A marsh on the verge of better days faces a new threat from an aquarium plant that runs amok in the wild
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My favorite marsh is under attack again, this time by a runaway plant. The invading horde stays submerged until July, when new growth reaches the surface in a tangled profusion that makes waterways all but impenetrable.

A lot of people are upset. Not only is the marsh being choked, but the "permicious weed" responsible threatens to spread out into the Potomac River and down as far as the first salt water. Nightmare images are evoked: triburaries clogged like some rivers in Florida have been since 1960 (right). Ecologist worry about native plants, just beginning to return as the water is cleaned up, being crowded out. Boaters worry they'll have fewer places to go; marina operators worry the boaters will have no place to tie up.

The new threat is Hydrilla verticillata, a feathery aquatic originally imported as an aquarium plant. To counter it, there is now a Hydrilla Regional Action Committee operating under the auspices of the Interstate Commission on the Potomac River Basin (ICPRB). The best hope is control rather than eradication. Hydrilla is a formidable adversary. It spreads by sending our runners through the mud. It also grown from tubers. Kerry Steward, a hydrilla expert flown in from Florida to study the situation, estimated the plant could produce up to 48 million tubers per acre in the Potomac. Worst of all, hydrilla also grows well from cuttings and fragments: attempts to cut open channels through the jungle are doomed to accelerate the spread, releasing fragments into the water which can take root and begin another plant. Boats can hasten the spread, and so can ducks.

The hydrilla has appeared at a critical time for the river. The Potomac has come a long way in the past decade or two. Strollers along the shore no longer encounter signs advising them to wash with strong soap if any river as cleaner water returns it to some of its old biological richness. Beavers build their lodges. Mink hunt there (as evidenced by road kills). Otters are back, and so are ospreys.

Underwater vegetation is slowly reappearing along the whole stretch of river for the first time since the 1930s. But essentially the hydrilla is filling an empty niche. It is taking root where no plants have grown for decades, and doing for the ecosystem what lamented lost vegetation was doing. The hydrilla plants photosynthesize like any good chlorophyll-bearing plant and oxygenate the water. They provide food for grazers and a home for the tiny invertebrates essential to the food webs that include the higher predators we humans walk in the marsh to see.

Some of the traditional plants were named for their beneficiaries, or vice versa. Thus one plant is widgeon grass, another is redhead-grass, named for the ducks that feed on them. The scientific name of the canvasback duck, on the other hand, is derived from the scientific name or wild celery, one of the bird's favorite foods.
Names like these are intrinsically appealing to me. The U.S. Geological survey, which made a survey of aquatic plants in the tidal Potomac as part of its hydrology studies, has published a booklet showing where 14 of the plants can be found today. For each species there is a map of the river, with red dots showing where the plant still grows and yellow showing its potential distribution, based on salinity. The red dots look very lonely in great stretches of yellow. Only a couple show up near the marsh.

It would seem that any submersed aquatic would be better than none. And yet nobody wants hydriilla to take over the river. Steward estimated that it could grow on 33,000 acres of riverbed between the fall line and the beginnings of salt water downstream. Isolated stands have already appeared, but the marsh is still the principal concentration. The goal is to confine it there while ways are found to control it. The National Park Service, which manages the marsh, is going to experiment with containment booms across the principal waterways. Inside the booms hydriilla will be handpicked, burned at low tide and covered with opaque sheets. In some places fine mesh screen will be used to keep the hydriilla pressed against the bottom, thus reducing the light reaching the plant. (This technique will also produce fishing holes. It is one thing to hook fish in a hydriilla jungle but quite another to land them; the line gets hopelessly entangled.)

Some experts are saying that only chemical warfare will work, but everyone concerned is going slow on that front. the marsh and the river are an open system, connecting to Chesapeake Bay and eventually to the ocean. There is a herbicide that is approved for the use against hydriilla, but only in Florida.

The marsh is nothing if not resilient, and presumably will survive the on-slaught. It absorbs the worst that nature offers: storm surges, for example, expend themselves on natural breakwaters where pumpkin ash trees have toppled at the water's edge. It has endured dredging and the dumping of construction debris, and shrugs off the acres of trash that arrive each day with high tides. The marsh has been there for thousands of years, forming out of sediments from upstream creeks, and--allowing for the setbacks from dredging--is still growing.

In late May the invasion was not yet visible. Hank Snyder, the National Park ranger who keeps an eye on the marsh, took me through it in a whaler one crisp bright morning. A native of the California desert, he has become an expert in finding the deep arts of the "guts," the serpentine leads of open water that carry the tidal flow. Only once did our propeller rototill the dark mud beneath us. Sweet flag and cattails were coming up green through last years's growth; arrow arum was forming great clumps in shallower water. Great blue herons took flight as we put-putted up channels; kingfishers abandoned their lookout perches. A magical place, within striking distance of a subway station.

In May it was hard to believe that hydriilla could harm such a place. But by now it will be impossible to take a boat through those same guts. According to an ICPRB newsletter, hydriilla "forms dense, at time odorous mats on the surface that can shade light from desirable plants, hinder navigation, clog water intakes, provide an insect habitat too thick for control by predatory fish, and greatly limits swimming, boating and fishing. The plant's foliage dies in the fall, and its decay into basic nutrients cretes an excessive demand on the water's oxygen content--oxygen required by fish and other organisms," The stuff is a serious threat. But I can't help thinking that the marsh will survive. Sooner or later some revenous
creature that just can't get enough hydrilla will turn up, and a semblance of balance will return. May best bet is that the marsh will be there long after the hydrilla--and we--are gone.

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