



CAPE COD  
COMMISSION

# Regional Wastewater Management Plan

---

## September 2012 Status Report



September | 12 | 2012

# Cape Cod Regional Wastewater Management Planning (RWMP)



CAPE COD  
COMMISSION

Objective: Restore degraded water bodies through regional nutrient management policy promoting appropriate infrastructure and growth management mechanisms while protecting taxpayers from unnecessary costs.



## Goal

### Policy Integrating:

- Environment
- Affordability
- Infrastructure
- Growth Management

# RWMP: Guiding Principles

---



CAPE COD  
COMMISSION

- **Develop and implement watershed-based plans,**
- **Utilize existing wastewater infrastructure,**
- **Sewer as few areas as necessary,**
- **Build appropriate infrastructure, taking advantage of natural attenuation and other alternative strategies, with recognition of the potential impacts of climate change,**
- **Manage growth such that additional growth occurs only where planned, and**
- **Share the costs as equitably as possible to ensure affordability.**

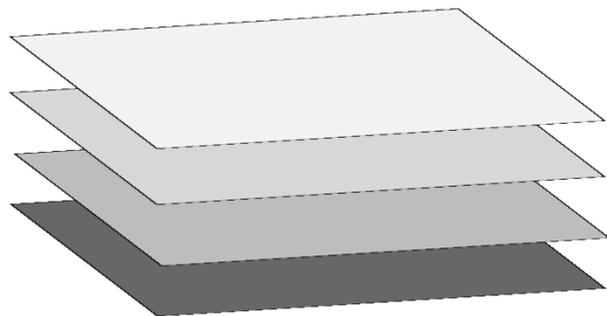
# Goal: Improve Water Quality



CAPE COD  
COMMISSION

## RWMP Work to Date

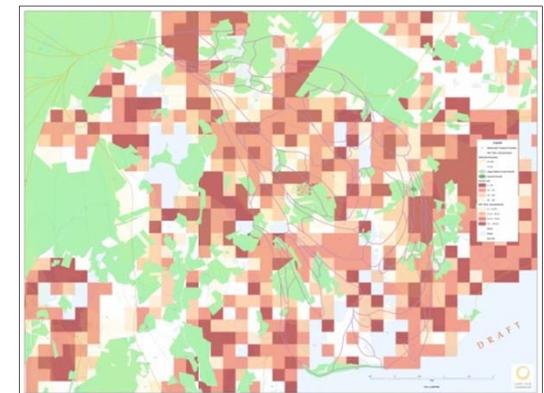
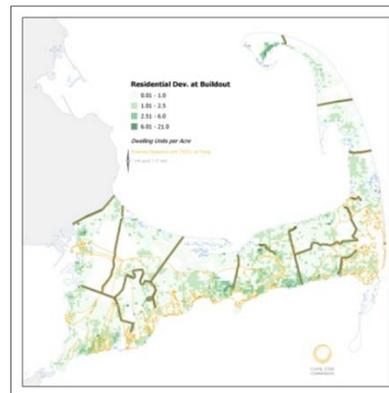
### Data Collection



Parcel Data  
Assessing Data  
Water Use Data  
Local Zoning



### Data Generation



# Goal: Improve Water Quality



CAPE COD  
COMMISSION

## RWMP Work to Date

The screenshot displays the WatershedMVP web application interface. The main map shows a residential area with various ponds and streets. A 'PROPERTY INFO' popup window is open, displaying the following data:

	Existing	Future
Municipality:	YARMOUTH	
Land Use	Commercial	Commercial
Water Use	729.00 g/day	1,321.50 g/day
Wastewater Flow	656.10 g/day	1,189.35 g/day
Nitrogen Load	21.41 kg/year	38.82 kg/year
WW Treatment System	Septic System	Septic System
Development Density	182	182

The interface also includes a 'Map Tools' menu with options like 'Select by Polygon', 'Identify', and 'Map Navigation'. A 'Summary Legend' is visible on the right side of the map. A pie chart at the bottom left shows the distribution of land use types: Commercial, Multi-Family Residential, Other Non-Development, Residential Condo/Apt, Single Family Residential, and Vacant Development.

