CHUGACH REGIONAL RESOURCES COMMISSION

RFP#2024-01 Alaska Mariculture Cluster Grant
Final Report
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.

Executive summary:
This project evaluates the feasibility of culturing basket cockles (*Clinocardium nuttallii*) in Alaska using suspended culture techniques adapted from existing shellfish farming gear. The primary goals are to: 1) refine hatchery production methods for reliable seed supply; 2) assess growth and survival of cockles in suspended grow-out systems; and 3) compare survival and growth rates between hatchery cultivation practices and seed stock held in a Fluidized Upwelling System (FLUPSY) operated by the Kachemak Shellfish Mariculture Association (KSMA).

The project did not take place entirely as originally proposed, due to the absence of an available FLUPSY—KSMA's existing FLUPSY was decommissioned prior to this project's inception, and the installation of a replacement has been delayed until fall 2026, beyond the scope of this project. This lack of access to equipment precluded the opportunity for the planned side-by-side comparisons of growth and survival rates between hatchery-reared and FLUPSY-reared cockles. In response, the project team adapted its approach to maintain progress toward overall feasibility objectives. Cockles were deployed directly into suspended lantern nets at farm sites in Kachemak Bay through biannual seeding efforts. This approach allowed for continued evaluation of growth rates, overwinter survival rates, and general suitability of suspended culture methods under actual farm conditions.

Initial results are promising. APMI's water supply deposits an iron/manganese stain on the shell of the cockles, which provides a natural

mark that allows APMI to project annual growth, a helpful tool given that current methods for ascertaining age and growth rates recommend sectioning the valve, requiring the cockle to be destroyed.[1] With preliminary information, APMI is anticipating cockles will reach 60 mm+, or 4-5 individuals per pound by the end of June 2026. The mean shell length of the cohort stocked in August 2024 was 6.6 mm. By August 2025, sampled individuals averaged 20.5 mm. Growth projections based on Year 0 and Year 1 measurements suggest that cockles may exceed 60 mm and be harvested for sale by summer 2026. (See Appendix for anticipated cockle growth by August 2026, based on actual observed growth rates.)

Under this project, hatchery production techniques have been successfully demonstrated and cockles grown in suspended culture are showing growth rates consistent with a two-year cycle to reach market size (approximately 40 mm). Although the absence of a FLUPSY limits the direct comparison of nursery methods, the modified approach outplanting directly onto commercial sites has provided valuable insights into farm-scale performance and operational feasibility.

KSMA is scheduled to have a new FLUPSY operational in 2027 which will provide an opportunity to test the original concept of utilizing a low cost nursery to replace the high cost of hatchery production.
This project has extended beyond the original funding period of May 2024 through August 2025, with additional seed provided to growers in 2025 and 2026 to support continued evaluation under commercial conditions. These ongoing efforts will further inform the viability of cockle aquaculture as a means of diversifying Alaska's mariculture industry.

[1] Alaska Department of Fish and Game. (n.d.). *CRRC bivalve and Littleneck Clam Culture Studies*. Final Report: CRRC Bivalve and Littleneck Clam Culture Studies.
https://www.adfg.alaska.gov/static/fishing/PDFs/aquaticfarming/bivalve_studies_p6.pdf

This report therefore adds a second year of results for 2024 and 2025.



PROBLEM STATEMENT:
Aquatic farming in Alaska is currently dominated by kelp and Pacific oysters, with limited opportunities for species diversification or market expansion. The basket cockle represents a promising candidate for diversification due to its established market value and compatibility with existing shellfish farming techniques. Cockles are highly prized as a fresh and frozen product and are cultured worldwide using nursery systems and suspended culture techniques already common in oyster aquaculture, offering a practical opportunity for industry diversification.

This project is a collaboration between Alutiiq Pride Marine Institute (APMI), responsible for hatchery production of juvenile cockles, and the Kachemak Shellfish Mariculture Association (KSMA), responsible for nursery and grow-out trials.

Project Objectives:

Objective 1: Refine hatchery techniques to maximize growth and survival rates; provide a minimum of 8.5 mm seed for growers.

Outcome: Partially achieved. Hatchery production techniques were successfully implemented, with approximately 4,000 seed at 8.5 mm sent to KSMA on October 31st, 2024, with approximately 4,400 seed overwintered at APMI.

Performance Measures: This objective aimed to establish reliable production protocols from broodstock collection to larval rearing to juvenile grow-out. Specific performance measures included:

- Collection of 100 individuals for broodstock
  - 60 individuals collected in 2024;
- Successfully spawning broodstock by May 2024
  - Achieved. Broodstock were collected in early May and had a significant spawning event on May 24th.
- Achieve a 25% broodstock spawning rate, to produce a minimum of 10 million larvae
  - An estimated 10% of the broodstock spawned, with 100,000 released eggs
- Achieving a rate of 60% eyed larvae to settlement
  - Eyed larvae to settlement rate was approximately 42%
- Reaching a rate of 50% post-settlement
  - Post-settlement rate was 35%
- Achieving a 50% survival rate to 3 mm
  - Survival rate to 3 mm was approximately 80%
- Reaching a rate of 10% (minimum of 30,000) to outplanting size of 5 mm screened (8.5 mm) by October 2024.
  - Approximately 8,000 individuals reached a planting size of 5 mm screened by October 2024

- A secondary, unfunded objective of this project including producing at least 50,000 or more seed to provide to farmers through 2025.

Despite difficulties in broodstock collection in 2025, some adults were collected and hatchery metrics for broodstock year 2025 are included below:

- Approximately 48 adults collected over the course of two and a half months;
- Successful broodstock spawning in June 2025;
- 158,000 green eggs accumulated;
- 104,000 reached the D-hinge stage (approximately 66%);
- Ultimately resulting in 20,000 settled larvae (33% survival rate)

Objective 2: Evaluate the feasibility of growing cockles to market size using suspended culture techniques.

Outcome: Ongoing, with strong preliminary results. At the time of this writing, cockles have demonstrated successful overwintering and growth in lantern nets, with mean sizes reaching approximately 20 mm after one year. Growth projections indicate a potential two-year cycle to cultivate seed to market size (40 mm).

Performance Measures:

- APMI and KSMA anticipate 50% of the cockles to reach 25-30 mm at the conclusion of the 2025 growing season.
  - Partially achieved; mean size from brood year 2024 was 20 mm.
- KSMA farmers will continue to culture cockles until they reach market size.
  - Achieved; KSMA's currently held cockle seed is anticipated to reach market size by June 2026.
- A secondary, unfunded objective of this project was to provide 50,000 or more seed to continue stocking gear in 2025.
  - There were significant difficulties encountered during the broodstock collection period in 2025, and brood collected

during this period did not produce substantial spawning events. Hatchery production metrics for brood year 2025 are recorded under Objective 1.

Objective 3: Overwinter subsize cockles transferred from APMI to KSMA's FLUPSY nursery.

Outcome: Not achieved as originally proposed. KSMA's FLUPSY was decommissioned prior to the project period, and the installation of a replacement was unavailable throughout the length of the project

Performance Measures: In the absence of a FLUPSY, the project pivoted to direct outplanting of juvenile cockles into suspended lantern nets. Under this modified approach:

- Approximately 50% of cockles successfully overwintered in lantern nets.
- Overwintered individuals reached a mean size of 10.3 mm (range 6.5-14.5 mm)
- Based on growth rates observed among individuals currently outplanted in suspended gear, the project is on track for more than 50% of surviving individuals to reach marketable size (40 mm) by end of the 2026 summer growing season.

2024 Highlights

In 2024, APMI conducted the initial production cycle for basket cockles, including broodstock collection, spawning, larval rearing, and juvenile grow-out. The production goal was reduced due to the postponement of Objective #3 and lack of access to a FLUPSY. 60 broodstock were collected and successfully induced to spawn, resulting in a viable cohort of larvae.

Juveniles were reared in the hatchery to a target outplanting size of approximately 8.5 mm by late August. A total of 4,000 individuals were

transferred to KSMA and deployed in suspended lantern nets at the Peterson Bay farm site for overwintering. A secondary cohort was retained at APMI for controlled overwintering.

Although production volumes were lower than initially targeted, this first cycle demonstrated that producing larger size seed 8mm+ is possible with systems employed at APMI. It also allowed for a comparison between overwintered cockles at APMI and those held at Peterson Bay.

Broodstock Collection (Objective 1):

Adult cockles were collected on May 6th 2024, from intertidal areas near the village of Port Graham during a -2.6 tide. A total of 60 individuals were collected with the assistance of local knowledge holders. Cockles were observed emerging along the waterline during the ebb-to-flood transition, which facilitated efficient collection. The cockles were stored in a 5-gallon bucket with frequent water exchanges to maintain viability for the 2-day transport to APMI.



Figure 1, Dale and Melvin Malchoff at Murphy's Slough, May 6, 2024



Figure 2, Approximate collection location for Brood Year 2024

Broodstock Maturation and Spawning

Upon arrival to APMI on May 8th, the broodstock were disinfected using a 100 ppm iodophore solution for 20 minutes, then placed in tanks to be acclimated to hatchery conditions. The broodstock arrived at 11° C and were placed in 8.6° C water, and fed an algal diet of live algae, *Chaetocerus muelleri* and *Tisochrysis lutea*, and Reed's Algae Paste "Shellfish Diet 1800."

On May 11th, one female and several males spawned, but the eggs were misshapen and discarded because they were infertile.

Spawning attempts were conducted over multiple dates using elevated temperature treatments, up to 21°C, and high algae cell density to induce gamete release. For more than a week, there were signs of gametes being released but no significant spawns.

On May 25th, an estimated three females and ten males released gametes. Although the eggs appeared not to be fully mature, because they were still oval shaped and not fully rounded, fertilization was successful.[2] The larvae developed into trochophores and were successful in their metamorphosis to the "D" veliger stage. This confirms other reports of a lengthy breeding season (from April-November) for *Clinocardium nuttallii*, with a peak breeding season occurring between July and August for this species, making this modest, early season spawn a significant

[2] W. Liu, A. O. Alabi, and C. M. Pearce "Fertilization and Embryonic DevelopmenClinocardium nuttallii, Clinocardium nuttallii," Journal of Shellfish Research 27(2), 393-397, (1 April 2008).

event.[3] Although production volumes were limited, the spawning event produced enough viable larvae to support juvenile production pending the construction of a new FLUPSY for KSMA.

