CAPE COD’S WATERS ARE IN TROUBLE

(but we can fix it)
The disparity between the degraded quality of surface waters and the continued quality of drinking water reflects different approaches to management by the Cape’s 15 towns. A clear public policy commitment was made to protect drinking water supplies over 30 years ago. Towns protected water supply areas through open space acquisition and wellhead protection zoning. As a result, drinking water supply quality has remained excellent.

In contrast, towns failed to take comprehensive action to protect surface waters. The boom in housing development in recent decades, coupled with inadequate wastewater management, has caused the widespread decline of waters across the Cape.

The report conclusions show the serious adverse impacts inadequately treated wastewater has had on water resources across the Cape. The majority of the Cape still relies on Title 5 septic systems to treat wastewater, which are ineffective in removing nutrients. These nutrients are carried by groundwater to coastal bays and ponds, where they degrade water quality. Only a small fraction of the wastewater on the Cape receives the higher level of treatment and nutrient reduction provided by publicly-owned wastewater treatment facilities. Poorly treated stormwater runoff and fertilizers are the other major sources of nutrient pollution that have impacted the Cape’s water bodies, but not to the extent wastewater has.

The purpose of APCC’s State of the Waters: Cape Cod report is to provide a comprehensive analysis of the Cape’s water resources and to highlight the need for more effective management strategies to protect drinking water supplies and improve water quality.
Decisive action on the part of policy makers and the public can reverse the degradation of the region’s water resources.

The report is to assist policy makers and the public in gaining a better understanding of where water quality on the Cape is unacceptable and in need of immediate restoration. By providing this information through a comprehensive and visually compelling look at the Cape’s water resources, it is hoped the report will guide public policy and investment in restoration efforts. APCC plans to release the report on an annual basis to track the progress of efforts to clean up the Cape’s waters.

To create the report, APCC collected existing information on water quality compiled over years of sampling and monitoring of coastal embayments, freshwater ponds and public water supplies. The sampling was conducted by municipalities and organizations, along with the assistance of numerous citizen volunteers. APCC analyzed this wealth of existing data and translated the information into grades. The information collected for the report and the resulting grades given by APCC underscore the urgent need to take action on restoring the Cape’s water quality. The information is posted on www.capecodwaters.org, a website created by APCC for the project.

APCC used three grading systems for the report. One system was adopted for grading coastal waters, a second for grading ponds and a third for grading drinking water. APCC chose grading systems that were determined to be scientifically sound, have been used before to evaluate water quality, are easily understood, can be replicated by others, and are targeted to evaluate the most pressing water quality problems.

While the report draws a sharp focus on the Cape’s serious water quality problems, the takeaway is that decisive action on the part of policy makers and the public can reverse the degradation of the region’s water resources. It is achievable. But it will take a strong commitment from all stakeholders to make it happen.

See the following articles in this Shore Lines about the State of the Waters: Cape Cod report findings and APCC’s action plan for restoring and protecting the Cape’s water resources. For more information, go to www.capecodwaters.org or contact APCC at 508-619-3185.
The report provides analysis of the condition of specific water bodies based on sampling and monitoring data from existing sources. A detailed description of the report findings can be found at www.capecodwaters.org. What follows is a breakdown of some of the more important points from the report.

**EMBAYMENTS**

Existing data was available on 48 of the Cape’s coastal embayments. Of those 48 embayments, more than two-thirds—or 33 embayments, or 69 percent—have areas within the water body where the water quality is unacceptable and immediate restoration is needed. Less than one-third—or 15 embayments, or 31 percent—have acceptable water quality.

Nutrient pollution in the form of nitrogen, primarily from septic systems but also fertilizers and stormwater runoff, is the source of water quality issues in the Cape’s coastal embayments. Most of the embayments with unacceptable water quality are located on the western, southern and eastern coasts of Cape Cod. In these locations, many of the watersheds contain densely developed areas served by Title 5 septic systems. Embayments in these areas generally have low tidal flushing rates, which tend to keep pollutants within the embayment system.

Most of the embayments with acceptable water quality are located on Cape Cod Bay, with some located on Buzzards Bay. Population density on the Cape Cod Bay side is generally lower, resulting in relatively fewer septic systems, plus the area has more protected open space. Cape Cod Bay also has a greater tidal range than coastal embayments on the southern and western sides of the Cape, allowing seawater to flow into and out of embayments more easily and disperse pollutants more effectively.

APCC analyzed data across the Cape from 152 sampling stations within embayments. Nearly two-thirds—or 98 stations, or 64 percent—have unacceptable water quality. A little over one-third—or 54 stations, or 36 percent—have acceptable water quality. Some embayments have multiple monitoring stations within them. In those embayments, the stations closest to land often had worse water quality, and therefore lower scores, than stations farther out to sea, which tended to have better water quality. An embayment with one or more monitoring stations showing poor water quality received an unacceptable grade in the report.
FRESHWATER PONDS

APCC’s analysis found that more water quality monitoring is needed for Cape Cod’s ponds. Only 149—or just 15 percent—of the Cape’s 996 ponds are monitored for water quality, making the overall picture of Cape Cod pond health incomplete. Of these 149 monitored ponds, over one-third—or 58 ponds, or 39 percent—have unacceptable water quality and are in need of immediate restoration. Fewer than two-thirds—or 91 ponds, or 61 percent—have acceptable water quality.

The report showed that ponds graded with unacceptable water quality included a combination of large and small ponds. As with coastal embayments, the unacceptable pond grades reflect the impact of excess nutrients—for ponds, in the form of phosphorus—from septic systems, fertilized lawns and stormwater runoff.

