

# Lobster Settlement Collector Project – 2016 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 five 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, Whitehead) or without.
- All collectors are hauled from mid-October to early November, using a commercial hauler, winch and boom.

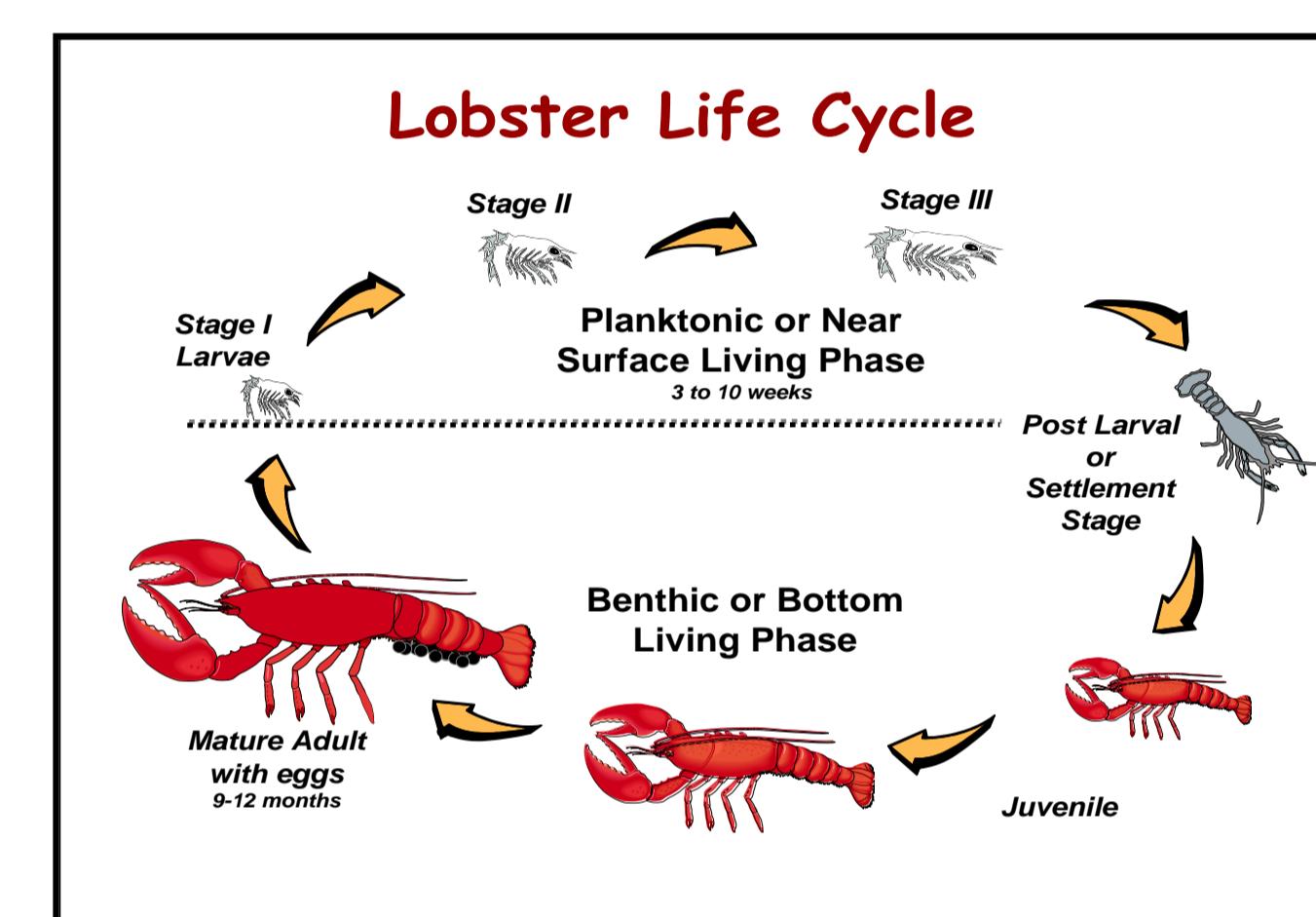
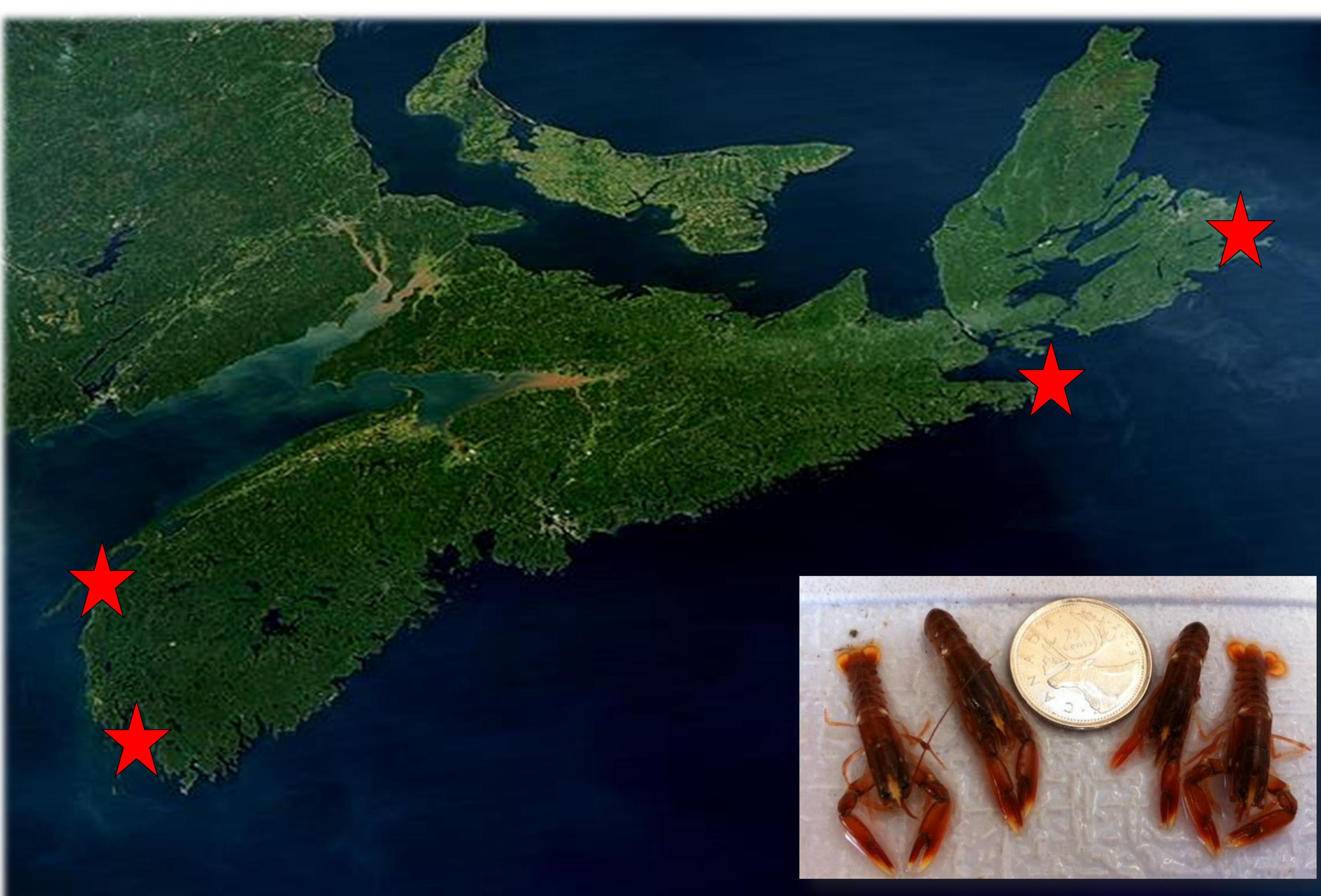