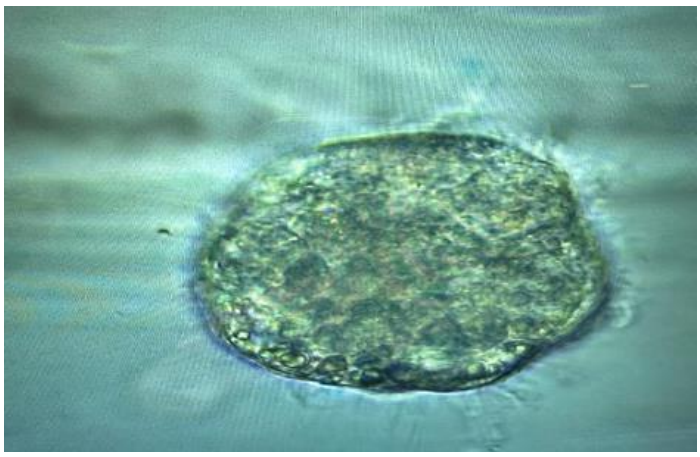


Figure 3: Photo of misshapen egg

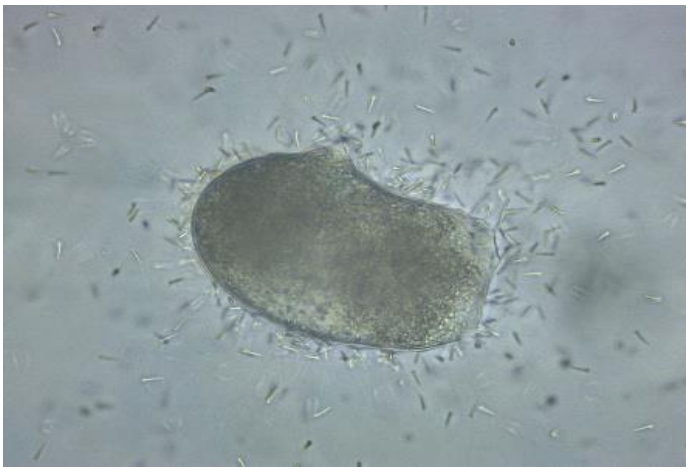


Figure 4: Sperm around irregularly shaped eggs

[3] Alaska Department of Fish and Game. (n.d.). *CRRC bivalve and Littleneck Clam Culture Studies*. Final Report: CRRC Bivalve and Littleneck Clam Culture Studies. https://www.adfg.alaska.gov/static/fishing/PDFs/aquaticfarming/bivalve_studies_p6.pdf

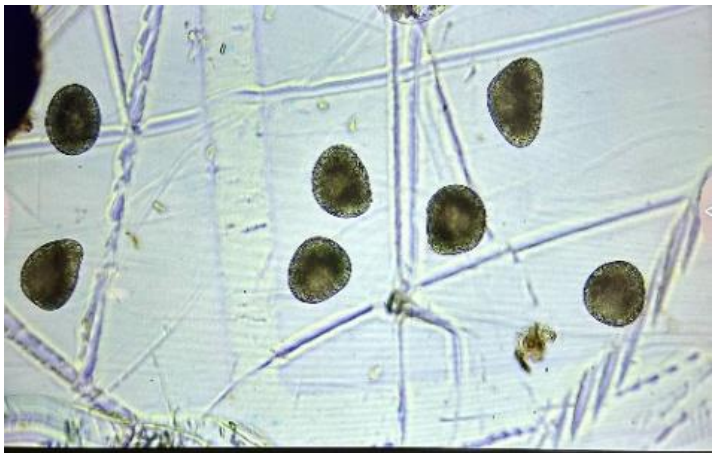


Figure 5: Trochophore 16 hrs. post fertilization

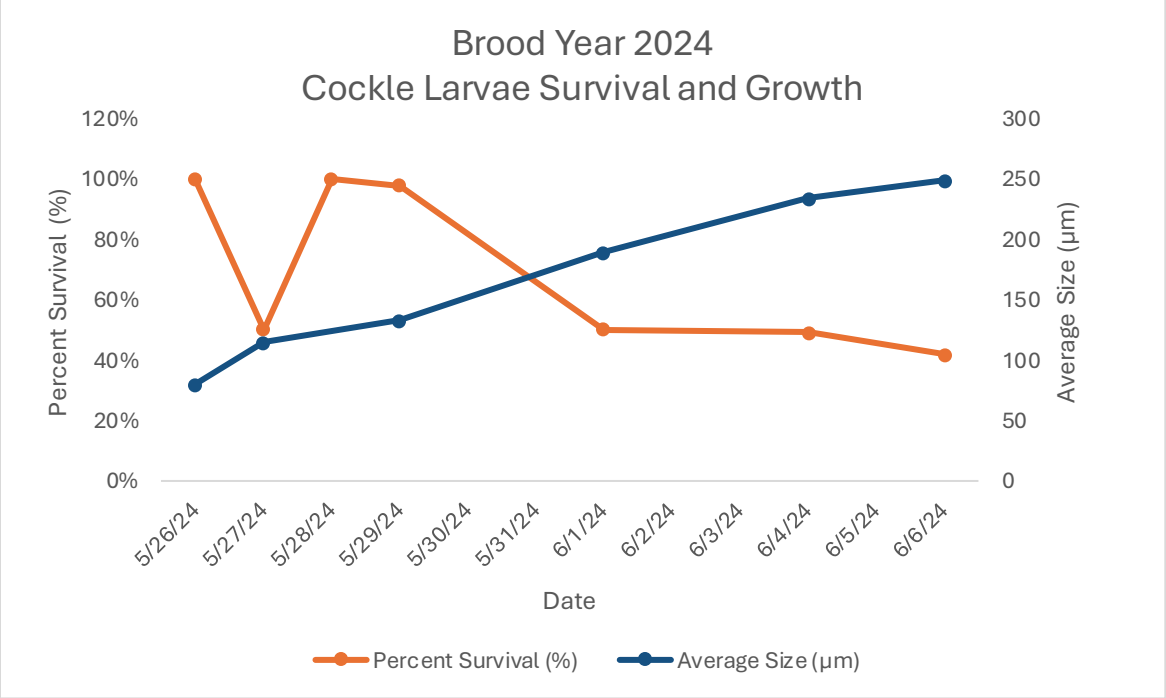
The broodstock continued to be manipulated to spawn through the addition of warmer water, at 18° C, and 200,000+ cells/ml of feed on June 4th, 5th, 9th,10th, and 11th with no additional release of gametes.
Cockles lost during the holding process were examined for gametes, but none were found. This was the first time APMI had difficulty spawning cockles.

Larval Rearing

Larval rearing was conducted in 190-liter conical tanks at a constant temperature of 14°C with gentle aeration from air stones. Larvae were fed a mix of diatoms and flagellates daily at densities ranging between 25,000 and 50,000 cells/ml, with adjustments made based on residual cell counts. The tanks were drained through a 100-micron screen, measured, and counted every three days. The tanks were sanitized with a light chlorine solution and then refilled. The larvae developed quickly and were ready to be set at 250 microns after 14 days. The larvae survival rate from D stage to settlement was 40%.



Figure 6: 190-Liter culture tank



Juvenile Rearing

The settled larvae were placed in an airlift upwelling system with a silo screen of 120 microns and 300 ml of #10 silica sand substrate (450-650 microns). The temperature was maintained at 14°C and the larvae were fed as needed to support continuous growth. The juveniles showed typical growing behavior of shell "popping", doubling in size in a few days, going from 2 mm to 5 mm. It is common for shellfish to alternate between shell growth and meat under favorable growing conditions. It is a vivid growth spurt, with the new shell being very white compared to the older darker shell. (See Figures 8 and 9) By late August 2024, juveniles reached a target size of approximately 8 mm, demonstrating that hatchery conditions supported early-stage growth to outplanting size within a single growing season.



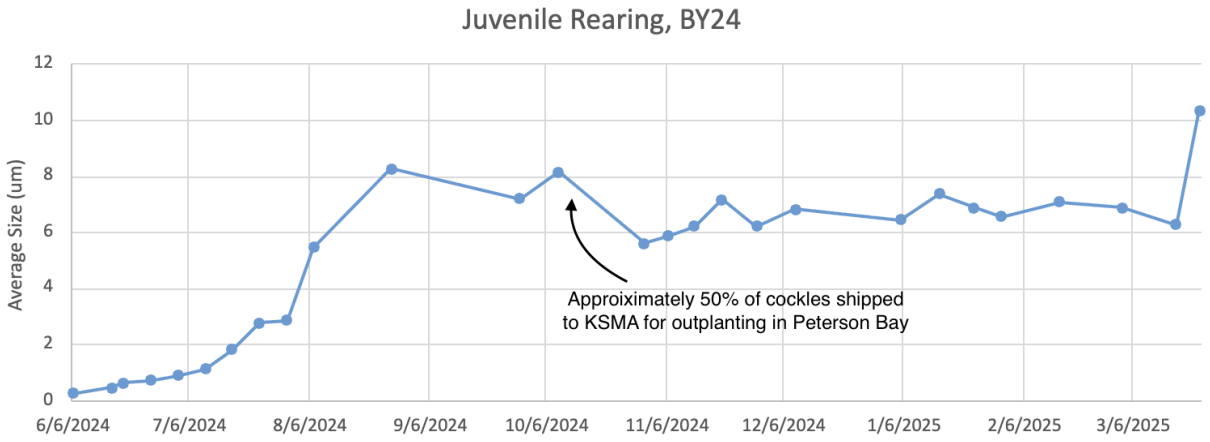
Figure 7, airlift upwelling system



Figure 8, 3-month-old cockles prior to sorting, notice new shell growth "popping"



Figure 9: Cockles in hatchery silo during growth spurt



Fall sorting.

On August 28th, 2024, juveniles were size-graded with a 4000-micron screen. Individuals retained on the screen had a mean length of 8.5 mm and were selected for outplanting; the cohort containing the smaller sized cockles had a mean length of 5.8 mm and remained at APMI for overwintering. The larger cohort (approximately 4,000 individuals) were packaged and sent to KSMA's Peterson Bay site, and placed in 3 mm mesh lantern nets, lined with 3mm screen at approximately 2,000 individuals per layer.

The smaller cohort (approximately 4,000 individuals) remained at APMI for overwintering. They were fed a mixture of algae several times a day and were kept at 8° C throughout the winter. (Juvenile rearing data for broodstock year 2024 can be found in the Appendix attached to this report.)



Figure 10: Sean Crosby, KSMA, sampling lantern net

Field Overwintering with KSMA:

On March 26th 2025, KSMA retrieved the lantern net and sent remaining cockles to APMI for sampling. A total of 2,000 cockles successfully overwintered, representing a survival rate of 50%, and reached a mean size of 10 mm. After sampling, the nets were cleaned and reloaded with the cockles and sent back to KSMA on April 3rd.

Hatchery Overwintering at APMI:

The smaller (by screened size) cohort overwintered at APMI in silos with 3 mm of sand with ambient water ranging from 8°C to 12°C. The cockles were fed 6-8 times a day with a mixed algal diet of *Dunaliella tertioleta*, *Chaetocerus muelleri,* and *Tisochrysis lutea,* with occasional algae paste from Reed Mariculture ("Shellfish Diet 1800"). Only 1,000 individuals survived through the winter, but despite a lower survival rate, the group overwintered at APMI had a mean size of 12 mm, prior to outplanting. Though the cockles overwintered in the hatchery had higher mean growth

rates, they had roughly half the survival rate (25%) of the cockles outplanted with KSMA.

2025 Field Performance and Growth Estimates:

Both cohorts from broodstock year 2024 were sent back for field trials with KSMA on April 3rd in a preloaded 3 mm, 5-tier lantern net for trial grow-out the summer of 2025. Following the spring redeployment, the cockles were re-sampled in August 2025. Unfortunately, the cockles did not survive the transportation process from the farm site to APMI; in spite of the mortality event, the cockles were sampled and growth rates were extrapolated to provide growth estimates for 2026. Mean shell length reached approximately 20 mm after a one-year grow-out period, consistent with projected growth trajectories for a two-year production cycle.

Alaskan farmers who had previously experimented with suspended culture of cockles on shellfish farms had reported concerns about "ingrown" cockles. APMI staff found less than 2% of cockles exhibited this deformity.



Figure 11, photo of "ingrown" cockles

2025 Highlights:

In 2025, the project shifted from initial production to evaluating overwinter survival and field performance of the 2024 cohort, while continuing hatchery production efforts under constrained broodstock availability.

Overwintered cockles deployed at KSMA experienced approximately 40% survival rates and almost no growth over the winter. However, the cockles grew exceptionally fast through August and reached a mean size of ~20 mm after one year of growth in suspended culture. These results support the feasibility of lantern net grow-out and align with projected growth trajectories for a two-year production cycle to market size.

