THE RESTORATION OF WEST FALMOUTH HARBOR

Falmouth MES Initiatives

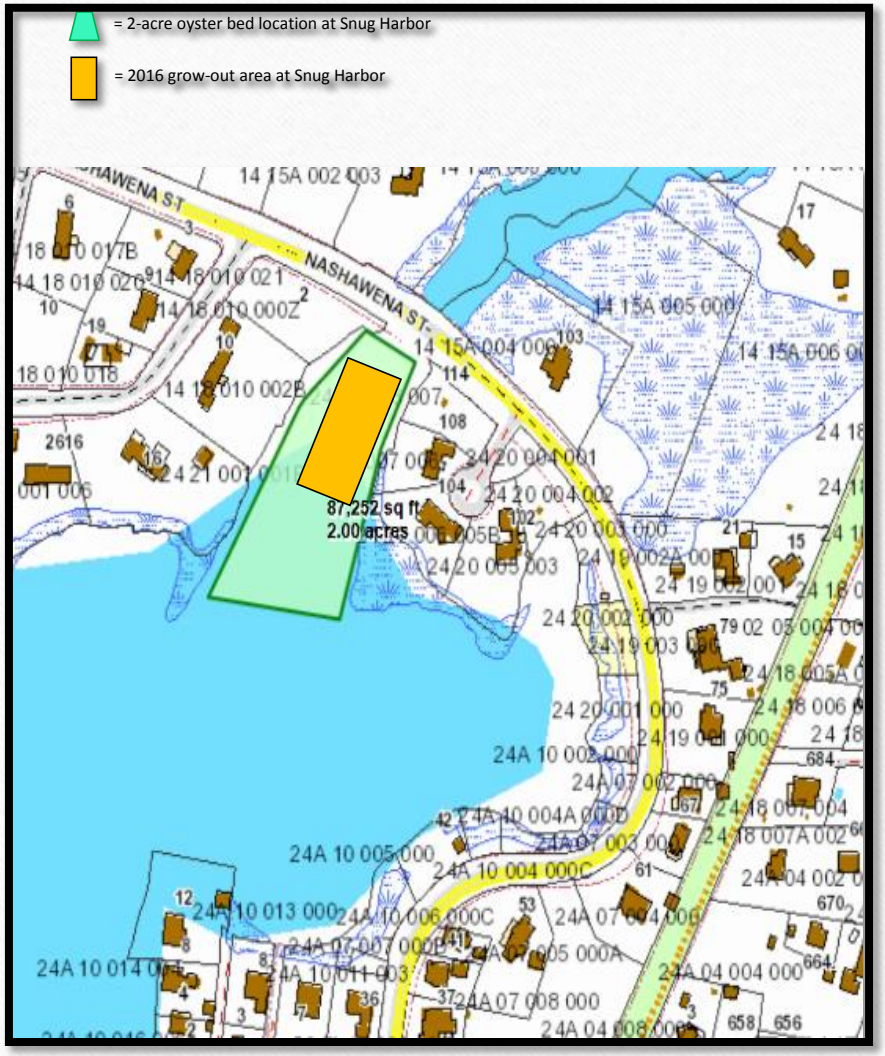
JUNE 29TH, 2018

CHUCK MARTINSEN

DEPUTY DIRECTOR & SHELLFISH CONSTABLE

West Falmouth Oyster Bed Project

Recap of the project in photos



LOCUS MAP OF WEST FALMOUTH OYSTER BED LOCATION

Aerial view of West Falmouth oyster bed location

INSTALLATION OF REMOTE SET IN FLOATING BAGS AND BOTTOM TRAYS (PILOT PHASE). JULY 2015.

GROWTH OF REMOTE SET OYSTERS DURING PILOT PHASE. AUGUST 2015.

OYSTERS IN THE FALL OF 2015, PRIOR TO BOTTOM PLANTING

OYSTERS BOTTOM PLANTED IN THE FALL OF 2015

LEFT: OYSTERS IN THE SPRING OF 2016.
RIGHT: POPULATION COUNTS IN THE SPRING OF 2016.