In future State of the Waters: Cape Cod reports, APCC plans to include the results of cyanobacteria monitoring in the grade calculation for ponds. Through our cyanobacteria monitoring program, APCC has been monitoring 30-plus ponds and lakes for harmful cyanobacteria blooms. Most of these ponds experienced cyanobacteria blooms at one point this past summer that resulted in environmental and public health concerns. Harmful cyanobacteria blooms occur in ponds when there are excess nutrients and warm temperatures, conditions that are likely to occur more frequently as climate change continues.

PUBLIC WATER SUPPLIES

The State of the Waters: Cape Cod report graded 20 public water supplies on the Cape as having excellent water quality, based on published Consumer Confidence Reports, which community water systems are required to provide by the U.S. Environmental Protection Agency.

These grades show that municipal drinking water sources meet existing drinking water standards. It is also a reflection of the commitments made by municipalities decades ago to protect drinking water supplies, including wellhead area protection regulations, watershed protection, open space preservation and other measures, which have worked well in safeguarding drinking water sources from the list of contaminants currently regulated by the government.

It should be noted that unregulated contaminants were not factored into the report’s analysis and are not typically tested by water suppliers. Standards for these contaminants have not been established. They include perfluoroalkyl and polyfluoroalkyl substances—known as PFAS, pharmaceuticals, endocrine-disrupting compounds, microplastics and cyanobacteria.

A detailed description of the report findings can be found at capecodwaters.org.

APCC’S PROGRAMS DEPEND ON YOUR SUPPORT!

If you haven’t had a chance to respond to APCC’s Year End Appeal yet, please take a moment to mail in your contribution or go to www.APCC.org to make a secure online donation.

IF YOU’VE ALREADY MADE A CONTRIBUTION, THANK YOU!
The publication of APCC’s State of the Waters: Cape Cod report includes an action plan for restoring and protecting the Cape’s water quality.

The APCC action plan calls on Cape Cod towns to lead the effort in protecting and improving water quality. Towns that have adopted plans consistent with the Cape Cod Section 208 Area Wide Water Quality Management Plan must begin implementing their long-term strategies for managing wastewater and improving water quality in the towns’ embayment watersheds. Towns without a plan must make the development and adoption of a plan a top priority. Those with plans that identify shared watersheds with neighboring towns should adopt intermunicipal agreements that establish nitrogen responsibility and cooperative wastewater management strategies.

APCC urges towns to dedicate at least 50 percent of short-term rental tax revenue to municipal infrastructure investments that include the development of wastewater infrastructure. Towns should also improve stormwater management and consider the adoption of land use practices—including zoning and other regulatory changes—that protect water resources.

The participation of individuals and local citizen groups are integral to the success of towns moving forward on water quality improvements for coastal embayments and freshwater ponds. Residents should be directly involved in their town’s decision-making process, demanding decisive action by local officials to protect and improve water resources. At town meetings and in town elections, citizens should demonstrate strong support for local wastewater infrastructure investments, viable alternative wastewater treatment strategies, open space preservation initiatives and regulatory changes to improve and protect water quality.

The action plan also calls for a more rigorous monitoring program to gain a better understanding of the health of Cape Cod’s ponds. Since only 15 percent of the Cape’s ponds are monitored, sampling from a greater number of ponds is needed. Monitoring should test for impacts from nutrients as well as the occurrence of cyanobacteria blooms. An expanded monitoring program requires increased participation from citizen volunteers as well as municipal involvement.

For drinking water, the plan recommends the state adopt more protective standards to address unregulated contaminants of emerging concern. Towns should expand public water supply sampling to include testing for unregulated contaminants more likely to be present in the region, including testing for PFAS. It also calls for towns to continue their vigilance in preserving existing protections of water supplies and to explore ways to increase protection through additional open space preservation and regulatory safeguards. Citizens should help make sure these and other measures are adopted by becoming more involved in the municipal process and by pressing town officials to take action.
APCC is proud to announce the release of fine art photographer Steven Koppel’s new book, The Brewster Flats.

Steve writes, “The Brewster Flats on Cape Cod is a remarkable yet relatively unknown natural phenomenon. This vast expanse of sand experiences constant changes in water, light, and air, creating extraordinary visual spectacles. The images in this book reflect the intimate connection I feel with this landscape, my backyard for the past two decades.”

To learn more about Steve Koppel and his work, and to order a copy of The Brewster Flats, go to stevenkoppel.com or find him on Facebook @StevenKoppelPhotography.

All profits from the sale of this book are donated to the charitable work of the EDI Institute and to APCC.

A terrific gift idea for the holiday season or for your own bookshelf!
LEAVING THE WORLD
A BETTER PLACE

APCC has benefited greatly over the years from bequests. Making one is as easy as adding the following language to your will:

“I bequeath to the Association to Preserve Cape Cod, Inc. (APCC), a charitable corporation established by law in the Commonwealth of Massachusetts, the sum of ___ dollars (or percentage of estate).”

You can direct how you want your legacy gift to be used by choosing “the general purposes of APCC at the direction of its Board of Directors,” or if you’d prefer to have your legacy live on in an endowment, you can direct it “to be added to APCC’s permanent endowment.”

WISE WAYS TO GIVE
Donating appreciated securities may be a prudent way to be charitable, as you can avoid paying tax on capital gains. It’s also easy! And, if you are 70½ or over and make a gift to APCC directly from your IRA, it counts toward your required minimum distribution—and avoids tax.

—TO LEARN MORE—

Please contact Andrew Gottlieb at 508-619-3185 or agottlieb@apcc.org.

PLEASE NOTE: THIS INFORMATION SHOULD NOT BE CONSIDERED AS LEGAL, TAX OR FINANCIAL ADVICE. CONSULT YOUR PROFESSIONAL ADVISOR FOR FURTHER INFORMATION AND GUIDANCE.