A Fisherman-Scientist Collaboration to 
Re-assess Lobster Nurseries in Narragansett Bay 
After Two Decades of Environmental Change

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PROJECT SUMMARY

Over the past two decades coastal lobster stocks in southern New England have been ravaged by episodes of mass mortality and shell disease that have decimated populations locally. In the spring of 2010 the Atlantic States Marine Fishery Commission’s Lobster Technical Committee deemed the southern New England lobster stock to be in a state of recruitment failure, and recommended a five year harvest moratorium on lobster fishing. The Rhode Island lobster industry believes the current lobster settlement survey of cobble nursery ground, conducted by diver-based suction sampling, is inadequate to make this determination. With this two-year fisherman-scientist collaboration we aim to augment sampling coverage, and our understanding of the response of juvenile lobsters, to environmental change. We have three key objectives.

The first is to repeat a comprehensive sampling survey of lobster nurseries in Narragansett Bay and Rhode Island’s outer coast (see figure) that had been conducted by the same diver-based methods in 1990 during a time of historically high lobster abundance. At a subset of these sites along the Bay’s estuarine gradient we will also initiate periodic near-bottom monitoring of water temperature, salinity, dissolved oxygen and pH.

Our second objective is to deploy passive post-larval collectors that were developed and tested in a previous cooperative project with the lobster fishing industry. Cobble-filled collectors will be deployed at the same sites divers will suction sample, thereby enabling side-by-side comparisons of the sampling efficiency of the two methods.

The third objective is to expand the survey with the two sampling methods to explored locations the fishing industry suspects are lobster nurseries based on observations of small lobsters in their catch and post-larvae swimming at the surface. Collector deployments will enable us explore potential nurseries inaccessible to divers.

The proposal is consistent with CFRF goals to “collect and assess information supportive of sound management decisions,” and “develop an ongoing collaborative approach to fishery research.” Specifically, it will produce a clearer picture of the status of lobster recruitment and health in coastal southern New England nurseries. This information will be especially timely with respect to the decision whether to take the unprecedented step of imposing a moratorium on harvesting lobsters in southern New England.