Clean Water Act. The “Integrated List of Waters” identifies

each water body or segment of a water body as supporting a designated use or as impaired. If there are not sufficient data, the use is noted as “not assessed.” Many of the smaller and unnamed water bodies in Massachusetts have never been assessed and thus do not appear in the listing.

Each water body in the list is assigned to one of the following categories:

- Unimpaired and not threatened for all designated uses
- Unimpaired for some uses and not assessed for others
- Insufficient information to make assessments for any uses
- Impaired or threatened for one or more uses, but not requiring the calculation of a TMDL
- Impaired or threatened for one or more uses and requiring a TMDL

Safe Drinking Water Act

The Safe Drinking Water Act, administered by the U. S. EPA, is the main federal law that protects the quality of drinking water and the rivers, lakes, reservoirs, springs and ground water wells that are the source of drinking water. The Act authorizes the U.S. EPA to set standards for drinking water quality to protect against natural and human-caused contaminants and to oversee the implementation of those standards on the state, local and water supplier levels. At present there are standards that regulate 83 different contaminants. Cape Cod was designated a Sole-Source Aquifer under the Safe Drinking Water Act in 1982.

The Act applies to the more than 170,000 public drinking water systems in the country and requires their evaluation by third party analytical laboratories. The Act does not cover systems that service fewer than 25 individuals or apply to bottled water. There are 17 public water suppliers on Cape Cod.

The U.S. EPA Primacy Agent for the federal Safe Drinking Water Act is the Massachusetts Department of Environmental Protection, Division of Watershed Management’s Drinking Water Program. The Program regulates water quality monitoring, new source approvals, water supply treatment, distribution protection and the reporting of water quality data.

Drinking Water and Zone II Wellhead Protection Areas

Massachusetts’ drinking water regulations (310 CMR 22.00) are intended to protect public health by ensuring that all water used for public consumption is safe, fit and pure to drink. The regulations identify contaminants that must be controlled, establish limits on the allowable concentrations of these contaminants and mandate the type and frequency of monitoring required ensuring compliance with the regulations.

The regulations also define a Zone II as “that area of an aquifer that contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated.” Also known as wellhead protection areas, all Cape towns have protected Zone IIs through zoning and Board of Health bylaws. Municipalities identify areas as potential Zone IIs and submit them to the state.

The state regulations, the Cape Cod Regional Policy Plan's Minimum Performance Standards and numerous local zoning and general bylaws have been established to prohibit or limit land uses in Zone IIs that have the potential to degrade drinking water quality. State and Commission regulations do not specifically prohibit large wastewater treatment and disposal facilities in Zone IIs but the State may require additional treatment and the Regional Policy Plan limits their use in Zone IIs for the restoration of water quality.

Commonwealth of Massachusetts Title 5 Regulations on Wastewater Flows

The Massachusetts Department of Environmental Protection (MassDEP) regulates wastewater flows less than 10,000 gallons per day under Title 5, the state Sanitary Code. Title 5 typically covers such uses as conventional on-site septic systems, alternative systems, such as denitrifying systems (often called "Innovative/Alternative," or I/A, systems), as well as composting toilets and other kinds of systems in use on individual properties or cluster developments. Title 5 presumes residential wastewater flows at 110 gallons per day per bedroom (e.g., Title 5 presumes that a four-bedroom house will generate 440 gallons per day). Non-residential wastewater generation is typically based on use and square footage, or the number of restaurant seats.

Title 5 Designation of Nitrogen Sensitive Areas

MassDEP may identify certain areas as particularly sensitive to pollution from on-site wastewater systems, therefore requiring the imposition of loading restrictions. These Nitrogen Sensitive Areas (NSAs) include:

- Interim Wellhead Protection Areas and department-approved Zone IIs of public water supplies
- Areas served by both on-site septic systems and private wells
- Nitrogen-sensitive embayments or other areas, which are designated as nitrogen sensitive under Title 5 based on appropriate scientific evidence

The design flow for wastewater is restricted to 440 gallons per day per acre (40,000 sq. ft.) in NSAs. There are exceptions for aggregate flows and systems with enhanced nitrogen removal. See 310 CMR 15.000: The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-Site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage. See sections 15.216 (aggregate flows) and 310 CMR 15.217 (enhanced nitrogen removal) for additional information.

