



Ask the lobster doc

by Diane Cowan, PhD

Senior Scientist, The Lobster Conservancy, <www.lobsters.org>

This column provides lobster health and handling information.

If you have questions or concerns, contact Cowan at (207) 832-8224 or e-mail <dcowan@lobsters.org>.

Risks from petroleum products

Lobster vulnerability to petroleum products varies according to both the particular nature of the compounds and the condition of the lobster.

Some contaminants are more lethal than others due to their chemical composition and because of how long they persist in the environment. At the same time, some lobsters are more vulnerable than others to contaminants based on their life history stage, general health, and surroundings.

Tested on lobsters at low concentrations,

compounds present in fuel oils, waste oils, and lubricants interfere with feeding and cause neuromuscular abnormalities including cramped postures, spastic behavior, unresponsiveness, and death.

There are two major venues for contaminants to come into contact with lobster habitat: directly via spills into the marine environment and indirectly via storm water runoff. Either way, the contaminants are available to lobsters living in the water column and on the bottom.

They are toxic when emulsified

in water and also in the process of evaporation when they rise to the surface and form concentrated sheens on the surface of the water. When the tide goes out, the surface sheen coats the intertidal zone and its inhabitants. These physical sheens contaminate and suffocate both the biota and the sediments.

Three planktonic larval stages and postlarval lobsters inhabit surface waters. These lobsters are directly exposed to surface sheens created by spills and runoff. Postlarval lobsters settle to the seafloor where they continue to molt and grow throughout life. As bottom dwellers, juvenile lobsters are still exposed to contaminants both in emulsified solutions and because surface sheens contaminate and suffocate the sediments and biota when they are deposited at low tide. Larval, postlarval, juvenile, and adult lobsters – including females with eggs – are all found in shallow waters where the threat of contamination is greatest.

Much can be done to safeguard against lobster exposure to fuel oil, waste oil, and lubricants. Prevention of spills and leakage is an obvious priority – as is containment in the case of accidental spills.

What may be less obvious and not as widely understood is that continued development of coastal areas results in greater quantities of contaminants draining directly into nearshore lobster habitat. The impacts of more buildings, roads, and nontraditional industry are exacerbated not only because increased use results in more waste materials, but also because development of land decreases the amount of habitat that serve as natural buffers. ■



Isaac Kestenbaum photo/courtesy of the Island Ad-Vantages

Stonington, ME harbormaster Steve Johnson has been working to have a refundable deposit put on all motor oil containers. He says the deposit would help to assure that the containers are disposed of properly. Too many now end up just be thrown overboard, resulting in the residual oil in the containers spilling out into the water.