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April 9, 2012

Richard K. Sullivan,
Secretary of Energy and Environmental Affairs
Commonwealth of Massachusetts
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: Commonwealth's Contaminated Shellfish Relay Program

Dear Secretary Sullivan:

The Association to Preserve Cape Cod (APCC), Cape Cod's nonprofit environmental advocacy and education organization, writes to express concerns regarding the Commonwealth's contaminated shellfish relay program. APCC believes there are superior alternatives and better ways to promote commercial and recreational shellfishing. Contaminated relay is the process of harvesting shellfish from contaminated waters and transporting them to cleaner waters, allowing a period of time for self-purification called depuration and then harvesting the same shellfish for entry into our food supply.

After a careful review of the scientific literature and consultation with prominent experts in fisheries biology, it is APCC's opinion that the Commonwealth's shellfish relay program is not consistent with either the goal of maintaining a safe and reliable food supply or the goal of promoting fisheries best management practices. As a result, APCC believes the state should halt its current relay program. Our analysis has been targeted with focus on the Taunton River estuary where much of Cape Cod's contaminated relay has been harvested.

This is what is known with certainty about the contaminated relay program and shellfish from the relay program that are introduced into the food supply:

1. Both the collection zones and the shellfish in the relay source beds are contaminated with a wide range of pollutants, including heavy metals (copper, chromium, cadmium, lead, nickel, mercury and arsenic), polychlorinated biphenyls (PCBs), pesticides and polyaromatic hydrocarbons (PAHs) (Cantwell, 2006; Desbonnet et al. 1992).
2. The heavy metal and organic contaminants identified above are EPA Priority Pollutants that are harmful to human health and the environment when present above certain levels (U.S. EPA).
3. Shellfish bioaccumulate several heavy metals (cadmium, nickel and mercury) in their tissues (Desbonnet et al., 1992; Frazier, 1979; Massachusetts CZM 1995; Gueguen, 2011).

4. The established process for pathogens is adequate. Shellfish do an excellent job of purging pathogens—particularly bacteria—when moved to clean water. This is not only the rationale for the current relay program, but essential because shellfish are often eaten raw.
5. The Massachusetts Division of Marine Fisheries and the U.S. Food and Drug Administration (FDA) under its National Shellfish Sanitation Program (NSSP) regulate contaminants in contaminated relay shellfish. NSSP's focus is primarily on pathogens such as bacteria, viruses, and paralytic shellfish toxins. The NSSP regulates only 24 toxic or harmful compounds or classes of compounds, including only one metal – mercury. In fact, the NSSP does not appear to have any "Action Levels, Tolerances or Guidance Levels" for heavy metals with the exception of mercury, nor does the NSSP have any seafood standards for PAHs, fuel oil, or solvents. (MassFisheries; National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish, 2009 revision).
6. In contrast, the U.S. EPA classifies 129 compounds or elements as Priority Pollutants, many more than are regulated by the FDA and NSSP (U.S. EPA).
7. Relay shellfish entering the food supply are not tested for the U.S. EPA Priority Pollutants even though it is known that these shellfish have had significant exposure to some of these very same pollutants.
8. Shellfish depurate by releasing their waste products containing contaminants into adjacent water and sediments. Even though this may cleanse the shellfish of most contaminants, our coastal waters and sediments are receiving these contaminants as a result. In essence, shellfish depuration serves to broadcast contaminants into the environment. This consequence has been generally overlooked and is not a responsible way to treat our coastal waters and sediments, which are already suffering from nutrient pollution.
9. According to Dr. Judy Capuzzo McDowell of the Woods Hole Oceanographic institute (WHOI) Biology Department, some heavy metals are released by shellfish into the environment not as fecal waste but in a liquid form, largely in lipids (fats) such as gametes. In liquid form, these metals are likely available to other marine organisms and potentially the food supply.
10. Relay of shellfish or aquatic organisms from other estuaries carries with it the risk of importing diseased organisms or harmful aquatic invasive species.

APCC believes a much better course of action than the current contaminated relay is:

1. Nursery propagation. This requires a commitment from the state, and an acknowledgement that shellfish aquaculture is part of our agricultural heritage. Nursery stock is consistently safer and healthier. There is significantly less opportunity for genetic mutation or introduction of unmonitored toxins into the environment. A well-designed hatchery program will likely prove less expensive and more efficient. Harvest and transfer is a wasteful and unnecessary step in bringing shellfish to the dinner table.
2. Expand water quality initiatives in the Taunton River, New Bedford Harbor and other contaminated relay source beds. Leaving the shellfish *in situ* actually promotes water quality through the depuration process of the bivalves.
3. Conduct baseline monitoring wherever relays have been re-seeded to determine whether heavy metals, PCBs and PAHs are now present.

Absent a decision on your part to permanently terminate contaminated relay, APCC asks that the state immediately place the relay program on hold until the concerns raised here are fully studied, answered and addressed. There must be assurances that the public's health and protection of the environment are not jeopardized from this program. Our shellfish industry will be much better served when only shellfish that have not been exposed to EPA Priority Pollutants are being placed in the food supply.

Thank you for your consideration.

Very truly yours,



Edward J. DeWitt
Executive Director

cc: Christie Hager, Regional Director, HHS
Paul Diodati, Mass. Div. Marine Fisheries
Bill Clark, Barnstable County Extension Service
Cape Cod Town Shellfish Wardens

References:

Cantwell, M.G. 2006. Mobility and fate of contaminants in estuarine environments. University of Rhode Island Paper AA/3248226.

Desbonnet, A., D. Lazinsky, S. Codi, C. Baisden, and L. Cleary. 1992. An Action Plan for the Taunton River Watershed: Assessment and Recommendations. Taunton River Watershed Project Reference Documents. Item 2. Available at: http://vc.bridgew.edu/taunton_riv_ref/2 .

Frazier, J.M. 1979. Bioaccumulation of cadmium in marine organisms. Environmental Health Perspectives, Vol. 28, pp.75-79.

Gueguen, M., J.C. Amiard, N. Arnich, P.M. Badot, C. Didler, T. Guerin, and J.P. Vernoux. 2011. Shellfish and residual chemical contaminants: hazards, monitoring, and health risk assessment along French coasts.

Massachusetts Division of Marine Fisheries website on Shellfish Sanitation and Management, at:

<http://www.mass.gov/dfwele/dmf/programsandprojects/shelsani.htm>

Massachusetts Office of Coastal Zone Management. 1995. Massachusetts Aquaculture White Paper – Support Systems.

Available at: <http://www.mass.gov/czm/wpsprt.htm>

National Shellfish Sanitation Program, U.S. Food and Drug Administration, website at:

[http://www.fda.gov/Food/FoodSafety/Product-](http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/Seafood/FederalStatePrograms/NationalShellfishSanitationProgram/ucm046353.htm)

[SpecificInformation/Seafood/FederalStatePrograms/NationalShellfishSanitationProgram/ucm046353.htm](http://www.fda.gov/Food/FoodSafety/Product-SpecificInformation/Seafood/FederalStatePrograms/NationalShellfishSanitationProgram/ucm046353.htm)

U.S. Environmental Protection Agency. Website on Priority Pollutants, at:

<http://water.epa.gov/scitech/methods/cwa/pollutants.cfm> .

SATURDAY, MAY 5, 2012

Shell game...

