Executive Summary

The Gulf of Maine is renowned as one of the world's most economically and ecologically valuable ocean ecosystems. It is bordered to the west by Massachusetts, New Hampshire, and Maine, and the legendary fishing grounds of Georges Bank mark its southern and eastern boundary. New Brunswick and Nova Scotia form the northern boundary of the Gulf of Maine.

Coastal and ocean habitats such as salt marshes, shellfish beds, seagrass beds, rivers, islands, and the seawater itself are the building blocks of this regional ecosystem. These habitats host a vast diversity of animals and plants that depend on each other and the environment for food, shelter, and other necessities.

Healthy habitats in the Gulf of Maine support commercial and recreational fisheries, tourism, and numerous other benefits that add up to a way of life prized by millions of coastal residents. The Gulf of Maine's habitats also provide a range of ecosystem services that, while often less obvious to people, are critical to our wellbeing—such as filtering pollution, trapping sediments, storing carbon, and buffering uplands from storm damage.

The tradition of people using and enjoying the Gulf of Maine for food, transportation, coastal development, industry, spiritual fulfillment, and recreation stretches back centuries to the earliest European settlers in North America and thousands of years before that to the first Native American residents. At an accelerating rate over the last

Corey Arnold

Brent Danley
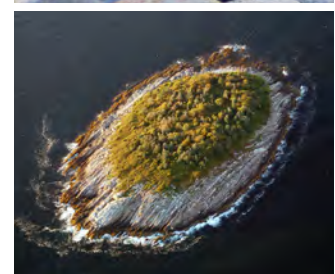
Mike Timberlake


Dieter Weinelt

Gulf of Maine at a Glance

Extending from Cape Cod to the southern end of Nova Scotia, the Gulf of Maine is one of the most economically valuable and ecologically productive regions of the world's ocean.

The coastlines of Massachusetts, New Hampshire, Maine, New Brunswick, and Nova Scotia define its western and northern boundaries, and the legendary fishing grounds of Georges Bank mark its southern and eastern extent.

An area of 69,115 square miles of land in three states and three provinces drains into the Gulf of Maine.

The Gulf of Maine's marine and shoreline habitats are home to more than 4,000 species from codfish, cold-water corals, and osprey to North Atlantic right whales, harbor porpoises, and sea turtles.
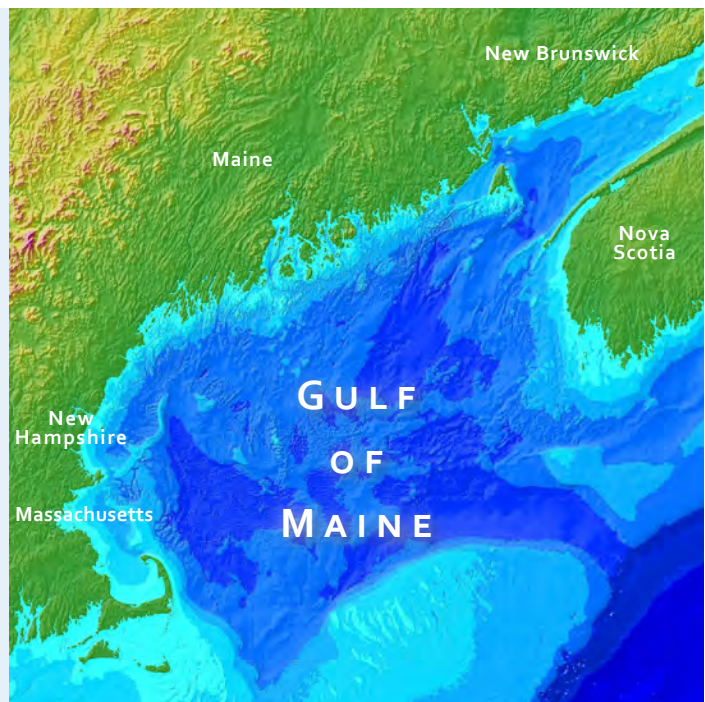
century, however, human activities have jeopardized the region's habitats and ecosystem services. Human uses of the Gulf of Maine are expanding rapidly in variety and intensity. Climate change is fundamentally altering the way the ecosystem functions. Habitats are an important form of natural capital, and people have drawn down this capital—often unknowingly, sometimes intentionally—instead of living off the interest.

