Figure Legends

Figure 56. Mean percent survival (+ 95% CI) across stocking density (25-255/growout box) for Arctic surfclams at Timber Cove, Gouldsboro, Maine (20 April 2023 to 14 January 2024). External box dimension was 1-ft x 2-ft x 3-inches deep (internal surface area = 1.615 ft^2. A piece of vinyl-coated polyester mesh (0.7 mm x 1.9 mm) was affixed to the top of each box and a piece of woven polypropylene fabric used typically to deter weeds in gardens that allows water penetration was used on the bottom of each box. Analysis of variance (Table 1) demonstrated no significant treatment effect of stocking density on mean percent survival. (n = 10). The black reference line represents the overall mean percent survival (91.9 ± 1.9%, n = 60).

Figure 57. Scatterplot with least-squares regression line of the relationship between percent survival per box vs. stocking density (r^2 = 0.0039; F = 0.23, df = 1, 58, P = 0.6370) for Arctic surfclams at Timber Cove, Gouldsboro, Maine (20 April 2023 to 14 January 2024). The slope of the line is not significantly different from zero, and the dashed blue lines give the 95% confidence interval around the regression line. There was no significant deviations from linearity in a subsequent lack-of-fit test (F = 1.06, df = 4, 54, P = 0.3868; Table 2b).

Figure 58. Linear relationship between number of live Arctic surfclams per box and number of live *Mya arenaria* per box at Timber Cove, Gouldsboro, Maine from 20 April 2023 to 14 January 2024. r^2 = 0.0796, F = 5.02, P = 0.0289, df = 1, 58; $\hat{Y}$ = 178.70 - 1.1029X. The regression line is shown in black, and is accompanied by the 95% CIs for $\hat{Y}$ that appear as two blue dashed lines above and below the regression line.

Figure 59. Size-frequency distribution of the carapace width of green crabs sampled from 1-ft x 2-ft nursery growout boxes at Timber Cove, Gouldsboro, Maine from 20 April 2023 to 14 January 2024. No stocking density effect was observed on number of green crabs recovered from boxes, nor was there a significant difference in the size-frequency distribution of green crab carapace widths across stocking densities (P = 0.6744; 4 x 6 Fisher's Exact Test). Size categories for carapace included: I: < 6 mm; II: 6-7.99 mm; III: 8-9.99 mm; IV: ≥ 10 mm. Mean carapace width = 7.77 ± 0.62 mm (N = 51).

Figure 60. Least-square means estimated from ANCOVA (relative growth vs. initial SL across stocking densities) that demonstrate a significant growth penalty (averaging between -9.2% and -13.9%; P < 0.025) for each increase in stocking density except from 200/box to 225/box (+1.5%; P = 0.9995).

Figure 61. Seawater temperature recorded using a HOBO® Pendant deployed on 21 April 2023 and collected on 15 January 2024 from Mud Hole Cove, Beals, Maine. Each point represents a high tide mean of three readings: one hour before, during, and one hour after high tide.

Figure 62. Mean percent survival (+ 95% CI) across stocking density (25-255/growout box) for Arctic surfclams at Mud Hole Cove, Beals, Maine (21 April 2023 to 15 January 2024). External box dimension was 1-ft x 2-ft x 3-inches deep (internal surface area = 1.615 ft^2. A piece of vinyl-coated polyester mesh (0.7 mm x 1.9 mm) was affixed to the top of each box and a piece of woven polypropylene fabric used typically to deter weeds in gardens and allows water

penetration was used on the bottom of each box. Analysis of variance (Table 4) demonstrated no significant treatment effect of stocking density on mean percent survival. (n = 10). The black reference line represents the overall mean percent survival (12.00 ± 7.99%, n = 60). The accompanying photo below the graph shows a representative sample of surfclams from boxes with high stocking densities. In this sample, from a box stocked on 21 April 2023 with 150 animals, no live clams were found. All had undamaged valves that were filled with mud and/or decomposing tissue.

