

Species: Razor Clam, *Siliqua patula*
 Active Permit Period: 6/30/2025 – 6/30/2026
 Summary of Research Activities:

**Hatchery Cultivation and Outplanting of Pacific Razor Clams in Cook Inlet
 Introduction & Background**

In recent years, populations of Pacific Razor Clams, *Siliqua patula*, have significantly dropped in Eastern Cook Inlet on the Kenai Peninsula. This has closed the personal use fishery for this species for most of the past decade, with high populations remaining in Western Cook Inlet. In response to low Razor Clam numbers, researchers at the Alutiiq Pride Marine Institute in Seward, AK sought to develop hatchery techniques for the spawning and cultivation of Razor Clams in captivity. Juvenile Razor Clams produced from this effort were outplanted in Eastern Cook Inlet in April of 2026, helping to restore local populations of this species. This project will provide an opportunity to better understand razor clam biology and contribute to effective conservation efforts for this species in Alaskan waters.

Collection, Outcomes, and Outplanting

Specimens for this project were collected from Western Cook Inlet, a region with high populations of Pacific Razor Clams and a current open personal use fishery for the species. On June 25, 2025, 105 adult Razor Clams measuring over 8 centimeters in length were collected and transported to the Alutiiq Pride Marine Institute. Twelve clams died in the first two days, likely due to the stress of captivity. Spawning occurred on June 26th; however, the adult Razor Clams all perished after spawning. Methodology for holding adult Razor Clams alive after spawning remains an active area of research for APMI.

25-Jun	9	11.5	105	Harvested
26-Jun	9	11.5	93	Placed in APMI lost 4, 8 the next day
				Spawn occurred
27-Jun	9	11.5	21	Fed <i>Tahitian isochrysis</i> and <i>Chaetoceros meulleri</i>
28-Jun	9	11.5	0	

Successful spawning of the Razor Clams resulted in a high number of larvae; we estimated that 2,810,000 larvae resulted from spawning. Larvae had high mortality over the first two weeks. Several months after spawning, by 2/15/2025, only 320 Razor Clams remained.

Date	Size	Pop Est	Percent Survival
6/24/2025	80	2,810,000	100%
6/28/2025	80	1,590,000	55%
6/29/2024		3,440,000	122%
7/1/2024	114	1,500,000	52%
7/5/2024	157	550,000	19%
7/8/2024	222	390,000	14%
7/11/2024	274	490,000	17%

7/12/2024	278.3	270,000	10%
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Mortality increased throughout the hatchery rearing, with 39 juvenile clams alive on the day of outplanting. The largest juvenile clams were about 2 centimeters in length, with many smaller individuals also present. On 4/29/2026, the 39 remaining clams were transported to Ninilchik Beach on Eastern Cook Inlet at the morning low tide for outplanting. The outplanting coincided with a Razor Clam survey from the ADF&G Homer office. Some of the juvenile clams responded well to outplanting, working quickly to bury themselves. Those which did not bury themselves after about 10 minutes were manually covered with sand to prevent them from being washed away with the incoming low tide.

The survey team from the ADF&G Homer office conducted a follow-up search for outplanted clams on 4/30/2026. They found 2 of the 39 outplanted juvenile clams stating with the survey lead stating, *“They both had pretty obvious, but tiny, shows in the sand. It was a terrible day to look for shows (overcast and lots of dimples on the beach from raindrops), so given their size and the fact that it’s hard to see shows from larger clams in those conditions, I was pretty happy with seeing 2!”* The ADF&G team will follow up with a second search for outplanted clams in mid-June.

The overall survey conducted by ADF&G of Ninilchik beach estimated an abundance of 31,000 adult clams at Ninilchik, a number over 85% below the limit needed to open the fishery. The Razor Clam sport fishery for East Cook Inlet will remain closed for the 2026 season.

Next Steps

While this project had poor juvenile survival, the hatchery and biology teams at APMI remain interested in the potential for raising Razor Clams in a hatchery setting. We have submitted a secondary permit which will allow for new collections and spawning in the summer of 2026. APMI and ADF&G plan to collect Razor Clams in Western Cook Inlet in July of 2026 to align with the natural spawning time of this species. A collection trip in summer of 2026, along with subsequent hatchery activities, are allowed under permit number P-26-029. In response to poor juvenile survival in the initial year of this project, we will make several changes to protocols in the upcoming study year. First, we will strip spawn the Razor Clams instead of inducing broadcast spawning. This hatchery technique may allow for better survival of larval clams. Secondly, we will use a larger sediment size to better facilitate attachment of larval clams

in the hatchery. APMI will also calcein mark the larval clams to allow for easier detection of clams outplanted from the hatchery. APMI hopes to see increased survival and yield in this second study year and help to restore Razor Clam populations in East Cook Inlet.

Images from Outplanting



Left Image: The 39 Juvenile Clams outplanted

Right Image: The Juvenile Razor Clams actively buried themselves upon being outplanted