1,500 BAGS OF REMOTE SET DELIVERED BY MES STAFF TO STAGING AREA OF SNUG HARBOR INSTALLATION SITE. AUGUST 2016.

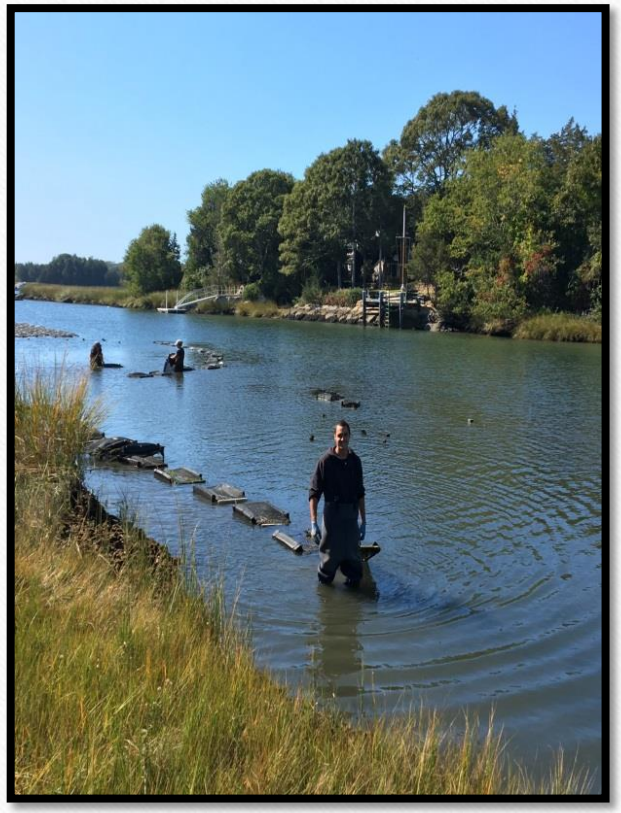
USE OF BOBCAT BY MES STAFF TO UNLOAD REMOTE SET.

1,500 BAGS OF REMOTE SET BEING INSTALLED IN THE WATER BY MES STAFF.

MES STAFF WORKS TO PLACE REMOTE SET BAGS IN THE HARBOR. AUGUST 2016.

INSTALLATION OF REMOTE SET IN FLOATING BAGS. SEPTEMBER 2016.

