

It's About Nitrogen, and It's About Time



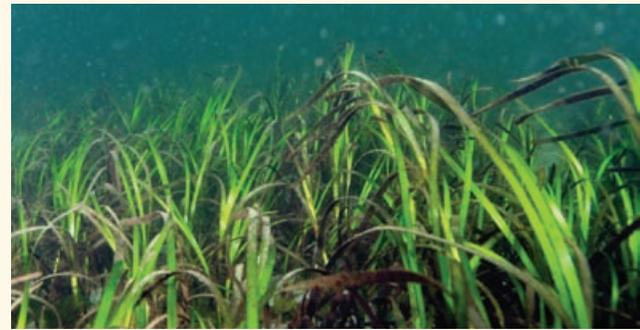
It is gratifying to see that the issue of nitrogen loading in Great Bay is finally getting some attention in, for the most part, a positive, constructive way. Until fairly recently, it seemed that nitrogen loading only

made the news when various towns or governmental bodies were complaining about the process or the cost of mitigation. The EPA, whether it intended to or not, accelerated the process when it mandated that discharge permits would only be issued for towns that reduced the amount of nitrogen being released from their wastewater treatment plants to 3 milligrams per liter. Several local towns balked at the cost/benefit of refitting their facilities to so limit the discharge, and formed the Great Bay

Estuary Water Quality Coalition to fight the EPA's mandate. Congressional

Representatives were involved in the process in an effort to get the EPA to back down from their demands. And now the Great Bay Municipal Coalition has filed a lawsuit against NHDES regarding the legality of the agency's analysis of nitrogen in Great Bay.

Numerous other organizations had been, or began looking into the issue of nitrogen loading in Great Bay. People wanted to know where it came from, be it specific sources, such as the wastewater treatment plants, or 'non-point' (non-specific) sources such as road and yard run-off. As is almost always the case, there is not just one source, but rather many and varied sources of the pollution that is causing nitrogen loading in Great Bay. Other people questioned the extent to which nitrogen loading was damaging Great Bay, so studies were undertaken that ultimately traced the reductions in the amount of eel grass in the Bay and the depletion of the oyster population directly to the increase of



Eelgrass

nitrogen in the water. The presence of eel grass and oysters are indicative of a healthy Great Bay, so seeing less of both caused great concern.

Now, organizations that fight for a healthy Great Bay are working collaboratively to develop solutions to the problems caused by nitrogen loading. Some are restocking failing oyster beds. Others are researching ways to foster a return of the eel grass. And still others are looking for ways to reduce the 'non-point' sources of nitrogen in the Bay. One of the committees of the Great Bay Stewards Board of Trustees has been working hard to develop programs that can help to reduce non-point nitrogen loading in Great Bay. The committee is focusing on a multi-faceted, targeted education program, combined with a system of rewards for demonstrable reductions in storm water run-off that carries potential pollutants to Great Bay. We think this program has tremendous potential, and are looking forward to launching it later this year.

We're excited that people are talking about and looking at all the sources of nitrogen loading in Great Bay, and not just the wastewater treatment plants. And we're excited that so many individuals and groups are focused on this issue, and that most are working together to restore Great Bay to good health for the benefit of us all.

Jay Diener
President, Great Bay Stewards



PLEASE JOIN US!

All interested parties are cordially invited to become Great Bay Stewards. Members receive Great Bay Matters and other pertinent mailings.

Annual dues may be paid by check made payable to the **Great Bay Stewards** and sent to: Membership Committee, 89 Depot Road, Greenland, NH 03840

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Just Child's Play?

As this mild winter quickly turns into a lovely spring, many families are beginning to plan their summer schedules and vacations. The Great Bay Discovery Center family is no exception to this! We sat down to discuss what topics, activities, and programs we would like to include in our 2012 Summer Series for both adults (BayViews) and children (BayVentures and Once Upon an Estuary), and began to reminisce about our own summer childhood experiences. As we shared our fun-filled recollections, we realized that they all had one major element in common: we were all describing our favorite childhood play memories. And, in most cases, these memories were centered around outdoor activities and places. The theme of our conversation shifted to discussing how things have changed. As societal dependence on technology increases and structured, educational activities and games dominate a child's day, children today spend far fewer hours outdoors in general, and even less time "playing".