# Goal: Improve Water Quality

---



CAPE COD  
COMMISSION

## Next Steps

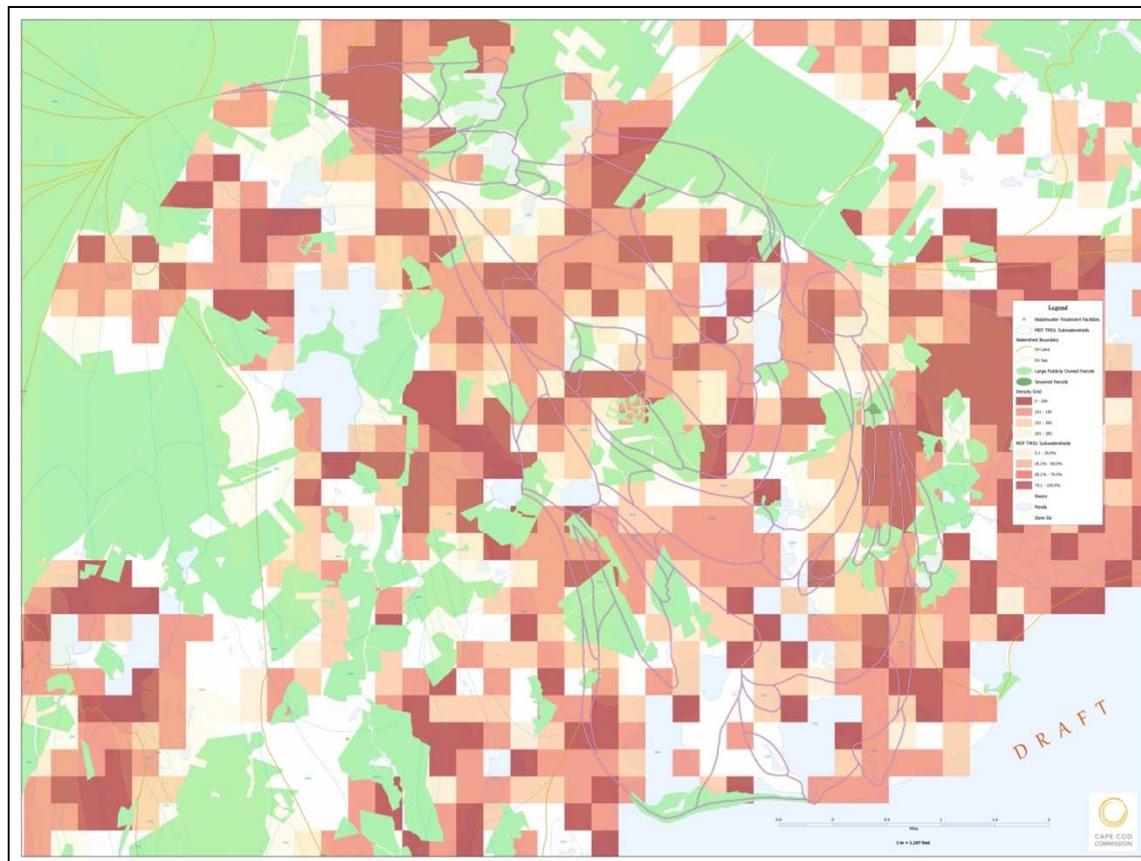
- Enhance functionality and application of Watershed MVP
- Work with towns on coordinated inter-municipal planning
- Finalize CWMP guidance and establish model IMA

# Goal: Build Suitable Infrastructure



CAPE COD  
COMMISSION

## RWMP Work to Date



## Sewer Collection Density Grid

# Goal: Build Suitable Infrastructure

---



CAPE COD  
COMMISSION

## RWMP Work to Date

### Alternatives Research & Mapping

#### Innovative Technology & Management

EcoMachines

Permeable Reactive Barriers

Seaweed Farming

Shellfish Seeding/Aquaculture

Phytoremediation

#### Green Infrastructure

Constructed Wetlands

Stormwater Treatment Wetlands

Surface Flow Biofiltration Strips

#### Non-Discharging On-Site Systems

Composting Toilets

Packaging Toilets

Urine Diverting Toilets

#### System Alteration

Dredging

Culvert Widening

Wetland Restoration



Phytoremediation test cell demonstration project at Hyannis WPCF

# Goal: Build Suitable Infrastructure

---



CAPE COD  
COMMISSION

## Next Steps

- Targeted watershed approach prioritizing infrastructure in nitrogen sensitive watersheds
- Identify land use characteristics for all appropriate options and expand Watershed MVP to include appropriate alternative approaches
- Creation of disposal site screening process