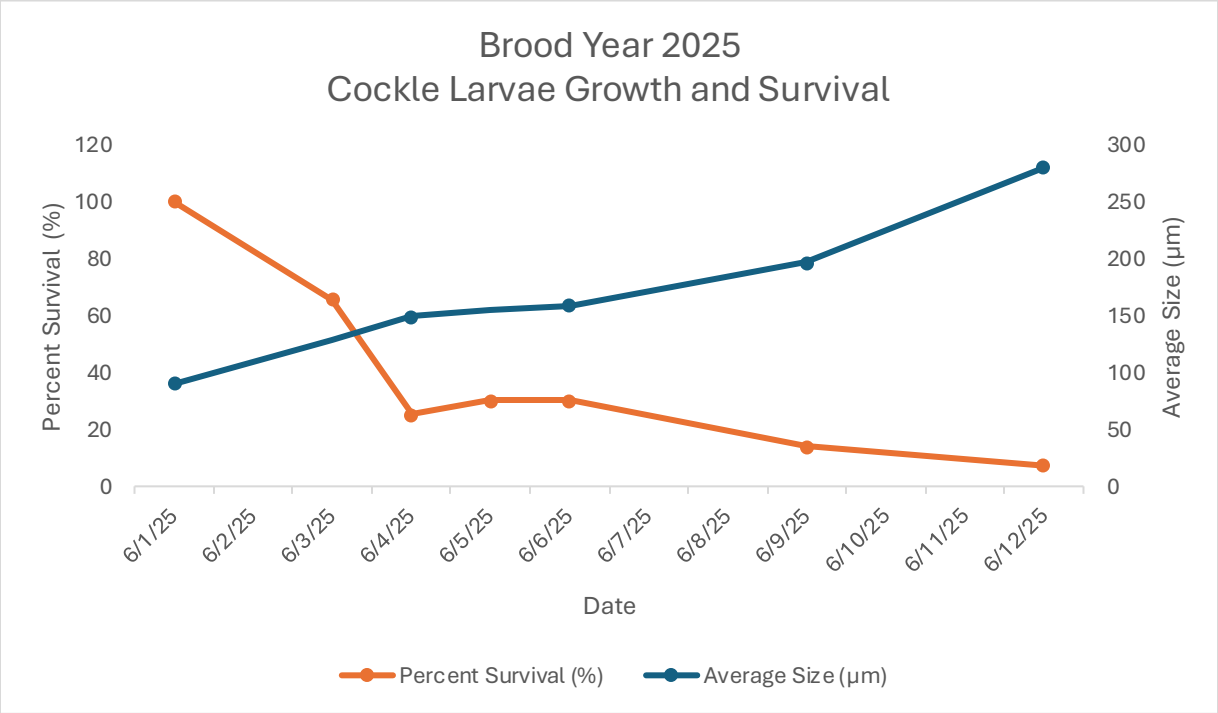
Cockles overwintered at APMI exhibited lower survival but achieved larger individual sizes prior to redeployment.

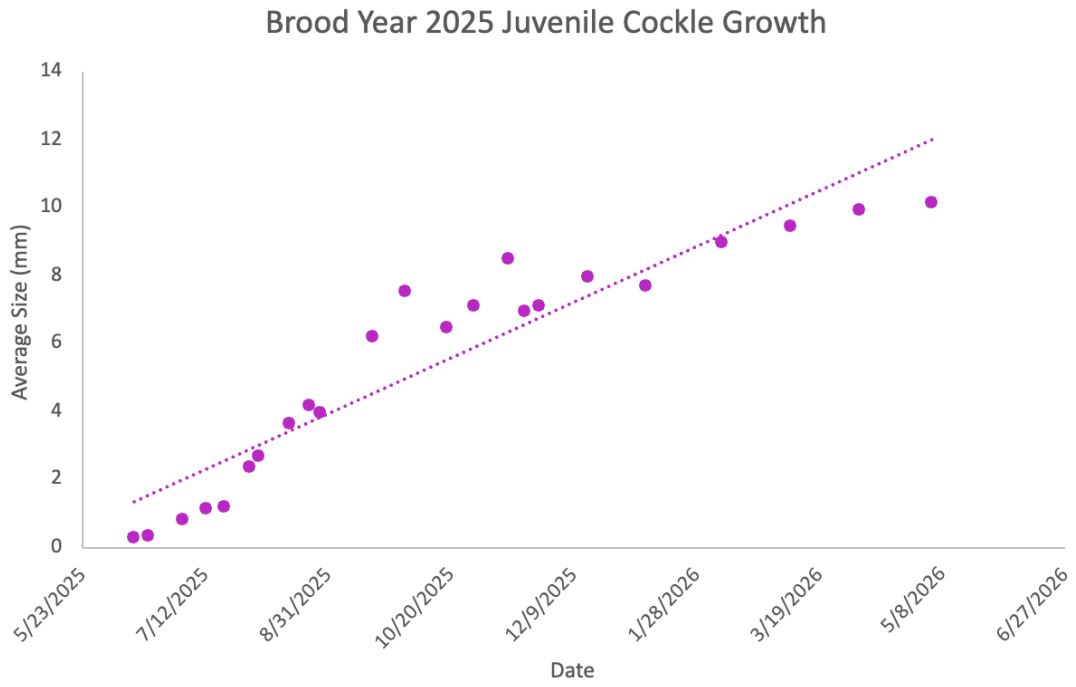
Broodstock collection efforts were significantly less successful than in 2024, limiting overall production. Historically productive collection sites yielded low numbers of adult cockles. Broodstock collection has never been an issue at APMI before. A June 2025 spawning event produced approximately 20,000 settled larvae, demonstrating continued hatchery capability despite broodstock contraints. In the absence of a functional FLUPSY system, the project continued its adapted approach of deploying multiple cohorts directly into suspended grow-out systems. These staggered outplanting efforts are being used to evaluate optimal timing and size for transfer to farm sites.

Overall, 2025 results reinforce that suspended culture is a viable method for growing cockles in Alaska, while also highlighting broodstock availability as a key constraint to scaling production.

Growth analysis was supported by natural shell staining caused by APMI's water supply (as noted in the Executive Summary of this report), allowing cohorts to be easily distinguishable and annual growth increments to be estimated.

These results suggest that suspended culture in lantern nets can support commercially relevant growth rates in Kachemak Bay.





Summary of Technical Findings:

- Hatchery production of basket cockles is feasible under elevated temperatures at systems within APMI. Juveniles can reach outplanting size (approximately 8 mm) within a single growing season
- Suspended culture systems support consistent growth, with individuals reaching approximately 20 mm after one year
- Broodstock availability represents a primary constraint to scaling production.

Conclusion and Next Steps:

This project has successfully demonstrated the feasibility of hatchery production and suspended culture grow-out of basket cockles under Alaska conditions. Although the project deviated from its original design due to the unavailability of a FLUPSY nursery system, adaptive modifications allowed continued evaluation of growth, survival, and operational feasibility at commercial farm sites.

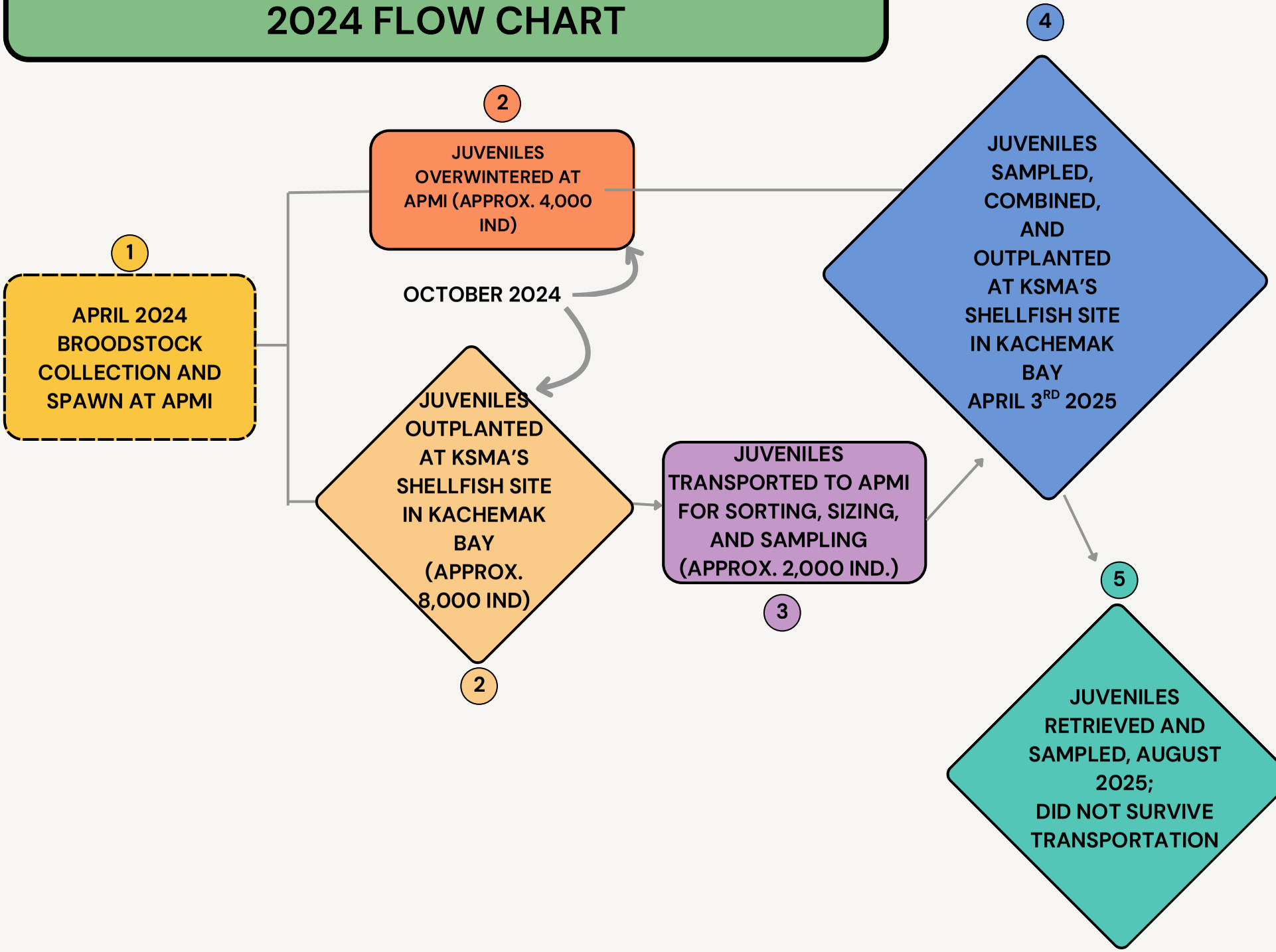
Results to date suggest that basket cockles can reach outplanting size within a single growing season and may achieve market size within approximately two years under suspended culture conditions in Kachemak Bay. When applying growth rates from the 2025 season to cockles planted in the fall it is expected to have marketable cockles in the summer of 2026.

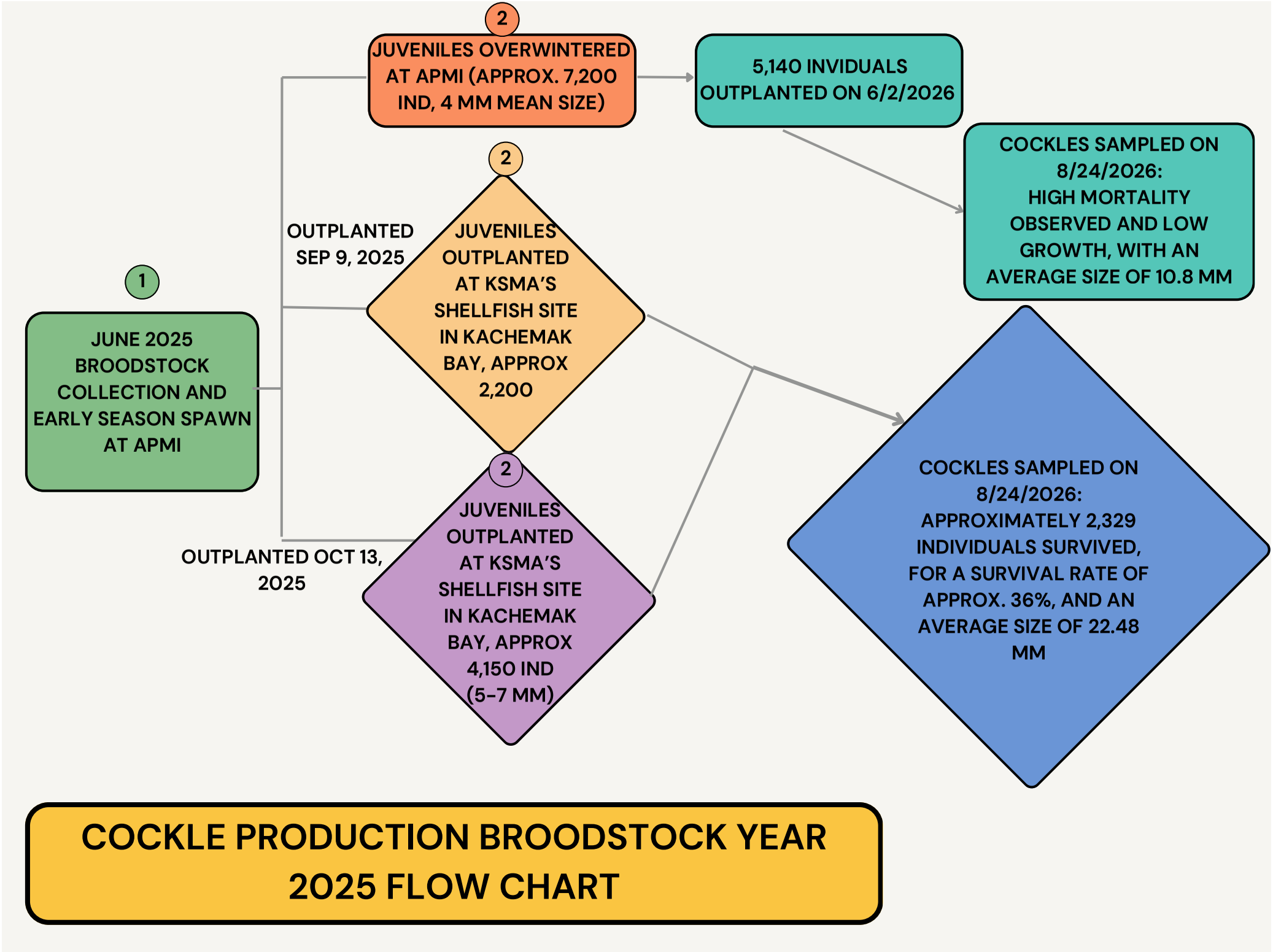
Future work will focus on:

- continued monitoring of outplanted cohorts,
- refinement of broodstock conditioning and spawning protocols,
- improving seed production consistency,
- evaluating nursery strategies as additional infrastructure becomes available;
- APMI will be providing 5,000 or more 10mm cockles to two growers in May 2026 for growout.

These findings support continued exploration of basket cockles as a candidate species for diversification of Alaska's mariculture industry.

COCKLE PRODUCTION BROODSTOCK YEAR 2024 FLOW CHART



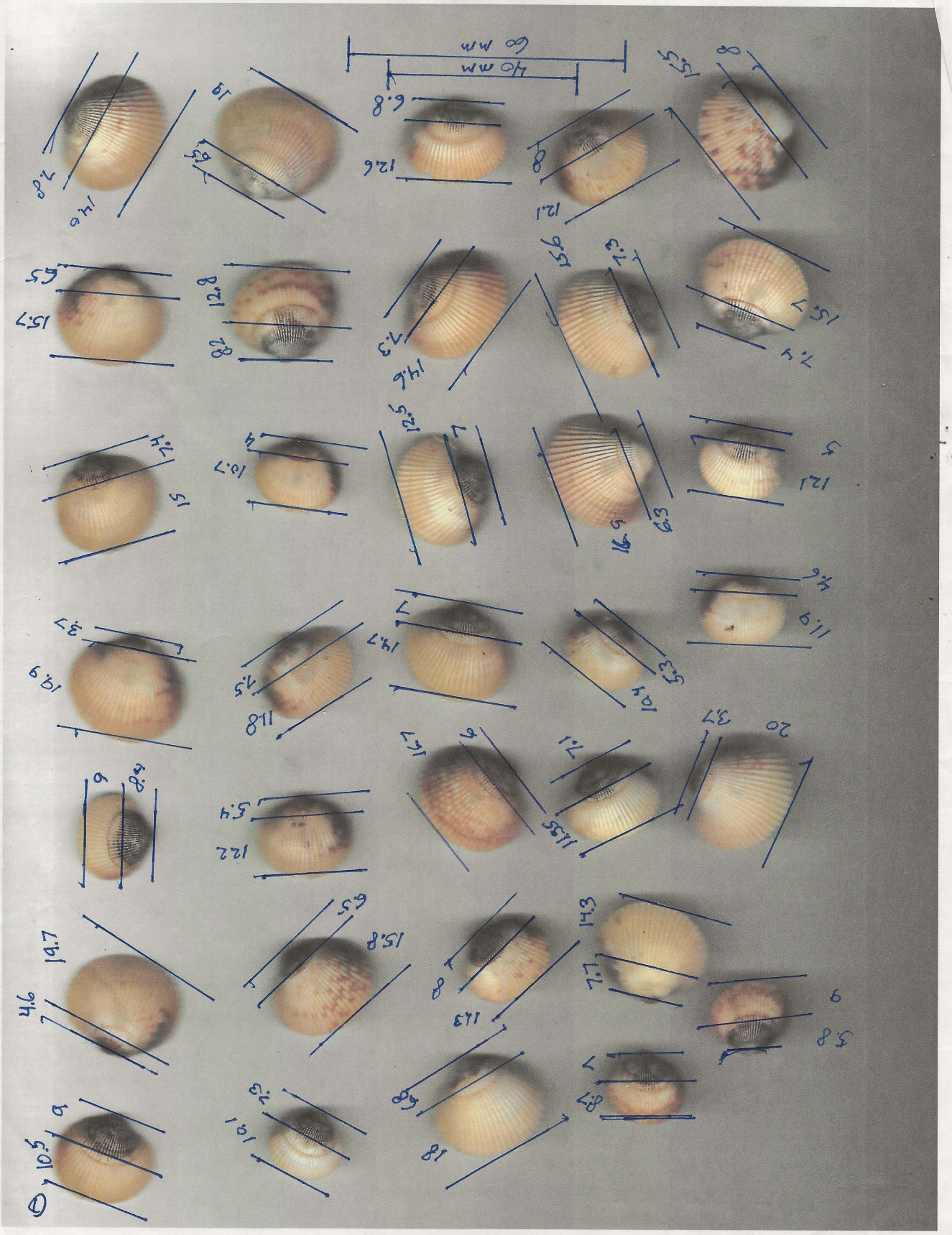

2
JUVENILES OVERWINTERED AT APMI (APPROX. 7,200 IND, 4 MM MEAN SIZE)
5,140 INVIDUALS OUTPLANTED ON 6/2/2026
COCKLES SAMPLED ON 8/24/2026: HIGH MORTALITY OBSERVED AND LOW GROWTH, WITH AN AVERAGE SIZE OF 10.8 MM
2
OUTPLANTED SEP 9, 2025
JUVENILES OUTPLANTED AT KSMA'S SHELLFISH SITE IN KACHEMAK BAY, APPROX 2,200
1
JUNE 2025 BROODSTOCK COLLECTION AND EARLY SEASON SPAWN AT APMI
2
JUVENILES OUTPLANTED AT KSMA'S SHELLFISH SITE IN KACHEMAK BAY, APPROX 4,150 IND (5-7 MM)
OUTPLANTED OCT 13, 2025
COCKLES SAMPLED ON 8/24/2026: APPROXIMATELY 2,329 INDIVIDUALS SURVIVED, FOR A SURVIVAL RATE OF APPROX. 36%, AND AN AVERAGE SIZE OF 22.48 MM
COCKLE PRODUCTION BROODSTOCK YEAR 2025 FLOW CHART

Cockle Growth Extrapolation, Brood Year 2024

Aug-24 Year 1 Growth Size (mm)	May/June 2025 Year 2 Growth Size (mm)	Aug-25 Year 2 Growth Size (mm)	Annual Growth Rate:	Sep-26 Expected Year 3
5.8	9	14.8	255%	37.8
7	8.7	15.7	224%	35.2
7.7	14.3	22	286%	62.9
8	11.3	19.3	241%	46.6
6.5	15.8	22.3	343%	76.5
6.8	18	24.8	365%	
7.3	10.1	17.4	238%	41.5
9	10.5	19.5	217%	42.3
4.6	19.7	24.3	528%	
3.7	20	23.7	641%	
7.1	11.9	19	268%	50.8
6	16.7	22.7	378%	85.9
5.4	12.2	17.6	326%	57.4
8.4	9	17.4	207%	36.0
4.6	11.9	16.5	359%	59.2
5.3	10.4	15.7	296%	46.5
7	14.7	21.7	310%	67.3
7.5	11.8	19.3	257%	49.7
3.7	19.9	23.6	638%	
5	12.1	17.1	342%	58.5
6.3	16.9	23.2	368%	85.4
7	12.5	19.5	279%	54.3
4	10.7	14.7	368%	54.0
7.4	15.0	22.4	303%	67.8
7.4	15.7	23.1	312%	72.1
7.3	15.6	22.9	314%	71.8
7.3	14.6	21.9	300%	65.7
8.2	12.8	21	256%	53.8
6.5	15.7	22.2	342%	75.8
8	15.5	23.5	294%	69.0
8	12.1	20.1	251%	50.5
6.8	12.6	19.4	285%	55.3
6.5	19	25.5	392%	
7.8	14	21.8	279%	60.9
Average Size (mm)	**Average Size (mm)**	**Average Size (mm)**	**Average Growth Rate:**	**Average Anticipated Size, Sept. 2026**
6.6	**13.8**	**20.5**	**203%**	**58.3**

* Outliers with excessive extrapolated growth removed

Brood Year 2024 - Sampled May/June 2025—Example of Measurement Technique



LCI Cockles Broodstock Year 24: Growth Sampling (µm)

5/29/2024	6/1/2024	6/3/2024	6/6/2024	6/16/2024	6/19/2024	6/26/2024	7/3/2024	7/10/2024	7/17/2024	7/17/2024	7/24/2024
130	190	230	260	450	430	780	1100	1200	1540	1540	1800
130	200	220	260	420	500	760	690	1440	1680	1350	2000
130	185	260	240	400	450	800	840	1540	1800	1080	1320
130	220	240	250	300	600	550	1050	1560	1440	1490	1200
140	160	270	270	500	990	930	960	1010	2040	1250	1800
140	175	230	250	400	580	600	1000	1080	1760	1230	1660
130	180	190	230	410	620	820	980	600	1540	1250	1730
140	185	260	250	550	600	720	1060	840	1920	1440	1920
130	200	240	240	500	450	750	1200	1080	1680	1080	1560
130	200	200	240	480	620	600	960	1130	1560	1200	1490
				470	540	650	720	920	1800	1420	1560
				400	550	560	480	770	1610	1110	1680
				430	1104	600	860	1320	2400	1480	1800
				500	1248	960	960	700	1900	1200	1920
				510	570	750	560	1080	2160	1130	1440
				470	480	590	890	1060	2040	1350	2160
				545	550	800	600	1230	3940	1130	1680
				510	620	650	720	1490	4520	1560	1730
				430	580	800	940	1680	5360	1080	2160
				485	410	680	770	1110	3580	1470	2160
133	189.5	234	249	510	560	610	1350	680	3170	1440	1440
				460	622	712	890	1120	2354	1299	1724

LCI Cockles Broodstock Year 24: Growth Sampling (µm)*

7/24/2024	7/31/2024	7/31/2024	8/7/2024	8/7/2024	8/27/2024
1800	2040	1760	2490	6450	10.61
2000	2160	2400	3090	8690	9.8
1320	2330	2040	2330	8280	9.93
1200	2160	960	4070	4710	11
1800	2280	1470	2110	2080	8
1660	2400	1800	5300	3550	8.45
1730	1830	1920	4070	9600	9.7
1920	2190	1440	3290	6330	9.93
1560	2330	2000	5640	3200	11.41
1490	4190	1780	4130	2570	9.93
1560	3420	1710	4990	5000	8.08
1680	2980	1370	6740	3940	10.52
1800	2780	1560	6500	6670	10.95
1920	3620	1850	9980	3340	8.23
1440	5840	1880	9030	5930	5.13
2160	5100	1680	8980	4660	3.41
1680	5920	1830	7220	2880	5.43
1730	7610	1660	2370	4540	4.47
2160	8300	1920	1990	8620	4.1
2160	7080	1950	8930	8570	3.92
1440	6780	1730	9320	6350	10.49
1724	3969	1748	5360	5522	8.3

LCI Cockles Broodstock Year 24: Growth Sampling (mm)

