

The Lobster Conservancy

Sustaining a thriving lobster fishery through science and community

Summer 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.

Juvenile Lobster Monitoring Program (JLMP): Threat to Lobster Nursery, Southport, Maine

A spokesperson for a private property owner on Pratt Island in the town of Southport, Maine held a meeting on South Beach at noon on Thursday, August 15, 2013 to announce that Paul Coulombe plans to dredge a channel and blast some ledges so he can steer his 28 foot boat to his wharf regardless of the whim of the tide. The Lobster Conservancy attended the meeting and distributed the following summary information regarding the importance of South Beach as a lobster nursery:

Pratt Island Lobster Nursery Threatened by Proposed Blasting/Dredging Project

The lower intertidal zone along Pratt Island harbors a significant lobster nursery habitat where postlarval lobsters settle to the bottom, survive, and live for three to four years before moving into deeper water. Suitable places for young lobsters to settle and grow along the shoreline are not common and should receive the utmost care and environmental protection. These nurseries – including Pratt Island – are of significant economic value because the young lobsters that settle each year grow up to support a thriving fishery seven to eleven years down the line – Maine lobster landings for 2012 were valued at \$331 million by Maine Department of Marine Resources (DMR). The Maine lobster industry supports thousands of jobs.

The location (43°48.6'N x -069°41.1'W) along the shoreline of Pratt Island was first identified as a lobster nursery habitat by former DMR Chief Lobster Biologist Jay Krouse in the 1970's. Jay measured, tagged and recaptured juvenile lobsters at the site during the 1970's and '80's. In 1993, Jay introduced Diane Cowan to the site and taught her his tagging technique. Diane is the founder and senior scientist of The Lobster Conservancy, a non-profit research organization dedicated to sustaining the lobster fishery. In 2001, the lobster nursery at Pratt Island became one of The Lobster Conservancy's long-term census sites (monitored by Ann Grimes, Mike Grimes, Joyce Armendaris, Seth Barker, Enid Johnson, Barbara Lally, Kit Sherrill, Leigh Sherrill, Dick Whittier, Jeanne Whittier, Richard Bredeau and Maria Doelp). Data from 2001-2010 (available on request) include abundance and characteristics of postlarval and juvenile lobsters, counts of rock crabs and green crabs, and descriptions of habitat and environmental conditions including water temperature and salinity.

Peer-reviewed References from primary science literature:

Cowan, D. F. 1999. Method for assessing relative abundance, size distribution, and growth of recently settled and early juvenile lobsters (*Homarus americanus*) in the lower intertidal zone. **Journal of Crustacean Biology** 19: 738-751

Cowan, D. F., A. R. Solow, and A. Beet. 2001. Patterns in abundance and growth of juvenile lobster, *Homarus americanus*. **Marine and Freshwater Research** 52: 1095-1102

Ellis, S. L., and D. F. Cowan. 2001. Volunteer-based monitoring of juvenile American lobster, *Homarus americanus*. **Marine and Freshwater Research** 52(8):1103-1112

Krouse, J. S., and G. E. Nutting. 1990. Evaluation of coded microwire tags inserted in legs of small juvenile American lobsters. **American Fisheries Society Symposium** 7: 304-310

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McMahan, M.D., D.F. Cowan, G.D. Sherwood, J.H. Grabowski, Y.Chen (2012) Evaluation of coded microwire tag retention in juvenile American lobsters, *Homarus americanus*. *Journal of Crustacean Biology* 32(2):497-502

Solow, AR and DF Cowan (2012) A test for space limitation with an application to recently settled lobsters. *Marine Biology* 159:467-470



South Beach and Cats Ledges at Pratt Island lobster nursery (above). Crowd attending meeting convened by Bud Brown of Eco Analyst, Inc (right).



For more information visit the following links:

<http://bangordailynews.com/2013/08/17/news/conservationists-and-residents-battle-proposed-dredging-project-on-pratts-island/>

<http://www.boothbayregister.com/article/residents-concerned-about-south-beach-plan/19079>

We will be vigilant and keep you abreast of project developments to let you know when attendance at public hearings and letter writing will be most effective to save the Southport lobster nursery.

