Progress Report October 2025 RFP# 2024-01 Alaska Mariculture Cluster Grant

Other Mariculture Species RFPs EDA Project Number 07-79-0794

Project Title: Examining the feasibility of culturing the basket cockle *Clinocardium nuttallii* utilizing suspended culture.

This is the second progress report for this project and covers from April 2025 through October 2025.

On March 26th, the cockles planted in 2024 (Group A) were retrieved by KSMA Director Sean Cosby and sent to APMI where they were washed, sorted, and sampled and sent back to KSMA and Peterson Bay. The original cohort (8,000) sorted on a 6mm mesh screen from the 2024 production showed a little growth and the population was reduced to 3,200. There were very few empty shells, so it is assumed many cockles fell through the mesh. They were sent back to KSMA on April 3rd with cockles overwintered at APMI (Group B). Those cockles were retrieved in August 2025 and sampled. The cockles are being cultured in 5-tier, 6mm "raschel" cotton clothed lantern nets.

APMI's water supply deposits of iron/manganese stain the cockles, which provides a natural marking, making growth measurements easy. This allows APMI to project annual growth. With preliminary information, APMI is projecting cockles will reach 60mm+ or 4-5 /lbs. by the end of June 2026. The mean length from the hatchery for this production set was 6.7mm stocked in August 2024 after Year 1, 20.5 sampled in August 2025 and Year 2 extrapolated from the annual growth for Year 0 and Year 1, and measurements from wild captured cockles.

On June 1, APMI again achieved a long-sought goal of having an early season spawn of cockles. The importance of this is to lengthen the time in the hatchery to maximize growth throughout the summer for a late fall out stocking and reduce the need to overwinter cockles in the hatchery and produce a harvestable product in two years. Unfortunately, one of the goals of the project was to evaluate whether a Fluidized Upwelling System (FLUPSy) could accomplish the same thing without hatchery costs. KSMA had removed its old FLUPSy in anticipation of getting a new one, which has not occurred, and so this aspect of the project has not been able to be realized.

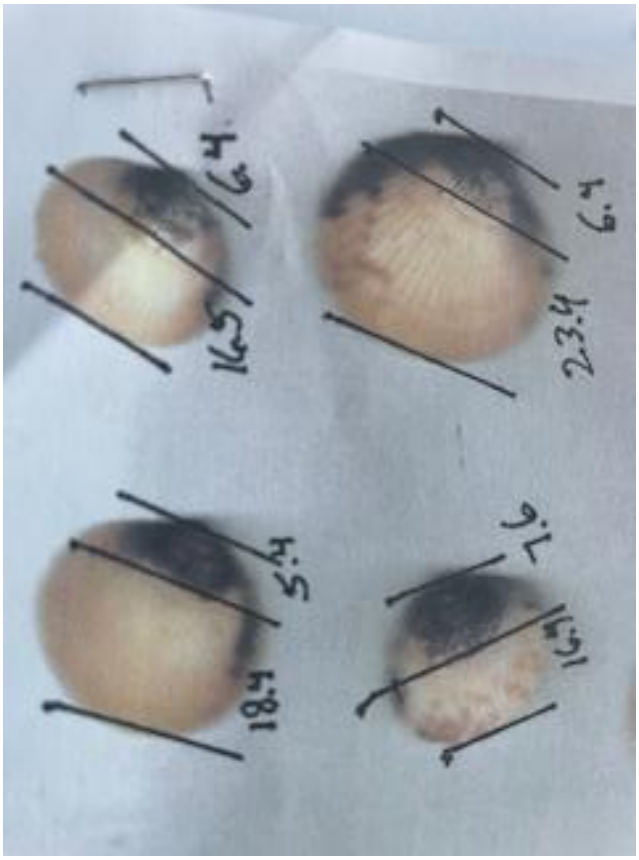
The June 1 spawning event was light with 158,000 green eggs and 104,000 (66%) made the D-hinge stage, ultimately resulting in 20,000 (33%) settled larvae. The larvae cycle for the cockles only lasted 12 days from spawn to settling at between 14-16 degrees. After many years of manipulating larvae culture temperatures, APMI believes it has identified optimal conditions. The larvae tanks, on a 3-day changeout cycle, are maintained at 40,000 cells of microalgae per ml with a mix

Tahitian isochrysis and *Chatecerous meulleri.*

This spawn has performed well and two sets (over 50% of the juveniles from this spawn) totaling 8,000 cockles, have already been sent to KSMA and outplanted in Peterson Bay. Three size groups are being evaluated to determine the optimum size and time to transfer to grow out systems. The first set of 2,200 were sent on September 9th in a 5-tier lantern net. The second set consisted of 4,150 5-7mm, 674, 6-9mm and 85, 9mm+. These were outplanted on October 13th, 2025. Each size was kept segregated and marked with color zip ties. There are still 7,200 cockles (450 mls. at 16/ml) 4mm in mean length at APMI to be overwintered.

Unfortunately, the collection and spawning of additional cockle broodstock did not go as well. Typical sources of cockles near the Seldovia townsite, Long Beach, Jakolof Bay and Kasitsna Bay yielded almost no adults. Likewise, Resurrection Bay, a typically reliable source of clams, yielded a total of 20 after several different days of four or more staff combing the beach.

APMI did collect enough clams for two additional spawns, one of which did not have any fertilization and the second with 770,000 green which were found on the bottom of the tank. They only lasted a few days. Regardless, the project is achieving its goals, and we are optimistic to have marketable size clams in 2026.



Annual Measurements used for Extrapolation

Cockles on fine Mesh Liner in 6mm Lantern Net