

## Big Changes Are Here: We Need to Turn on the Headlights



In Maine, commercially harvested marine resources are worth more than **half a billion dollars per year**. Fishing and aquaculture are cornerstones of Maine's culture and economy.

But fishermen, aquaculturists, and scientists are seeing major changes in the ocean and its marine life. The ocean is becoming **more acidic**, it is warming up, and unusual shifts are happening in fish and shellfish populations. What lies ahead?

Maine's lobster industry is booming right now, but it was disrupted in 2012 by an early shed, which may be a hint of future changes. Meanwhile lobster have virtually disappeared from southern New England. Rapid ocean acidification could throw off the normal growth and survival of lobster. The lobster industry needs information about changing ocean conditions to give them an early warning and help them adapt.



Shellfish aquaculture businesses in Maine have contended with ocean acidification for years. More-acidic seawater impairs the survival and growth of shellfish. Projections of dramatic increases in the acidity of Maine's ocean waters have profound implications for aquaculture. In order to prepare and implement solutions, aquaculturists require data on changes that are occurring and the likely impacts on shellfish.

### Regional Monitoring and Research to Sustain Fisheries and Aquaculture

Maine's fisheries and aquaculture businesses need a monitoring and research program that generates mission-critical information on ocean and coastal acidification.