



## **ENVIRONMENTAL LOOKOUT: PLAN-TING AHEAD**

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This time of the year, the landscape of Cape Cod is monochrome, and the winter wind blows with a stinging chill. But with the arrival of seed and plant catalogs comes the promise of spring. Along with the excitement and anticipation of planting season now coming into view on the horizon, one must also be aware of the environmental challenges facing our salt and fresh waters and how our landscape designs can affect them.

The Association to Preserve Cape Cod has just issued its third annual report on water quality. Zero of the twenty-one bays and estuaries on the south shore of the Cape have acceptable water quality. The degradation of our fresh and salt waters is a Cape-wide issue but of particular concern to Mashpee. Popponeset Bay has the notorious distinction of being the most nutrient-polluted bay in Southeast Massachusetts.

Nutrient pollution, mainly by nitrogen in the salt waters and phosphorus in the fresh waters, has resulted in the overgrowth of algae which leads to diminishing water oxygen levels endangering sea and aquatic plant life. The once common eelgrass which supported shellfish such as scallops has been long gone from Popponeset Bay as a result of such pollution. More recently, this past summer's blue crab kills and dying oysters are a result of worsening nutrient pollution.

Freshwaters are impacted by the growth of toxic cyanobacteria, threatening the health of humans and animals. Recreation and tourism are impacted when bodies of water are closed to swimming and fishing. Maintenance of property values is also at risk.

Most of this nitrogen pollution (80%) is due to runoff from septic systems. The rest (20%) is from fertilizer and stormwater runoff. The Town of Mashpee has stepped up efforts to address this serious issue. Phase 1 of the Clean Water Plan has been approved by the voters and initial steps to build water treatment plants and install sewerage are underway. Efforts are being made to rework and accelerate Phase 2 of the Plan. Mashpee has also regulated the application of fertilizer through the Nitrogen Bylaw. To summarize, the application of nitrogen is prohibited between October 30 and April 14 with phosphorus application prohibited between December 1 and March 1. The amount of nitrogen that can be applied is limited to 0.5 lb. per 1000 sq ft of land with no greater than 1 lb. total nitrogen application per year. At least 1/3 of this nitrogen should be in water-soluble form and application is prohibited before and during heavy rainfall or when the ground is saturated.

The Town went a step further by issuing a Special Water Quality Alert in July 2021 after the Select Board voted to encourage all property owners to STOP the application of ALL fertilizers on lawn and landscaped areas.

While contemplating the coming of planting season, we can do our part to address pollution from fertilizer use and runoff on our properties. Good ecological design reduces the need for water, fertilizer, pesticides, and labor. Such design also addresses the effects of climate change, such as drier and hotter summers.

Beginning with the concept of healthy lawns, one needs to know that the soil on Cape Cod is scientifically known as “Carver soil.” This terrain, a result of glacial deposits of rocks from thousands of years ago, is an infertile, rapidly permeable sandy soil with low water and nutrient holding capacity. This makes our yards, fields, and golf courses vulnerable to excessive nutrient runoff, which pollute bodies of water and other environmentally sensitive areas.

Considering the porous nature of the Cape’s soils, the fescue types of grass seem best suited for planting. They exhibit low fertilizer needs, are shade and drought-tolerant, and have minimal mowing frequency of one to two cuts per summer. To help maintain a healthy lawn, grasses should be mowed 2.5-3.5 inches in height while not removing more than half the height of the grasses at a cutting. Clippings should be left to build organic material and recycle nutrients, lessening the need for fertilizers. Grasses can also be left to become dormant in the summer, thus alleviating the need for water and fertilizer. If one waters, make each watering infrequent and deep to encourage deep roots. If applying fertilizer, do so at the proper time which is late August to late September. Don’t count out a native Cape Cod lawn which is just to let an area fill in naturally and see what grows. It will usually be a mixture of native grass, wintergreen, some weeds, and moss. No need for water, fertilizer, or regular mowing!

How about ecological landscape design apart from lawns? Here is a general concept to consider.

Think of native plants as communities or social groups aiming to utilize plants that grow and fit together into the landscape context of their location on Cape Cod. Not only can native plants create a beautiful, low-maintenance garden, but they also support our local birds, wildlife and pollinators.

For example, a dunes location for landscaping would favor bayberry, Virginia rose, and beach plums, while a maritime forest location favors the use of salt spray tolerant trees and shrubs such as cedar, pitch pine, scrub oak, and beach heather. A pine-oak forest location is a favorable one for ground covers such as inkberry and huckleberry.

A good example of landscaping for clean waters is the Native New England Garden planted in front of the Barnstable Clean Waters Coalition office on Main Street in Osterville. The garden features native plants that are adapted to the climate and soils of Cape Cod. This garden would be a good starting point to view and to be educated on these plants and their attributes. A visit is strongly encouraged.

There is a considerable selection of native trees, plants, shrubs, and flowers and information can be easily accessed. The Audubon Society has an extensive and free native plant database. A list of plants native to our location can be accessed by entering a zip code and email address after searching for native plants at [www.audubon.org](http://www.audubon.org). The Barnstable County Extension service is available to assist with workshops and various programs at [www.capecodextension.org](http://www.capecodextension.org). Most local nurseries and garden shops now have native plant selections for your purchase. If using a landscape

service, be sure they are up to date on current regulations and that they prioritize ecologically minded sustainable designs. Also, check out Mashpee Environmental Coalition's webpage at [www.mashpeemec.us](http://www.mashpeemec.us) which has information about our work as well as links to many ecologically oriented groups in our area.

Now back to those colorful catalogs and plan-ting ahead!

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