

Tri-State Marine Wetland Creation Best Habitat Creation BUBBA

The Tri-State Marine (TSM) stormwater wetland project is a collaboration between the Arundel Rivers Federation and Tri-State Marine, a full-service marine business located in Deale, MD. This project represents the first public-private partnership for stormwater work in southern Anne Arundel County. The project was spearheaded TSM's owner, Tom Magenau, who believes that environmental and economic goals can be compatible. In fact, he has preserved 40 acres on adjacent property he owns for a forest conservation and wetlands mitigation bank, and recorded conservation easements over that area. Mr. Magenau is also committed to Bay restoration and the need for him to address the untreated stormwater transporting pollutants into the Bay. With guidance from the Anne Arundel County Watershed Protection Program, the original project design evolved away from a stormwater pond into a functional stormwater wetland that would offer enhanced water quality treatment and habitat.

The project area started out as a gravel lot with no existing BMPs that was used to store boats and trailers. With a massive construction effort, the project converted the gravel lot into a 60,625 square foot wetland complex. This wetland treats stormwater from two ephemeral drainage ditches that collect runoff from the surrounding Tri-State business park and County roads. This was not done as mitigation efforts, but rather the landowner's willingness to address stormwater coming from his properties. The project's BMPs consist of a grass swale, two bioswales, and a stormwater management wet pond ringed by native wetland trees, shrubs, and plants. The BMPs are designed in a series to act as a treatment train that will significantly reduce stormwater peak flow rates, recharge groundwater, and improve runoff water quality from existing conditions.

The wetland features two forebays to trap sediment and both high and low marsh areas to increase habitat diversity. Within the first summer after construction, toads and frogs had already used the site as breeding grounds. It wasn't long before you had to take care with each step in the marsh area to avoid the numerous young frogs hopping through the native plants. An exploding frog population has invited larger water such as the great blue heron.

Water flowing through the wetland works its way into a deeper wetland pool before being slowly fed into Parker Creek. Formerly a barren gravel parking lot, this section of the project is now home to mosquito fish and one can frequently find ducks enjoying the protected water. Flowering plants coming up through the water have attracted a variety of dragonflies and pollinators which in turn have attracted smaller water fowl such as the killdeer. We look forward to seeing what new species will move into the site this year.

The site was planted with well over 1000 wetland trees and plants to create a diverse and functional wetland system that will provide habitat and water quality benefits to the Chesapeake Bay. In addition to the high and low marsh areas, upland trees and shrubs were planted around the berms to provide food and habitat for small mammals and birds. While flowering emergent plants such as the blue flag iris was planted in the wetland areas, native wildflowers were planted around the berms as well specifically to attract pollinators.

The project is protected through a Memorandum of Understanding with Anne Arundel County that prohibits any changes to the restoration project. Additionally, this MOU allows the County to take the stormwater credits generated by the project. As the largest indoor marine sales center in the tri-state area, Tri-State Marine draws in a large number of clients each year. This restoration project can be viewed by any of clients. The project was funded partially by the Chesapeake Bay Trust, Anne Arundel County's Watershed Protection & Restoration Program. Nearly half of the funding came from Tri-State Marine which highlights their commitment to improving the health of the Bay.

Planting Plan Included:

Atlantic White Cedar
River Birch
Eastern Cottonwood
Black Gum
American Beech
White Oak
Red Oak
American Holly
Bald Cypress
Virginia Pine

Black Cherry
Red Twig Dogwood
Inkberry
Wax Myrtle
Button Bush
Possum Haw Viburnum
Swamp Rose
Sweetbay Magnolia
Pickerel Weed
Black-Eyed Susan

Bee Balm
Blue Flag Iris
Soft Stem Bulrush
Arrow Arum
Common Tree Square
Cardinal Flower
Soft Rush
Lurid Sedge