

Lobster Settlement Collector Project

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Introduction: For the past five years 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-the-year lobster ("settlers"). Collectors can be used to provide annual estimates of lobster settlement, as well as an index of abundance of juvenile lobsters.

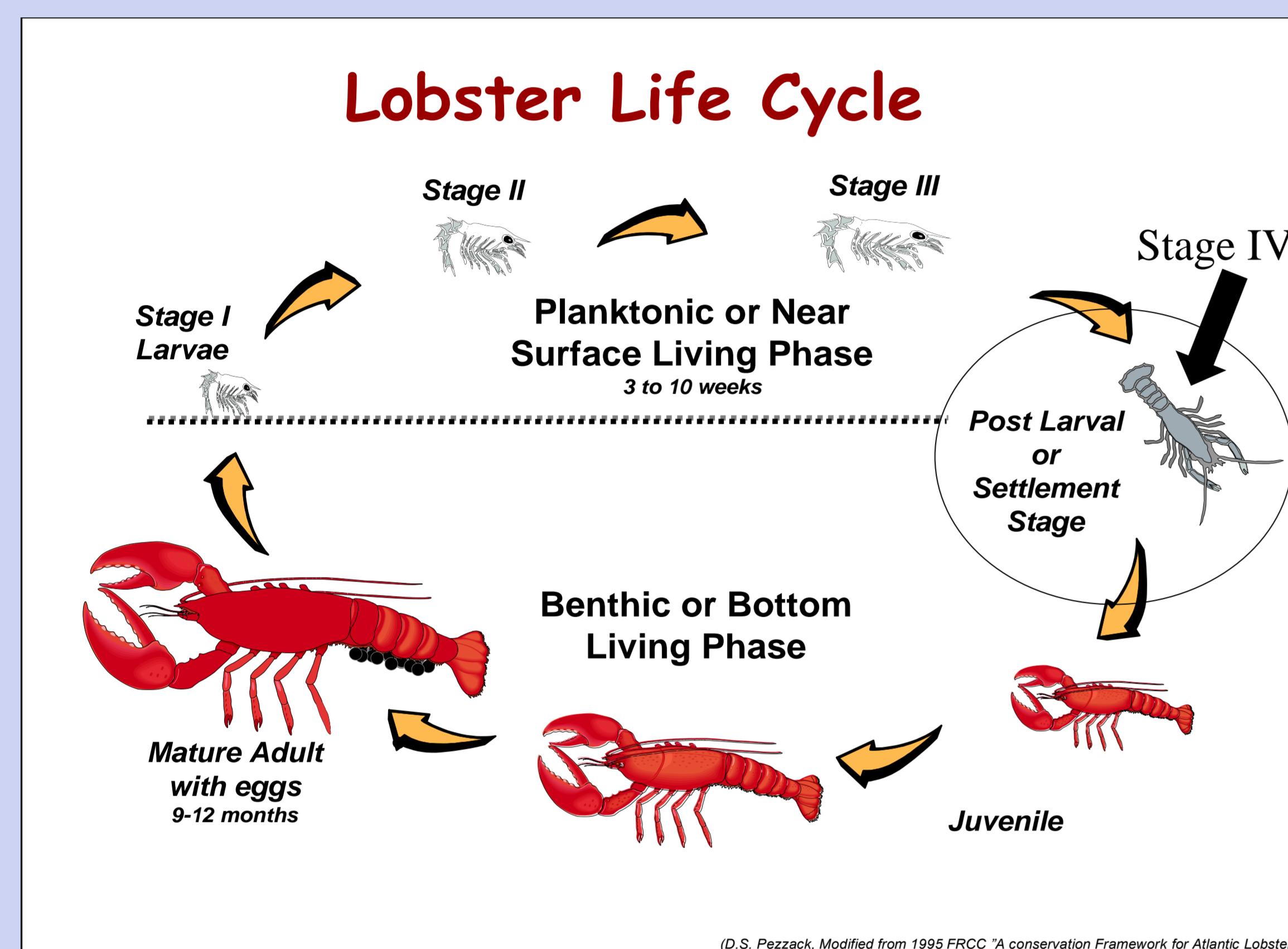


Figure 1. Lobster Life Cycle

Methods: Collectors were deployed in five regions along the coast of Nova Scotia (Table 1), in June and July 2011, at water depths ranging from 3 to 42 metres. Temperatures were also recorded in each region, using VEMCO dataloggers. Collectors were set in singles or in trawls, either with surface buoys (False Bay, Canso-Whitehead) or without (other sites). All collectors were hauled from mid-October to early November, using a commercial hauler, winch and boom.



Results and Discussion: The 2011 results for all sites are shown in Table 1. There was a range in the number of settlers (< 13 mm CL) and juvenile lobsters collected in the different regions. St. Mary's Bay had the highest number of settlers per m² while Lobster Bay and Port LaTour had the lowest numbers. 2011 had the lowest settlement in the 5-yr time series in Lobster Bay. Analysis to try and understand what factors are causing these apparently high and low years is getting underway.



Table 1. Collector results for 2011.

