



# The Lobster Conservancy

## *Sustaining a thriving lobster fishery through science and community*

Spring 2013

Dear Volunteers and Friends of The Lobster Conservancy,

The Lobster Conservancy's mission is to strive to sustain a thriving lobster fishery through science and community. Our quarterly newsletter keeps members and volunteers informed of recent research, education and outreach activities.

### **Important Legislation Concerning Maine Lobster**

The hearing for LD 1097 (An Act to Allow the Sale of Incidentally Caught Lobsters) is scheduled to take place this Monday, April 8, 2013 at 10 am at the Cross Building, Room 206 in Augusta, Maine. Please come if you are able.

### **SUMMARY of LD 1097**

“This bill allows commercial fishing operators who take lobsters as bycatch from federal Lobster Management Area 3 to land the lobsters at a commercial exchange that auctions fish in the City of Portland with landing limits regulated by the Commissioner of Marine Resources based on the fishery's maintaining the lobster population at optimal levels. This bill directs the Commissioner of Marine Resources to monitor and review the effect of this regulation on the State's ground fishing fleet and report the findings of the review to the joint standing committee of the Legislature having jurisdiction over marine resources matters, which may report out a bill to the Second Regular Session of the 127th Legislature based upon the subject matter of the report.”

The Lobster Conservatory Director, Diane Cowan plans to attend the hearing to deliver the following testimony:

“I oppose LD 1097 because:

#1. LD 1097 increases the incentive to capture lobsters of the largest size allowable by law. Ground fishing boats in Area 3 are allowed to take 200 lobsters per day – not 200 pounds, but 200 lobsters. Bigger lobsters are worth more money which may encourage culling the catch by throwing back smaller lobsters in favor of large lobsters. Targeting large lobsters may be particularly harmful to lobster stocks because **large lobsters are critical to the long-term sustainability of the lobster fishery**. Large lobsters have: (1) proven survival skills, (2) high reproductive output, and (3) a propensity for large-scale movements (Cowan *et al* 2007).

#2. LD 1097 increases the incentive to drag active fishing gear through prime lobster habitat. **Dragging destroys habitat** (Watling and Norse 1998 and refs 2-6).

#3. LD 1097 increases the probability of capturing lobsters that might otherwise escape the fishery. **Trapping is passive** – lobsters are attracted to baited traps, freely move into and out of traps and the condition of the lobster is paramount to catchability (Watson *et al* 2009 and refs therein). For example, sexually receptive female lobsters are unlikely to enter traps due to motivational state because they are interested in mates, not food. Based on sea sampling data, female lobsters hatching their broods also seem less likely to enter traps. In addition, female lobsters carrying embryos are released unharmed if they are captured in traps. **Dragging is active** – all lobsters (and other animals) in the dragger's path are scooped up – regardless of sex, size or motivational state. In the act of dragging both lobsters and lobster habitat are damaged.

#4. LD 1097 weakens current conservation laws that protect lobsters and habitat.

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In conclusion LD 1097 does not pass the science test. According to science, dragging for lobsters can harm lobsters and habitat. The extent of harm may reach far beyond what we are able to project. Harvesting practices that harm lobsters can harm the lobster fishery. It is therefore unconscionable to consider allowing Maine lobsters to be harvested by non-trap gear.

There is often a gray area in matters of regulations such that something that seems like it may be wrong could be OK under some circumstances. LD 1097 does not represent one of those cases. The provisions of LD 1097 are indefensible, misguided and unsupportable by science. Therefore, it is wrong to approve LD 1097. It's wrong for the lobsters, wrong for the lobster fishermen, and wrong for the scientists who work hard to learn how things work so that citizens and law makers can act responsibly. Senators and representatives of the 126<sup>th</sup> legislature, as a scientist who has studied lobsters for more than three decades, it is my expert opinion that you should defeat LD 1097.

Thank you.”

## References:

1. Cowan, D.F., W.H. Watson, A.R. Solow, and A. Mountcastle (2007) Thermal histories of brooding lobsters, *Homarus americanus*, in the Gulf of Maine. *Marine Biology* 150:463-470.
2. [http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFhttp://ocean.floridamarine.org/efh\\_coral/pdfs/Habitat\\_Plan/HabitatPlanAppM.pdfSC-135.pdf](http://www.afsc.noaa.gov/Publications/AFSC-TM/NOAA-TM-AFhttp://ocean.floridamarine.org/efh_coral/pdfs/Habitat_Plan/HabitatPlanAppM.pdfSC-135.pdf)
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4. <http://www.gsmfc.org/publications/GSMFC%20Number%20073.pdf>
5. <http://www.akmarine.org/our-work/healthy-fisheries/impacts-of-bottom-trawling>
6. Watling, L. and E. Norse. 1998. Disturbance of the seabed by mobile fishing gear: A comparison to forest clearcutting. *Conservation Biology*. 12(6): 1180-1197.
7. Watson, W.H. III, W. Golet and D. Scopel. 2009. Use of ultrasonic telemetry to determine the area of bait influence and trapping area of American lobster, *Homarus americanus*, traps. *New Zealand J. of Marine and Freshwater Biol.* 43: 411-418

