



# THE REPORTER

ONE-YEAR PHYTOREMEDIATION STUDY LAUNCHED

## Getting to the Root of Wastewater Management

In mid June, Cape Cod Commission (CCC) staff members rolled up their sleeves and, with the help of a graduate research student and the Town of Barnstable as a partner, dug in to launch a research project that will focus on the use of three species of trees to mitigate excess nitrogen in groundwater.

Believed to be the only ‘phytoremediation’ (the use of plants to clean up soils) project on Cape Cod, the study will aid understanding about the method’s potential to serve as one of the viable ‘green infrastructure’ options that could lessen the impacts of wastewater on Cape Cod’s groundwater and estuaries. Other types of wastewater management alternatives are being tested in the region, but none utilize tree plantings this way at this time.

“Phytoremediation has been shown to be a cost-effective, aesthetically pleasing, and environmentally conscious method of cleaning up contaminated groundwater,” says CCC Special Projects Coordinator and Landscape Design Specialist Tabitha Harkin (shown in center of photo to right, facing camera, with CCC Special Projects Coordinator Erin Jackson, back to camera).

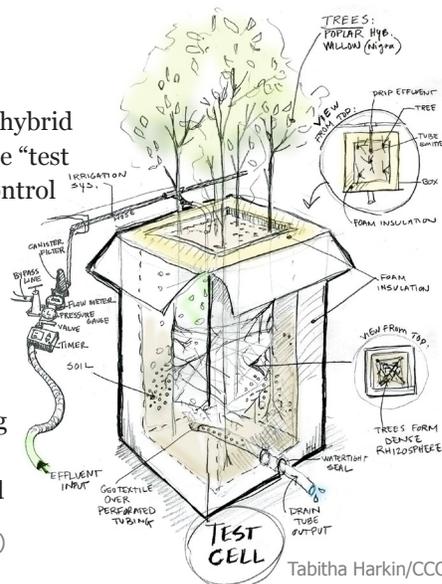


CCC staff photo

### How It Works

The research group planted two species of hybrid poplar and one of willow as saplings in nine “test cells” at the Barnstable Water Pollution Control Facility on June 14. With five trees in each cell, the plants will create a dense mat of roots (the “rhizosphere”), which functions as a filter and sponge that can absorb nutrients and capture pollutants.

A variety of materials make up the planting medium: Perlite (an ultralight lava rock), washed sand, unwashed native sand mixed



(CONTINUED ON PAGE 2)

Tabitha Harkin/CCC  
illustration



CCC staff photos

ABOVE: CCC staff members (L to R) Jessica Rempel, Erin Jackson, and Heather McElroy plant the saplings in the test cells at the Barnstable Water Pollution Control Facility (WPCF).

TOP: Components are ready for installation.  
MIDDLE: Saplings are adjusted by WPCF staff member Andrew Boule and Ecolotree intern Hayden Ausland.  
BOTTOM: The irrigation system is tested.



with clay and minerals, and Cape Cod “bankfill,” which is a mixture of sand, clay, and aggregate found deep below the surface. The variety will demonstrate which best creates the ideal rooting condition as a control group compared to that of the native landscape of Cape Cod.

The trees will be watered twice a day with a small dose of effluent from the treatment plant. This effluent water will cycle through the test cell container, eventually reaching the drainage point, where it will be sampled bimonthly through December 2012 to determine how well the trees remediate nitrogen, phosphorus, and heavy metals from the facility’s effluent.

Comparing this sample’s chemical make-up to that of the known baseline of the effluent will help to identify the potential for phytoremediation as an effective alternative for managing wastewater on Cape Cod.



### All Wastewater, All the Time

The Cape Cod Commission offers several online options for the public to monitor progress on wastewater management planning across the region:

Web: [www.capecodcommission.org/initiatives/wastewater](http://www.capecodcommission.org/initiatives/wastewater)

Facebook: [www.facebook.com/CCWastewater](http://www.facebook.com/CCWastewater)

Twitter: [www.twitter.com/#!/CCwastewater](http://www.twitter.com/#!/CCwastewater)

Email: [wastewater@capecodcommission.org](mailto:wastewater@capecodcommission.org)



Scan with a QR code reader to check our web site!

OBSERVING THE OBSERVER:

## CCC Water Staff Recognized for 30+ Years of Groundwater Monitoring

The US Geological Survey (USGS) awarded the Cape Cod Commission staff a “Certificate of Achievement” this spring to honor more than 30 years of Commission service as “Observation Well Observer.”