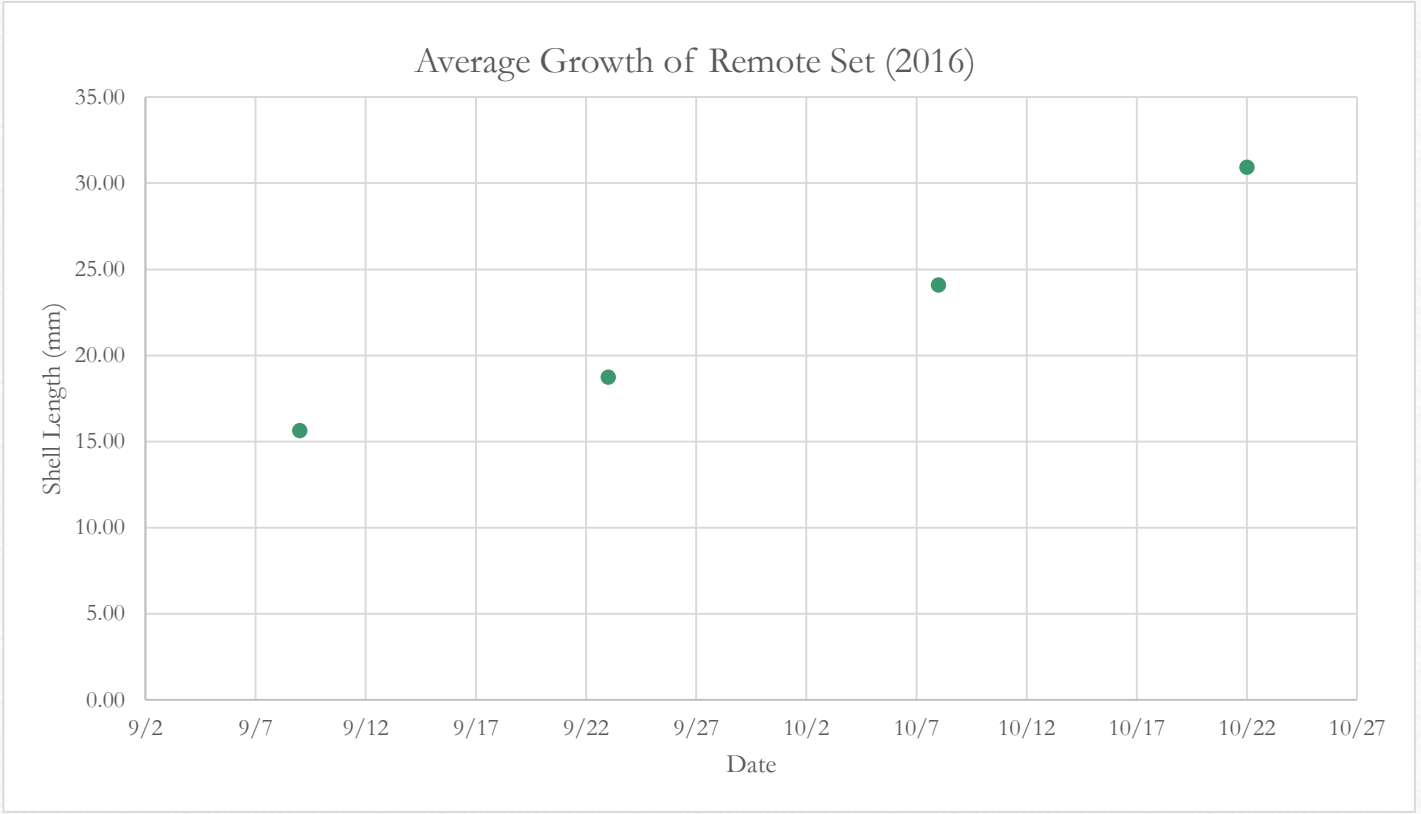
2016 OYSTER BED PLANTING AREA.



PLACEMENT OF GROWN OYSTERS ONTO OYSTER BED. OCTOBER 2016.

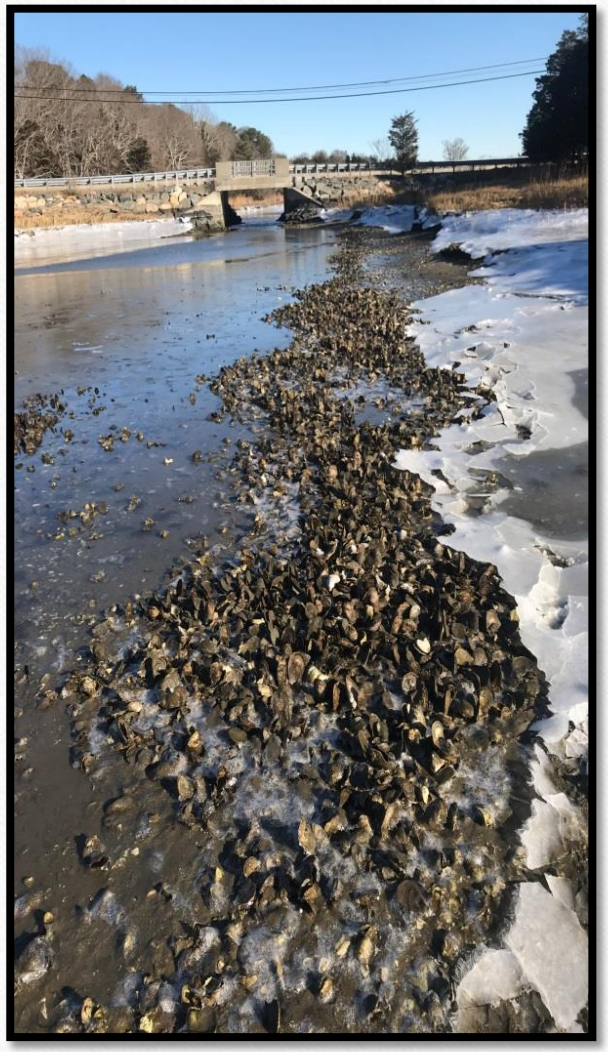
GROWTH OF OYSTERS ON CULTCH. OCTOBER 2016.