9/29/2024	10/9/2024	10/31/2024	11/6/2024	11/13/2024
4.33	12.16	5.8	5.83	6.42
12.83	9.98	6.75	4.57	6.16
8.05	8.47	6.61	5.88	6.44
13.13	10.04	5.7	7.63	5.08
5.48	7.97	5.06	4.57	6.62
4.76	9.75	5.89	5.8	6.94
3.99	5.06	6.2	7.02	6.16
13.1	5.65	6.17	6.72	7.55
4.12	6.32	5.63	6.06	5.85
5.17	8.7	5.79	3.93	4.81
5.76	7.12	5.73	3.96	6.23
12.69	13.52	4.64	6.63	6.22
5.59	5.34	5.82	7	6.51
5.59	14.41	4.62	6.53	6.39
6.5	7.27	4.61	6.98	6.54
6.74	7.8	3.97	5.89	6.07
9.93	7.8	5.73	5.81	6.85
3.94	4.63	5.01	5.74	6.78
4.4	4.51	6.04	3.98	6.14
7.53	6.34	6.04	6.84	4.03
7.2	8.1	5.6	5.9	6.2

***On 8/27/2024, APMI hatchery staff moved to recording growth sampling for cockle broodyear 2024 in millimeters rather than microns.**

LCI Cockles Broodstock Year 24: Growth Sampling (mm)

11/20/2024	11/29/2024	12/9/2024	1/5/2025	1/15/2025	1/24/2025	1/31/2025	2/15/2025	3/3/2025	3/17/2025	3/23/2025
7.2	6.4	7.8	4.89	7.27	6.61	6.04	11.35	7.27	7.56	6.47
8.32	6.4	7.52	6.38	7.93	6.47	6.44	6.31	6.77	10.71	9.8
8.06	5.7	6.69	8.06	8.04	7.55	7.19	6.59	5.66	8.52	10.25
7.51	8.43	7.17	8.37	7.16	7.8	6.47	7.52	7.87	4.88	12.29
7.46	6.58	6.46	5.44	7.03	5.79	6.05	4.65	7.47	7.16	8.95
7.73	5.18	6.46	5.32	7.67	7.05	7.54	7.99	7.8	6.67	12.88
7.16	6.29	6.57	7.99	6.75	7.14	7.25	5.05	5.76	5.26	7.98
7.73	7.9	6.79	8.61	7	5.86	6.13	7.24	6.85	7.19	8.65
6.66	4.63	6.74	4.92	7.02	6.44	6.25	6.48	4.46	4.73	9.99
6.52	4.87	6.8	6.01	8.1	8.38	5.74	5.27	9.01	4.05	10
7.51	6.22	6.35	5.48	7.41	8.41	6.74	6.1	7.27	5.93	14.16
6.44	8.5	6.64	7.43	9.24	7.72	7.26	4.63	6.35	5.58	11.8
7.33	5.83	6.76	6.05	8.1	6.58	7.4	9.63	7.92	4.78	16.13
6.93	6.75	6.53	5.27	7.12	6.63	6.04	7.42	6.61	6.01	11
6.76	6.86	6.32	5.81	6.65	6.14	6.2	5.42	7.22	5.54	9.37
6.54	4.59	6.71	6.51	7.02	6.44	5.43	7.25	7.09	4.93	9.82
6.61	3.6	6.58	5.35	6.83	6.14	6.46	5.02	8.26	4.52	9.78
6.54	5.66	7.6	5.94	6.99	6.36	6.95	8.11	6.1	5.71	10.61
7.17	5.98	7.22	7.03	6.49	6.66	7.09	7.53	5.4	11.01	6.51
6.69	7.43	6.25	7.6	7.07	7.43	6.42	11.79	6.28	4.57	10.36
7.1	6.2	6.8	6.423	7.3445	6.88	6.55	7.06	6.87	6.27	10.34

BROODSTOCK YEAR 2024 COCKLES

2024 LARVAL REARING

Day	Date	Tank	Temp	Larval Size (µm)	Pop Est	Algae Feed Sp & Conc(#/ml in LRT)	Screen Size (µm)	Notes
0	5/25	bucket	16.2	egg 80				small spawn/ possibly not viable
1	5/26	190	16.2	trocophor	100k			swimming
2	5/27	190	17.2	115 D	50k	25k Iso 2L		D
3	5/28	190	16		100k	25k Ti 3L		D
4	5/29	190	17	133	98k	25k Ti 3L	48	
5	5/30	190	16.8			10k Ti 1L		R=15
6	5/31	190	16.4			no feed		R=24
7	6/1	190	16.4	189.5	50k	25k Iso 1.3L 10k cm 1L	48	
8	6/2	190	16.9			no feed		R=35
9	6/3	190	17.2			5k Ti (4L) 5kcm (2L)		R=25
10	6/4	190	15.4	234	49k	25k Ti (3L) 25k cm (2L)	65	saw 1 foot
11	6/5	190	17			5k Ti (4L) 5k cm (2L)		R=40

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
12	6/6	190	16.2	249	42k	pump feeding	Set into 1 bin/ max 270
13	6/7	DW3	16.4			am and pm	
14	6/8	DW3	17			every 2hrs for	
15	6/9	DW3	17			10 minutes at an	
16	6/10	DW3	17			avg. cell density of	
17	6/11	DW3	17			100,000 cells/ml	
18	6/12	DW3	17			at a rate of 1L per min	
19	6/13	DW3	17			per bin.	
20	6/14	DW3	17.6			Feeding maintained	
21	6/15	DW3	17.6			through juvenile rearing	
22	6/16	DW3	17.6	460.5		period.	
23	6/17	DW3	18			Rotating cm,iso,dt	
24	6/18	DW3	17.8			occasional hand	
25	6/19	DW3	17.8	621		feeding algea paste	
26	6/20	DW3	16.8			and other algaes	
27	6/21	DW3	18				
28	6/22	DW3	17.8				
29	6/23	DW3	17.8	643.3			
30	6/24	DW3	71				
31	6/25	DW3	18.6				
32	6/26	DW3	17.8				
33	6/27	DW3	17.4				
34	6/28	DW3	17.2				
35	6/29	DW3	17.2				
36	6/30	DW3	17.2				
37	7/1	DW3	17.2				
38	7/2	DW3	17.2				
39	7/3	DW3	17	890			JC
40	7/4	DW3	17.1				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
41	7/5	DW3	17.1				
42	7/6	DW3	17.1				
43	7/7	DW3	17.1				
44	7/8	DW3	17.1				
45	7/9	DW3	17				
46	7/10	DW3	17	1.12			JC
47	7/11	DW3	17				
48	7/12	DW3	17				
49	7/13	DW3	17				
50	7/14	DW3	16.4				
51	7/15	DW3	16.4				
52	7/16	DW3	16.4				
53	7/17	DW3	16	1.83			sorted into 2 bins 710+ and 1200+
54	7/18	DW3	16				+sizes 3.4aand 1.3mm
55	7/19	DW3	16				
56	7/20	DW3	15.7				
57	7/21	DW3	15.5				
58	7/22	DW3	15				
59	7/23	DW3	15				
60	7/24	DW3	14.7	2.77			bin1 3.82mm bin2 1.72mm
61	7/25	DW3	14.7				
62	7/26	DW3	14.7				
63	7/27	DW3	14.7				
64	7/28	DW3	14.7				
65	7/29	DW3	14.7				
66	7/30	DW3	14.7				
67	7/31	DW3	15.2	2.85			bin1 3.96mm bin2 1.74mm
68	8/1	DW3	14.7				
69	8/2	DW3	14.8				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
70	8/3	DW3	14.7				
71	8/4	DW3	14.7				
72	8/5	DW3	14.7				
73	8/6	DW3	14.7				
74	8/7	DW3	13.6	3.88			bin1 5.36 mm bin2 2.41mm
75	8/8	DW3	16				bins combined
76	8/9	DW3	16				
77	8/10	DW3	16				
78	8/11	DW3	16				
79	8/12	DW3	16				
80	8/13	DW3	16				
81	8/14	DW3	16				
82	8/15	DW3	16				
83	8/16	DW3	16				
84	8/17	DW3	16				
85	8/18	DW3	15.5				
86	8/19	DW3	15.4				
87	8/20	DW3	14				
88	8/21	DW3	14.2				
89	8/22	DW3	13				
90	8/23	DW3	13				
91	8/24	DW3	11				
92	8/25	DW3	9.8				boiler down water cold
93	8/26	DW3	11				
94	8/27	DW3	11				boiler back online water warming
95	8/28	DW3	12.2				
96	8/29	DW3	13				
97	8/30	DW3	14				
98	8/31	DW3	15.2				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
99	9/1	DW3	15.3				
100	9/2	DW3	17				
101	9/3	DW3	17				
102	9/4	DW3	16.6				
103	9/5	DW3	16.6				
104	9/6	DW3	16.6				
105	9/7	DW3	16.2				
106	9/8	DW3	16.2				
107	9/9	DW3	16.2				
108	9/10	DW3	16.2				
109	9/11	DW3	16.2				
110	9/12	DW3	16.2				
111	9/13	DW3	16.2				
112	9/14	DW3	16.5				
113	9/15	DW3	15.3				
114	9/16	DW3	15.3				
115	9/17	DW3	15.3				
116	9/18	DW3	14				
117	9/19	DW3	13.7				
118	9/20	DW3	16.8				
119	9/21	DW3	17				
120	9/22	DW3	16.2				
121	9/23	DW3	15.8				
122	9/24	DW3	15.8				
123	9/25	DW3	17				
124	9/26	DW3	16				
125	9/27	DW3	16				
126	9/28	DW3	16				
127	9/29	DW3	15.2	7.18	7000		

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
128	9/30	DW3	15				
129	10/1	DW3	15				
130	10/2	DW3	15				
131	10/3	DW3	15				
132	10/4	DW3	15				
133	10/5	DW3	14.9				
134	10/6	DW3	14.7				
135	10/7	DW3	14.7				
136	10/8	DW3	15.8				
137	10/9	DW3	17.1	8.24			
138	10/10	DW3	17.1				
139	10/11	DW3	17.1				
140	10/12	DW3	16				
141	10/13	DW3	16				
142	10/14	DW3	16				
143	10/15	DW3	16				
144	10/16	DW3	16.2				
145	10/17	DW3	16				
146	10/18	DW3	16				
147	10/19	DW3	15.5				
148	10/20	DW3	15.5				
149	10/21	DW3	15.5				
150	10/22	DW3	15.5				
151	10/23	DW3	15.5				
152	10/24	DW3	15.5				
153	10/25	DW3	15				
154	10/26	DW3	15				
155	10/27	DW3	14.5				
156	10/28	DW3	14.5				4000+ screen TO LCI about 4000 cockl