Cape Cod Commission water resources staff members have monitored groundwater levels throughout Barnstable County since 1979. Data about the water levels have been used for numerous federal, state, regional, and local water resource assessments and management purposes, including use by local engineers for all Title 5 septic system designs.

Commission Water Resources Manager Tom Cambareri and Hydrologist Scott Michaud received the award from USGS Hydrologist Roy Socolow (photo below left) in mid May. The certificate, which is signed by the USGS Office of Groundwater’s Acting Chief William L. Cunningham, states:

*“Your efforts to measure 40 wells on a monthly basis, during all weather conditions, and provide the data to the USGS office in a timely and efficient manner for all those years have made an invaluable contribution to the understanding and protection of the varied and complex groundwater aquifer systems on Cape Cod.”*



For more information on the groundwater observation well network, visit: [www.capecodcommission.org/departments/technicalservices/water/wells](http://www.capecodcommission.org/departments/technicalservices/water/wells)



USGS staff photo

ABOVE: Cape Cod Commission Water Resources Manager Tom Cambareri (L) and Hydrologist Scott Michaud (R) receive the Certificate of Achievement from US Geological Survey Hydrologist Roy Socolow (center) at the Barnstable Airport AIW230 groundwater well site, where the groundwater level has been measured monthly since 1958.

## CCC Chief Planner Receives APA/AICP Communications Award

Cape Cod Commission Chief Planner Sharon Rooney (right) and several professional colleagues received a “Division Achievement Award for Communications Excellence” from the American Planning Association/American Institute of Certified Planners (APA/AICP) this spring. Rooney serves as director of communications for the Regional and Intergovernmental Planning Division (RIPD) of the national professional planning organizations. RIPD’s communications work includes monthly e-news, which Rooney prepares, and a newsletter, which one of her colleagues edits, all about regional planning across the country. For more information, visit: [www.planning.org/divisions/regional](http://www.planning.org/divisions/regional)



## New(-ish) CCC Officers for FY2013



CCC file photo

Minority Representative John D. "JD" Harris (left) will

make an encore performance this fiscal year, having been elected last month by Cape Cod Commission board members to serve as their Chair for Fiscal Year 2013 (July 1, 2012, to June 30, 2013). Harris has served on the Commission since September 2003 and held the position of Chair during Fiscal Year 2009.

Joining him as FY2013 officers will be Town of Yarmouth representative Jack McCormack, who will serve as Vice Chair for the year, and Town of Dennis representative Richard Roy, who will serve as Secretary.



CCC file photo

IN MEMORIAM:

### Roslyn Garfield

This issue of the Cape Cod Commission REPORTER is dedicated to former Cape Cod Commission member Roslyn Garfield, who died on June 21, 2012.

Garfield, shown above sharing a pre-meeting chat with then-Orleans representative Frank Hogan, represented the Town of Provincetown on the Cape Cod Commission between May 2004 and October 2009.

## Economic Development Strategy: 2012 Report

The Cape Cod Economic Development Council and the Cape Cod Commission (CCC) approved the 2012 annual report/update on the region's Comprehensive Economic Development Strategy (CEDS) in June. The report reviews progress to date since the US Economic Development Administration approved the original five-year plan in 2009. It also outlines an annual work plan for Barnstable County's economic development staff, updates demographic and economic data, reviews the status of regional priority projects, and presents a list of local priority projects. The complete 2012 report is available on the Cape Cod Commission's web site:

[www.capecodcommission.org/departments/economicdevelopment](http://www.capecodcommission.org/departments/economicdevelopment)



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### Progress on Regional Priority Projects

- ✓ Implementation of the OpenCape broadband network ([www.opencape.com](http://www.opencape.com)) – To celebrate success to date and identify how to take advantage of this telecommunications infrastructure, the region hosted the second SmarterCape Summit in May.
- ✓ Completion of a Regional Financing Authority draft feasibility study
- ✓ Establishment of the Strategic Information Office by Barnstable County
- ✓ Continued coordination of an 'entrepreneurship weekend' and services for entrepreneurs, led by the Cape Cod Chamber of Commerce

### Milestones for Next Year

CEDS stakeholders identified and ranked projects on which staff should focus:

1. Canal Area Study (assessment and improvements for transportation)
2. a. Wastewater in Economic Centers (planning and infrastructure)  
b. Intelligent Transportation Plan
3. SmarterCape Initiative: Strategic Information Office (regional umbrella services, regional data/information clearinghouse)
4. Regional Finance Board (redevelopment authority)
5. a. Entrepreneurship Capital Access and Training  
b. Integrated Resource Plan (energy and waste minimization)  
c. SmarterCape Marketing Plan
6. Energy Demand Reduction (energy efficiency programs)
7. Educational Clearinghouse
8. SmarterVillage Certification Program

Questions about the CEDS should be addressed to CCC Chief Economic Development Officer Leslie Richardson ([lrichardson@capecodcommission.org](mailto:lrichardson@capecodcommission.org)).

# Regulatory Status Report

Listed below are Developments of Regional Impact (DRIs) and other major proposals whose applications either have been recently decided or are currently under review by the Cape Cod Commission. Details about these activities may be found online in the Regulatory Department of the Commission's web site: [www.capecodcommission.org/departments/regulatory](http://www.capecodcommission.org/departments/regulatory)

## ■ DRI Project Reviews:

### BOURNE

- **New Generation Wind Joint Venture**—proposed construction of commercial wind energy-generation project with four turbines expected to generate 9.5 megawatts (MW) of power, on multiple parcels west of the Cape Cod Canal. CCC voted to deny the project without prejudice on 2/16/12. The decision has been appealed in court.

### BREWSTER

- **MP Renaissance LLC**—proposed facility off Route 124 with one 131,877-sq.-ft. building having two two-story wings connected by a central common core, with a total of 132 units (66 memory-care units, 65 assisted-living units, and one manager's unit). CCC accepted the applicant's withdrawal of an earlier proposal on 1/5/12. The applicant resubmitted the revised proposal on 1/12/12.

### CHATHAM

- **DuPont Residence/3 Main Street**—proposed substantial alteration of a single-family dwelling listed as a contributing structure in a National Historic Register District. CCC approved the project with conditions on 6/7/12.

### FALMOUTH

- **Green Cove, LLC and Falmouth Airpark Homeowners Association**—proposed modification of a Definitive Plan/Special Permit to re-divide and re-combine 52.14 acres of land.
- **Teledyne Instruments Inc. Expansion of 49 Edgerton Drive**—proposed construction of up to 44,850 sq.ft. of new commercial space for electronics manufacturing, research and development, and related offices to be added to an existing 27,750 sq.ft. facility in North Falmouth.

### SANDWICH

- **Sagamore Line Reinforcement Project (Western Segment)**—proposed installation of 11,000 ft. of 20-inch-diameter gas pipeline along Service Road between Route 130 and Quaker Meetinghouse Road.
- **South Sandwich Village**—proposed mixed-use development/village center with retail, office space, and residential units, a community center, sports complex, and library on 50 acres off Route 130 and Cotuit Road. About half of the proposed project will involve redevelopment of three existing shopping plazas. The project also proposes an off-site wastewater treatment facility to be located about one mile north of the development area off Jan Sebastian Drive.



## ■ DRI Reviews Pending Massachusetts Environmental Policy Act (MEPA) Certificates:

- **Barnstable Comprehensive Wastewater Management Plan**—proposed Town of Barnstable Comprehensive Wastewater Management Plan (CWMP)/Environmental Notification Form (ENF) to summarize progress completed to date and to identify the evaluations and environmental review process that the town will complete to produce the Draft and Final CWMP/Environmental Impact Report (EIR) documents. The CWMP will assess the wastewater needs, evaluate mitigation measures, and develop a recommended plan.
- **South Coast Watersheds Comprehensive Wastewater Management Plan (Falmouth)**—proposed Comprehensive Wastewater Management Plan to address water quality problems of Little, Great, Green, Bourne, and Eel ponds, and Waquoit Bay.
- **Holland Mills Well and Pumping Station (Mashpee)**—proposed installation of new water supply well/pump station.
- **Provincetown Airport Capital Improvements Plan**—proposed safety and facility improvements to the Provincetown Municipal Airport. Withdrawn from DRI review by the applicant on 6/7/12 with intent to resubmit at a later date.
- **Sandwich Beach Nourishment/Dredging**—proposed beach nourishment/maintenance dredging.
- **Herring River Tidal Restoration Project (Wellfleet and Truro)**—proposed reestablishment of tidal flow to the 1,100-acre Herring River estuary and floodplain.
- **Parker's River Marine Park (Yarmouth)**—proposed marine park on the 22-acre site of the former Yarmouth drive-in theater.