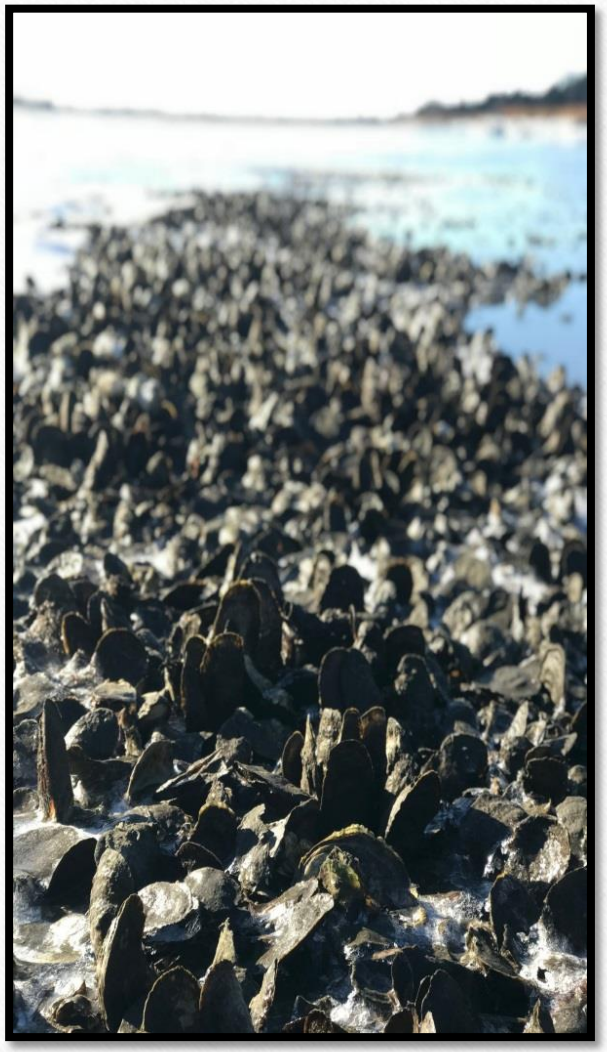
PHOTOGRAPH OF OYSTERS AT THE END OF OCTOBER 2016.



Date:	9/9/2016	9/23/2016	10/7/2016	10/21/2016
Oyster Size:	mm	mm	mm	mm
Average Length:	15.63	18.73	24.07	30.92

OYSTER REMOTE SET GROWTH OVER THE SEASON.





