



Lobster Settlement Collector Project – 2017 Update

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Introduction

Since 2007, the collaborative lobster collector project between DFO and the FSRS has been using passive collectors (wire mesh lined cages filled with rocks) to sample young-of-year (YOY) lobster (“settlers”). Collectors can be used to provide annual estimates of lobster settlement, as well as an index of abundance of juvenile lobsters.

Methods

- Collectors are deployed in three regions along the coast of Nova Scotia (**Map below**, and **Table 1**), in June and July, at water depths ranging from 3 to 40 metres.
- Temperatures are recorded in each region using VEMCO data loggers.
- Collectors are set in singles or in trawls, either with surface buoys (False Bay) or without.
- All collectors are hauled from mid-October to early November, using a commercial hauler, winch and boom.

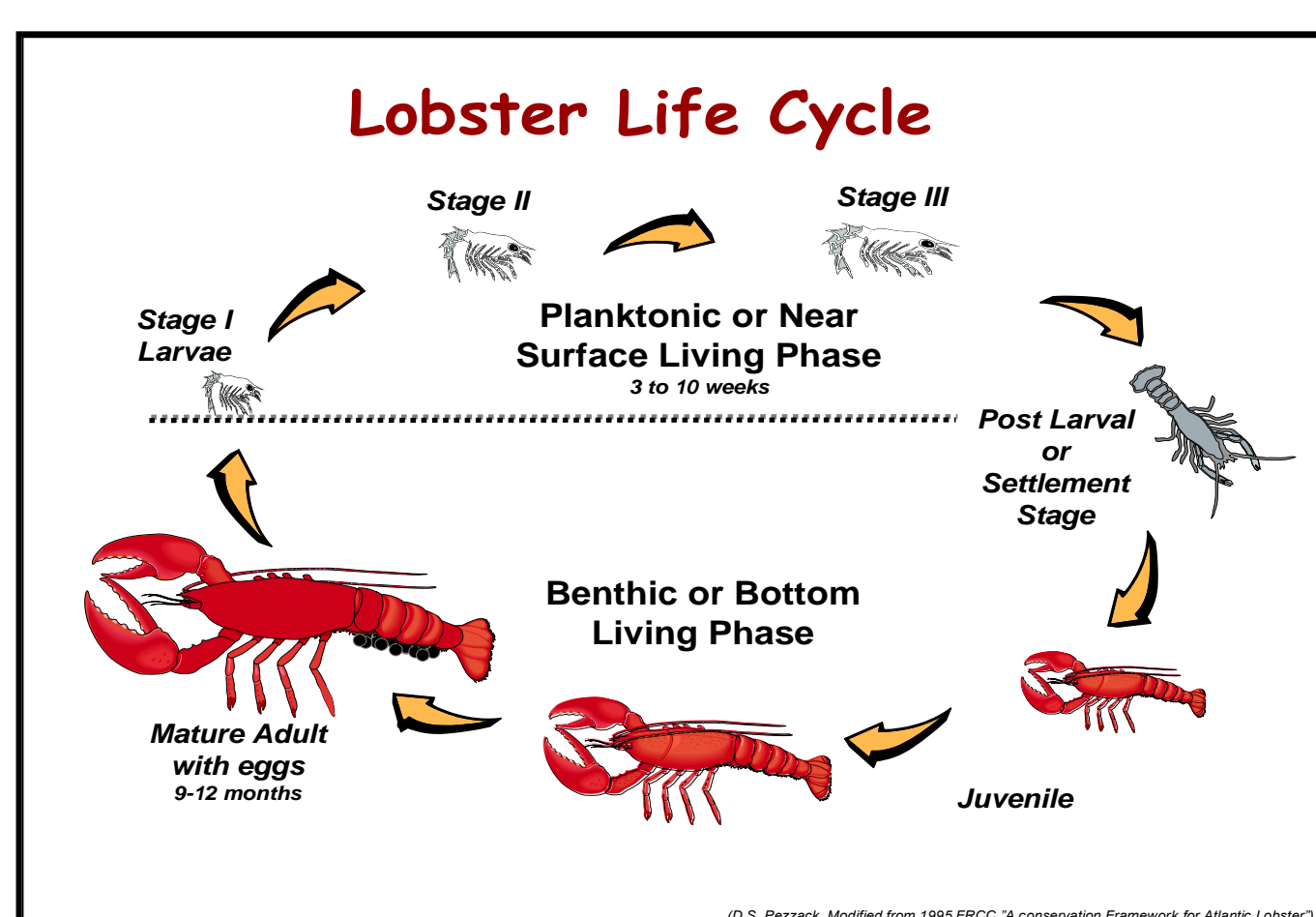


Figure 1. Lobster life cycle.



Photo credits: Tricia Pearo-Drew

Results

The 2017 results with quantity of collectors for all sites are shown in **Table 1**.

In most years, the highest settlement numbers have been in the southwestern areas. However, settlement was low in several southwestern sites from 2011 to 2013, with an increase in 2014. In 2015, settlement was down in all areas, with further decreases in 2016 (from 42 total settlers in 2015, to 4 in 2016, with 40 additional collectors deployed). In 2017, we found that settlement was back up, with 57 total. Settlement appears to be episodic in several of the sampling areas.

Average bottom water temperatures for the 2017 project sites are shown in **Figure 2**. Unfortunately, some temperatures were lost due to malfunctioning data loggers.



Table 1. Sampling results for settlement collectors in all sites, 2017.