The nitrogen-loading restrictions in NSAs apply to new construction and increase in flow to existing systems only and do not affect existing Title 5 systems. Those systems are regulated through the time and transfer inspection process and the definition of "failing" systems in 310 CMR 15.303 and 15.304. Title 5 has special requirements for repairing failed systems and for the construction of new systems in NSAs.

MassDEP has not yet designated any area on Cape Cod as an NSA.

Groundwater Discharge Permits

Flows in excess of 10,000 gallons per day are regulated under the state Groundwater Discharge Permit Program. Systems requiring a groundwater discharge permit require a significant removal of nitrogen because the Cape Cod Aquifer is designated as a non-degradation resource. These regulations also require that a permit be issued where the discharge can cause or contribute to a violation of 314 CMR 4.00 and where there has been a TMDL issued. Groundwater discharge permits for Cape Cod require an effluent treatment level of at least 10 milligrams per liter of nitrate, which is almost a two-thirds reduction in the amount of nitrogen leaving a septic system. In the last 10 years, groundwater discharge permits for projects located in watersheds where there has been a technical report or a TMDL the project has been held to a “no-net nitrogen” standard by MassDEP. This means that any nitrogen released into the watershed must be “offset” by the removal of nitrogen from an existing source, typically by connecting a nearby existing development to remove nitrogen via wastewater treatment.

Water Pollution Abatement Districts

MassDEP may propose water pollution abatement districts consisting of one or more cities or towns, or designated parts thereof. If MassDEP deems that such a district is necessary for the prompt and efficient abatement of water pollution, it may, after a public hearing, mandate the formation of such a district. See Section D on Management Districts (page 15) for additional information about Water Pollution Abatement Districts and other management districts.

Comprehensive Wastewater Management Plans

Municipalities are typically required to file an Environmental Impact Report (EIR) with the Massachusetts Environmental Policy Act (MEPA) Unit for the development of Comprehensive Wastewater Management Plans (CWMPs). MEPA thresholds mandate review for construction and upgrades to wastewater treatment and disposal facilities (MEPA Regulations 301 CMR 11.03 Review Thresholds). The state also reviews CWMPs under MassDEP “Selection, Approval and Regulation of Water Pollution Abatement Projects Receiving Financial Assistance from the State Revolving Fund” (310 CMR 44.00).

The MassDEP Bureau of Municipal Facilities’ Guide to Comprehensive Wastewater Management Planning outlines the process for development of a CWMP. According to the guidance, “The planning exercise requires a community to perform a needs analysis: identifying problem areas including areas with poor soils areas with failing septic systems and densely developed areas. Different wastewater treatment options including on-site septic systems, decentralized systems, or a centralized community-wide system are also analyzed for applicability in addressing the identified wastewater issues while considering environmental concerns (groundwater recharge, pollution prevention) and costs. Public input is sought throughout the CWMP process.”

The Cape Cod Commission Act (Section 12(i)) requires that the Commission review, as a Development of Regional Impact (DRI), any proposed development project for which the Massachusetts Secretary of Energy and Environmental Affairs requires the preparation of an EIR. As a result, the Commission conducts a regulatory review, concluding with a written approval containing findings and conditions for all CWMPs proposed by Cape towns.