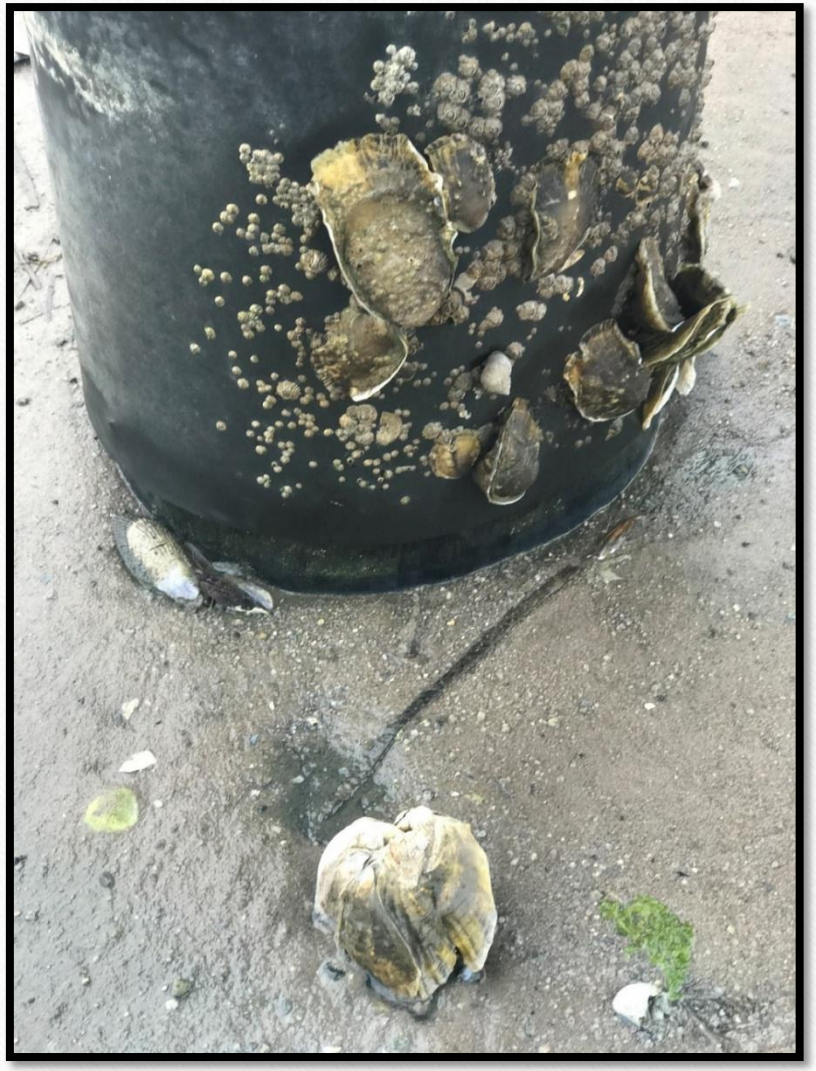
GROWTH OF OYSTERS AND DEVELOPMENT OF OYSTER REEF. DECEMBER 2017.

West Falmouth Oyster Bed Project
Key Findings

- Survival of remote set is high is floating bags (less than 5% mortality)
- Oysters grew from spat to 30 mm+ from August to October
- This growth over a three-month, warm-weather period is similar to the amount of growth of oyster singles that were grown by the MES Department for municipal propagation.
- The estimated nitrogen uptake in shell and soft tissue for this installation is almost 50 kg per year for 308,000 oysters.
- Costs in terms of dollars per kilogram of nitrogen harvested: $272

West Falmouth Oyster Bed Project
Continued Effects

- This grant project is showing to be successful in re-establishing oyster reefs
- New dock in winter of 2016 is already seeing growth of new oysters spawned in the estuary
- Possible regulations addressing animals when attached to not allow harvest of developing reef



NATURALLY-OCCURRING OYSTER SPAWN IN WEST FALMOUTH HARBOR.

VIDEO OF NATURALLY-OCCURRING OYSTER SPAWN IN WEST FALMOUTH HARBOR .

Bay Scallop Propagation Program

In partnership with Ward Aquafarms

Bay Scallop Propagation Program with Ward Aquafarms

- Partnership with Dan Ward (Ward Aquafarms)
- Trial of propagating 100,000 bay scallop seed
- Started in West Falmouth upweller in 2017
- Transitioned to floating scallop bags in Little Pond
- Seeded in Waquoit and Little Harbor
- Continuing in 2018

How small the bay scallop seed starts!

THE TINY BAY SCALLOP SEED AT THE START OF THE SCALLOP PROPAGATION PROJECT.

EARLY BAY SCALLOP SEED; ACTUAL SIZE (LEFT) AND ZOOMED IN COMPARISON TO QUAHOG SEED (RIGHT).

GROWTH OF PROPAGATED BAY SCALLOPS AT WEST FALMOUTH UPWELLER SITE.

VIDEO OF BAY SCALLOP PROPAGATION IN PARTNERSHIP WITH WARD AQUAFARMS.

Floating scallop farm in Little Pond.

PROPAGATED BAY SCALLOPS PRIOR TO BEING SEEDED.

New West Falmouth Upwellers

- Two new fiberglass upwellers installed on new town dock to replace the old wooden upweller
- An additional upweller to allow for propagation of more quahogs and/or bay scallops

Questions?