



# COALITION Quarterly

## Press and Progress

**The Boston Globe**

*"Cleaner Cape waters..."*

Wednesday, May 18, 2022

 **CAPE COD TIMES**

*"A New Era in Septic"*

Friday, June 3, 2022



# A Note From The Helm

For decades, the residents of the Cape and Islands have had their heads in the sand. Literally. We all were led to believe that our waste treatment system known as a Title 5 septic system took care of our wastewater problems, and we could all go about the business of enjoying the pristine waters and blue economy of Cape Cod and the Islands. Boy, were we wrong!

I grew up on the Cape. Fifty years ago, I remember swimming in our bays and seeing huge beds of eel grass filled with scallops and pufferfish. Our waters were a natural aquarium. In our ponds, we could see the fish swimming and fresh water mussels growing everywhere. It seemed like we did not have a care in the world. Maybe you remember too?

Even back then, scientists knew that putting our wastewater in the sandy soils of Cape Cod was a bad idea. But nobody listened. Economic growth was too important, and besides, everything looked fine. Where was the “proof”? Besides, a “big pipe” or sewer was coming to the rescue.

Now we know better. More than 70% of our ponds are troubled and in decline. Our estuaries on Nantucket Sound are choked with algae and swimming is a slippery affair in more ways than one. Some people are still in denial, but the Cape Cod Commission reports that our wastewater treated by old cesspools and aging Title 5 septic systems are responsible for more than 80% of the problem.

We need to treat our wastewater at the source. At your home and mine. Many of us will need to connect to municipal treatment (sewers) as more towns on the Cape invest in that critical effort. Maybe someday, 30% of our homes will be connected (see map on page 3). But we can, and must, do better. We need to replace all Title 5 systems and cesspools with new technology, call it “Title 6”.

This newsletter highlights the progress we are making to develop, prove and permit this new technology.

Working with KleanTu®, a leader in decentralized wastewater treatment systems, and partners like The Nature Conservancy, the Massachusetts Alternative Septic



System Test Center, and the U.S. EPA, we have made great strides. As you read this newsletter, 50 alternative septic systems will have been installed. This system is called “NitROE”.

Look closely at the maps, charts and tables included in this newsletter as they illustrate the scope of the challenge, as well as the latest developments and data. The information shown on page 4 illustrates comparative cost data for sewer construction and alternative approaches. Page 5 shows performance data for the NitROE systems. These numbers are “best in class”.

On page 6, we have QR codes that direct you to the letter and fact sheet MassDEP recently sent to municipalities on the Cape. This document is a precursor to proposed new regulations regarding water quality and Title 5 systems. When you read these documents, you will understand how seriously the State takes our water quality issues!

