The Lobster Conservancy

Sustaining a thriving lobster fishery through science and community

Winter 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.

News from the Board of Directors

Updated Contact Information

The Lobster Conservancy has a new phone number at the Lobster House (mainland office): 207-542-9789. Please update your contact list!

Grants and Membership Donations

The Lobster Conservancy received a $5,000 grant from the Maine Community Foundation to support a project designed to write a brief history of Friendship's lobster pounds.

Tidal lobster pounds were developed in the late 19th century in Maine as a means for lobster fishermen to hold lobsters and keep them alive until market conditions improved and they could get a better price for their lobster. Many old lobster pounds can still be seen on the Maine coast, but little has been written about the operation of the Friendship pounds and their impact on the lobster fishermen that used them. The newly-funded project will support The Lobster Conservancy intern, Maira Seeley, who will conduct an oral history of lobster pounds in Friendship, Maine, by talking to past pound keepers and their families to learn what life was like when the pounds were an integral part of Friendship in the first half of the 20th century. The lobster pounds still exist, although they are not used anymore, and interviewers will be able to use the information provided by the older fishermen to fill in a critical gap in the history of lobster fishing in Friendship and in Maine in general.

Circa 1900 photo of the Friendship Long Island lobster pound showing the pound keepers house and dam.

After completing the project, Maira will continue her studies as a student in Anthropology at Oxford University. Maira's ties to Friendship go back to her grandfather, Bill Hadlock, who spent time here every summer with his Friendship sloop, *Heritage*, was a past Commodore of the Friendship Sloop Society, and is the name sake for the "Hadlock Award" of the Friendship Sloop Society.

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A statewide organization with offices in Ellsworth and Portland, the Maine Community Foundation works in partnership with donors and community groups to strengthen Maine. For more information, visit the foundation's website at www.mainecf.org or call toll-free 1-877-700-6800.

The Lobster Conservancy sent out our annual appeal reminder for memberships in October. The response has been excellent – a huge thanks to those of you who have renewed your memberships and welcome to our new members! If you are receiving this newsletter and haven't yet renewed or become a member, please do so today! We count on your support to maintain our existing programs and initiate new projects.

Sprucing Up and Winterizing the Lobster House

Volunteer extraordinaire, John Meyn, has prepared the Lobster House for extreme weather and helped lower fuel costs for The Lobster Conservancy's mainland base of operations. We were already pretty green but now we're toasty warm as well.

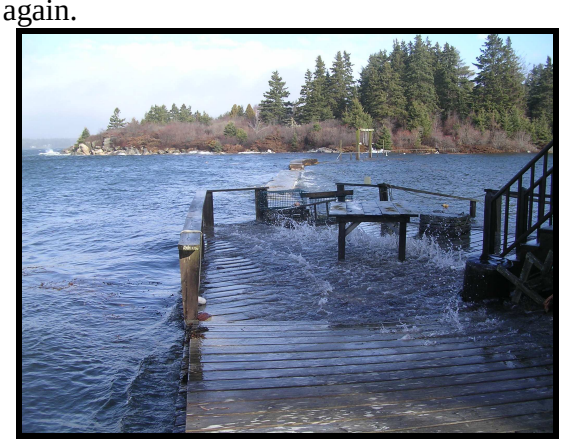
No doubt the trim on the Lobster House needed painting, but John went the extra mile and fashioned it lobster red!

Man at work. John Meyn of Friendship dresses up the Lobster House in style.

Research

Volunteer-based Juvenile Lobster Census Continues in Spite of Nasty Weather

September through December tides presented huge challenges as we headed out in search of this year's juvenile lobster story. I hope the 2010 tides will serve us better, but watch out – if storms coincide with the astronomically huge tides predicted the first week of Jan, Feb and Mar we'll be foiled again.



High tide at Friendship Long Island Lobster Pound on December 3, 2009 – one of the days the tide didn't fall low enough to sample juvenile lobsters. The dam is underwater (see 1900's pound photo above for comparison with how things should look), the wharf in front of the house is being rocked up and done and taking the front porch stairs for a ride.

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Summary table of lobsters found in September - December 2009 for each site where sampling was possible and data were entered. Locations are listed from Northeast to Southwest. Sites where settlement occurred are bold faced. Sites where lobsters less than one year old were found are italicized. na = data not available because tide did not recede low enough to sample designated rocks.

