

Unknown Parasite Is Hard on Clams

The clam industry has suffered the ill-effects of brown tide, a phenomenon attributable to a large population of a tiny phytoplankton. However, a new disease that is caused by an unidentified single-celled microscopic parasite has been threatening the fishery. This disease, **Quahog Parasite Unknown** or "QPX disease," is caused by a parasite that infests northern hard clams (*Mercenaria mercenaria*) only.

The disease does not pose any risk to human health but it is causing serious harm to the clam industry. The first reports of a QPX-like organism were in dead and dying clams in New Brunswick, Canada in 1959 but it wasn't until the 1990s that QPX disease began to be associated with clam die-offs in the Northeast and Mid-Atlantic. Gross signs of the disease vary in the areas investigated to date but clams typically have an intense inflammatory response to the parasite.

Clamming is almost second nature to native Long Islanders and this unique fishery is monitored closely to safeguard public health. Commercial clambers need a license to fish in NY waters, and areas that fall below a certain water quality standard are off-limits to everyone. One of the largest programs being administered by NYS Department of Environmental Conservation is the *Raritan Bay Shellfish Transplant Program*, which works together with certified clambers to harvest shellfish from the polluted waters in Raritan Bay. Clams are transported to designated areas in Peconic Bay and held for three weeks to



Photo courtesy of
Antoinette Clemetson

purge themselves of pollutants and toxicants before they are sold on the market to the general public.

It isn't known with certainty whether or not New York's hard clams were infected with QPX prior to 2002. Large numbers of dead and dying clams were reported in Raritan Bay off the coast of Staten Island in 2002, resulting in a loss of between \$4-\$5 million in the dockside value of the clam resource. QPX organism was subsequently identified in these clams and this diagnosis resulted in the suspension of the Raritan Bay Shellfish Transplant Program for 2003. An unacceptable high level of QPX was found and the disease is most prevalent in the center of the most productive part of the fishing ground.

Research into QPX is continuing and Drs. Bassem Allam and Alistair Dove, Stony Brook University Marine Disease Pathology & Research Consortium Laboratory hope to research the organism's genetic make up and determine if clams from different populations have higher disease tolerance to the QPX organism. This research will help to develop new tools to monitor QPX in New York and prevent the spread of the disease.

Photo (left) courtesy of
New York State Department of
Environmental Conservation

For additional information contact 631.727.3910 to request the brochure *QPX Disease in Hard Clams – Quahog Parasite Unknown*.

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