

April 19, 2010

The Honorable Maria Cantwell, Chair
The Honorable Olympia Snowe, Ranking Member
Committee on Commerce, Science, and Transportation
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard
United States Senate
Washington, DC 20510

Dear Madam Chairwoman and Ranking Member Snowe:

As economists, we write today to respectfully call your attention to the urgent threat to our nation's fisheries from ocean acidification. Oceans play an important role in the global carbon cycle, absorbing carbon dioxide emissions released from human and terrestrial sources. Excess carbon dioxide emissions from fossil fuel combustion, deforestation, and other human economic activities are lowering the pH levels of our oceans. Acidification from fossil fuel emissions is compounded by the effects of local acidifying factors, such as river runoff containing high loads of nitrogen and carbon.

Ocean acidification poses grave implications for marine food webs and the viability of commercially important species. Acidic ocean waters make it difficult for species like corals, oysters, crabs, scallops, clams, and other shellfish to extract minerals from the water for shell formation. Ocean acidification is dissolving the shells of pteropods, tiny marine snails that form the basis of the marine food chain. Losing these organisms, which scientists now warn is very possible over the next fifty years if ocean acidification is not addressed, would unleash catastrophic changes in marine ecosystems that could potentially lose the U.S. commercial seafood industry billions of dollars each year.

The international trade in coastal and marine fisheries currently contributes \$70 billion to our nation's economy each year, provides jobs, and sustains communities all along the Pacific, Alaskan, Atlantic, and Gulf Coasts.¹ These communities, and the marine species upon which they depend, are our canaries in the coal mine with respect to climate change. Ocean acidification is an early and acute indicator of the potentially catastrophic climate changes our continued reliance on fossil fuels will unleash.

As economists, we are extremely concerned about the economic impacts of climate change on the U.S.. While it is very difficult to estimate precisely the extent of economic damages from climate change in the future, the emerging consensus amongst economists is that the potential costs of inaction, what we will pay if climate change continues unabated, warrant immediate measures to cap carbon dioxide emissions, improve energy efficiency, and convert to renewable energy sources.

Scientists have confirmed that the U.S. is already experiencing some of the impacts of climate change. The U.S. Global Change Research Program, which coordinates and integrates federal research on changes in the global environment and their implications for society, documents such

¹ See <http://stateofthecoast.noaa.gov/economy.html>, last accessed 4/20/10.



changes in alarming detail in its most recent 2009 report, *Global Climate Change Impacts in the United States*. Almost every major sector in the U.S. economy will be impacted by climate change; most notably, agriculture, energy, forestry, fisheries, insurance, tourism, and real estate. The recognition that U.S. industries are vulnerable to the impacts of climate change prompted the recent Securities and Exchange Commission ruling that requires all publicly traded companies to disclose their material risks from climate change.

The changes necessary to protect marine ecosystems from ocean acidification and avoid surpassing critical and irreversible thresholds in our climate system are one and the same. To minimize the worst risks from climate change, we need to limit the maximum atmospheric concentration of carbon dioxide to no higher than 450 ppm and continue to reduce the concentration significantly in the decades ahead. To achieve this, the U.S. needs to lead international efforts to prevent climate change by:

- capping carbon emissions across the U.S.
- improving energy efficiency
- developing renewable and low-carbon energy sources
- investing in avoided deforestation and reforestation
- safely capturing and sequestering carbon emissions

In closing, we respectfully request your help in pursuing the emissions reductions necessary to address ocean acidification and protect the U.S. economy from the worst impacts of climate change.

Sincerely,

Astrid Scholz Ph.D.
Vice-President, Ecotrust
721 NW Ninth Avenue
Portland, OR 97209
astrid@ecotrust.org
www.ecotrust.org

Kristen A. Sheeran Ph.D.
Director, Economics for Equity and Environment Network
721 NW Ninth Avenue, Suite 200
Portland, OR 97209
director@e3network.org
www.e3network.org