So, what does play actually entail? The definition of play in this sense is multifold. According to Webster's Dictionary, it is "to engage in sport or recreation", with components that describe play behavior as internally motivated, free of rules imposed by an external party, and includes active participation from players that are not concerned with the product. Words such as "trifle", "frolic", "wreak", "cooperate", "gamble", and "wield" are scattered throughout the four-inch-long definition of play, attempting to encapsulate this concept with which we are all familiar.

You may be wondering what the big deal is—so what if children are not spending as much time engaging in free play as they used to? There's a reason why the saying "it's just child's play" exists, because play is a bit nonsensical and almost a waste of time in this busy world. Team sports, clubs, school projects: those are productive elements in a child's day, not time spent playing with toy cars or building forts outside. But play is a paradoxical thing—it is both real and not real, and appears purposeless to an adult audience yet it is absolutely essential to childhood development. Studies on the importance of play prove that it nourishes all aspects of children's development, including social, emotional, creative, intellectual, and physical components. Results have also proven that there must be adequate time and

space and suitable conditions for play, both indoors and outdoors, provided by parents and educators. Furthermore, evidence supports that there is developmental significance between contact with nature and improvement of physical and mental wellness in children.

As educators at an environmental education facility, it is a challenge in our programs to carefully balance structured and unstructured time, providing both educational, guided activities as well as time for essential outdoor play. The power of play is evident in the overall health of America's children; as time spent outdoors and playing has decreased, physical, intellectual, and emotional health and wellness in children have also declined. As a result of the above conversation, we at the Discovery Center have decided to offer a new and exciting BayVentures program, "Let's G.O.! (Get Outside)". We will facilitate this unstructured play series by providing props and boundaries in different habitats, and allow children to do what they do best—play.

Shannon O'Brien
Naturalist, GBNER



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Destination: *Massachusetts*

Waquoit Bay National Estuarine Research Reserve

The Waquoit Bay National Estuarine Research Reserve (WBNERR) is located on the southern shore of Cape Cod in Massachusetts, between Falmouth and Mashpee. This Reserve encompasses 2,780 acres; about half of WBNERR includes upland habitats (mixed pine-oak forests, sandplain grasses, marshes, sand dunes, and barrier beaches), while the other half consists of aquatic habitats (tributary streams, freshwater ponds, vernal pools, and estuarine waters).

The Reserve was designated in 1988 and is administered by the Massachusetts Department of Conservation and Recreation. Like its 27 Reserve counterparts, WBNERR was established to provide an area of study to improve the understanding of coastal ecosystems and the effects of human influences on them. Waquoit Bay, in particular, has provided a representative example of a shallow bay ecosystem common in the northeastern US, which has increased the public's understanding and stewardship of similar environments across the region.

The visitor center, open year-round, is housed in the historic buildings of the Sargent Estate, along with the research, administrative, and other education buildings. WBNERR offers a variety of educational opportunities to many audiences such as students, teachers, families, community members, municipal leaders and officials, and coastal decision-makers. There is a short nature trail adjacent to the buildings, which many of the educational programs utilize.



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Eight other components are located around the boundaries of the Reserve, offering many different educational and recreational opportunities. Washburn Island, which is only accessible by boat, offers fabulous day hiking or overnight camping opportunities. Another enjoyable site is South Cape Beach, located between Waquoit Bay and Nantucket Sound, with its white-sand beaches and over-the-dune boardwalks. If you're looking for a beautiful destination where you can birdwatch, fish, partake in an educational program at the visitor center, or volunteer a bit of time as a BayWatcher, WBNERR certainly won't disappoint!

For more information on WBNERR, visit their website at www.waquoitbayreserve.org.

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