



Cotuit Library Stormwater Garden

What's the purpose of this garden?

This stormwater garden is called a bioretention. The bioretention collects and treats water from a portion of the library rooftop and parking lot. The plants and soil in the garden clean this water called stormwater runoff by filtering out pollution such as garbage, sand, bacteria, and nutrients.

What is stormwater runoff?

Impervious, or hard and non-porous, surfaces like roadways and parking lots don't allow rain and melting snow to soak into the ground. When water collects and runs off these surfaces, it picks up pollution washing it into our streams, ponds, and bays. This is what we call stormwater runoff. Engineered structures like bioretentions, grassy swales, and porous pavement help capture and drain water from these hard surfaces while removing pollution at the same time.

Why should I care about stormwater?

Pollutants from roadways, such as oil, gas, bacteria, nitrogen, and phosphorus, degrade the quality of groundwater and water bodies like ponds, rivers and bays. Excess nutrients from stormwater runoff and lawn fertilizers encourage algal growth. When the algae dies, its decomposition can use up all the oxygen in the water causing fish kills. Harmful bacteria from pet and wildlife waste washed off lawns and roads result in shellfishing and beach closures due to contamination. This is harmful to the environment and to your ability to enjoy Cape waters.

What is the difference between a rain garden and a bioretention?

A bioretention and a rain garden both improve water quality and promote drainage by creating a planted area to capture and filter stormwater, but a bioretention includes more engineered elements for specific pollution removal goals to deal with larger storms and bigger areas.

Can I walk through the garden?

Yes! The mulched paths, rocks and logs are part of the design to allow visitors to walk through and enjoy the garden. The rocks and logs may be slippery if wet, particularly if there is heavy rainfall or rain over several days. Please be careful when walking around the garden, but do explore the paths and stepping stones! Just avoid stepping on the plants.

Could I have something similar on my property?

Yes! Rain gardens are a great option because they don't require the same engineered structures that bioretentions need. Find more information about building your own rain garden here: <https://apcc.org/our-work/education/living-landscape-laboratory/rain-gardens/> or ask the librarians to help you find more resources for improvements to your landscape.

Will the garden attract bugs?

The garden will not attract mosquitoes because there will be no permanent standing water. The bioretention, like a rain garden, is designed to allow water to soak into the ground and prevent flooding and puddling. Pollinators like bees and butterflies will be attracted to the plants in the garden, and that's a good thing!

What types of plants are used?

Gardens like this are most successful and environmentally friendly when planted with native plants. Many of our native plants are drought and salt tolerant which makes them great choices to survive extreme conditions of wet and dry coastal weather and locations. Once established, they will require minimal maintenance with less watering and no fertilizers or chemicals. Native plants have roots that extend deep into the soil and are therefore effective at stabilizing the soil and keeping it aerated so that water can easily soak into the ground. Many native plants support pollinators and other beneficial insects, which in turn are part of the local food web.

Planted in the Cotuit Library stormwater garden are the following plants, selected to thrive in this shady location:

- Windflower (*Anemone canadensis*) - Native
- Astilbe (*Astilbe chinensis*) - Non-Native
- New England Aster (*Aster novae-angliae*) - Native
- Creek Sedge (*Carex amphibola*) - Native
- Pennsylvania Sedge (*Carex pensylvanica*) - Native
- Little Joe Pye Weed (*Eupatorium dubium*) - Native cultivar
- Sweet Woodruff (*Galium odoratum*) - Naturalized
- Japanese Forest Grass (*Hakonechloa macra*) - Non-Native
- Blue Flag Iris (*Iris versicolor*) - Native
- Christmas Fern (*Polystichum arcostichoides*) - Native
- Bowman's Root (*Gillenia trifoliata*) - Native
- Silver Gem Violet (*Viola walteria* 'Silver Gem') - Native cultivar
- Barren Strawberry (*Waldensternia fragaroides*) - Native

Design and construction for this garden was completed by the Association to Preserve Cape Cod in partnership with the Town of Barnstable, the Cotuit Library and Horsley Witten Group with funding provided by Restore America's Estuaries Southeast New England Program Watershed grants in collaboration with the U.S. Environmental Protection Agency.