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
157	10/29	DW3	14.8				
158	10/30	DW3	14.8				
159	10/31	DW3	14.8	5.04			
160	11/1	DW3	14.8		3000		
161	11/2	DW3	15.2				
162	11/3	DW3	15.2				
163	11/4	DW3	15				
164	11/5	DW3	15.6				
165	11/6	DW3	15.6	5.86			
166	11/7	DW3	14.8				
167	11/8	DW3	14.9				
168	11/9	DW3	15				
169	11/10	DW3	15.8				
170	11/11	DW3	14.8				
171	11/12	DW3	14.8				
172	11/13	DW3	14.8	6.1			
173	11/14	DW3	15				
174	11/15	DW3	14.2				
175	11/16	DW3	14.2				
176	11/17	DW3	14.2				
177	11/18	DW3	14.2				
178	11/19	DW3	13				
179	11/20	DW3	13	7.14			
180	11/21	DW3	13				
181	11/22	DW3	13.6				
182	11/23	DW3	13.8				
183	11/24	DW3	13.8				
184	11/25	DW3	13.8				
185	11/26	DW3	13.8				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
186	11/27	DW3	13.8				
187	11/28	DW3	13.8				
188	11/29	DW3	13.4	6.19			
189	11/30	DW3	13.4				
190	12/1	DW3	14				
191	12/2	DW3	14				
192	12/3	DW3	14				
193	12/4	DW3	14				
194	12/5	DW3	14				
195	12/6	DW3	14.2				
196	12/7	DW3	14.4				
197	12/8	DW3	14.8				
198	12/9	DW3	14.8	6.17			
199	12/10	DW3	15				
200	12/11	DW3	15				
201	12/12	DW3	15				
202	12/13	DW3	15				
203	12/14	DW3	14.3				
204	12/15	DW3	14.3				
205	12/16	DW3	14.3				
206	12/17	DW3	14.8				
207	12/18	DW3	14.8				
208	12/19	DW3	14.6				
209	12/20	DW3	15				
210	12/21	DW3	15.5				
211	12/22	DW3	15.8				
212	12/23	DW3	14.7				
213	12/24	DW3	14.9				
214	12/25	DW3	15				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
215	12/26	DW3	10				
216	12/27	DW3	17				
217	12/28	DW3	14.5				
218	12/29	DW3	13.4				
219	12/30	DW3	12.9				
220	12/31	DW3	12.5				
221	1/1	DW3	12.4				
222	1/2	DW3	12.2				
223	1/3	DW3	12.2				
224	1/4	DW3	12.4				
225	1/5	DW3	12.4	6.42			
226	1/6	DW3	12.9				Hot water off
227	1/7	DW3	10.5				
228	1/8	DW3	10.5				
229	1/9	DW3	10.4				
230	1/10	DW3	9.3				
231	1/11	DW3	8.6				
232	1/12	DW3	8.4				
233	1/13	DW3	8.2				
234	1/14	DW3	8.2				
235	1/15	DW3	9	7.34			
236	1/16	DW4	8.8				
237	1/17	DW4	8.8				
238	1/18	DW4	8.8				
239	1/19	DW4	8.5				
240	1/20	DW4	9				
241	1/21	DW4	9				
242	1/22	DW4	11				
243	1/23	DW4	9.1				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
244	1/24	DW4	8.7	6.88			
245	1/25	DW4	8.4				
246	1/26	DW4	8.5				
247	1/27	DW4	7.9				
248	1/28	DW4	8.7				
249	1/29	DW4	7.8				
250	1/30	DW4	9				
251	1/31	DW4	9.6	6.55			
252	2/1	DW4	8				
253	2/2	DW4	7.9				
254	2/3	DW4	10.3				
255	2/4	DW4	8			8,400	160mls + 2400 20/ml = 3200 clams
256	2/5	DW4	8.1				650mls +4000 8/ml = 5200 clams
257	2/6	DW4	7.9				
258	2/7	DW4	7.9				
259	2/8	DW4	7.8				
260	2/9	DW4	7.7				
261	2/10	DW4	7.7				
262	2/11	DW4	7.6				
263	2/12	DW4	7.7				
264	2/13	DW4	7.8				
265	2/14	DW4	7.6				
266	2/15	DW4	7.4				
267	2/16	DW4	7.6				
268	2/17	DW4	7.7				
269	2/18	DW4	8.3	7.06		8,400	
270	2/19	DW4	7.8				
271	2/20	DW4	7.8				
272	2/21	DW4	7.8				

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
273	2/22	DW4	7.9				
274	2/23	DW4	7.7				Mortality observed
275	2/24	DW4	7.6				
276	2/25	DW4	7.6				
277	2/26	DW4	7.9				
278	2/27	DW4	7.9				
279	2/28	DW4	7.9				
280	3/1	DW4	7.7				
281	3/2	DW4	7.6				Mortality continued
282	3/3	DW4	7.7	6.87			
283	3/4	DW4	7.7				
284	3/5	DW2	7.8				Moved to downweller 2
285	3/6	DW2	9.7				
286	3/7	DW2	8.1				
287	3/8	DW2	8.3				
288	3/9	DW2	8.2				
289	3/10	DW2	8				
290	3/11	DW2	8				
291	3/12	DW2	9.2				
292	3/13	DW2	8.6				
293	3/14	DW2	7.9				
294	3/15	DW2	7.8				
295	3/16	DW2	8.1				
296	3/17	DW2	7.4	6.27			
297	3/18	DW2	9.8				High mortality
298	3/19	DW2	8.3				
299	3/20	DW2	9.8				
300	3/21	DW2	8				
301	3/22	DW2	8		500		Maybe 500 alive; cleaned out most of

Broodstock Year 2024 Cockles

Juvenile Rearing

DAY	DATE	TANK	TEMP	SIZE	POPULATION ESTIMATE	FEED	NOTES
302	3/23	DW2	8				sand added
303	3/24	DW2	8				
304	3/25	DW2	8				
305	3/26	DW2	8				
306	3/27	DW2	8				
307	3/28	DW2	8				
308	3/29	DW2	8				
309	3/30	DW2	8				
310	3/31	DW2	8				
311	4/1	DW2	8				
312	4/2	DW2	8				
313	4/3	DW2	8				1000 Sent to LCI KSMA

End of Rearing for BY 24

LCI Cockles Broodstock Year 25: Growth Sampling (µm)

6/4/2025	6/6/2025	6/9/2025	6/13/2025	6/19/2025	7/3/2025	7/12/2025	7/20/2025	7/30/2025
145	170	215	300	430	730	1200	1440	2640
150	150	230	280	430	800	1250	1440	2352
150	160	145	260	400	530	880	1200	2688
155	160	175	260	415	780	1200	1488	2400
145	150	235	280	360	850	1350	792	2640
150	160	190	290	280	750	1200	1344	2520
150	170	195	280	300	500	920	840	2688
145	150	140	270	350	950	1050	1080	2040
155	160	195	300	380	760	1800	960	2736
150	160	195	290	350	900	1500	1200	1848
				430	670	1100	1224	2640
				350	880	1300	1104	2136
				400	1050	1050	1224	2352
				280	650	600	1056	3000
				400	700	1000	1200	2304
				320	1180	1100	1200	2928
				450	1150	800	1224	1152
				250	740	1400	1320	1704
				320	1100	1000	1224	2592
				520	750	850	1200	2112
149.50	159.00	191.50	281.00	370.75	821.00	1127.50	1188.00	2373.60

LCI Cockles Broodstock Year 25: Growth Sampling (mm)*

8/3/2025	8/15/2025	8/23/2025	8/28/2025	9/18/2025	10/1/2025	10/18/2025	10/29/2025
2280	2.63	4.81	2.22	6.2	6.73	6.3	8.45
2880	3.96	4.26	3.02	8.47	9.83	7.31	4.63
3000	4.1	4.19	4.3	8.46	15.25	8.21	10.37
2424	5.12	3.2	3.7	7.53	7.4	4.87	7.77
2424	4.91	4.71	4.21	4.42	12.55	7.07	7.04
3120	3.14	3.98	3.58	6.4	7.59	6.62	6.85
3000	2.43	3.92	4.8	5.01	9.96	5.27	10.79
3060	2.56	3.52	4.5	7.76	5.28	6.5	4.93
3120	4.46	5.48	5.67	4.75	8.69	8.09	7.01
2400	3.6	5.1	2.62	6.25	6.2	5.38	5.27
3060	3.95	4.82	4.45	6.08	4.74	5.54	6.02
2600	3.56	5.92	1.74	5.88	4.68	8.42	4.77
1368	4.35	3.02	4.08	6.48	7.02	7.16	9.58
3360	2.7	4.1	4.62	6.59	3.34	7.16	5.52
2424	2.9	2.45	4.61	5.17	6.34	4.04	8.06
2280	4	2.35	4.63	7.55	7.49	5.71	5.81
2760	4.6	3.86	4.92	5.5	5.76	4.72	6.53
3240	2.4	5.44	3.05	5.28	9.02	10.22	9.69
3120	3.18	5.43	5.17	5.96	6.14	7.18	7.32
2040	4.09	3.14	3.25	4.11	7.3	4.14	5.64
2698.00	3.63	4.19	3.96	6.19	7.57	6.50	7.10

***On 8/15/2025, APMI hatchery staff moved to recording growth sampling for cockle broodyear 2025 in millimeters rather than microns.**

LCI Cockles Broodstock Year 25: Growth Sampling (mm)

11/12/2025	11/19/2025	11/25/2025	12/15/2025	1/7/2026	2/7/2026	3/7/2026	4/4/2026	5/4/2026
15.61	10.88	6.37	9.56	9.1	12.92	10.07	9.18	10.88
12.53	6	7.03	6.7	9.73	8.41	9.4	11.59	22.4
7.5	8.05	12.18	8.24	5.78	10.62	10.37	9.5	14.09
5.81	6.19	9.12	6.42	8.63	13.29	16.32	10.35	13.37
11.84	4.51	6.05	6.27	10.78	12.97	14.24	7.85	7.41
11.56	9.39	7.7	3.69	8.22	9.63	11.48	7.76	10.68
8.98	6.44	8.82	12.19	8.31	10.81	10.59	14.47	12.91
7.84	7.56	6.52	9.07	6.96	6.84	9.63	9.82	14.26
7.39	7.14	8.49	6.02	8.28	12.77	11.81	8.03	9.98
9.32	5.63	7.72	7.85	7.22	11.72	5.9	10.49	8.26
6.78	6.56	6.69	8.54	13.17	6.88	9.67	14.06	11.15
8.45	7.83	6.54	12.29	10.16	12.58	14.53	11.44	7.34
9.38	4.94	6.76	7.11	5.61	6.28	7.71	11.73	15.7
9.44	7.93	5.48	8.16	6.35	8.96	9.21	11.81	11.45
9.23	8.84	7.25	11.47	5.42	5.65	12.05	11.66	8.61
4.77	5.44	6.46	8.08	6.71	10.01	6.21	10.54	9.8
5.08	5.52	6.52	6.52	9.29	12.38	10.44	10.86	8.73
6.65	7.33	5.63	6.1	6.55	10.91	7.82	7.84	6.18
6.03	5.99	6.43	7.74	8.05	5.83	9.89	11.74	7.43
5.96	7.4	4.44	7.81	6.26	8.52	7.72	10.94	9.43
8.51	6.98	7.11	7.99	7.64	5.65	8.21	5.21	8.41
				6.87	6.57	10.54	9.83	9.05
				8.29	10.04	6.57	8.33	9.26
				7.51	7.02	5.65	11.22	9.04
				7.45	7.28	6.83	8.37	10.35
				4.7	4.65	11.23	11.96	7.78
				5.59	8.98	10.07	11	7.22
				7.49	9.67	8.97	9.07	10.13
				8.75	5.12	8.03	7.76	6.99
				5.9	11.07	10.8	9.31	15.03
				8.52	10.85	23.02	9.82	7.15
				8.38	5.48	15.02	6.1	10.91
				8.53	7.12	7.35	12.02	12.11
				14.31	10.08	7.26	13.95	12.41
				7	10.08	5.19	13.31	10.07
				8.87	4.12	12.85	7.87	11.03
				5.72	8.44	11.96	8.47	11.29
				11.48	7.45	6.43	5.67	10.17
				5.76	9.04	8.14	13.73	8.28
				6.06	11.67	8.67	6.72	8.18
				8.45	14.37	7.26	12.03	7.6
				8.26	9.77	8.04	9.49	10.57
				9.13	6.72	9.98	7.01	7.09
				6.38	6.56	5.94	8.7	7.45
				4.94	10.86	7.19	10.84	8.12
				6.97	9.45	6.42	10.28	15.38
				6.59	7.07	9.36	9.32	11.75
				7.19	12.08	9.05	8.72	6.85
				4.56	6.36	4.62	7.47	9.97
				6.51	8.93	7.6	11.79	8.97
				7.69	9.01	9.47	9.94	10.20

BY 2025 LOWER COOK INLET COCKLES

Larvae Data

Day	Date	Tank	Temp	Larval Size (µm)	Pop Est	Algae Feed Sp & Conc(#/ml in LRT)	Notes
0	6/1/2025	1200-1	15.4	90	158,200		spawn @ 7 about @ 12:30 pm 16°C
1	6/2/2025	1200-1	16.2				
2	6/3/2025	1200-1	14.5		104,000	20k tiso (6 L)	40% D
3	6/4/2025	1200-2	14.8		40,000	L)	16.8 degrees before change
4	6/5/2025	1200-2	16	149.5	48,000	no feed	R=52
5	6/6/2025	1200-3	15.1	159	48,000	30k tiso (9 L) 5k cm (7 L)	max 170
6	6/7/2025	1200-3	16.2				
7	6/8/2025	1200-3	16.4			15k tiso	R=14
8	6/9/2025	190	14.5	196.5	22,000	45k tiso	
9	6/10/2025	190	15.8			5k Rs (1 L) 5k tiso (3 L)	R=35
10	6/11/2025	190	16.1			5k tiso (.25 L) 5k Rs (1 L)	R=33
11	6/12/2025	190	16.4	280	11,500	no feed	R=40

