String Quartet No. 3 'Mishima' - P. Glass

vi. closing

composed in 1985 | atmospheric CO₂ is 347 PPM

The Gulf of Maine consists of 36,000 square miles of ocean.

It is one of the most diverse and productive marine ecosystems in the North Atlantic.

The Gulf of Maine is warming faster than 99% of the world's oceans.

More than half of Maine's population lives on the coast.

In 8 years, sea levels in Maine will be one foot higher than they were in 2000.

Sea levels in Maine are likely to rise at least 4 feet by 2100.

In 2100, our grandchildren will be our age.

Between now and 2050, more than 20,000 Mainers will lose their jobs due to the impacts of sea level rise.

We will have spent \$17.5 billion dollars to repair coastal building damage.

Over 300 miles of public roads will be exposed to flooding.

North Haven, Vinalhaven, and Rockland are among many coastal towns that are planning for a future where the boundaries between land and sea are transient and uncertain.

Shore - Fredrik Sjölin

composed in 2017 | 404 PPM

Life in the Gulf of Maine is an interconnected web that is adapting, migrating, and shifting. Tiny plants called phytoplankton are at the base of this web.

They drift through the water column absorbing CO₂ from the atmosphere and growing through photosynthesis.

Tiny drifting animals called zooplankton eat phytoplankton.

Large organisms do too.

A whale can eat up to 16 tons of plankton each day.

Alewives and pogies feed on plankton and detritus and convert the energy in these tiny organisms into hundreds of thousands of tons of fish flesh.

Pogies are eaten by nearly everything bigger than them.

We turn them into fish oil, fish meal, animal food, and bait.

Every year in the US, we land more pounds of pogies than any other type of fish.

Marine ecosystems depend on phytoplankton.

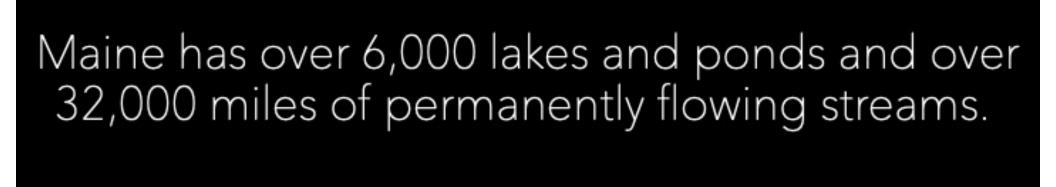
The growth rate of phytoplankton in the Gulf of Maine is **one third** of what it was 20 years ago.

Nomadic Nirvana - M. Masebe

composed in 2018 | 405 PPM

Maine and its offshore islands have 5,000 miles of coastline.

If we unstretched this coastline, it would extend from Maine to Hawaii.



In Maine, you are always within half a mile of flowing water.

These watery ecosystems define our climate, landscapes, economy, and culture.
They are interconnected. They are vulnerable.

If we do our part, they will be resilient.

For thousands of years, millions of sea-run fish like alewives, salmon, sturgeon, and shad have made the long journey up Maine's rivers to spawn.

Throughout the past 400 years, we have altered and transformed these shorelines and waterways.

Fish populations have plummeted.

With the removal of two major dams on the Kennebec River, many species are returning to its waters.

Today, the lower river is home to 11 species of sea-run migratory fish including sturgeon, striper, Atlantic salmon, shad, and alewife.

Every year, over 5 million alewives swim up the Kennebec from the Atlantic Ocean.

It is the largest alewife run in the country.

The impacts of our actions extend far beyond our imaginations.

"We are not here by accident. We must live here on purpose."

Sherri Mitchell, indigenous rights activist and changemaker

Adoration - F. Price

composed in 1951 | 312 PPM

SOURCES

About the Gulf of Maine. Gulf of Maine Council on the Marine Environment. Accessed June, 2022. https://www.gulfofmaine.org/public/gulf-of-maine-council-on-the-marine-environment/about-the-gulf-of-maine/

Atlantic Menhaden. NOAA Species Directory. Accessed June, 2022. https://www.fisheries.noaa.gov/species/atlantic-menhaden

Balch, W. M., Drapeau, D. T., Bowler, B. C., Record, N. R., Bates, N. R., Pinkham, S., et al. (2022). Changing hydrographic, biogeochemical, and acidification properties in the Gulf of Maine as measured by the Gulf of Maine North Atlantic Time Series, GNATS, between 1998 and 2018. Journal of Geophysical Research: Biogeosciences, 127, e2022JG006790. https://doi.org/10.1029/2022JG006790

Bigelow, H.B., and W.C. Schroeder. (1953) Fishes of the Gulf of Maine. First Revision. The Blackburn Press. p.113-118.

Bittel, J. See the Microscopic World of Plankton in Stunning Detail (2021). National Geographic. Accessed June, 2022.

https://www.nationalgeographic.com/animals/article/microscopic-plankton-revealed-in-stunning-detail

Maine Geological Survey, 2020, Sea Level Rise/Storm Surge. https://www.maine.gov/dacf/mgs/hazards/slr_ss/index.shtml. Accessed July 5, 2022. Menhaden Background. Virginia Institute of Marine Science. Accessed July 5, 2022.

https://www.vims.edu/research/units/projects/menhaden/about/

Poppick, L. (2018). Why is the Gulf of Maine warming faster than 99% of the ocean? Eos, 99. https://doi.org/10.1029/2018EO109467

Restoring Alewives in Maine Rivers. Natural Resources Council of Maine. Accessed July 5, 2022. https://www.nrcm.org/programs/waters/restoring-alewives-maine-rivers/

Sea Level Rise in Maine: An Accelerating Problem. Governor's Office of Policy, Innovation, and the Future. Accessed July 5, 2022. https://www.maine.gov/future/sites/maine.gov.future/files/2021-05/GOPIF_SLR_Factsheet_2021_05_06.pdf