TBL

Triple Bottom Line Breakout Session



Introduction to the Triple Bottom Line Decision-Making Support Tool for the Section 208 Wastewater Management Program

The Cape Cod Commission is developing a triple bottom line (TBL) assessment tool with the assistance of AECOM's Sustainable Economics Group and Water Engineering Practice. AECOM is building the model with the Cape Cod Commission as a decision-making support tool for selecting water quality improvement options on the Cape. Specifically, it will help Commission staff and community stakeholders see the differences in social, environmental and financial outcomes that Scenarios proposed for a particular watershed will generate. It will also consider the consequences of doing nothing.

Each Scenario will reduce the total controllable nitrogen load by the amount specified in the Nitrogen Total Maximum Daily Load (TMDL) published by the Massachusetts Department of Environmental Protection (MADEP) for each embayment system.. Each Scenario will be comprised of a combination of "Technology Options," examples of which include installing a sewer system, requiring upgrades of septic systems, and enacting a policy to reduce fertilizer runoff. These solutions could be installed throughout a watershed or only in selected neighborhoods.

In addition to improving water quality, Scenarios will impact many other aspects of life on Cape Cod, often called intended or unintended externalities. The Commission worked with AECOM to select a number of criteria (i.e. positive or negative externalities) that the TBL Model will evaluate for each Scenario. These criteria, and a brief description of what each will be measuring, are listed below. Criteria will be assessed relative to today's conditions (i.e. our "baseline"). Model users will be able to set goals for some of the criteria, and a Scenario will be scored on those criteria relative to those goals. Development of each criterion is constrained by the availability of data and analytical methodologies that permit reasonable estimates of impacts that fall within a reasonable and useful margin of error.

Note that the TBL Model is not designed to find any one "perfect" Scenario. Rather, it is designed to make transparent the outcomes of each proposed Scenario along criteria that are important to the Cape Cod community and its future. It also the intention of the model to refine further the predicted outcomes as additional study is performed specific to the Cape.

Financial Criteria (Utilizing Lifecycle Cost Analysis)

1. Impacts to average annual homeowner rates

- How much will each Scenario require increases to (or creation of) wastewater management fees to pay for the upgrades to the wastewater management system?

2. Impacts to other homeowner costs for wastewater management

- How much will each Scenario change the average homeowner's wastewater management costs, separate from any new or increased fees, such as costs to comply with installing an upgraded septic tank?
 - o The TBL Model will present this information in such a way as to be comparable to the homeowner rates in the previous criterion.

**Social Criteria***3. Employment resulting from Scenario implementation*

- How many jobs will be created from the construction/installation and ongoing O&M of each Scenario's collection of Technology Options?
 - o This criterion will take into account the reduction in jobs that will result from reduced disposable income of Cape Cod households who will be paying more in wastewater management fees.

2. Tourism employment

To what extent will each Scenario benefit the tourism economy on Cape Cod (or prevent damage to it)?

3. Property Values

- To what extent will each Scenario impact a watershed's aggregate property values? Different Technology Options will have different impacts on individual properties and on the overall watershed.

4. Tax Revenues

- To what extent will each Scenario raise tax revenues, and how will changes affect the distribution of the tax burden by income group?

5. Allocation of Costs to System Users

- To what extent will each Scenario's financial burden be felt by year-round residents?

6. System Resilience

- To what extent will each Scenario improve the resilience and reduce the risk of failure of the wastewater management system and other important assets in the face of extreme natural events, such as sea level rise?

7. Growth Compatibility

- To what extent will each Scenario encourage growth in villages and town centers, versus the extent to which each Scenario may encourage growth in sparsely populated areas.

Environmental Criteria

8. Habitat

- To what extent will each Scenario enhance and protect habitat areas that have been deemed important for local ecosystems?

9. Climate

- To what extent will each Scenario increase or decrease greenhouse gas emissions? The Model will assess both generated emissions (by pumping stations and treatment plants), captured emissions (methane for fuel), and sequestered emissions (in plant life).

10. Marine Water Quality

- How quickly will each Scenario deliver improvements in marine water quality to the watershed, with an emphasis on improving the more severely degraded marine water habitats?

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