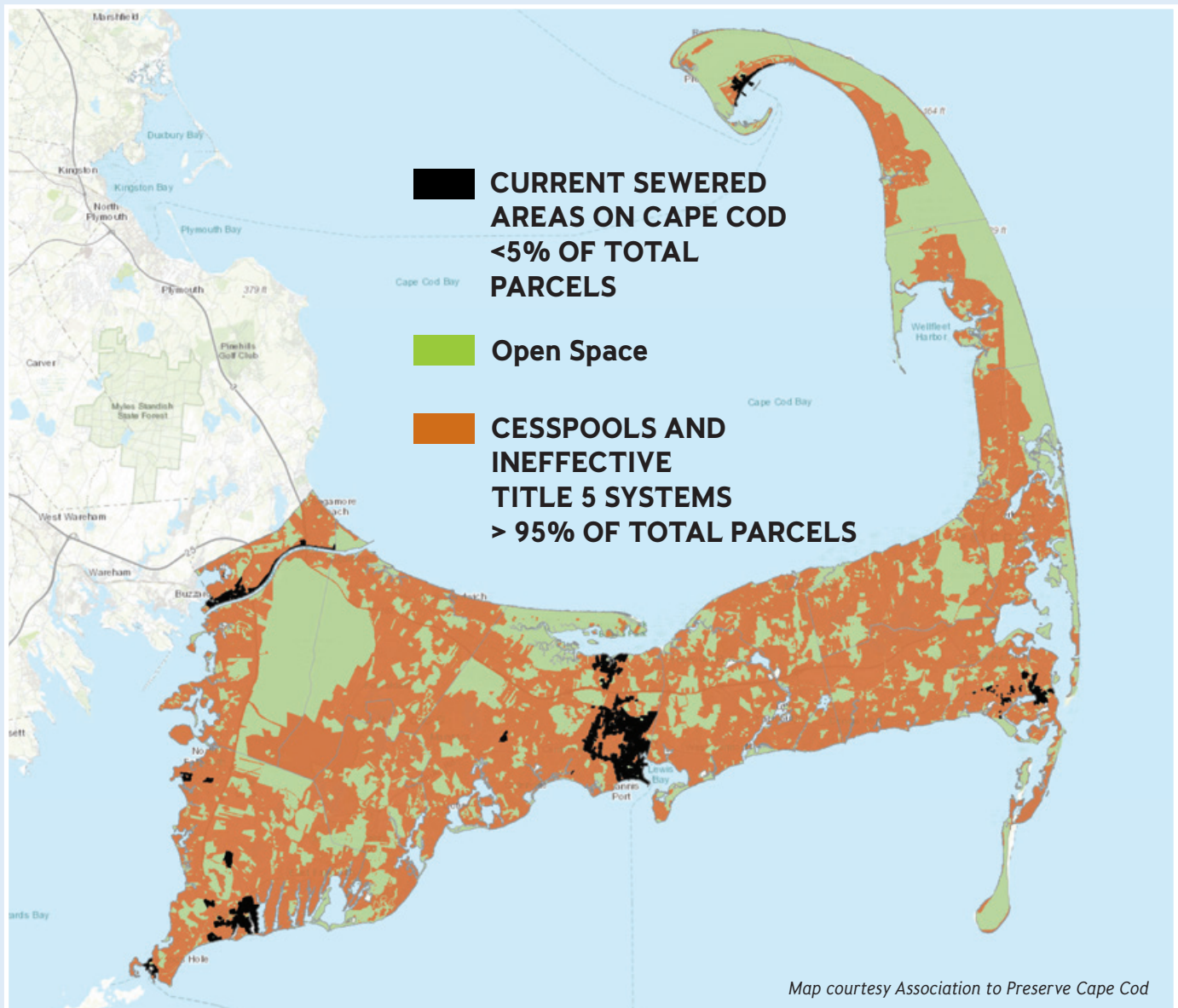
Finally, everyone always asks “What can I do?” to help with our water challenges. Well, you can limit, or better yet, eliminate using fertilizer on your property, connect to sewer or consider upgrading your septic system to an alternative wastewater treatment system.



# We Support Municipal Sewer Expansion

## But Sewer Alone Is Not Enough!

Barnstable and many other Cape Cod communities have extensive municipal sewer expansion plans to address nutrient loading from wastewater. Collectively these plans are estimated to cost more than \$4 billion dollars over the next 30 years.

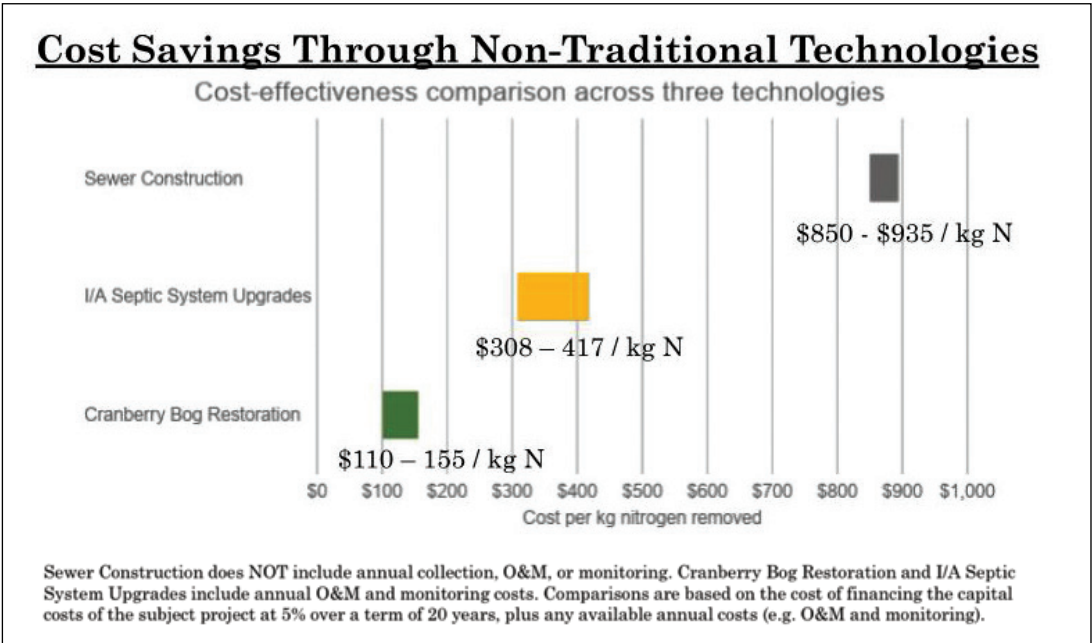


Even if all the current sewer plans are completed, **over 70% of the Cape will remain untreated and at risk**. That is why we are working tirelessly to develop effective, lower cost, wastewater treatment approaches that can help the rest of us...and sooner!