Figure 1. Lobster life cycle.



## Results

The 2016 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. These areas saw a large increase in 2014, which was not seen in the eastern areas. In 2015, settlement was down in all areas, and in 2016 it has decreased further (from 42 total settlers in 2015, to 4 in 2016, with 40 additional collectors deployed). Settlement appears to be episodic in several of the sampling areas.

Average bottom water temperatures for the 2016 project sites are shown in Figure 2.

Table 1. Sampling results for settlement collectors in all sites, 2016.

| Region           | Site                   | Number of collectors | Count                 |                       | Number per m <sup>2</sup> |                       |
|------------------|------------------------|----------------------|-----------------------|-----------------------|---------------------------|-----------------------|
|                  |                        |                      | Settlers (< 13 mm CL) | Lobsters (≥ 13 mm CL) | Settlers (< 13 mm CL)     | Lobsters (≥ 13 mm CL) |
| False Bay        | West (deep)            | 25                   | 0                     | 11                    | 0                         | 0.79                  |
|                  | West (shallow)         | 25                   | 0                     | 10                    | 0                         | 0.71                  |
|                  | South Head             | 30                   | 0                     | 65                    | 0                         | 3.87                  |
|                  | <b>Total</b>           | <b>80</b>            | <b>0</b>              | <b>86</b>             | <b>0</b>                  | <b>1.92</b>           |
| Whitehead        | Whitehead              | 51                   | 0                     | 2                     | 0                         | 0.07                  |
|                  | <b>Total</b>           | <b>51</b>            | <b>0</b>              | <b>2</b>              | <b>0</b>                  | <b>0.07</b>           |
| Lobster Bay      | Abbotts Harbour Island | 25                   | 0                     | 19                    | 0                         | 1.36                  |
|                  | Canoe Island           | 25                   | 0                     | 28                    | 0                         | 2                     |
|                  | French Point           | 15                   | 0                     | 14                    | 0                         | 1.67                  |
|                  | Gooseberry Island      | 15                   | 0                     | 4                     | 0                         | 0.48                  |
|                  | John's Island          | 30                   | 1                     | 10                    | 0.06                      | 0.6                   |
|                  | Lears Island           | 25                   | 0                     | 26                    | 0                         | 1.86                  |
|                  | Lobster Island         | 12                   | 0                     | 14                    | 0                         | 2.08                  |
|                  | <b>Total</b>           | <b>147</b>           | <b>1</b>              | <b>115</b>            | <b>0.01</b>               | <b>1.4</b>            |
| St. Mary's Bay   | Big Shoal              | 19                   | 1                     | 17                    | 0.09                      | 1.6                   |
|                  | Cherry Valley          | 22                   | 2                     | 22                    | 0.16                      | 1.79                  |
|                  | McCormick's            | 19                   | 0                     | 16                    | 0                         | 1.5                   |
|                  | Skinny Shoal           | 20                   | 0                     | 16                    | 0                         | 1.43                  |
|                  | <b>Total</b>           | <b>80</b>            | <b>3</b>              | <b>71</b>             | <b>0.07</b>               | <b>1.58</b>           |
| <b>All Areas</b> | <b>358</b>             | <b>4</b>             | <b>274</b>            |                       |                           |                       |

