# The Lobster Conservancy

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

Summer 2009

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**

*Season Kick-Off for Volunteer Program*

Volunteer Season Kick-Off Meetings were a great success. One of the highlights was hearing from Doug Torrey, holder of Maine lobster license #10 issued to him in 1937, who attended the meeting on April 11th in Winter Harbor. Doug reminisced about piling into a truck and heading to Augusta with a group of lobstermen to pick up the first licenses issued for harvesting lobsters. He also shared his love of the sea and explained how he still uses his license. Family and friends don't like it when he hauls alone anymore, so he has company! Special thanks to Thomas Mayer and Jeanie Wilson for hosting the event and baking that amazing poppy seed cake! Use of the wet lab at Southern Maine Community College made the events on the 18th & 19th especially memorable thanks to a great abundance of lobsters of assorted sizes and excellent training facilities. Thank you Cara La Lomia for taking fine care of your lobsters and trusting us to handle them with TLC and special thanks to Professor Brian Tarbox for hosting us again at Southern Maine Community College. The Lobster Conservancy volunteer meetings gave us an opportunity to present the results of last year's census taking, expand volunteer training, and exchange stories.

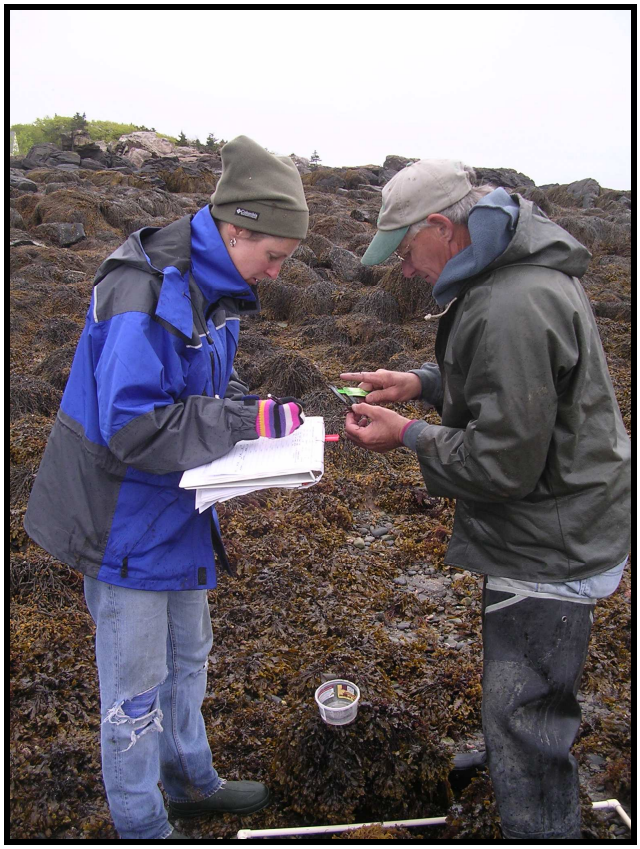
Volunteer Coordinator Jane Roundy (left) gives volunteers Steve and Lynne Richard a refresher course in measuring and describing characteristics of juvenile lobsters in the wet lab at Southern Maine Community College.

*April-May Juvenile Lobster Census*

Soon after the kick-off meetings volunteers, students and staff headed to our various field sites along the Gulf of Maine coastline to count juvenile lobsters. April was a mixed bag with high numbers of lobsters returning to their seasonal homes at some locations but not others. By May pretty much everyone was overwhelmed with record high counts for May. The abundance of juvenile lobsters measuring between ¾" and 5" in total length is truly astounding.

By year 17, you might think that the lobsters couldn't surprise me anymore but I saw two new things in May. One was lobsters stranded high on the beach completely exposed to the elements way above the transect line and the other was several lobsters in the quadrats that were not underneath rocks. They were just hiding under the rockweed. The stranded lobsters looked just fine. No missing parts, no signs of weakness yet but if they sat out in the sun until the tide returned they would bake. Naturally, I returned the stranded lobsters to the sea while I pondered why the seagulls hadn't eaten them. Perhaps there were so many lobsters stranded that the seagulls were too full or maybe their bellies were distended from eating so much bait thrown back by lobstermen. Finding lobsters stranded on shore sometimes happens after big storms or when conditions in shallow water become anoxic such as during a fish die off. Neither was the case on this calm sunny pristine day in late May. I think there are just so many juvenile lobsters walking around out there that they simply got left out of the water when the tide drained.

