

IMPACTS OF OCEAN ACIDIFICATION ON ECONOMICALLY & ECOLOGICALLY VALUABLE MARINE SPECIES IN THE GULF OF MAINE

The potential impacts of ocean acidification (OA) on the Gulf of Maine's marine ecosystem are worrying. While some species will survive or even thrive in more acidic water, research suggests that many others may not. The more we learn about OA's effects on the ecosystem and its inhabitants, the better prepared we will be to respond and adapt to change.

The Gulf of Maine and Canadian fishing industries are worth \$3 billion and support more than 230,000 jobs. Studies to date suggest that OA could damage some of our area's most lucrative species, and a decline in these would have severe consequences for people and the economy.

OA could also threaten species that build habitat and serve as primary food sources. If these key species are less plentiful, the ecosystem will become less resilient.

Fortunately, there are actions we can take to combat OA: support legislation that encourages green energy and reduces our reliance on nonrenewables; enact policies that protect watersheds from runoff and point source pollution; and encourage funding for OA research.

KEY

Ecological Importance

- Important
- Very important
- Extremely important

Response to acidic conditions

- Significant positive effects
- Significant negative effects
- No observed effect
- Unknown; more research needed
- Result from a single study



*Though sugar kelp aquaculture is increasingly prevalent, valuation data are only available for Maine in 2018.

The ten species profiled here only represent a tiny portion of valuable organisms found in the Gulf of Maine; we based our selections on feedback from regional stakeholders as to which species they felt were the most important to include in this piece.