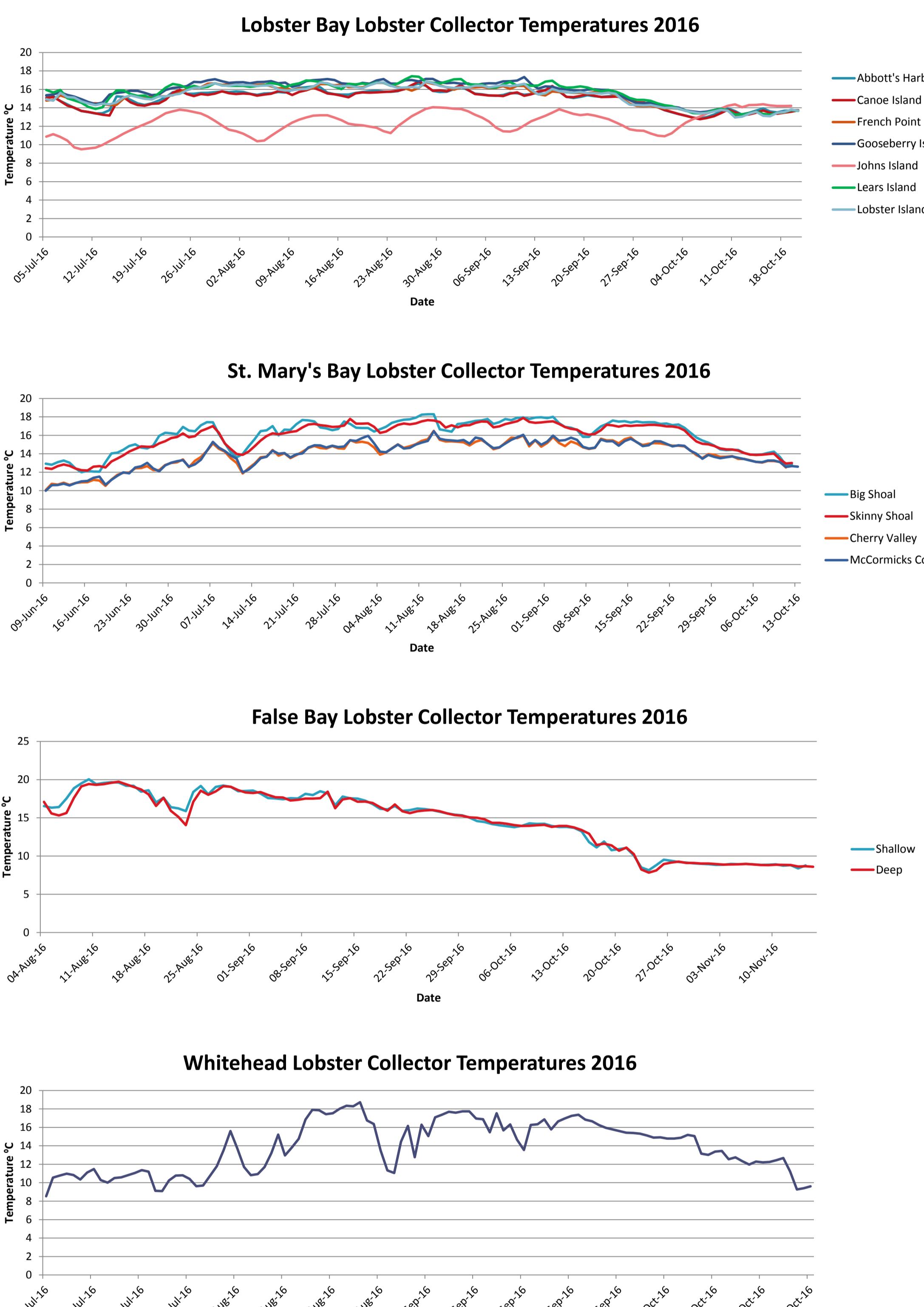


Figure 2. Average bottom water temperatures for 2016 project sites.

## Acknowledgments

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