## ■ Growth Incentive Zone (GIZ):

- **Buzzards Bay Downtown GIZ**—On April 26, 2012, the Cape Cod Commission approved the Town of Bourne's application for a "Growth Incentive Zone" (GIZ) designation for downtown Buzzards Bay. CCC received the application from the Bourne Planning Board with approval from the Bourne Board of Selectmen in late March.

The area is within a designated Economic Center on Bourne's portion of the Regional Land Use Vision Map, includes existing development and infrastructure, and is characterized by a compact mix of uses.

The town requested a cumulative cap/threshold for development and redevelopment of properties within the GIZ that may proceed without mandatory DRI review by the Cape Cod Commission (with some exceptions) until the total amount of development within the GIZ reaches the cap/threshold.

The town requested a phased-growth approach consistent with offsets and infrastructure, as follows: **Phase 1** - 128 residential units and 265,000 sq.ft. of commercial development potential (Phase 1 development may not exceed remaining wastewater allocation and/or remaining water supply capacity); **Phase 2** - 122 additional residential units (up to 250 units total for Phases 1 and 2), contingent upon an additional offset of approximately 30 acres in a District of Critical Planning Concern (DCPC), or other approvable offsets and additional infrastructure; **Phase 3** - 110 additional residential units (up to 360 units total for all three phases), and 385,000 sq. ft. of additional commercial development potential, both contingent upon additional offsets and infrastructure.

The Barnstable County Assembly of Delegates approved the regional ordinance on 6/20/12.

# Cape Cod Commission Meetings and Events

Cape Cod Commission (CCC) meetings and hearings are open to the public. Call 508-362-3828 or check the web site for last-minute changes: [www.capecodcommission.org/calendar](http://www.capecodcommission.org/calendar)

## Regulatory Calendar

■ **July 2:** HEARING: South Sandwich Village (Sandwich project), 6 p.m., Sandwich Planning Department, 16 Jan Sebastian Drive. Subcommittee meeting to follow immediately after the hearing, in the same location.

■ **July 5:** CCC MEETING: CANCELLED

■ **July 6:** HEARING OFFICER: Green Cove, LLC, and Falmouth Airpark Homeowners Association (Falmouth project), 10 a.m., CCC. Procedural only; no testimony to be taken.

■ **July 19:** CCC MEETING: Tentative; please call to confirm.

■ **July 19:** HEARING: Notice of Intent to File a Development Agreement for South Sandwich Village, 3 p.m., Assembly of Delegates Chamber

■ **July 19:** CONTINUED HEARING: Teledyne Instruments (Falmouth project), 3 p.m., Assembly of Delegates Chamber

## Standing Committees

Planning, Regulatory, and Executive committee meetings are generally held at the CCC office (3225 Main Street/Route 6A, Barnstable) on the Mondays of the weeks in which full CCC Meetings occur (see above). Times vary. Please check the online calendar.

## Other Events

■ **Cape Cod Joint Transportation Committee Meeting:** Friday, July 13, 2012 - CANCELLED

■ **Saturday Community Conversations on Wastewater:** CCC Executive Director Paul Niedzwiecki has visited nearly every Cape Cod town on Saturdays this spring to encourage community discussion of wastewater issues. Two sessions remain:  
– Saturday, July 14, at the Falmouth Public Library from 10 a.m. to 12 noon  
– Saturday, July 14, at the Bourne Public Library from 2 to 4 p.m.



## New in the Resource Center

Check out these recent additions to the web site  
[www.capecodcommission.org/resourcecenter](http://www.capecodcommission.org/resourcecenter):

- » Comprehensive Economic Development Strategy 2012 Annual Report  
[Resource Center](#) → [Topic](#) → [Comprehensive Economic Development Strategy \(CEDS\)](#)
- » Watershed MVP Primer (an introductory presentation about the Cape Cod Commission's new application to assist wastewater management planning)  
[Resource Center](#) → [Type](#) → [Presentations \(Slide Shows\)](#)
- » Barnstable County Affordable (Housing) Units, October 2001 to May 2012  
[Resource Center](#) → [Type](#) → [Data Sets](#)

## Cape Cod Commission

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Governor's Appointee:  
Herbert Olsen

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