

# LOBSTER HEALTH FAQ's

## FREQUENTLY ASKED QUESTIONS

### What's Happening to Long Island Sound Lobsters?

Lobsters in Long Island Sound have experienced a severe die-off in the Western Sound, beginning in the fall of 1999. Affected lobsters appeared to be normal on the exterior, but were dead. Some sick lobsters still alive appeared to be "limp". At the same time, lobsters in Eastern Long Island Sound have been suffering from "Shell Disease," which causes a black crust to accumulate and eat through the carapace (exoskeleton, or "shell").

### What Does it Mean to LIS Lobstermen and Seafood Retailers?

Bad news! In some places in the Western Sound, commercial landings fell 90% - 99% of the normal figure -in other words, near 0. In the eastern Sound, landings declined by about 50%, due to shell disease and other problems. More than 1300 lobstermen were impacted by the massive decline and the resulting multimillion dollar economic losses, and some have gone out of business permanently. The situation caused the Secretary of Commerce to declare the LIS lobster fishery a disaster in January 2000, making the lobster fishermen eligible for federal disaster relief funds.

### Will Eating Lobster Hurt Me?

No, as far as we know. Sick or morbid lobsters are culled out by inspection well before reaching your dinner table. The lobsters that make it to market, or to restaurants, are healthy, live lobsters. However, even if you cooked and ate one of the diseased lobsters, the organisms causing the lobster illnesses are not known (at this time) to harm humans.

### What's a Paramoeba?

A paramoeba is a tiny, one-celled organism, very similar to the amoeba most of us studied in high school or college biology class. However, while most cells have one nucleus, containing the organism's DNA (genetic instructions), a paramoeba has two such bodies, a nucleus and a similar, smaller body, which appear as dark spots inside the cell.

### What Can be Done to Prevent or Control the Diseases?

At this time, there are no known treatments for most of these lobster ailments. In fact, since paramoebas are difficult or impossible to culture in the laboratory, key tests cannot be performed which would be necessary for the steps involved in developing treatments. Antibiotics can be used to treat some bacterial diseases; however there is no method to do this in a container as large as an estuary; and even when done in aquaculture facilities, there is danger of the antibiotics used becoming a pollutant themselves. However, if scientists find that water quality and pollutants are contributing to the lobster health problems, certainly steps to clean up the Sound and other water bodies could help.

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## Can the LIS Lobster Population Recover? And How Long will Recovery Take?

We can't tell whether or not the population will recover naturally yet, because it takes seven years for lobsters to reach adulthood. Also, we don't know how many of the affected lobsters were egg-bearing females. The Long Island Sound lobster population is thought to be largely self-contained, although tagging studies have shown that some lobsters do migrate into the Sound from the Atlantic Ocean. Stock enhancement measures may be necessary in order to bring the lobster population back.

## What Environmental Factors Might Weaken Lobsters' Immune Systems?

Changes in weather or climate conditions such as storms or average temperature fluctuation, pollutants in the water or sediments, hypoxia (lack of oxygen), dietary change, management practices such as dredging, are only some of the factors that could contribute to the lobsters' state of health. While some of these changes are natural, such as hurricanes, other changes in the estuarine environment involve human activities such as pesticide spraying, sewage effluent outflows, or dredging and dumping spoils. In the case of shell disease, it has been found in lobsters near dredge spoils sites and there is some evidence that there is a cause-and-effect relationship. Some lobster illnesses tend to occur in aquaculture facilities in which the animals have been overcrowded. Still other changes could be either natural or human-assisted, such as the introduction of invasive pathogenic species.

## Will Testing Environmental Changes Give us the All of the Answers?

Not quite - even if all of the environmental factors and potential pollutants can be tested for their effects on crustaceans, we still won't know exactly how they act in combination with each other, and there is no database of information to use for comparison, since no comprehensive surveys and monitoring of lobster health have been done in the past for Long Island Sound. So there is a lot of work yet to do!

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