CAPE COD  
COMMISSION

# Goal: Affordability

---

## RWMP Work to Date

- **Affordability and Revenue Analysis**
  - Affordability for Cape Cod taxpayers
  - Identifying new and targeted sources of revenue
- **Cape-Wide Cost Analysis**

# Goal: Affordability

---



CAPE COD  
COMMISSION

## Next Steps

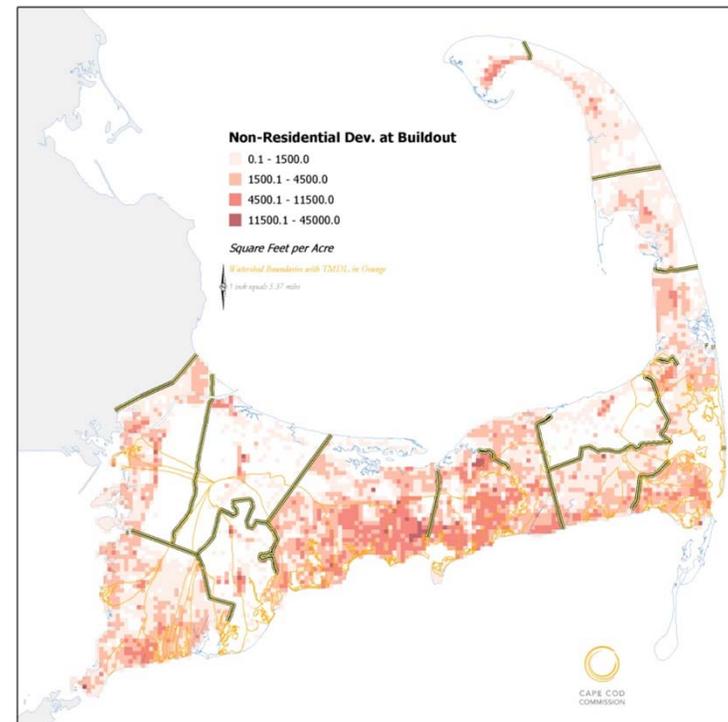
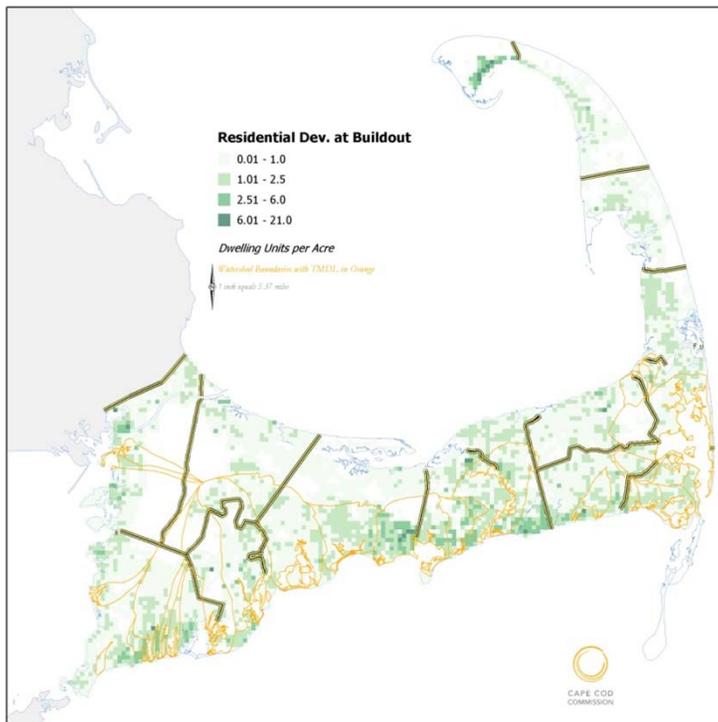
- **Complete Affordability and Revenue Analysis, including identification of new revenue sources**
- **Complete Cape-Wide Cost Estimate**