Figure 63. a) Initial ($\bar{x}_{SL}$ ± 95% CI = 16.09 ± 0.49 mm, n = 81); and b) Final ($\bar{x}_{SL}$ ± 95% CI = 24.69 ± 0.88 mm, n = 81) shell lengths of cultured Arctic surfclam individuals that were deployed in small (1-ft x 2-ft x 3-inch deep) intertidal nursery growout boxes on 21 April 2023 at Mud Hole Cove, Beals, Maine, and retrieved 269 days later on 15 January 2024.

Figure 64. a) Relative growth (y-axis) vs. Initial SL (x-axis) for all living clams recovered from Mud Hole Cove on 15 January 2024. $r^2 = 0.5782$, F = 108.33, P < 0.0001, df = 1, 79. Least squares regression line ($\hat{Y} = 1.7218 - 0.07151X$) is show in black along with the two concave 95% CIs for $\hat{Y}$ that appears as blue dashed lines above and below the regression line. Absolute growth is not shown here, but the regression equation relating it to initial shell length is: $\hat{Y} = 16.713 - 0.48884X$; $r^2 = 0.2081$, F = 20.77, P < 0.0001, df = 1, 79). Similarly, the relationship between Final SL and Initial SL yielded the following regression equation: $\hat{Y} = 16.713 + 0.51116X$; $r^2 = 0.2233$, F = 22.71, P < 0.0001, df = 1, 79). b) Relative growth (y-axis) vs. Initial SL (x-axis) with the three stocking density treatments that had more than a single individual survive ($N_{25/box}$ = 50 [blue]; $N_{50/box}$ = 20 [tourquoise]; $N_{100/box}$ = 10 [pink]). Analysis of regression lines indicated the three lines had statistically similar slopes (F = 2.49, df = 2, 74, P = 0.0902), and analysis of covariance demonstrated the lack of a significant stocking density effect on the relationship between relative growth and initial shell length. That is, there was no significant difference between the three least-square means representing the three lowest stocking densities.

Figure 65. Least-square means for relative growth v. initial shell length for live surfclams from Mud Hole Cove, Beals, Maine (21 April 2023 to 15 January 2024). Analysis of covariance indicated the lack of a significant effect due to stocking density (F = 3.02, df = 1, 76, P = 0.0546.

Figure 56.

