



# New Hampshire's Great Bay and Coast

PARTNERING TO PROTECT OUR MARINE ENVIRONMENT

Harboring a wealth of biodiversity and rich in tradition and opportunity, it's easy to see why New Hampshire's coast and Great Bay are so important for nature and people. From the salt marshes at Seabrook to the bayside farms in Greenland, this is a place where people have long been tightly connected to the land and sea.

## CONNECTIONS BETWEEN LAND AND SEA

New Hampshire's coast is one of those places you can easily understand from high up in a plane. Looking down from the sky, you can see that New Hampshire's coastline is far more than the 18-miles that hug the Atlantic Ocean. When you factor in the Isles of Shoals, Great Bay, Little Bay, Hampton-Seabrook Estuary, smaller bays and all of our tidal rivers and creeks, it amounts to 238 miles of shoreline. Those miles harbor some of New Hampshire's greatest natural treasures.

Look across the landscape and toward the ocean, and you clearly see the connections between the land and sea. Sometimes those connections are soft, like the extensive salt marshes of Seabrook. Elsewhere, connections are hard, like the rocky shores of Rye. Either way, you gain the sense that these places are connected to something much bigger, the Gulf of Maine, the Atlantic Ocean and the rest of this small and delicate world.

Every square inch of that shoreline and sea bottom, every little bay and cove, is endowed with diverse life forms that work together to provide critical ecological services. Some of that marine life – like lobsters, clams, oysters, cod, river herring, and many other species – provided staples of the region's human traditions for more than 350 years.



From the air, you can appreciate the connections between the land and the sea. The Nature Conservancy is protecting and restoring land, and re-connecting fragmented habitats to safeguard New Hampshire's estuaries and coast. Photo © Eric Aldrich / TNC.

## THREATS TO THE MARINE ENVIRONMENT

Once thought to be an unlimited supply, New Hampshire's marine resources are showing signs of severe stress. Populations of groundfish (such as cod) are depleted throughout the Gulf of Maine, and critical coastal habitats have been degraded by development and pollution. Eelgrass meadows – which serve as fish nurseries and the base of the food web – are threatened by nutrient loading and excessive siltation.

New Hampshire's coastal waterways are peppered with old and obsolete dams that block fish trying to follow

ancient migration routes between rivers and the sea. Once-abundant oyster reefs, offered habitat for invertebrates and juvenile fish, buffered shorelines, and filtered vast quantities of water. As with shellfish globally, Great Bay's native oysters have been diminishing for years due to disease, siltation, and over-harvest.

Yet another emerging stress, nitrogen loading, is among the most serious threats to estuaries worldwide, including here in New Hampshire. High nitrogen levels cause plankton blooms, sucking oxygen right out of the water. Collectively, these stresses compel us to take action now.



Even at high tide, migrating fish cannot climb this perched culvert to reach upstream habitat, leaving eels, herring, shad and other species without access to miles of good habitat. Nature Conservancy scientists like Ray Konisky (above) and others are looking at efficient ways to re-connect fragmented tidal streams like this one in Dover. Photo © Eric Aldrich / TNC

## A VISION OF HOPE FOR OUR COAST

One only needs to look to the successes of the past to realize that there is hope for conserving New Hampshire's marine treasures. Once polluted with sawdust and sewage, the rivers that feed Great Bay and the ocean are far cleaner today than they've been in many generations.

"The Nature Conservancy is perfectly positioned to pull together diverse land-based and marine partners and create lasting solutions for our coastal challenges," said Ray Konisky, the Conservancy's marine ecologist. "Our rigorous planning process, work with scientists and collaborators across many disciplines, and focus on tangible outcomes provides fresh insights to long-standing problems."

The Conservancy's *Campaign for a Sustainable Planet* contains one of the most ambitious goals ever for conserving coastal and marine habitats throughout the world. Here's a glimpse of what we're doing in New Hampshire:

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**Land Protection:** Protecting critical lands that drain into Great Bay and the ocean is one of the best ways to safeguard those waters. Since 2004, the Conservancy has provided catalytic leadership to the Great Bay Resource Protection Partnership, a group of agencies and organizations that has protected more than 5,000 acres of ecologically significant habitat around the bay.

**Adapting to Climate Change:** With partners, we're working to obtain high resolution elevation maps along our coastline and estuaries. This data will help us

identify coastal lands most vulnerable to sea-level rise, and to work with communities to protect places that will become tomorrow's marshes.

**Restoring Tidal Habitats:** Because of past impacts, success requires restoration. With the University of New Hampshire, we're helping rebuild local oyster stocks through experimental reef sanctuaries and by enlisting shorefront residents to raise oysters alongside their docks. We're also identifying and designing solutions for disrupted fish passages and river

flows due to roads, dams and culverts, re-establishing historic connections for fish and other estuarine organisms. Community conservation projects like these engage residents and raise awareness of the need to conserve and restore marine resources.

**Combating Invasive Species:** Using cutting edge technology and science, the Conservancy is leading efforts to assess the extent of non-native plant invasions, and we've recently helped create a multi-agency collaborative to locate and remove invasive plants in New Hampshire's coastal watershed.

## HOW YOU CAN HELP

Because of the life-sustaining qualities of our coastal and marine ecosystems - for people and nature - and the enormous threats posed to these systems, we can not afford to wait.

We are in critical need of funding to protect 400 additional acres in the Great Bay Watershed totaling \$4.2 million with **\$380,000 left to raise**. A generous private foundation will **match your gift dollar-for-dollar** if we receive a gift or pledge by 11/1/08 - **up to a total of \$150,000**.

Together we can protect this land for people and nature.

CAMPAIGN *for a*  
SUSTAINABLE  
PLANET

The Nature Conservancy 

Protecting nature. Preserving life.™

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