



The Lobster Conservancy

Sustaining a thriving lobster fishery through science and community

Summer 2014

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 Update: Post-larval Lobsters Settled on Friendship Long Island in August

One foggy misty morning in August, AP photographer Robert F. Bukaty and AP journalist Patrick Whittle arrived at the Fishermen's Heritage Lobster Co-op at dawn, hopped aboard The Lobster Conservancy's skiff and rode out to the lobster pound on Friendship Long Island in their quest to include lobsters in a video news piece on climate change in the Gulf of Maine. We stopped at the little house by the lobster pound where I picked up sampling gear and then, with my dog Sula and niece Veronica Ward in tow, we hiked across the island to look for evidence of lobster settlement.

Lobsters begin life as pelagic larvae inhabiting open water spending part of their time at the surface, other times in mid water. After an estimated few weeks and three larval stages, larvae shed into a post-larval stage that closely resembles the adult in body form. Post-larval lobsters represent the first juvenile stage. Post-larval lobsters spend part of their time swimming at the surface and part of their time diving to the bottom seeking a place to settle down and take up a benthic (bottom-dwelling) lifestyle. The shift from pelagic to benthic existence marks settlement. After finding a suitable place to dwell on the bottom, post-larval lobsters shed their exoskeletons and become fifth-stage lobsters, the second juvenile stage, and the first stage that spends most of its time on the bottom. Although fifth stageers are fairly good swimmers, they seem to swim only if they are ousted from the place they settled and need to look for a different home.

As most of you know, I found my first settlers on the bottom in Harpswell, Maine in 1992 and that finding eventually led to the creation of The Lobster Conservancy and the research program that documented lobster settlement and early life from 1992-2012. By 2013, the research became all but impossible to accomplish for two major reasons: lack of funding and uncooperative weather. The sites where we sampled lobsters for 20 years were simply no longer accessible for myriad reasons that I am trying to tease out and explain and will explain when I understand.

Meanwhile, on August 13, the weather cooperated, conditions were right, and so, we set out to try our luck. My plan was to find a new site if I still couldn't access the old site in Friendship where I'd sampled since 1999. Imagine my joy when I found a fifth-stage lobster beneath the very first rock I overturned, then another under the next rock! They had settled! I wasn't exactly at my old site, but I was pretty close.

In a nutshell, that's the latest research news. The Lobster Conservancy will try to get the Juvenile Lobster Monitoring Program up and running again. We are seeking funding for the project and hoping that the weather will cooperated at least enough of the time for us to detect settlement – maybe not on a monthly basis like we used to do, but at least annually.

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The Lobster Conservancy scientist, Diane Cowan measures, Associated Press photographer, Bob Bukaty photographs juvenile lobster while Diane's dog, Sula continues to search for the elusive offspring of *Homarus americanus*. Photo by Veronica Ward.

Friendship Day Touch Tank: A Popular Display Enjoyed by Children of all Ages

The Lobster Conservancy hosted our nearly famous touch tank on Friendship Day, July 26, 2014. Thanks to new owners (Ted & Marianne Colanduno) of old Lobster House, who installed an outdoor electrical outlet, we were able to set up and display local marine organisms at the usual place on the corner of Waldoboro & Harbor Roads right in the center of downtown Friendship!

For those of you who've asked and want to know... The top three secrets to a successful touch tank are as follows:

#1. Remember, the touch tank is for the children. Pay attention to them, answer their questions. Chat with adults later.

#2. Keep it simple. Even though the critters may seem ordinary to you who lobster or scientists who SCUBA dive and even though they may be the most common species in our own backyard, many of the kids have never seen them. Others have. Let the kids educate each other. No need to feature the exotic or blab too much.

#3. If you don't have a fancy tent, use frozen sea water to keep it cool. The freezing point of seawater is lower than that of fresh water. In addition, if you use frozen seawater, you can dump the sea ice cubes into the water and let it melt.



The Lobster Conservancy's touch tank drew a big crowd on Friendship Day. Critters provided by Mark Havener. Photo by Diane Cowan.

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The Lobster Conservancy touch tank featured many edible species including the flounder proudly displayed here. Photo by Diane Cowan.

15th Anniversary Celebration on Friendship Long Island

The Lobster Conservancy became a 501(c)(3) non-profit organization in January of 1997. In December of 1998, we received a property donation in Friendship, Maine where we relocated our headquarters in 1999. On August 2, 2014, The Lobster Conservancy invited friends, neighbors and members to celebrate our first 15 years in Friendship and wish us many productive years ahead.

A good time was had by all. It was wonderful to share stories with new and old friends and to gather together such a great variety of scientists, fishermen, Friendship natives, summer people, past and present staff and board members.

Many thanks to all of those who helped pull this off. It's not easy to have a shindig on an off-the-grid island with no Maine State Ferry Service or mail boat. Special thanks to Philip Bramhall for providing the personal ferry service, tent & logistical advice, Sara Ellis for shuttling folks to the ferry & moral & logistical support, Helen Muther for helping host the event, Burnham/Omang crew for bartending, serving snacks, providing soft beverages, Brad & Betsy Morrison of Have Caterer Will Travel for creating yummy seafood treats, and all the marvelous supporters who came to share the beautiful evening on Friendship Long Island.



Diane Cowan addresses the crowd with a brief synopsis of the history and accomplishments during The Lobster Conservancy's first 15 years doing science off-the-grid at the lobster pound on Friendship Long Island. Photo by Richard Nelson.

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Scene from The Lobster Conservancy's 15th Anniversary Celebration. Photo by Richard Nelson. (Yes, that's Dr. Sara Ellis in the lower right hand corner).

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 (2013) 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** 70:1625-1634

Donate to a worthy cause!

If you haven't already done so, please pledge your commitment to The Lobster Conservancy by renewing your membership or becoming a member today. For details, visit <http://www.lobsters.org/misc/membshp.html>. Thank you!

Enjoy the remaining waning days of summer.

Yours in TLC and Friendship,

Diane F. Cowan, Ph.D.
Executive Director