

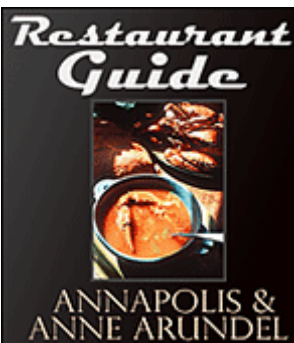
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Tuesday's Capital



THIS WEEK'S TAKE >>

DR. PETER BERGSTROM, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Natural recovery of bay grasses is encouraging

Imagine you are a small blue crab or fish migrating up the bay. You look for bay grasses for shelter from predators, but in some parts of the bay — including many of our local waters — they are hard to find. What can we do to help?

Just as we plant grass in our lawns, we can plant grasses in the bay. Direct restoration, or planting, of bay grasses has been attempted in the Chesapeake for more than 20 years, but it has rarely been successful over large areas, or for more than a few years. Recent success with planting eelgrass in the lower Potomac (“Our Bay,” Dec. 9, 2006) is very encouraging.

But something else is happening in the bay that is equally encouraging. Lately, some grasses have been reappearing all by themselves. We have been seeing the natural, or indirect, restoration of grasses in the upper bay, as well as in the upper Patuxent and Potomac Rivers. No one had to plant them — they simply recovered on their own after water quality in these areas improved. This is the main way we hope to meet the 185,000 acre goal for bay grass restoration; in 2005 our bay grasses were at 42 percent of that goal baywide.

The bay grasses involved in these natural recoveries include several lower-salinity species such as hydrilla, wild celery, and water stargrass. Some grass beds reappeared quickly after water quality improved because there were leftover populations of native bay grasses nearby.

Other areas recovered when non-native species moved in within a

few years of water quality improvements. Together, these native and non-native plants have formed vibrant stands that have persisted through good and bad growing conditions.

While often considered bad, explosions of non-native bay grasses seem to have been generally good for the upper Patuxent and Potomac Rivers. The bay grass recovery in the Patuxent and Potomac was almost entirely non-native hydrilla at first, but the number of grass species has increased in both rivers. Now there are many bass tournaments on the upper Potomac every year worth millions of dollars — and these could not take place without the grasses that provide habitat for these fish.

In addition to providing habitat, hydrilla helps to improve water clarity by trapping sediment on its fine leaves, improving conditions for other bay grasses. While it seems to have helped in these areas, nobody should introduce non-native bay grasses to the bay, because results of introductions in different areas are very hard to predict. The main drawback of hydrilla, especially on the Potomac, is that it can block boating access, but mechanical harvesting has offset this.

The recovery of bay grasses in the upper bay is particularly impressive because the species diversity is so high. I went with Maryland Department of Natural Resources biologist Mike Naylor in September 2005 to the bed off Stump Point (also known as Perry Point) near Perryville, where we found 13 bay grass species in one small area. There are only about 20 species of grasses found in the whole bay.

If you have a boat that can take you into the shallows of the Susquehanna Flats, I encourage you to go there in the summer or early fall see these grasses. You can launch small boats at Tydings Park in Havre de Grace, and at Perryville Community Park (Perry Point Park) on the other side of the flats, right next to the diverse bed off Stump Point. You might find some good fishing nearby as well — thanks in no small part to the health of the underwater grasses.

What caused the improved water quality associated with these three bay grass recoveries? Management actions taken to clean up the bay are at least partly responsible. The Potomac and Patuxent grass recoveries followed reduced total nitrogen loads (pounds per year) from the two wastewater treatment plants just upstream, the Blue Plains and Western Branch plants. Blue Plains nitrogen loads fell 65 percent between 1990 and 2005, and Western Branch nitrogen loads fell 86 percent over the same period.

While total nitrogen loads from the Susquehanna River have not declined, total nitrogen concentrations (with the effects of changes in river flow removed) declined at the fall line (head of tide) from 1985 to 2005 by 25 percent. Phosphorus and sediment concentrations also declined over that period.

These improvements are encouraging, but we need more nutrient and sediment reductions to promote bay grass recoveries in more areas.

If you live near the bay, you shouldn't have to drive an hour or more to see healthy bay grass beds. A crab or fish looking for shelter shouldn't have to look that far either.

To learn more about bay grasses, visit <http://noaa.chesapeakebay.net/HabitatSAV.aspx>. For information on surveys, visit www.vims.edu/bio/sav, click on "Field Observations" or "SAV Monitoring Project Reports."

Dr. Peter Bergstrom is a fisheries biologist at the Chesapeake Bay Office of the National Oceanic and Atmospheric Administration in Annapolis. He specializes in bay grasses and co-authored a field guide that's available at <http://www.mdsg.umd.edu/store/SAV/index.html>.



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