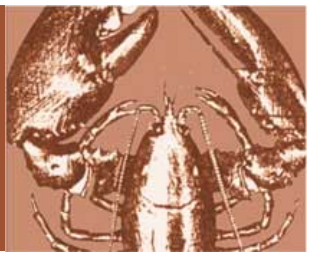
LONG ISLAND SOUND

Lobster Research Brief



Highlights

- New diagnostic service for marine disease outbreaks and fisk kills at Stony Brook University.
- How to identify fish diseases and fish kills.
- Reporting fish diseases and fish kills.

Marine Disease Pathology & Research Consortium Laboratory at Stony Brook University

The ***Marine Disease Pathology & Research Consortium*** was established as part of New York State's response to marine resource mortalities. The Consortium was created after the Long Island Sound lobster mass mortality events in 1999, by a grant from the NYS DEC and NYS Legislature, to strengthen response capabilities for natural marine disaster. The Consortium is a partnership between universities and state agencies to provide diagnostic service in marine disease outbreaks, and research the cause of new and known disease pathogens. The staff are working to safeguard stakeholder interest in living marine resources by focusing on the health status of fish, crustaceans and other shellfish populations.

Facilities

The new laboratory is located at the Marine Sciences Research Center at Stony Brook University. It features state-of-the-art necropsy and diagnostic equipment such as a Nikkon® dissecting, upright and inverted microscope with fluorescence, DIC/Nomarski and phase contrast microscope, as well as digital image capture analysis capabilities. There is also a wet lab equipped with immersion chilled systems to allow researchers to replicate disease conditions that are seen in the marine environment. Dr. Alistair Dove, Cornell College of Veterinary Medicine, was appointed Senior Research Associate, and he is presently leading the research program at the laboratory. Dr. Paul Bowser, stationed at Cornell University in Ithaca, is also appointed to the Consortium.

Dr. Alistair Dove performing lobster necropsy.

Fish & Shellfish Diseases

Fish and shellfish may become ill for a variety of reasons, some of which involve infectious diseases and some of which do not. In either case, fish and shellfish may show few signs of illness. Some of the more obvious signs to look for include erratic or uncoordinated swimming, lethargy, obvious sores or ulcers, especially on eels and Atlantic menhaden (*Brevoortia tyrannus*) which is also known as bunker, changes in color relative to healthy fish, and visible external parasites. If the cause of the illness or kill is oxygen depletion (hypoxia), fish will typically swim slowly at the surface, trying to gulp water and air together. In these situations large fish will often die before small ones, and most fish will die overnight or in early morning, when oxygen levels in water are at their lowest.

These sorts of kills often affect bunker, particularly in the hotter months. Fish kills caused by infectious diseases or parasites

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631.727.3910

Connecticut Sea Grant College Program
1080 Shennecossett Road, Groton, CT 06340
860.405.9127

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often involve a single species, whereas kills caused by hypoxia tend to affect several species at the same time, and may even affect crabs and lobsters as well. Fish kills caused by pollution can be hard to identify, but fish may swim erratically or twitch, be lethargic, or hover at the surface or on the bottom.

A bryozoan *Triticella*, taken from the gills of lobsters (DIC illumination).

Crabs and lobsters can also be affected by disease, hypoxia or pollution. Crabs and lobsters are important fishery resources, and their problems are often noted as an increase in the number of dead animals found in traps.

Observing & Reporting Mortalities

If you find more than the usual number of dead shellfish in your traps, or if you find a school of sick fish or shellfish, you should report it to ***New York State Department of Environmental Conservation***. Do this as soon as possible since the chances of correctly identifying the cause are greatly improved if DEC officers can get to the scene quickly. It is only through timely reporting of the incident that scientists can collect the necessary data to associate fish kills with causative agents. These agents may be natural or man-made, in either case timely reporting is critical. If you intend to report a kill, make a note of the time of day and exact location where you noticed the problem, as well as the types of animals that were affected, and any symptoms you saw. Try to take note of anything unusual, such as water color or any strong odors.

You should be careful around fish and shellfish kills. Do not swim in water where you see dead fish, and do not eat affected animals. Although relatively few diseases can be transmitted from fish to humans, it is better to avoid contact with infectious agents or potential pollutants until the kill has been investigated. *Seek medical attention if you experience illness associated with your exposure*.

Useful Resources

Some telephone numbers of agencies to report fish kills and marine disease outbreaks are provided in the list below.

(Nassau, Suffolk, Westchester Counties, & NYC)
NYS Department of Environmental Conservation
Division of Marine Resources
205 N Belle Mead Road
East Setauket, NY 11733
631.444.0435

(New York City)
Region II Office
1 Hunter's Point Plaza
Long Island City, NY 11101
718.482.6464

(Hudson River)
Region III Office
21 South Putt Corners Road
New Paltz, NY 12561
845.256.3161

or

Region IV Office
65561 State Highway 10 Suite 1
Stamford, NY 12167
607.652.7366

(NYS Marine District)
New York Sea Grant Extension
3059 Sound Avenue
Riverhead, NY 11901
631.727.3910

The Marine Disease Pathology & Research Consortium is a partnership between Stony Brook University Marine Sciences Research Center, Cornell University College of Veterinary Medicine, New York State Department of Environmental Conservation, Long Island University, and New York Sea Grant.

Alistair Dove, Senior Research Associate, Cornell University College of Veterinary Medicine.