

# PROBLEM SOLVED!

## One Boat Club's Solution

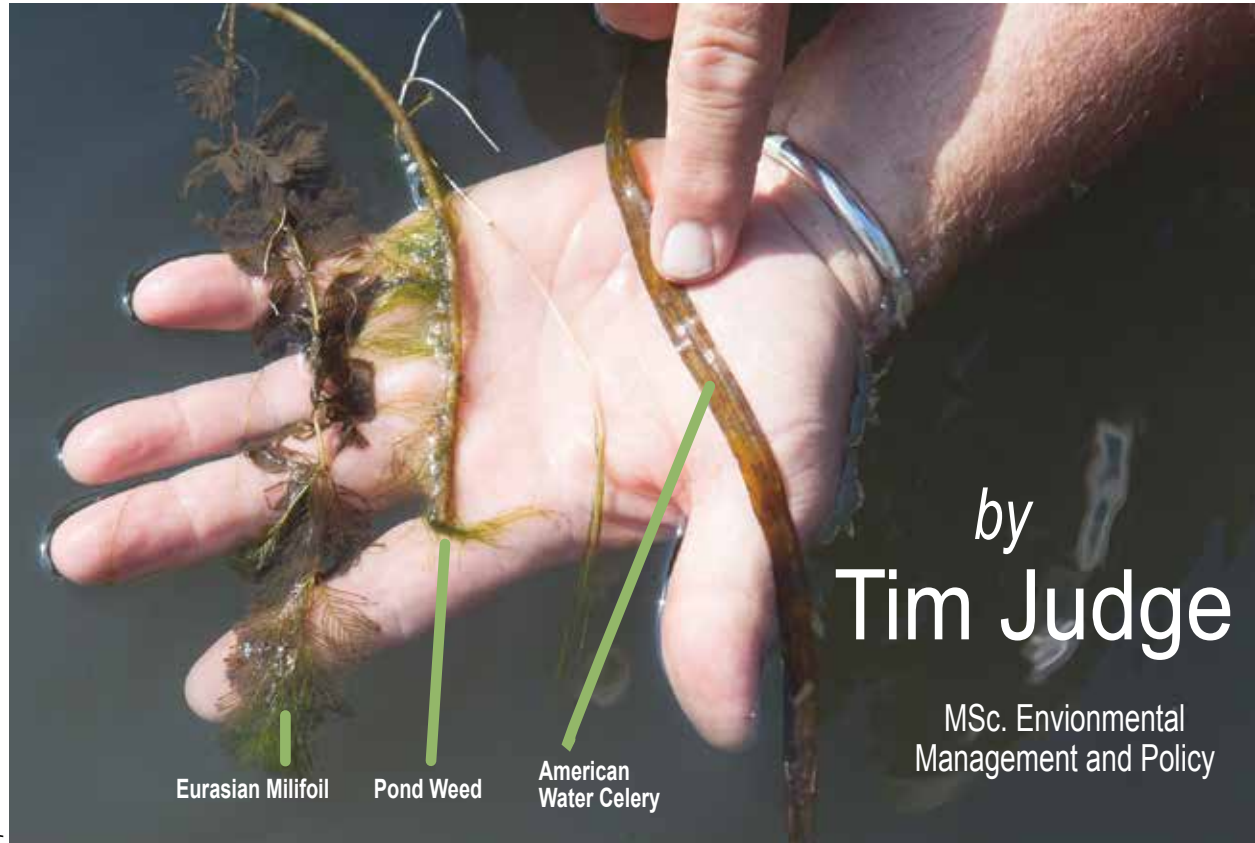


photo: Tom Sobolik

Like many boat clubs on the Hudson, the Philipse Manor Beach Club marina had been struggling with how deal with too little water at low tide – specifically:

- where to put the dredging material, and
- how to obtain the permits authorizing the dredging, and
- how to dredge at an affordable cost.