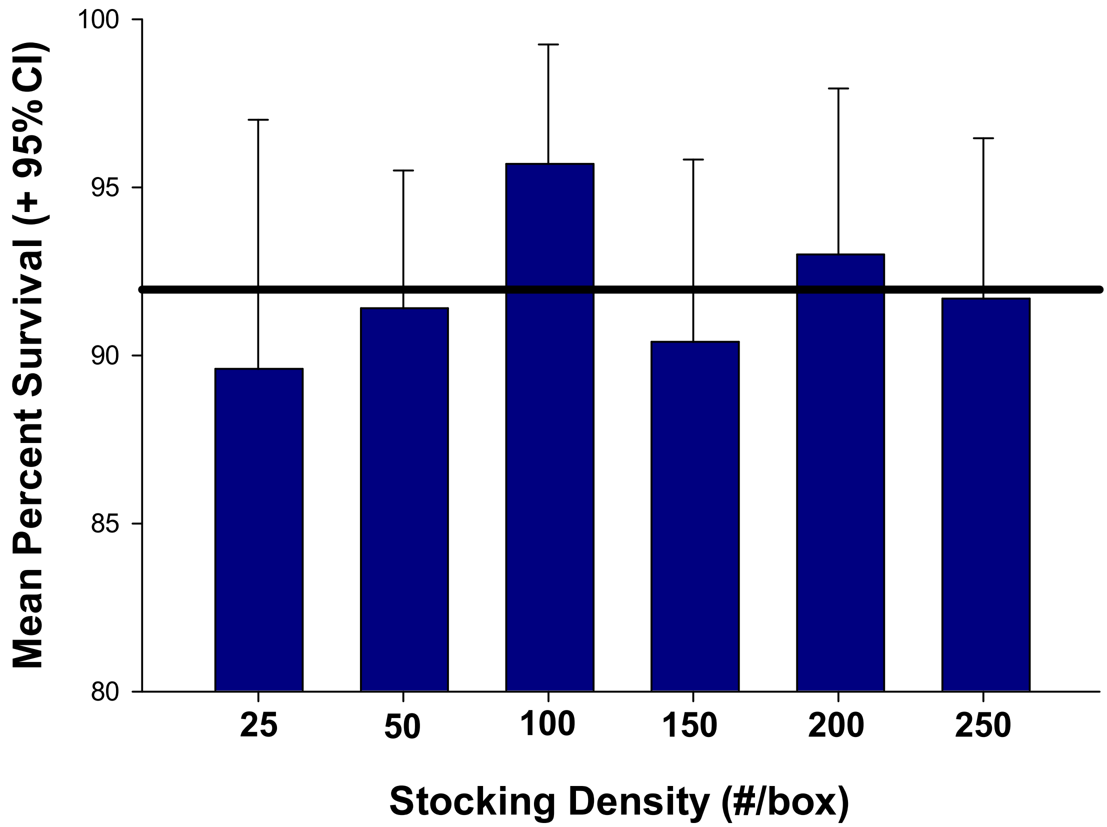
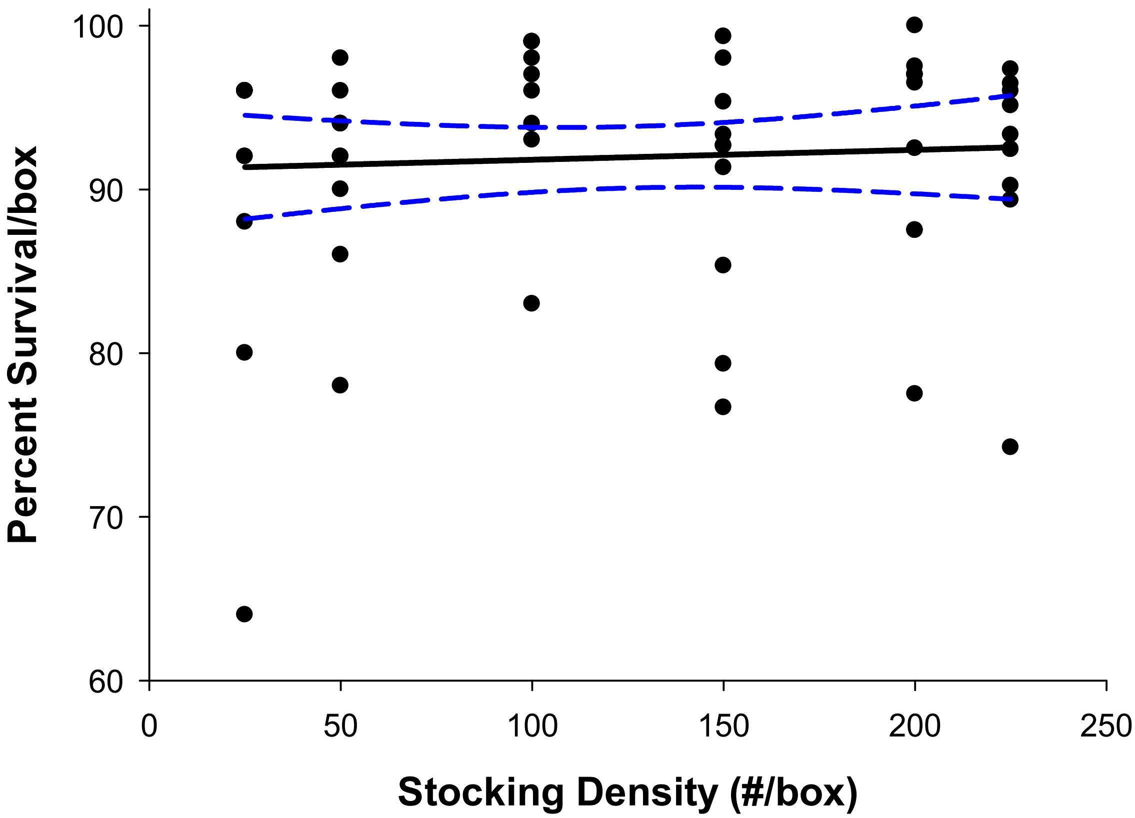