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	2	10	0.14	0.71
	West (shallow)	25	3	14	0.21	1.00
	Total	50	5	24	0.18	0.86
Canso-Whitehead	Glasgow Head	44	2	3	0.08	0.12
	Whitehead	47	2	1	0.08	0.04
	Total	91	4	4	0.08	0.08
Port LaTour	Inside	24	0	17	0.00	1.26
	Outside	23	0	19	0.00	1.48
	Total	47	0	36	0.00	1.37
Lobster Bay	Abbotts					
	Harbour Island	25	0	21	0.00	1.50
	Canoe Island	25	0	15	0.00	1.07
	French Point	15	0	10	0.00	1.19
	Gooseberry Island	15	0	10	0.00	1.19
	John's Island	30	1	15	0.06	0.89
	Lears Island	25	1	28	0.07	2.00
	Lobster Island	14	0	16	0.00	2.04
	Total	149	2	115	0.02	1.38
St. Mary's Bay	Big Shoal	20	3	11	0.27	0.98
	Cherry Valley	20	7	12	0.63	1.07
	Long Beach	10	1	7	0.18	1.25
	McCormick's	10	1	9	0.18	1.61
	Skinny Shoal	20	1	25	0.09	2.23
	Total	80	13	64	0.29	1.43

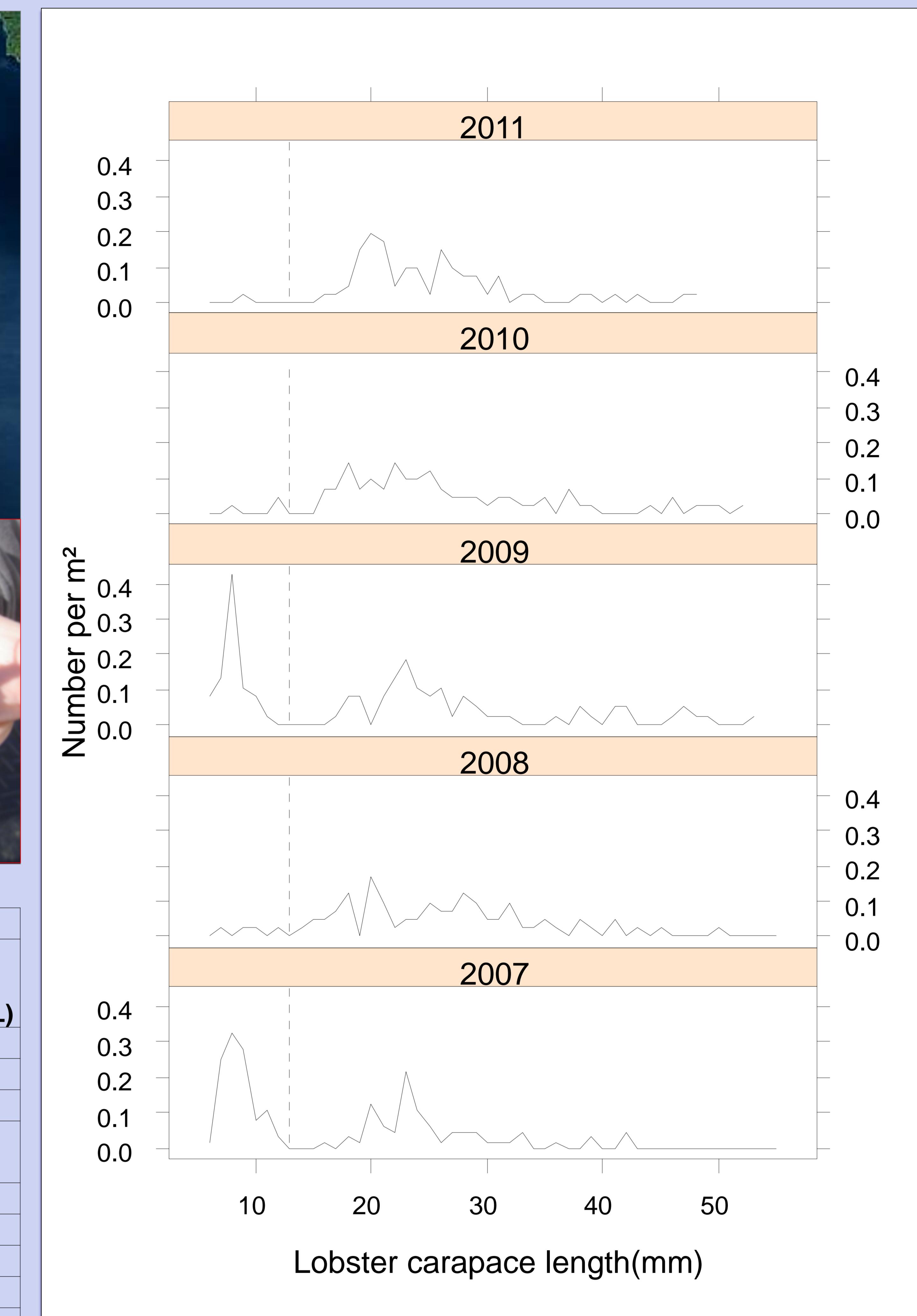


Figure 2. Lobster Bay collectors in shallow sites. The annual trends in Lobster Bay indicate some years (2007 and 2009) are much better for settlement than others.

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