# Lower Cost Solutions

The Nature Conservancy and partners evaluated overall cost-effectiveness of nitrogen removing technologies and found that the latest innovative and alternative (I/A) system upgrades were significantly lower in cost than sewer construction.

Please note that this data was collected in 2019 and does not reflect current data.



## Shubael Pond Costs

BCWC has completed 12 I/A septic system installations at Shubael Pond. Each lot is essentially the same 10,000 square feet. The NitROE treatment system is modular and often existing Title 5 components can be incorporated. Of the 12 installations, six were retrofits adding only the treatment tank itself, in two we replaced other

components as well (leaching field or septic tank), and four were full replacements (septic tank, NitROE tank and leaching field). For this project, we spent over \$6,000 per site on engineering. Under normal circumstances this should be substantially less. The summary below left illustrates average costs for each installation type, excluding landscaping.

Installation Type		
12 homes		
	% of Total	Average Cost *
Full	33%	\$37,260
Partial	17%	\$34,332 **
Retrofit	50%	\$25,975
* Includes permits, fees and engineering costs. Does not include property repairs.		
** One Partial includes a Pump Chamber that costs \$2,200, which is driving up the average		

**Full:** Replacement of both the Title 5 tank and the leaching field plus a NitROE tank

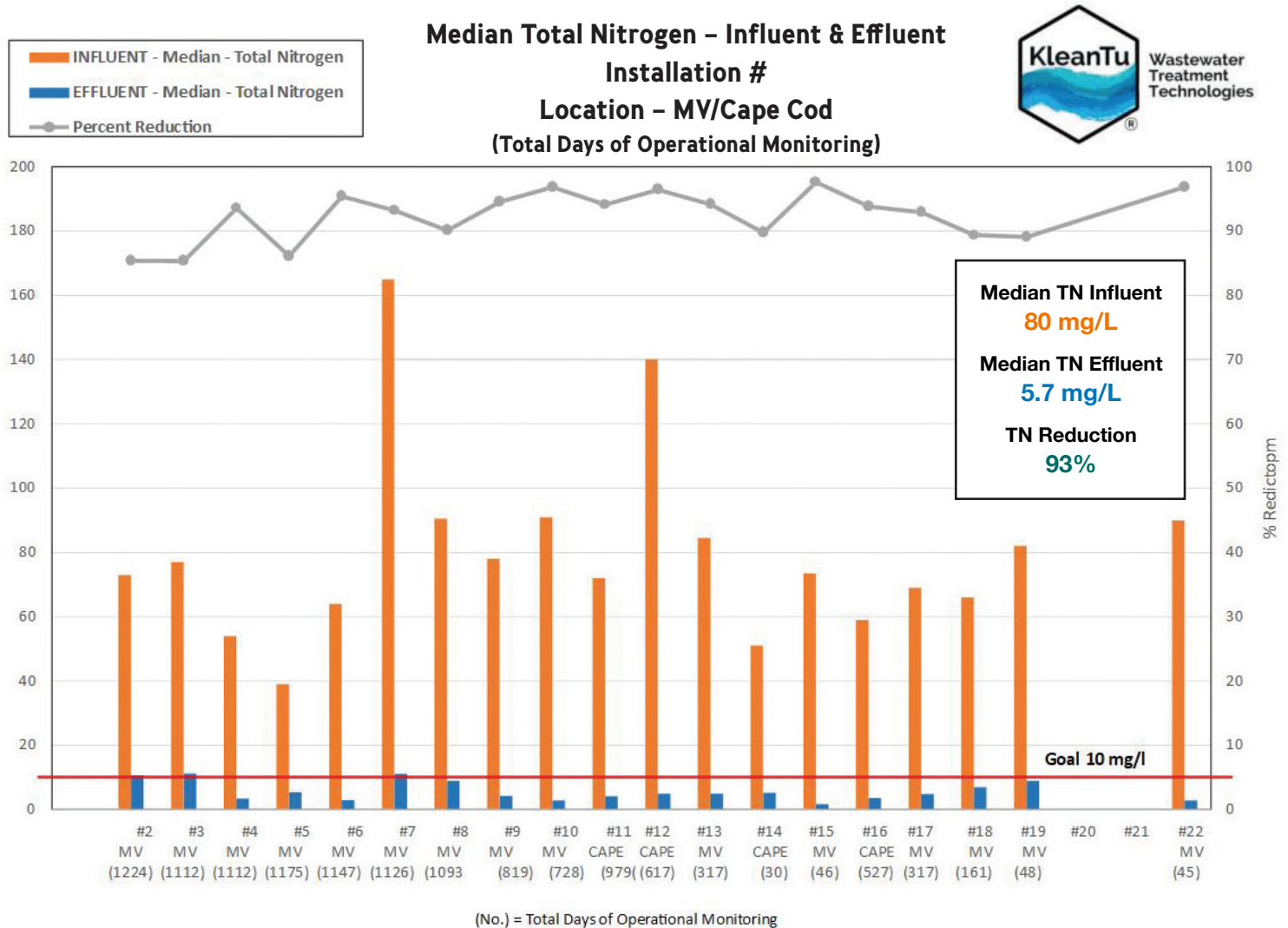
**Partial:** Replacement of either the Title 5 tank or the leaching field plus a NitROE tank