It was a pleasure to visit the Timber Point team to check in with our seasoned veteran volunteers including Herb Cohen who has been a rock flipper since we added the site in 2003 and to finish training new volunteers Philip Bozenhard and Jo Powers.



New Timber Point team member Jo Power records data while Philip Bozenhard measures a juvenile lobster less than 1" in length.

*Tag Retention Study*

A brand new tag team headed by Marissa McMahan began a tag retention study as part of Marissa's thesis work. Marissa and her dad, Jim, collected the lobster subjects and created the experimental apparatus to test tagging effects such as mortality or limb loss, and tag retention rates after one molt cycle. We are also testing for any differences in tag retention rates between lobsters tagged by Diane versus Marissa. Tags are surgically implanted into the muscle tissue of the lobsters. In the first experimental run there are 60 lobsters measuring 20-30 mm CL (approx. 2-3" total length): 20 tagged by Marissa, 20 tagged by Diane, and 20 controls (no tag). Lobsters are housed in individual cages within lobster crates tied to a float. Each lobster is fed a variety of food including mussels, worms, crabs, shrimp and periwinkles. Observations are taken at least every other day to monitor molt condition, mortality, and limb loss. We will hold the lobsters until all of them have molted at least once to determine whether tags remain in the muscle tissue throughout the molt cycle. Statistical analysis of the tag retention data will allow us to apply our findings to the 17 year, on going, capture-mark-recapture data set of lobsters tagged at Lowell's Cove. Analysis of the Lowell's Cove data will provide growth and survival information for Marissa's thesis project titled *Juvenile Lobsters: Growth and Survival in a Changing Environment*. Our current goal is to have the second round of lobsters, in the 12-20 mm CL size class, collected and tagged by the end of June.

Marissa McMahan checks on the juvenile lobsters serving as participants in her tag-retention study. Experimental lobsters are tagged, while controls are not tagged to test the effects of the tagging method we use in our mark/recapture studies.

**Upcoming Events and Presentations**

**June 19-21**: Lobster Settlement Workshop to celebrate Rick Wahle's 20 year anniversary developing the Lobster Settlement Index.

**July 13**: Lobster Industry panel discussion on North Haven. Diane is one of the panelists.

**July 14**: Herring Gut Learning Center presentation by Diane.

**July 25**: Friendship Day. Touch tank at The Lobster Conservancy's mainland office at 6 Waldoboro Road in Friendship.

**Recent Activities**

| The Lobster Conservancy | | | | |
|---|---|---|---|---|
| **2008-2009 Outreach and Education Activity** | | | | |
| **Organization** | **Location** | **Date** | **Title** | **Presenters** |
| Friends of Merrymeeting Bay | Bath, Maine | Apr 2 | Citizen-based Lobster Science | Diane Cowan |
| Damariscotta River Association | Damariscotta, Maine | Apr 4 | Lobster Life Cycle from Egg to Plate | Diane Cowan |
| Maine State Legislature, Marine Resources Committee | Augusta, Maine | Apr 8 | Public hearing on Rockweed legislation | Diane Cowan |
| The Lobster Conservancy | Winter Harbor, Maine | Apr 11 | Volunteer Season Kick Off | Diane Cowan and Jane Roundy |
| North Haven Community School | North Haven, Maine | Apr 13 | Lobster Life Cycle from Egg to Plate | Diane Cowan |
| Quebec-Labrador Foundation | Town Office, Friendship, Maine | Apr 15 | Muscongus Atlas Presentation | Jen Atkinson and many friends and colleagues |
| Center for Contemporary Art | Rockport, Maine | Apr 17 | Pecha Kucha | Diane Cowan |
| The Lobster Conservancy | Southern Maine Community College | Apr 18 | Volunteer Season Kick Off | Diane Cowan and Jane Roundy |
| The Lobster Conservancy | Southern Maine Community College | Apr 19 | Volunteer Season Kick Off | Diane Cowan and Jane Roundy |
| Midcoast Stewards, Maine Planning Board | Damariscotta River Association | May 6 | The Lobster's Tale: From Egg to Plate | Diane Cowan |
| Darling Marine Center | Walpole, Maine | May 12 | Juvenile Lobsters: Growth and Survival in a Changing Environment | Marissa McMahan |
| Brunswick Public Library | Brunswick, Maine | May 20 | Cornerstones of Science | Diane Cowan |
| The Lobster Conservancy | Biddeford, Maine | May 27 | Site visit to Timber Point | Diane Cowan |
| Friedman Field Station | Edmunds, Maine | May 27-29 | Scouting Cobscook Bay | Diane Cowan and Jane Wallace |
| The Lobster Conservancy | Georgetown, Maine | Jun 2 | Locate new lobster nursery, begin tag retention study | Marissa McMahan, Jim McMahan, Diane Cowan |