The *U.S. Gulf of Maine Habitat Restoration and Conservation Plan: A Needs Assessment for Maine, New Hampshire, and Massachusetts* builds on the seminal work of the Gulf of Maine Council on the Marine Environment's *Gulf of Maine Habitat Restoration Strategy* (2004), the President's Ocean Policy Task Force recommendations (2010), and many other efforts. This document is the result of a collaborative effort by state, federal, and non-government organizations to quantify the needed investment in five broad issue areas: fish and wildlife habitat, water quality, invasive species, climate change, and long-range planning, science, and communications.

There are numerous public and non-profit organizations working to restore degraded habitats and conserve priority lands. In addition, there are many consortia that bring these organizations together around a common purpose, such as the Gulf of Maine Council on the Marine Environment and the Northeast Regional Ocean Council. This *Plan* builds on the strengths of these institutional relationships and recognizes that each will have roles in implementing it.

After many months of initial planning, a convening work session was held in June 2009, where several Strategy Teams formed with representatives from both government and non-government sectors. These Strategy Teams then worked together for over a year, tackling the challenge of defining the various problems and collecting the data. Instead of looking at discrete projects, such as the removal of a particular dam, the Strategy Teams approached the work more broadly, gathering cost estimates from program staff in numerous agencies within the three Gulf of Maine states. The estimates, comprising hundreds of individual line items, were vetted several times and then combined by category (see table below and Appendix).

The *Plan* recommends 24 Priority Actions to accomplish five long-term Goals and provides estimates of the short-term (five-year) funding needed in addition to existing federal and state budgets. Funded Priority Actions will contribute to regional economic recovery over the short term through job creation and over the long term through increases in fish stocks and other goods and services that people receive from the Gulf of Maine ecosystem.

Dieter Weinelt
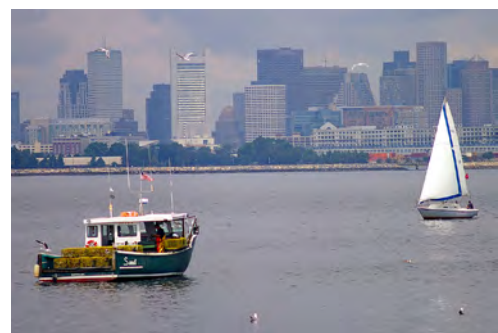
PaulW/Flickr

The total of more than $3 billion needed in the first five years alone is a conservative estimate that does not take into account numerous federally administered programs for which numbers are not available. The Strategy Teams noted that the recommendations address only the first five years of implementation and that long-term, sustained funding is required at levels commensurate with the short-term estimates.

A whale feeding in the Gulf of Maine.

Henrik Dreisler

A key factor across all aspects of implementation of this plan is the need for additional capacity in the state and federal agencies that will be involved. The investments recommended herein are, in some cases, orders of magnitude above current appropriations, and additional agency staff will be needed to effectively administer the Priority Actions. Those additional costs are included in the accompanying estimates and are ten percent of the total cost.

This document contains numerous recommendations to reap the economic and environmental benefits of healthy and productive coastal and marine ecosystems. The *Plan* focuses on the five long-term Goals summarized in the table below and described in detail in the following chapters. A breakdown of the budget is provided in the Goal chapters and in the Appendix.

Long-term Goals	Short-term (5-year) Needs
1. Protect and Restore Fish and Wildlife Habitats and Populations Remove barriers in wetlands, rivers and streams; restore degraded coastal habitats; protect key parcels of shoreland habitat; clean up "ghost" fishing gear; map seafloor habitats; monitor fish and wildlife populations.	267,513,000
2. Provide Clean, Healthy Coastal Waters Upgrade outdated sewage treatment systems; reduce pollution from stormwater and other non-point sources; support reduction of pollution discharges from vessels; remediate contaminated sediment; implement state-of-the-art testing of coastal water quality.	2,689,626,000
3. Conduct Science, Planning, and Communication Required for Regional Ocean Management, Marine Spatial Planning, and Ecosystem-Based Management Conduct regional planning and integration; analyze socioeconomic and ecological changes; establish regional science-based communication program; provide data and decision support for ecosystem-based management and marine spatial planning; oversee implementation of the *Plan*'s Priority Actions.	29,700,000
4. Promote Resilience to Climate Change Monitor and assess climate change impacts on habitats; facilitate regional climate-smart planning; mitigate erosion of shoreline habitats; mitigate sea level rise impacts on salt marshes.	33,800,000
5. Prevent and Detect Invasive Species, and Restore Affected Habitats Conduct monitoring to detect invasive species; establish rapid-response teams to remove invasive species; restore habitats degraded by invasive species.	8,870,000
TOTAL	**$ 3,029,509,000**