Site Name	State	Date	# Quad	# Lobs	Min Size (mm CL)	Max Size (mm CL)	Density (#/m^2)
Dobbins Island	ME	9/19/2009	20	11	19	44	0.6
		10/18/2009	13	1	37	37	0.1
		11/3/2009	0	na	na	na	na
Beach St. Cove	ME	9/19/2009	10	8	24	47	0.8
		10/17/2009	0	na	na	na	na
		11/4/2009	0	na	na	na	na
Coast Guard Beach	ME	9/20/2009	20	9	22	34	0.5
		10/18/2009	0	na	na	na	na
Waterman Point	ME	9/19/2009	20	20	26	58	1.0
Drift Inn Beach	ME	9/20/2009	10	24	**6**	48	2.4
		10/17/2009	10	20	**6**	50	2.0
		11/4/2009	11	17	22	50	1.5
Allen Island	ME	10/19/2009	11	24	*7*	50	2.2
Friendship Long Is	ME	9/19/2009	9	57	**6**	46	6.3
		10/19/2009	4	15	10	62.3	3.8
		11/4/2009	2	3	27.1	46	na
		12/4/2009	2	2	25.5	47.2	na
Pratt Island	ME	9/19/2009	19	40	*7*	66	2.1
		10/17/2009	5	7	12	46	1.4
Cundys Harbor	ME	9/18/2009	12	21	**5**	35	1.8
		10/19/2009	12	17	*10*	47	1.4
Long Cove	ME	9/19/2009	22	43	**6**	63	2.0
		10/17/2009	16	48	*8*	54	3.0
		11/15/2009	15	24	*7*	50	1.6
Lowell's Cove	ME	9/18,9/19	11	66	**5.5**	41.8	6
		10/19/2009	0	na	na	na	na
		11/4/2009	0	na	na	na	na
		12/4/2009	0	na	na	na	na
Potts Point	ME	9/19/2009	10	26	*7*	39	2.6
		10/17/2009	10	19	*7*	41	1.9
		11/15/2009	10	21	*7*	33	2.1
Bennett Cove	ME	9/19,9/20	18	21	15	44	1.2
		10/17,10/18	0	na	na	na	na
		11/4,11/15&16	0	na	na	na	na
Maxwell Point	ME	11/4/2009	20	0	na	na	0.0
Goose Rocks	ME	9/19/2009	13	41	**3**	50	3.2
		10/19/2009	6	15	*10*	50	2.5
		11/15/2009	2	2	33	44	na
Odiorne Pt	NH	9/20/2009	20	7	21	33	0.4
		10/19/2009	20	5	24	32	0.3
		11/3/2009	20	2	29	37	0.1
Fort Stark	NH	9/19/2009	20	65	*10*	69	3.3
Plum Cove	MA	9/18/2009	20	28	*7*	41	1.4
		10/17,10/18	0	na	na	na	na
		11/3/2009	20	7	*10*	36	0.4
Gerry Island	MA	9/19/2009	8	15	*9*	37	1.9

Site Name	State	Date	# Quad	# Lobs	Min Size (mm CL)	Max Size (mm CL)	Density (#/m^2)
Gerry Island cont'd		10/19/2009	0	na	na	na	na
	MA	9/19/2009	20	29	7	57	1.5
Blue Fish Cove		10/17,10/19	0	na	na	na	na

Table Explanation:
We sample square meter quadrats along a transect line. The density is the average number of lobsters 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 was 5 mm CL (a little less than ¾" in total length). The largest was 80 mm CL or almost harvestable size that is 82.5 mm CL.

Tag Retention Study
Marissa McMahan successfully completed the tag-retention study that allowed her to test her skills, compare them to Diane's skills and monitor limb loss and mortality in tagged juvenile lobsters. The study was a huge success. We found that no lobsters were harmed by our tagging method and Marissa is just as skilled as Diane in the tagging technique! We are writing up the results and will submit them to a scientific journal soon!

Lobsters for tag-retention study were held at Harmon Harbor in crates with cages to keep each lobster in individual compartment. Crate with cages covered (left) and open (right).