## Rockweed Update

Diane Cowan also offered information and testimony regarding two recent bills (LD 585 & 811) concerning rockweed harvest. The gist of the matter is that known lobster nursery habitats should be protected from rockweed harvesting activities. The following are some excerpts from the testimony:

“Post-larval and juvenile lobsters are present year round at locations where rockweed is the predominant macroalga. The Lobster Conservancy volunteers and I sample when the tide is out and the rockweed is draped over the rocks. When the tide is out, *Ascophyllum* provides juvenile lobsters and other species with (1) protection from heat and ultraviolet rays of the sun on hot summer days, (2) moisture so that animals living beneath its cover avoid desiccation, (3) protection from terrestrial and avian predators such as seagulls, raccoons and skunks, and (4) a barrier that freezes and shelters what's underneath from the ice in winter.

The precise way post-larval and juvenile lobster use *Ascophyllum* varies from site to site. I'll illustrate using three examples from three different sites – Winter Harbor in Downeast, Maine; Lowells Cove in Casco Bay; and Bramhall Deep Cove on Friendship Long Island in Muscongus Bay.

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In the main harbor adjacent to town landing at Winter Harbor, I found a great abundance of post-larval and juvenile lobsters hiding directly underneath *Ascophyllum* in cracks in the ledges. Unfortunately, I couldn't catch those lobsters without harming them or the habitat – that's what I call a good safe hiding place – one where the lobsters can't even be caught! I moved to Beach Street Cove in Winter Harbor where the lobsters were more accessible, but was having trouble finding them there until a couple of boys rode by on their bikes, asked me what I was doing and told me I was on the wrong side of the cove. Those kids knew where the lobsters were.

At Lowells Cove, in Harpswell, I don't always find lobsters directly beneath rockweed, but rockweed is attached to many of the rocks that shelter the lobsters and rockweed drapes the ledges along the shoreline. In the case of Lowell's Cove, the benefits of rockweed appear to be indirect. I think the rockweed may play a role similar to the role of a forest to a bird nesting in a hedgerow adjacent to the forest – even though the bird nest is in the shrub beside the trees, the trees nearby are still important to the survival of the bird.

At Bramhall Deep Cove on Friendship Long Island, the role of *Ascophyllum* where I sample is intermediate between its indirect role as habitat at Lowells Cove and its direct role at Winter Harbor. Even though I sample at what I'm calling the "intermediate" use for *Ascophyllum* in Friendship, I also find post-larval and juvenile lobsters in the cracks of the ledges like at Winter Harbor and under rocks out in the open similar to Lowells Cove (I'm just not counting them in my Friendship census). The Deep Cove lobster nurseries I survey lay at the base of the ledges. I can't sample until after I've moved the rockweed out of the way because when I get to my study site it is covered with rockweed draped over the rocks. Nearly every time I sample (but not in winter), at least some lobsters are directly under the rockweed while most are under the rocks covered with rockweed. This site has the highest density of post-larval and juvenile ever recorded anywhere in the Gulf of Maine. There's one site – sampled by the Department of Fisheries and Oceans in New Brunswick, Canada – where higher densities have been found using a different method in the shallow subtidal zone."

and

"At the very least, I would like to see lobster nursery habitats protected from rockweed harvest by having a setback that requires avoiding harvesting activities within a substantial margin of known lobster nursery habitats."

Stay tuned for notifications of the outcome of these bills.

## Recent Presentations

### **The American Lobster in a Changing Ecosystem: A US-Canada Science Symposium, Portland, ME, Nov 27-30:**

*"Long-term sustainability of the lobster fishery: body size matters"* Cowan, D.F. and S.L. Ellis

*"Is post-larval settlement of American lobster, *Homarus americanus*, related to temperature?"*  
Ellis, S.L. and D.F. Cowan

*"Using fine-scale acoustic telemetry to observe the effects of a groundfish predator (Atlantic cod, *Gadus morhua*) on the movement behavior of the American lobster (*Homarus americanus*)."*  
McMahan, M.D., D. Brady, D.F. Cowan, G.D. Sherwood, J.H. Grabowski

### **Benthic Ecology Meeting, Savannah, GA, Mar 20-23:**

*"Growth of juvenile lobster (*Homarus americanus*) in a changing environment"* McMahan et al

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## Recent Press

The New York Times Op-ed: <http://www.nytimes.com/roomfordebate/2013/03/03/too-few-fish-in-the-sea/lobster-limits-show-short-term-thinking>

NPR's On Point: <http://onpoint.wbur.org/2012/10/24/consider-the-lobster>

The New York Times Science times column on how lobsters survive out of water:  
[http://www.nytimes.com/2012/10/23/science/how-do-lobsters-survive-outside-water.html?\\_r=0](http://www.nytimes.com/2012/10/23/science/how-do-lobsters-survive-outside-water.html?_r=0)

## Lobster House is still for sale:



Happy Spring!

Yours in TLC,

Diane F. Cowan, Ph.D.  
Executive Director