Region	Site	Number of collectors	Count		Number per m ²	
			Settlers (<13 mm CL)	Lobsters (≥ 13 mm CL)	Settlers (<13 mm CL)	Lobsters (≥ 13 mm CL)
False Bay	West (deep)	25	0	6	0	0.43
	West (shallow)	25	0	18	0	1.29
	South Head	24	0	20	0	1.49
	Total	74	0	44	0	1.06
Lobster Bay	Abbotts Harbour Island	25	3	25	0.21	1.79
	Canoe Island	23	5	14	0.39	1.09
	French Point	14	4	7	0.51	0.89
	Gooseberry Island	14	2	8	0.26	1.02
	John's Island	30	8	15	0.48	0.89
	Lears Island	25	1	16	0.07	1.14
	Lobster Island	14	0	2	0.00	0.26
	Total	145	23	87	0.28	1.07
St. Mary's Bay	Big Shoal	22	7	31	0.57	2.52
	Cherry Valley	23	6	15	0.47	1.16
	McCormick's	19	3	6	0.28	0.56
	Skinny Shoal	19	18	27	1.69	2.54
	Total	83	34	79	0.73	1.70
All Areas		302	57	210		

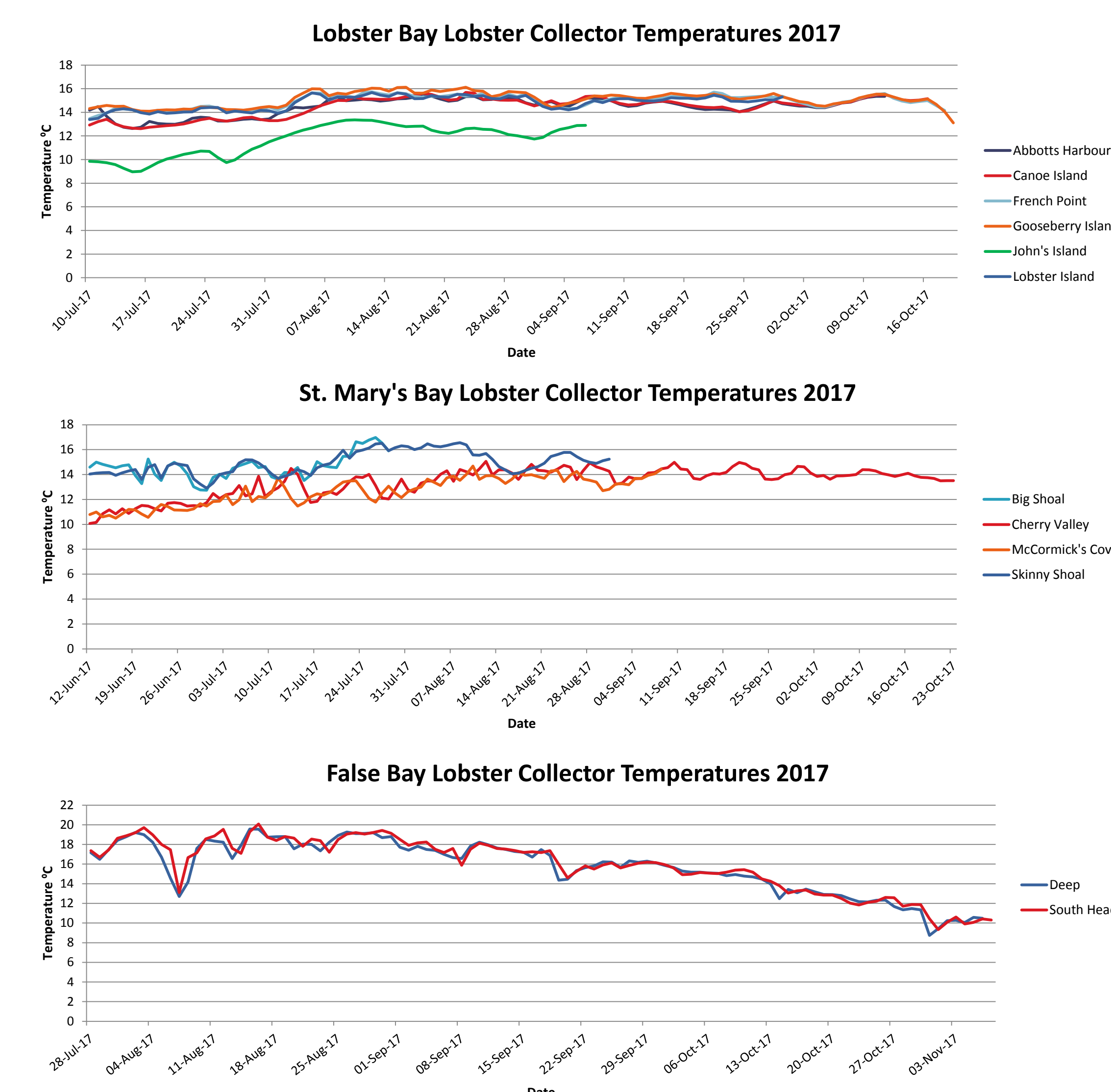


Figure 2. Average bottom water temperatures for 2017 project sites.

Acknowledgments

We would like to thank all of the fishermen who participated, their skills and knowledge are greatly appreciated. Thanks to personnel from DFO for their assistance with retrieval and sampling. Thanks also to the Department of Fisheries and Oceans, and the Nova Scotia Department of Fisheries and Aquaculture for supporting the project.



After completing collector retrieval in False Bay; (from left to right) Shelley Armsworthy, Mr. Ferguson, Tricia Pearo-Drew, and Elizabeth Baker.
(Photo: Tricia Pearo-Drew)