Lobster Movements and Response to Cod in a Mesocosm
This fall we began an acoustic tracking experiment in The Lobster Conservancy's lobster pound on Friendship Long Island. The experiment was designed to look at lobster movement before and after the addition of a large predator. Our hypothesis was that lobster movement would be affected by the presence of predators as evidenced by lobsters exhibiting more shelter seeking behavior. To begin the experiment we sealed off the pound using mesh wire fencing (donated by Riverdale Mills). Next, we strategically placed five receivers to locate lobsters by picking up an individually specific ping emitted by each tag. We hand-captured five lobsters from the pound (easier said then done!) and attached the inch-long tag around the "arm" of the right claw using cable ties. Once tagged, the lobsters were released into the pound where the receivers began recording a GPS location of each lobster using the signal emitted by that lobster's tag.

Three weeks later we added three cod fish, caught by hook and line, into the pound. The cod were roughly 20 inches in length, so there was little risk that the tagged lobsters would be eaten by the cod fish. Each fish was also tagged so their movement could be tracked. After an additional three weeks, the receivers were all downloaded so that the movement data could be analyzed. From what we can tell, two of the three cod fish escaped within two days of being put into the pound. The third remained in the pound for 10 days and then also escaped. One lobster escaped prior to the addition of the cod fish, and three more escaped before the end of the experiment. Despite all of the jail

breaks, we were able to retrieve an enormous amount of movement data both before and after the cod were added. Stay tuned for more results that will slowly trickle in as we pick away at this data set!

Arrival of the cod fish! Curt Brown (on the left) and Zach Whitner on the right. Just some interesting points: Curt is a lobsterman from Casco Bay and also one of the participants of Catch a Piece of Maine, and Zach is a lobsterman and native of Long Island in Casco Bay and just graduated from Brown. Lobster fisher turned graduate student Marissa in the middle completes all three connected to the Maine fishing industry!

Circulation in Muscongus Bay

In spring 2009, Quebec Labrador Foundation received development funds from Maine Sea Grant and Maine Coastal Program to field test Seimac CAST (Convertible Accurate Surface Tracker) barrel drifters equipped with GPS and a satellite transmitter. These drifters were used by CBRC in a five-year study to successfully gather field data in Cobscook Bay. Project partners (including The Lobster Conservancy) deployed these units in central Muscongus Bay for one-half of a tidal cycle (~6 hours) on August 13, 2009. They were deployed from the *F/V Pescadero*, captained by Richard Nelson, positioned near Gangway Ledge, east of Harbor Island, based on interest in larval lobster behavior in that part of the bay and the expectation of project partners Richard Nelson and Heather Deese that currents might diverge north of the Ledge. The drifters did not behave as predicted but rather moved westward in a tight grouping at an average speed of 0.32 m/s (1.1 km/hr), passing between Harbor and Black Islands before turning more northerly. The drifters did not begin to separate from each other until near the end of the flood tide when they were hanging out near the eastern shore of Jones Garden.

Will & Elizabeth Hopkins and Richard Nelson deploy drifters to record the speed and direction of currents in Muscongus Bay as Amanda LaBelle and Willi Hopkins look on from the stern of F/V Pescadero in Muscongus Bay.

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We hope to continue working with our partners at the Quebec Labrador Foundation to study nearshore oceanographic currents because The Lobster Conservancy data indicate that Muscongus Bay has the highest rate of postlarval settlement in most years. In addition, most ovigerous lobsters tagged in Muscongus Bay remained in the bay throughout the brooding period suggesting that hatching occurs inside the bay. Depending on circulation patterns in the bay, local hatching of larval lobsters could lead to an unprecedented retention rate of larval lobsters that may never leave the bay. While tracking ovigerous lobsters for the 2003 NEC project, researchers at The Lobster Conservancy observed post-larval lobsters in the upper layer of the water column between Western Egg Rock and Eastern Egg Rock swimming toward Friendship during particular seasons and tidal conditions. It is possible that the residual circulation in the bay could contribute to retention of some percentage of larval lobsters within the bay and dispersal of some percentage of eggs and larvae out of the region.

Happy New Year!

Yours in TLC,

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

with special guest contributor Jennifer Atkinson of the Quebec-Labrador Foundation.