# Goal: Growth Management



CAPE COD  
COMMISSION

## RWMP Work to Date Cape-Wide Buildout Analysis

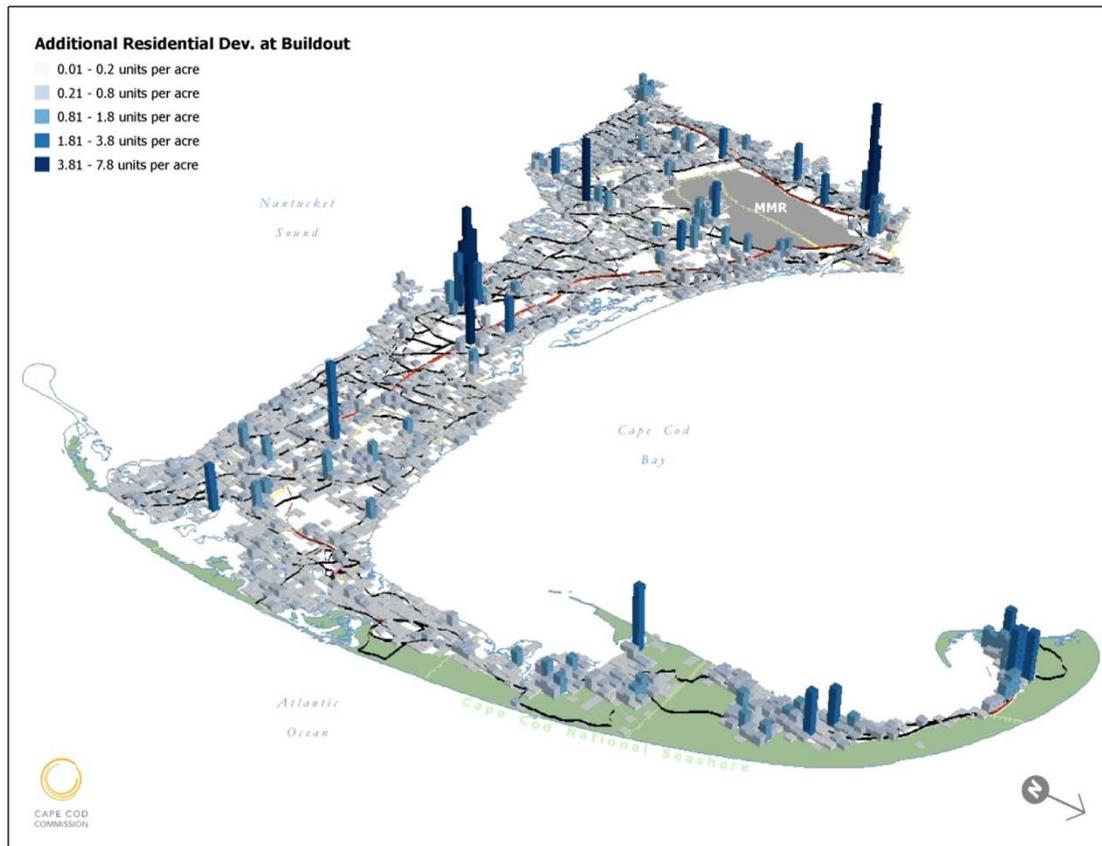


# Goal: Growth Management



CAPE COD  
COMMISSION

## RWMP Work to Date



## Change in Density Analysis

Note: Certain areas with high development potential are due to assessor characterization of parcels (e.g. Provincetown is identified as having significant development potential because parking lots have been characterized as commercial parcels and our buildout program attributed future development to those parcels).

# Goal: Growth Management

---



CAPE COD  
COMMISSION

## Next Steps

- **Illustrate cost differentials between existing growth, unplanned growth, and planned growth**
  - Incorporating growth scenarios into Watershed MVP
- **Flow neutral guidance**

# RWMP Schedule

---



CAPE COD  
COMMISSION

## Milestone

## Date

Status Report -----	mid-September 2012
Alternatives Conference -----	October 22-23 <sup>rd</sup> (tentative)
Full RWMP Draft -----	December 2012
90 Day Public Comment Period	
30 Day CCC Review	
RWMP submitted to DEP -----	May 2012