**Retrofit:** NitROE tank added to an existing Title 5 tank and leaching field

Due to inflation, we are seeing price increases that affect both Title 5 and I/A septic system installations.

# Results in the Right Direction

The graph below is busy, but important. The data we and our partners have collected indicates the median **influent (in orange)** on the Cape and Martha's Vineyard is approximately 80mg/L of nitrogen in a septic tank. This is about 80% more than historical assumptions. After treatment, **effluent** leaving the NitROE systems we are trialing is reflected in **blue**. The median is 5.7mg/L of nitrogen and the average is 7.6mg/L. A reduction of over 90%! **These numbers are very close to the effluent numbers from many municipal treatment plants.**



## 50 KleanTu NitROE Installs by Summer 2022

The above chart reports data for 19 NitROE systems installed on Martha's Vineyard and Cape Cod that have at least one month of total days of operational monitoring.

Data for the remaining 25 systems is not included in the chart because they are either in startup mode with few/no samples collected or house construction has not been completed to allow occupancy.

# New Regulations Are In The Works

The Massachusetts Department of Environmental Protection (MassDEP) has sent a letter out indicating that new wastewater regulations are in the works for Cape Cod. These revisions are game changing and ones that Cape Cod town officials will be reviewing and discussing with you in the future.



**Scan here to  
read full  
MassDEP  
Letter**

**Scan here to  
read full  
MassDEP  
Fact Sheet**





# Save The Dates



## Annual BCWC Open House

Thursday, August 18th  
5pm-7pm  
The Bogs in Marstons Mills

Help us **SAVE THE BOGS TO SAVE THE BAYS.**  
Join us for project updates and beer, wine and  
pizza provided by Pizza Barbone.



## Clean Water Challenge GOLF TOURNAMENT

Monday, September 12th  
8am-2pm  
Oyster Harbors Club  
Osterville

Join BCWC friends and supporters for a day of  
golf at the 3rd Annual Clean Water Challenge  
Golf Tournament at the exclusive  
Oyster Harbors Club Golf Course.  
Corporate and Individual Sponsorship  
Opportunities available.



*BCWC Board President Mike Egan (far left) ready to  
tee off with friends at the 2019 Clean Water Challenge.*



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Osterville, MA 02655  
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BCleanWater.org

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### Mission Statement

*Barnstable Clean Water Coalition works to restore and preserve clean water in Barnstable. BCWC utilizes science as its foundation to educate, monitor, mitigate and advocate for clean water.*

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## Upcoming Events! [BCleanWater.org](http://BCleanWater.org)

*Join BCWC in support of clean water in 2022 at one of these events.  
Visit our website for more details.*



**Clean Water Wednesdays**  
6:30pm  
July 20th & August 24th  
September 14th  
Cape Cod Beer, Hyannis



**Annual BCWC Open House**  
5pm-7pm  
Thursday, August 18th  
The Bogs in Marstons Mills



**Clean Water Challenge Golf Tournament**  
8am-2pm  
Monday, September 12th  
Oyster Harbors Club, Osterville



Thank you to The Nature Conservancy (TNC), one of our project partners, for assisting us with getting great media coverage, including the front-page articles that appeared in the Boston Globe and Cape Cod Times. Please scan the QR code to watch the video produced by TNC about the Shubael Pond project.



**Donate online at:**  
[BCleanWater.org](http://BCleanWater.org)



**Donate by mail:**  
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**Osterville, MA 02655**