By the summer of 2015, the lack of depth in the Philipse Manor marina had reached a crisis. Boats could not enter or leave the marina one to two hours on either side of low tide. On occasion you could even see some poor soul who'd misjudged time and tide, towing their boat by hand through the deep mud to their slip. This reduced the opportunity for members to use their boats and resulted in an increasingly mutinous membership. This situation had been getting worse over the years, and boaters were defecting to marinas with deeper slips.

The club finally bit the bullet and hired an experienced company to secure a spot for the dredged material, navigate the state and federal permitting process and manage the dredging. Today the marina's draft is deep, the

membership is happy, and the budget is intact. Here's how it was done.

Fortunately, the PMBC had a local option for placing the dredged material, the question the became how to get the material to that site. One rule with dredged material, the cost increases the more the material is handled.

The concept for the project was to meet two needs: to return the PMBC marina to navigable depths at low tide and to use the dredged material as fill on the former GM site. This would be accomplished use a hydraulic dredge that can pump the removed sediments to where they would be used.

The first task was to get the permission of the Village of Sleepy Hollow to beneficially use the dredged material on the East parcel. The Village agreed, provided the material was tested and met the regulatory standards. A bathymetric survey of the marina and core samples of the sediments were taken to test the sediments (Marine Power Technologies, Somerville, NJ). Based on the results the New York State Department of Environmental Conservation (NYSDEC) gave approval to use the material as fill on the East parcel.



photos this page: Tim Judge

The next step was to obtain the permits from the NYSDEC and the US Army Corps of Engineers (USACE) to dredge the marina. Part of the review process by the USACE is to consult with the National Marine Fisheries Service (NMFS) to make sure that fish and their spawning areas in the Hudson River are protected during the dredging process.

Preserving existing beds of submerged aquatic vegetation is required to keep fish populations at healthy levels and can conflict with the need to dredge to maintain navigable depths in marinas. Because the PMBC marina is one of the few sheltered areas on the eastern shore of the river that has submerged aquatic vegetation, the National Marine Fisheries Service was concerned about the impact of the dredging and the potential loss of essential fish habitat in the river.

Working closely with the NYSDEC, the NMFS and the USACE, a solution was found that allowed the dredging to be done while limiting the impact by harvesting and transplanting the submerged aquatic vegetation out of the dredge foot print. With the help of three students from the Environmental Studies Program at Ramapo College of New Jersey, over 300 American Water Celery plants were harvested by hand and replanted near the shoreline and will be monitored over the next three years.

With the permits in hand and the approval to beneficially use the dredged material locally, the beach club was finally able to dredge. The club decided on using a hydraulic dredge contractor (Legacy Valve, LLC of Valhalla, NY) whose system allowed the PMBC to avoid the cost of trucking the solids away from the marina by piping the dredged solids directly to the East

parcel. The cost of hauling the solids can be more than half the cost of a small to moderate dredge project and piping the dredge solids made this project affordable.

Approximately 2,300 feet of pipe carried the 7,500 cubic yards of dredged material to five Geotubes that acted as giant filters to separate the solids from the water. Geotubes, measuring 200 feet long by 38 feet wide are made of a geo-synthetic fabric that allows the water to flow out, leaving behind a very dry, dirt like material at the end of the project. The dewatered sediments will be mixed with clean soil and used under the improvements that the Village of Sleepy Hollow Local Development Corporation is making to the East parcel as the former General Motors property is repurposed. The Village of Sleepy Hollow was supportive of the dredging and was happy to accept the dredged material at no cost to the tax payers.

The PMBC dredge project took the club more than ten years from the initial planning to completion. Once the approvals had been granted, the actual dredging was conducted in a little over eight weeks from initial mobilization to completion during this past fall.

While the prospect of dredging can be daunting, with planning, a little imagination, the right contractors and a good working relationship with the regulatory agencies it can be accomplished, even for a small marina.

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