



Pocasset Water Quality Coalition
White Paper
Strategic Priorities
May 2023

As we launch the summer season of 2023, the PWQC Board of Directors commissioned a subcommittee to create a “White Paper” to summarize the work to date, our lessons learned, and the impact for the future of our organization and our community to guide our future strategy.

Original Vision and Early Lessons Learned

The original mission from the beginning of the PWQC in 2019 was to seek measures to restore the health of the water in Hen Cove and return the eel grass, shellfish beds, and safe swimming and boating conditions that existed prior to the Town of Bourne’s closure of the culvert that had connected Hen Cove to the marsh north of Circuit Ave. in the early 1960s.

Our original strategy to restore the health of Hen Cove was to reverse the changes to the water flows to/from Hen Cove that we believed were the principal causes of the deterioration of the water quality since the 1960s. Initially, we had envisioned that remediation of Hen Cove could be accomplished by re-establishing the water flows between Hen Cove and the marsh to the north of Circuit Ave. We applied for and received a Town grant to study and plan this flow augmentation.

From that point, the process became much more complex – technically and administratively. We still continue to investigate the feasibility of increasing flushing, but it will be a long process. (<https://www.pocassetwaterquality.org/library/>)

We are not alone

During our self-education about the causes of our water quality degradation and ways to reverse these conditions, we came to realize that our local problems were not unique – similar problems exist in bays around Cape Cod and Buzzards Bay, and local organizations like ours were engaged in similar efforts. We have exchanged information and collaborated on strategies with many of these groups. We have invited their leadership to present to our Annual Meeting to share their lessons learned.

Primary causes of water quality degradation

Nitrogen loading: The science has determined that the steadily increasing flows of nitrogen is promoting the choking growth of algae and is destroying the life of our aquatic resources. The science has demonstrated that about 80-85% of the nitrogen is coming from our septic systems, and in some cases, obsolete cesspools.

Stormwater Runoff: The other primary contributor is surface land runoff, and excesses of fertilizers applied to our landscaping.

No amount of increased flushing alone will reduce this nitrogen sufficiently, so control of the sources needs to be a higher priority.

PWQC Priority Focus

The PWQC Board has decided to focus on **educating and supporting our members** in voluntary and in some cases, legally-required actions to reduce our contributions of nitrogen (summarized below), and expanded discussions are attached as sections.

Hen Cove and adjacent bays need to be put on nitrogen “diets”. Similar problems with overloading of nitrogen and other pollutants have been identified around the country, and the Clean Water Act has specified specific methods to measure the current loadings of nitrogen and then specify how much needs to be reduced – 35 years ago.

Sadly, the Commonwealth of Mass. has been shamefully slow in doing these assessments and facilitating the required reductions in nitrogen in the land watersheds upstream of each of the polluted bays. Recent legal actions are forcing the Massachusetts Department of Environment (DEP) to get moving on the process.

So, PWQC’s priorities are:

- Educating and supporting Pocasset homeowners in **improving nitrogen removal from their own septic systems, and completely replacing outdated cesspools**
- Educating and supporting homeowners in how to **reduce runoff from their properties, and using natural landscape methods to absorb the nitrogen**
- Educating and supporting homeowners in **reducing fertilizer and landscape chemical escapes to surface water and ground water**, by using slow-release and organic fertilizers, for instance.

We will continue to investigate the feasibility of increasing flushing to help reduce nitrogen levels, but this will be a slower process and thus secondary to the three Priorities listed above.

Further, there are a number of other factors and planned activities, that may affect local water quality. We will track these, and communicate and educate our members. When appropriate, the Board will represent our members, and make public comments to government agencies and other bodies.

Additional Resources on the PWQC website (www.pocassetwaterquality.org)

Catch up with use at www.PocassetWaterQuality.org or on Facebook at Pocasset Water Quality Coalition