BY 2025 LOWER COOK INLET COCKLES

Juvenile Rearing Data

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
12	6/13/2025	DW1	14.4	0.28	11,500	pump feeding 24hrs daily for 10 min every	set in 1 bin in DW max 300 foot!
13	6/14/2025	DW1	13.6			hrs at a flow rate of 1L/min with a avg cell	
14	6/15/2025	DW1	13.8			density 100,000 cells/ml (AT's)	
15	6/16/2025	DW1	13.7			Also hand fed daily at higher variing rates	
16	6/17/2025	DW1	13.7			1M to 10M /ml depending of species	
17	6/18/2025	DW1	13.7			Algea species on rotation - DT, ISO,TISO,RS,	
18	6/19/2025	DW1	13.7	0.371		DL, NANNO,TS,CM,3H	Fed ad libitum, based on staff availability
19	6/20/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
20	6/21/2025	DW1	14.4			DL, NANNO,TS,CM,3H	"
21	6/22/2025	DW1	14.3			DL, NANNO,TS,CM,3H	"
22	6/23/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
23	6/24/2025	DW1	12.9			DL, NANNO,TS,CM,3H	"
24	6/25/2025	DW1	12.9			DL, NANNO,TS,CM,3H	"
25	6/26/2025	DW1	12.9			DL, NANNO,TS,CM,3H	"
26	6/27/2025	DW1	13.1			DL, NANNO,TS,CM,3H	"
27	6/28/2025	DW1	14.2			DL, NANNO,TS,CM,3H	"
28	6/29/2025	DW1	14.1			DL, NANNO,TS,CM,3H	"
29	6/30/2025	DW1	12.7			DL, NANNO,TS,CM,3H	"
30	7/1/2025	DW1	12.7			DL, NANNO,TS,CM,3H	"
31	7/2/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
32	7/3/2025	DW1	13.8	0.821		DL, NANNO,TS,CM,3H	"
33	7/4/2025	DW1	13			DL, NANNO,TS,CM,3H	"
34	7/5/2025	DW1	13			DL, NANNO,TS,CM,3H	"
35	7/6/2025	DW1	13.3			DL, NANNO,TS,CM,3H	"
36	7/7/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
37	7/8/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
38	7/9/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
39	7/10/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
40	7/11/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
41	7/12/2025	DW1	13.4	1.13		DL, NANNO,TS,CM,3H	"
42	7/13/2025	DW1	14			DL, NANNO,TS,CM,3H	"
43	7/14/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
44	7/15/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
45	7/16/2025	DW1	13.6		11,500	DL, NANNO,TS,CM,3H	"
46	7/17/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
47	7/18/2025	DW1	11.6			DL, NANNO,TS,CM,3H	"
48	7/19/2025	DW1	11.7			DL, NANNO,TS,CM,3H	"
49	7/20/2025	DW1	11.5	1.19		DL, NANNO,TS,CM,3H	"
50	7/21/2025	DW1	12.8			DL, NANNO,TS,CM,3H	"
51	7/22/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
52	7/23/2025	DW1	14.4			DL, NANNO,TS,CM,3H	"
53	7/24/2025	DW1	14.4			DL, NANNO,TS,CM,3H	"
54	7/25/2025	DW1	15.7			DL, NANNO,TS,CM,3H	"
55	7/26/2025	DW1	14.6			DL, NANNO,TS,CM,3H	"
56	7/27/2025	DW1	14.5			DL, NANNO,TS,CM,3H	"
57	7/28/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
58	7/29/2025	DW1	14.1			DL, NANNO,TS,CM,3H	"
59	7/30/2025	DW1	13.6	2.38		DL, NANNO,TS,CM,3H	"
60	7/31/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
61	8/1/2025	DW1	14			DL, NANNO,TS,CM,3H	"
62	8/2/2025	DW1	14			DL, NANNO,TS,CM,3H	"
63	8/3/2025	DW1	14.3	2.7		DL, NANNO,TS,CM,3H	"
64	8/4/2025	DW1	14.1			DL, NANNO,TS,CM,3H	"
65	8/5/2025	DW1	14.1			DL, NANNO,TS,CM,3H	"
66	8/6/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
67	8/7/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
68	8/8/2025	DW1	13.3			DL, NANNO,TS,CM,3H	"
69	8/9/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
70	8/10/2025	DW1	13.6			DL, NANNO,TS,CM,3H	"
71	8/11/2025	DW1	14			DL, NANNO,TS,CM,3H	"
72	8/12/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
73	8/13/2025	DW1	14.2			DL, NANNO,TS,CM,3H	"
74	8/14/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
75	8/15/2025	DW1	13.5	3.63		DL, NANNO,TS,CM,3H	"
76	8/16/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
77	8/17/2025	DW1	13.2			DL, NANNO,TS,CM,3H	"
78	8/18/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
79	8/19/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
80	8/20/2025	DW1	13.2			DL, NANNO,TS,CM,3H	"
81	8/21/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
82	8/22/2025	DW1	13.8			DL, NANNO,TS,CM,3H	"
83	8/23/2025	DW1	14	4.19		DL, NANNO,TS,CM,3H	"
84	8/24/2025	DW1	12.5			DL, NANNO,TS,CM,3H	"
85	8/25/2025	DW1	12.8			DL, NANNO,TS,CM,3H	"
86	8/26/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
87	8/27/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
88	8/28/2025	DW1	13.9	3.96		DL, NANNO,TS,CM,3H	"
89	8/29/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
90	8/30/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
91	8/31/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
92	9/1/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
93	9/2/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
94	9/3/2025	DW1	12.8			DL, NANNO,TS,CM,3H	"
95	9/4/2025	DW1	14.8			DL, NANNO,TS,CM,3H	"
96	9/5/2025	DW1	15.1			DL, NANNO,TS,CM,3H	"
97	9/6/2025	DW1	15.1			DL, NANNO,TS,CM,3H	"
98	9/7/2025	DW1	15.1			DL, NANNO,TS,CM,3H	"
99	9/8/2025	DW1	15.1			DL, NANNO,TS,CM,3H	"
100	9/9/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
101	9/10/2025	DW1	11.5			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
102	9/11/2025	DW1	14			DL, NANNO,TS,CM,3H	"
103	9/12/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
104	9/13/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
105	9/14/2025	DW1	14			DL, NANNO,TS,CM,3H	"
106	9/15/2025	DW1	14			DL, NANNO,TS,CM,3H	"
107	9/16/2025	DW1	14			DL, NANNO,TS,CM,3H	"
108	9/17/2025	DW1	14.8			DL, NANNO,TS,CM,3H	"
109	9/18/2025	DW1	14.8	6.19		DL, NANNO,TS,CM,3H	"
110	9/19/2025	DW1	15.6			DL, NANNO,TS,CM,3H	"
111	9/20/2025	DW1	15.5			DL, NANNO,TS,CM,3H	"
112	9/21/2025	DW1	15.5			DL, NANNO,TS,CM,3H	"
113	9/22/2025	DW1	15.5			DL, NANNO,TS,CM,3H	"
114	9/23/2025	DW1	15.7			DL, NANNO,TS,CM,3H	"
115	9/24/2025	DW1	14.9			DL, NANNO,TS,CM,3H	"
116	9/25/2025	DW1	15			DL, NANNO,TS,CM,3H	"
117	9/26/2025	DW1	14.2			DL, NANNO,TS,CM,3H	"
118	9/27/2025	DW1	14			DL, NANNO,TS,CM,3H	"
119	9/28/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
120	9/29/2025	DW1	13.7			DL, NANNO,TS,CM,3H	"
121	9/30/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
122	10/1/2025	DW1	15.3	7.57		DL, NANNO,TS,CM,3H	"
123	10/2/2025	DW1	14.5			DL, NANNO,TS,CM,3H	"
124	10/3/2025	DW1	13.9			DL, NANNO,TS,CM,3H	"
125	10/4/2025	DW1	13.2			DL, NANNO,TS,CM,3H	"
126	10/5/2025	DW1	13			DL, NANNO,TS,CM,3H	"
127	10/6/2025	DW1	12.8			DL, NANNO,TS,CM,3H	"
128	10/7/2025	DW1	11.5			DL, NANNO,TS,CM,3H	"
129	10/8/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
130	10/9/2025	DW1	12.2			DL, NANNO,TS,CM,3H	"
131	########	DW1	11.5			DL, NANNO,TS,CM,3H	"
132	########	DW1	11.5			DL, NANNO,TS,CM,3H	"
133	########	DW1	11.5			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
134	########	DW1	10.8			DL, NANNO,TS,CM,3H	"
135	########	DW1	11.8			DL, NANNO,TS,CM,3H	"
136	########	DW1	12.1			DL, NANNO,TS,CM,3H	"
137	########	DW1	12			DL, NANNO,TS,CM,3H	"
138	########	DW1	12.4			DL, NANNO,TS,CM,3H	"
139	########	DW1	12.9	6.5		DL, NANNO,TS,CM,3H	"
140	########	DW1	13			DL, NANNO,TS,CM,3H	"
141	########	DW1	13.2			DL, NANNO,TS,CM,3H	"
142	########	DW1	13.2			DL, NANNO,TS,CM,3H	"
143	########	DW1	13.4			DL, NANNO,TS,CM,3H	"
144	########	DW1	13.4			DL, NANNO,TS,CM,3H	"
145	########	DW1	13.5			DL, NANNO,TS,CM,3H	"
146	########	DW1	13.5			DL, NANNO,TS,CM,3H	"
147	########	DW1	13.5			DL, NANNO,TS,CM,3H	"
148	########	DW1	13.5			DL, NANNO,TS,CM,3H	"
149	########	DW1	13.6			DL, NANNO,TS,CM,3H	"
150	########	DW1	12.8	7.1		DL, NANNO,TS,CM,3H	"
151	########	DW1	12.8			DL, NANNO,TS,CM,3H	"
152	########	DW1	12.9			DL, NANNO,TS,CM,3H	"
153	11/1/2025	DW1	12.9			DL, NANNO,TS,CM,3H	"
154	11/2/2025	DW1	13.2			DL, NANNO,TS,CM,3H	"
155	11/3/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
156	11/4/2025	DW1	13.5			DL, NANNO,TS,CM,3H	"
157	11/5/2025	DW1	14.4			DL, NANNO,TS,CM,3H	"
158	11/6/2025	DW1	13.4			DL, NANNO,TS,CM,3H	"
159	11/7/2025	DW1	8.5			DL, NANNO,TS,CM,3H	"
160	11/8/2025	DW1	15			DL, NANNO,TS,CM,3H	"
161	11/9/2025	DW1	14.2			DL, NANNO,TS,CM,3H	"
162	########	DW1	14.2			DL, NANNO,TS,CM,3H	"
163	########	DW1	13.4			DL, NANNO,TS,CM,3H	"
164	########	DW1	13.4	8.51		DL, NANNO,TS,CM,3H	"
165	########	DW1	13			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
166	########	DW1	10.9			DL, NANNO,TS,CM,3H	"
167	########	DW1	10.7			DL, NANNO,TS,CM,3H	"
168	########	DW1	10.5			DL, NANNO,TS,CM,3H	"
169	########	DW1	10.2			DL, NANNO,TS,CM,3H	"
170	########	DW1	13.2			DL, NANNO,TS,CM,3H	"
171	########	DW1	14.1	6.98		DL, NANNO,TS,CM,3H	"
172	########	DW1	14			DL, NANNO,TS,CM,3H	"
173	########	DW5	13.7		7700	DL, NANNO,TS,CM,3H	"
174	########	DW5	14			DL, NANNO,TS,CM,3H	"
175	########	DW5	14			DL, NANNO,TS,CM,3H	"
176	########	DW5	8.4			DL, NANNO,TS,CM,3H	"
177	########	DW5	11.4	7.11		DL, NANNO,TS,CM,3H	"
178	########	DW5	12.1			DL, NANNO,TS,CM,3H	"
179	########	DW5	10			DL, NANNO,TS,CM,3H	"
180	########	DW5	10			DL, NANNO,TS,CM,3H	"
181	########	DW5	10			DL, NANNO,TS,CM,3H	"
182	########	DW5	10			DL, NANNO,TS,CM,3H	"
183	12/1/2025	DW5	7.6			DL, NANNO,TS,CM,3H	"
184	12/2/2025	DW5	12			DL, NANNO,TS,CM,3H	"
185	12/3/2025	DW5	12.2			DL, NANNO,TS,CM,3H	"
186	12/4/2025	DW5	12			DL, NANNO,TS,CM,3H	"
187	12/5/2025	DW5	12			DL, NANNO,TS,CM,3H	"
188	12/6/2025	DW5	10			DL, NANNO,TS,CM,3H	"
189	12/7/2025	DW5	8.3			DL, NANNO,TS,CM,3H	"
190	12/8/2025	DW5	8.3			DL, NANNO,TS,CM,3H	"
191	12/9/2025	DW5	9.8			DL, NANNO,TS,CM,3H	heater on over LT 1
192	########	DW5	9.7			DL, NANNO,TS,CM,3H	"
193	########	DW5	11			DL, NANNO,TS,CM,3H	"
194	########	DW5	13.4			DL, NANNO,TS,CM,3H	"
195	########	DW5	12.3			DL, NANNO,TS,CM,3H	"
196	########	DW5	10			DL, NANNO,TS,CM,3H	"
197	########	DW5	8.6	7.99		DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
198	########	DW5	12.2			DL, NANNO,TS,CM,3H	"
199	########	DW5	12.2			DL, NANNO,TS,CM,3H	"
200	########	DW5	12			DL, NANNO,TS,CM,3H	"
201	########	DW4	12			DL, NANNO,TS,CM,3H	"
202	########	DW4	12			DL, NANNO,TS,CM,3H	"
203	########	DW4	12			DL, NANNO,TS,CM,3H	"
204	########	DW4	12			DL, NANNO,TS,CM,3H	"
205	########	DW4	12.1			DL, NANNO,TS,CM,3H	"
206	########	DW4	12.2			DL, NANNO,TS,CM,3H	"
207	########	DW4	12.4			DL, NANNO,TS,CM,3H	"
208	########	DW4	12.5			DL, NANNO,TS,CM,3H	"
209	########	DW4	12.7			DL, NANNO,TS,CM,3H	"
210	########	DW4	12.8			DL, NANNO,TS,CM,3H	"
211	########	DW4	12.9			DL, NANNO,TS,CM,3H	"
212	########	DW4	13.5			DL, NANNO,TS,CM,3H	"
213	########	DW4	13			DL, NANNO,TS,CM,3H	"
214	1/1/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
215	1/2/2026	DW4	12.1			DL, NANNO,TS,CM,3H	"
216	1/3/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
217	1/4/2026	DW4	12.9			DL, NANNO,TS,CM,3H	"
218	1/5/2026	DW4	13.3			DL, NANNO,TS,CM,3H	"
219	1/6/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
220	1/7/2026	DW4	11.8	7.69		DL, NANNO,TS,CM,3H	changed measurement protocol
221	1/8/2026	DW4	12			DL, NANNO,TS,CM,3H	"
222	1/9/2026	DW4	12			DL, NANNO,TS,CM,3H	"
223	1/10/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
224	1/11/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
225	1/12/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
226	1/13/2026	DW4	12.6			DL, NANNO,TS,CM,3H	"
227	1/14/2026	DW4	12			DL, NANNO,TS,CM,3H	"
228	1/15/2026	DW4	12.6			DL, NANNO,TS,CM,3H	"
229	1/16/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
230	1/17/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
231	1/18/2026	DW4	12.7			DL, NANNO,TS,CM,3H	"
232	1/19/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
233	1/20/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
234	1/21/2026	DW4	13.4			DL, NANNO,TS,CM,3H	"
235	1/22/2026	DW4	12.6			DL, NANNO,TS,CM,3H	"
236	1/23/2026	DW4	12.2			DL, NANNO,TS,CM,3H	"
237	1/24/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
238	1/25/2026	DW4	12.7			DL, NANNO,TS,CM,3H	"
239	1/26/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
240	1/27/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
241	1/28/2026	DW4	12.3		3960	DL, NANNO,TS,CM,3H	Inventory update: 1320 mL x 3/mL = 3,960
242	1/29/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
243	1/30/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
244	1/31/2026	DW4	12.6			DL, NANNO,TS,CM,3H	"
245	2/1/2026	DW4	12.9			DL, NANNO,TS,CM,3H	"
246	2/2/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
247	2/3/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
248	2/4/2026	DW4	13.1			DL, NANNO,TS,CM,3H	"
249	2/5/2026	DW4	12.8			DL, NANNO,TS,CM,3H	"
250	2/6/2026	DW4	12.7			DL, NANNO,TS,CM,3H	"
251	2/7/2026	DW4	13.1	9.01		DL, NANNO,TS,CM,3H	"
252	2/8/2026	DW4	12.9			DL, NANNO,TS,CM,3H	"
253	2/9/2026	DW4	12.9			DL, NANNO,TS,CM,3H	"
254	2/10/2026	DW4	12.3			DL, NANNO,TS,CM,3H	"
255	2/11/2026	DW4	12.4			DL, NANNO,TS,CM,3H	"
256	2/12/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
257	2/13/2026	DW4	12.5			DL, NANNO,TS,CM,3H	"
258	2/14/2026	DW 7	12.8			DL, NANNO,TS,CM,3H	"
259	2/15/2026	DW 7	12.7			DL, NANNO,TS,CM,3H	"
260	2/16/2026	DW 7	12.5			DL, NANNO,TS,CM,3H	"
261	2/17/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	"