Rockweed Update

The Lobster Conservancy submitted the following letter to the Seaweed Management Plan Committee (<http://www.maine.gov/dmr/rm/rockweed/pdt.htm>) requesting that they consider setting aside “no cut” areas to protect postlarval and juvenile lobsters from rockweed harvest by having a setback that prohibits harvesting activities within a substantial margin of known lobster nurseries.

Chris Vonderweidt, Policy Development Specialist
Maine Department of Marine Resources
21 State House Station
Augusta, ME 04333

Aug 2, 2013

Dear Mr. Vonderweidt and Members of the Seaweed Management Plan Committee,

In developing Maine’s Seaweed Management Plan, I hope you will consider setting aside “no cut” areas to protect nursery habitats from rockweed harvest by having a setback that prohibits harvesting activities within a substantial margin of known lobster nursery habitats.

Postlarval and juvenile lobsters use rockweed as nursery habitat. When the tide is out, *Ascophyllum* provides juvenile lobsters (and other species) with (1) protection from heat and ultraviolet rays, (2) moisture to avoid desiccation, (3) protection from terrestrial and avian predators, and (4) a barrier that freezes and shelters what’s underneath from ice in winter.

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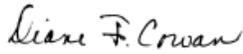
For example, in the main harbor adjacent to town landing at Winter Harbor, postlarval and juvenile lobsters hide directly underneath *Ascophyllum* in cracks in the ledges. At Winter Harbor lobsters are using rockweed directly as shelter.

At Lowell's Cove, on Orrs Island in Harpswell, rockweed is attached to many of the rocks that shelter the lobsters and rockweed drapes the ledges along the shoreline. At Lowell's Cove lobsters are using rockweed indirectly analogous 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 important to the survival of the bird.

At Bramhall Deep Cove on Friendship Long Island, in addition to both direct (like Winter Harbor) and indirect (like Lowell's Cove) lobster use of *Ascophyllum* – a third category is observed. The Deep Cove lobster nurseries at the base of the ledges can't be sampled until after moving aside rockweed draped over the rocks. Some lobsters are found directly under the rockweed – although most are under the rocks covered with rockweed. The site in Friendship shows the most broad-based use of rockweed and harbors the highest density of post-larval and juvenile lobsters recorded anywhere in Maine.

If you decide to take this under consideration, I will be happy to send you detailed information regarding the locations of known lobster nursery habitat. Thank you.

Sincerely,



Diane F. Cowan, Ph.D.
Senior Scientist

Lighter Notes!

Touch Tank on Friendship Day

Another fun-filled Friendship Day with fascinating critters provided by lobsterman Mark Havener and delivered to the touch tank by lobster dealer Larry Wallace was enjoyed by many thanks to Mark & Larry and to John Meyn for helping fill the pool with seawater! Dr. Robin Hadlock Seeley brought a seaweed display that added new dimensions and marine life to this year's informal education program.



For more Friendship Day photos visit our facebook page at www.facebook.com/TheLobsterConservancy

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Recent Publications (pdf files of manuscripts available on request)

Reeder, R.J., Y. Tang, M.P. Schmidt, L.M. Kubista, D.F. Cowan, and B.L. Phillips (2013)
Characterization of Structure in Biogenic Amorphous Calcium Carbonate: Pair Distribution
Function and Nuclear Magnetic Resonance Studies of Lobster Gastrolith. **Crystal Growth
& Design** 13:1905-1914

McMahan, M.D., D. Brady, D.F. Cowan, G.D. Sherwood, J.H. Grabowski (in press) Using acoustic
telemetry to observe the effects of a groundfish predator (Atlantic cod, *Gadus morhua*) on
movement of the American lobster (*Homarus americanus*). **Canadian Journal of Fisheries
and Aquatic Sciences**

Recent Press

<http://bangordailynews.com/2013/08/17/news/conservationists-and-residents-battle-proposed-dredging-project-on-pratts-island/>

<http://www.boothbayregister.com/article/residents-concerned-about-south-beach-plan/19079>

<http://thechronicleherald.ca/novascotia/1144365-study-shows-it-can-be-a-lobster-eat-lobster-world> (There
has been some recent press perpetuating the myth that lobsters are solitary cannibals. One lone journalist in Canada
bothered to present another side of the story. This is a link to what Selena Ross wrote.

Enjoy the waning days of summer!

Yours in TLC,

Diane F. Cowan, Ph.D.
Executive Director