Yours in TLC,

Diane F. Cowan, Ph.D., Executive Director
Jane Roundy, Volunteer Coordinator
Marissa McMahan, Graduate Student

PS – see supplement below.

Summary table of lobsters found in May 2009 for each site thus far reported. Locations are listed from Northeast to Southwest.

| Site Name | State | Date | # Quads | # Lobs | Min CL (mm) | Max CL (mm) | Density (#lob/$m^2$) |
|---|---|---|---|---|---|---|---|
| Dobbins Island | ME | 5/26/2009 | 20 | 25 | 19 | 53 | 1.3 |
| Beach St. Cove | ME | 5/26/2009 | 10 | 11 | 26 | 58 | 1.1 |
| Coast Guard Beach | ME | 5/27/2009 | 20 | 24 | 31 | 55 | 1.2 |
| Drift Inn Beach | ME | 5/26/2009 | 9 | 38 | 23 | 54 | 4.2 |
| Allen Island | ME | 5/27/2009 | 15 | 34 | 10 | 65 | 2.3 |
| Friendship Long Is | ME | 5/25 & 5/26 | 15 | 87 | 7.5 | 55.7 | 5.8 |
| Pratt Island | ME | 5/26/2009 | 20 | 36 | 7 | 45 | 1.8 |
| Cundys Harbor | ME | 5/25/2009 | 17 | 26 | 10 | 62 | 1.5 |
| Long Cove | ME | 5/25/2009 | 24 | 69 | 10 | 66 | 2.9 |
| Lowell's Cove | ME | 5/25 & 5/26 | 14 | 93 | 11 | 52 | 6.6 |
| Potts Point | ME | 5/26/2009 | 10 | 22 | 12 | 39 | 2.2 |
| Spar Cove | ME | 5/25/2009 | 20 | 5 | 30 | 43 | 0.3 |
| Bennett Cove | ME | 5/26 & 5/27 | 20 | 28 | 21 | 50 | 1.4 |
| Maxwell Point | ME | 5/27/2009 | 20 | 24 | 26 | 65 | 1.2 |
| Goose Rocks | ME | 5/27/2009 | 24 | 40 | 8 | 60 | 1.7 |
| Odiorne Pt | NH | 5/26/2009 | 20 | 15 | 21 | 36 | 0.8 |
| Fort Stark | NH | 5/26/2009 | 20 | 57 | 11 | 57 | 2.9 |
| Plum Cove | MA | 5/25/2009 | 20 | 30 | 12 | 42 | 1.5 |
| Gerry Island | MA | 5/26/2009 | 10 | 48 | 10 | 54 | 4.8 |
| Blue Fish Cove | MA | 5/26/2009 | 20 | 26 | 21 | 58 | 1.3 |

We sample square meter quadrats. The density is the average number of lobster in the squares. CL is carapace length – the same length lobstermen measure with gauge from rear of eye socket to rear of body shield. TL is total length from tip of rostrum (thing most people think is the nose, but it isn't) to end of abdomen (tail). Smallest lobster found in May was 7 mm CL ( a little over ¾" in total length). The largest was 65 mm CL or approximately 7 ½" long.