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
262	2/18/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	"
263	2/19/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	"
264	2/20/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	"
265	2/21/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	"
266	2/22/2026	DW 7	12.6			DL, NANNO,TS,CM,3H	"
267	2/23/2026	DW 7	12.6			DL, NANNO,TS,CM,3H	"
268	2/24/2026	DW 7	12.5			DL, NANNO,TS,CM,3H	
269	2/25/2026	DW 7	12.4			DL, NANNO,TS,CM,3H	
270	2/26/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
271	2/27/2026	DW 7	12.1			DL, NANNO,TS,CM,3H	
272	2/28/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
273	3/1/2026	DW 7	12.1			DL, NANNO,TS,CM,3H	
274	3/2/2026	DW 7	11.3			DL, NANNO,TS,CM,3H	
275	3/3/2026	DW 7	11.3			DL, NANNO,TS,CM,3H	
276	3/4/2026	DW 7	12.4			DL, NANNO,TS,CM,3H	
277	3/5/2026	DW 7	12.4			DL, NANNO,TS,CM,3H	
278	3/6/2026	DW 7	12.4			DL, NANNO,TS,CM,3H	
279	3/7/2026	DW 7	11.9		9.47	DL, NANNO,TS,CM,3H	
280	3/8/2026	DW 7	11.4			DL, NANNO,TS,CM,3H	
281	3/9/2026	DW 7	10.3			DL, NANNO,TS,CM,3H	
282	3/10/2026	DW 7	10.4			DL, NANNO,TS,CM,3H	
283	3/11/2026	DW 7	10.1			DL, NANNO,TS,CM,3H	
284	3/12/2026	DW 7	9.3			DL, NANNO,TS,CM,3H	
285	3/13/2026	DW 7				DL, NANNO,TS,CM,3H	switched LTS, no temps
286	3/14/2026	DW 7	8.6			DL, NANNO,TS,CM,3H	
287	3/15/2026	DW 7	9.1			DL, NANNO,TS,CM,3H	
288	3/16/2026	DW 7	8.5			DL, NANNO,TS,CM,3H	
289	3/17/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
290	3/18/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
291	3/19/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
292	3/20/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
293	3/21/2026	DW 7	12.1			DL, NANNO,TS,CM,3H	

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
294	3/22/2026	DW 7	12.4			DL, NANNO,TS,CM,3H	
295	3/23/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
296	3/24/2026	DW 7	12.8			DL, NANNO,TS,CM,3H	
297	3/25/2026	DW 7	11.2			DL, NANNO,TS,CM,3H	
298	3/26/2026	DW 7	10.1			DL, NANNO,TS,CM,3H	
299	3/27/2026	DW 7	11.8			DL, NANNO,TS,CM,3H	
300	3/28/2026	DW 7	11.9			DL, NANNO,TS,CM,3H	
301	3/29/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
302	3/30/2026	DW 7	13.3			DL, NANNO,TS,CM,3H	
303	3/31/2026	DW 7	13.2			DL, NANNO,TS,CM,3H	
304	4/1/2026	DW 7	11.7			DL, NANNO,TS,CM,3H	
305	4/2/2026	DW 7	12			DL, NANNO,TS,CM,3H	
306	4/3/2026	DW 7	11.5			DL, NANNO,TS,CM,3H	
307	4/4/2026	DW 7	11.9		9.94	DL, NANNO,TS,CM,3H	
308	4/5/2026	DW 7	11.9			DL, NANNO,TS,CM,3H	
309	4/6/2026	DW 7	10.8			DL, NANNO,TS,CM,3H	
310	4/7/2026	DW 7	10.2			DL, NANNO,TS,CM,3H	
311	4/8/2026	DW 7	10.9			DL, NANNO,TS,CM,3H	
312	4/9/2026	DW 7	11.8			DL, NANNO,TS,CM,3H	
313	4/10/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
314	4/11/2026	DW 7	12.6			DL, NANNO,TS,CM,3H	
315	4/12/2026	DW 7	12.7			DL, NANNO,TS,CM,3H	
316	4/13/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
317	4/14/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
318	4/15/2026	DW 7	11.8			DL, NANNO,TS,CM,3H	
319	4/16/2026	DW 7	11.4			DL, NANNO,TS,CM,3H	
320	4/17/2026	DW 7	11.4			DL, NANNO,TS,CM,3H	
321	4/18/2026	DW 7	10.5			DL, NANNO,TS,CM,3H	
322	4/19/2026	DW 7	10.5			DL, NANNO,TS,CM,3H	
323	4/20/2026	DW 7	9.8			DL, NANNO,TS,CM,3H	
324	4/21/2026	DW 7	11.2			DL, NANNO,TS,CM,3H	
325	4/22/2026	DW 7	11.8			DL, NANNO,TS,CM,3H	

Day	Date	Tank	Temp (°C)	Size (µm)	Pop Est.	Feed	Notes
326	4/23/2026	DW 7	11.6			DL, NANNO,TS,CM,3H	
327	4/24/2026	DW 7	11.7			DL, NANNO,TS,CM,3H	
328	4/25/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
329	4/26/2026	DW 7	12.2			DL, NANNO,TS,CM,3H	
330	4/27/2026	DW 7	12.9			DL, NANNO,TS,CM,3H	
331	4/28/2026	DW 7	12.3			DL, NANNO,TS,CM,3H	
332	4/29/2026	DW 7				DL, NANNO,TS,CM,3H	
333	4/30/2026	DW 7			2970	DL, NANNO,TS,CM,3H	inventory update!
334	5/1/2026	DW 7				DL, NANNO,TS,CM,3H	1100 mL x 2.7/mL = 2970
335	5/2/2026	DW 7				DL, NANNO,TS,CM,3H	
336	5/3/2026	DW 7				DL, NANNO,TS,CM,3H	
337	5/4/2026	DW 7				DL, NANNO,TS,CM,3H	
338	5/5/2026	DW 7				DL, NANNO,TS,CM,3H	
339	5/6/2026	DW 7				DL, NANNO,TS,CM,3H	
340	5/7/2026	DW 7				DL, NANNO,TS,CM,3H	5,140 individuals outplanted on
341	5/8/2026	DW 7				DL, NANNO,TS,CM,3H	6/2/2026 at KSMA in LCI
						End of rearing for BY25	