Sea Grant New Jersey Shellfish Aquaculture Exchange & SOAR (Supporting Oyster Aquaculture and Restoration)

NJ Marine Fisheries Administration

Summary Report

This document is intended to outline the oyster purchasing programs that were enacted in the State of New Jersey in 2020 including the *Sea Grant Shellfish Aquaculture Exchange* and the Pew Charitable Trust/The Nature Conservancy (TNC) *Supporting Aquaculture and Restoration* program (SOAR).

The *Sea Grant New Jersey Shellfish Aquaculture Exchange* took place on the Atlantic Coast from September 23-30, 2020 and on the Delaware Bay from September 24-29, 2020. The program was intended to help shellfish aquaculture growers who were impacted by the COVID-19 pandemic. Growers from the exchange were required to schedule a delivery time for product to be dropped off at either the New Jersey Division of Fish and Wildlife Nacote Creek Research Station or Rutgers University Haskin Shellfish Research Laboratory. Oysters were required to be delivered with appropriate harvester and shipper tags. Marine Fisheries Administration (MFA) staff then verified oyster quality and quantities. The Sea Grant program required oysters to be alive and greater than 3" in shell height. No more than 3% dead and no more than 5% smaller than 3" shell height was allowed. Subsamples were taken by MFA staff and digital calipers were used to measure the shell height of oysters from each subsample. The price per oyster was set by the Sea Grant program at $0.65 per oyster.

The *Supporting Oyster Aquaculture and Restoration* (SOAR) program took place later in 2020 with plantings occurring from November 30th - December 14th, 2020. The SOAR program, like the Sea Grant program, intended to help shellfish aquaculture growers who were negatively impacted by the COVID-19 pandemic. Growers coordinated with Pew staff to schedule a delivery time at either the Nacote Creek Research Station or at the Haskin Shellfish Research Laboratory. Growers were capped at $10,000 worth of large oysters (>2.5") and a price was set at $0.48 per oyster. The quality and quantity of oysters for the SOAR program was determined by TNC staff.

Sea Grant Component

Atlantic Coast:

An estimated total of 29,787 individual oysters were delivered to the Nacote Creek Research station and the average size was 3.68" per oyster. Three sites were planted on the

Atlantic coast. The two State managed oyster beds (Fitney Bit & Oyster Bed Point) received a total of 15,855 oysters and the Stockton Tuckerton Reef received 13,932 oysters. Please note, that the two State managed beds can be opened for harvest with hand implements only at the discretion of the Atlantic Coast Section of the State of New Jersey Shellfisheries Council and approval by the Department. The Stockton Tuckerton Reef is located on a research lease, which does not allow commercial shellfish harvest but allows for scientific sampling as part of the research program.

Delaware Bay:

Approximately 30,500 oysters were delivered to the Haskin Shellfish Research Laboratory, of which 1.8% were dead or "boxes" and 10.78% were smaller than three inches. The average size-frequency of the live oysters was 3.73." There was one plant site on the Delaware Bay. The plant site is in a designated tonging area of the Maurice River Cove where the water classification is Conditionally Approved from November to April.

SOAR Component

The contribution by MFA staff to the SOAR Project was primarily consulting and logistical support. Data for the project was collected by TNC staff. Per TNC collection data, a total of 301,212 oysters were purchased as a part of the program. Of this total, 81,631 were planted on the Atlantic coast sites and 219,581 were planted on the Delaware Bay site. Plant sites on the Atlantic Coast were within the same areas as the Sea Grant Project. Oysters received from SOAR were planted on Fitney Bit and the Stockton Tuckerton Reef. The plant site on the Delaware Bay was adjusted to an area where harvest was Prohibited due to water quality.

Site Inspections

Site inspections were conducted on all plant sites (Fitney Bit and Oyster Bed Point) approximately one year after the plantings occurred (Fall 2021). On the Atlantic coast, staff performed six (three at each site) 45-second tows using an oyster scrape. Upon investigation, staff was unable to differentiate planted aquaculture oysters from the native population. A total of 179 live oysters and 34 boxes were recovered. Fifteen randomly selected live oysters were measured from each tow resulting in 90 total live oysters measured. Box measurements were not recorded. The average size frequency of the oysters was 3.04." Each tow produced much larger volumes of shell (65 total quarts) than live oysters (13 total quarts). Efforts to differentiate are subjective; factors in trying to determine aquaculture vs native oyster include size, individual vs. cluster, and size of spat/juveniles on shell, and lastly amount of biofouling on shells. The samples collected on the Atlantic coast did not have enough differing characteristics

to accurately determine the source of the oysters. Results from the Tuckerton Reef plant site can be obtained from Stockton University.

For the Delaware Bay plant site, staff did not find any evidence that would suggest an increase in mortality on the plant sites following the planting. That is, staff did not find an unusually large amount of clean, articulated oyster valves, which would indicate recent mortality. Upon inspection, staff was unable to differentiate between planted and native oysters and concluded that the planted oysters had integrated with the bed's native oysters.