

THE HEAT IS ON

Species feeling the effects of climate change



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American Lobster

Homarus americanus

Region:

Atlantic Ocean

Area affected:

Southern New England

Climatic change:

Warming waters

Impact:

Heat stress

ABOUT THIS SPECIES

Lobsters are one of America's best-known marine species and a tremendously important fishery. In Maine alone, the catch was valued at \$500 million in 2021. Their range extends from New Jersey northward along the shallow waters of the Atlantic continental shelf. Like other crustaceans, lobsters molt (shed their exoskeletons) multiple times during their lives to grow. Juveniles resemble tiny shrimp and live near the surface, consuming plankton and being eaten by other organisms. After their fourth molt, lobsters settle on the ocean floor to feed on other invertebrates and algae. They are highly susceptible to pollutants like nutrients and pesticides and to dredging, trawling and other activities that disturb the ocean floor.

DESCRIPTION OF IMPACT

Lobsters are temperature-sensitive throughout their life cycles. Eggs, juveniles and adults all survive best at a fairly narrow range of temperatures. Adults, for instance, seem to prefer waters of about 60 degrees F and avoid waters cooler than 40 degrees F or warmer than about 70 degrees F. The warmer the water, the higher a lobster's metabolic rate and the more challenging it is for the animal to get enough food to maintain itself. The Gulf of Maine is warming faster than 99 percent of the world's oceans. As ocean temperatures warm along the coast, lobsters are projected to move to more suitable waters farther offshore. While juvenile and adult lobsters can travel to cooler waters to find food and better conditions, the larvae are not capable of moving long distances. Extremely warm ocean temperatures inhibit the development of lobster larvae and their ability to leave uninhabitable locations. **Within the next 5 to 50 years, lobster larvae could experience temperatures up to 86 degrees F, which would be detrimental to growth and development.**

References

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