Mean Percent Survival (+ 95% CI)
100
95
90
85
80
25
50
100
150
200
250
Stocking Density (#/box)

Figure 57.



Percent Survival/box
100
90
80
70
60
0
50
100
150
200
250
Stocking Density (#/box)

Figure 58.

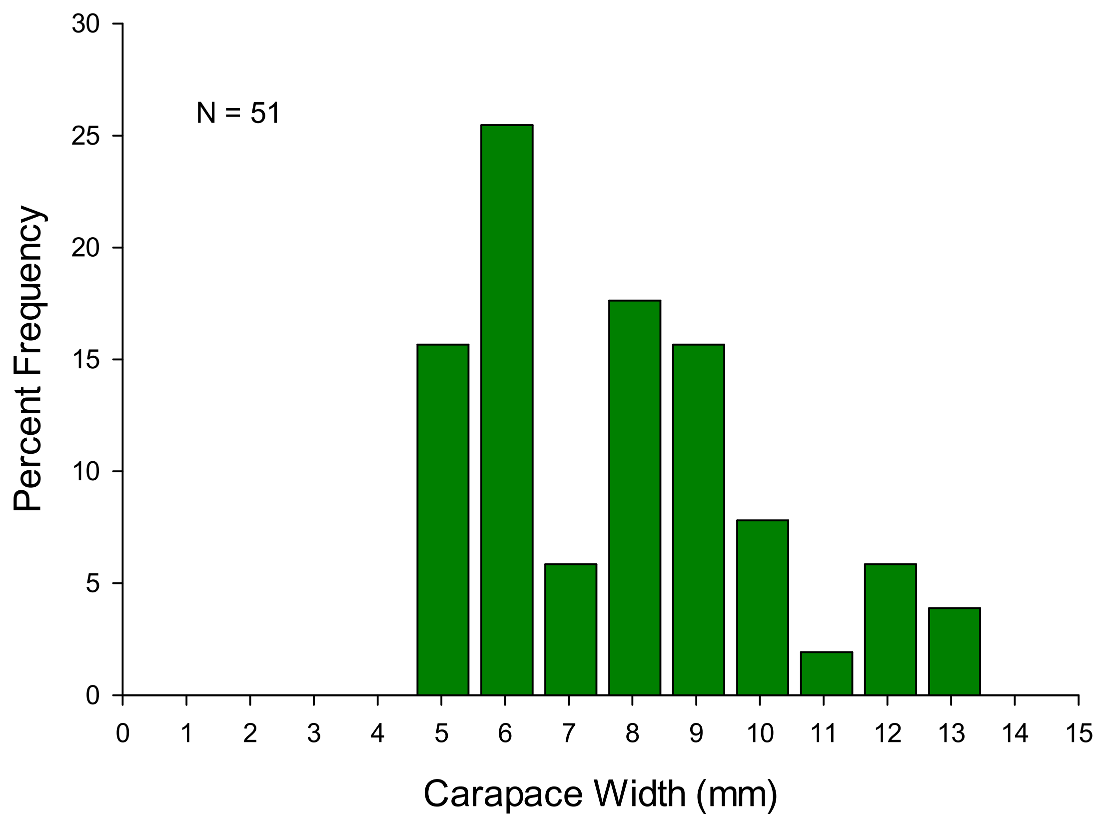

N = 51
Percent Frequency
0
5
10
15
20
25
30
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Carapace Width (mm)

Figure 59.

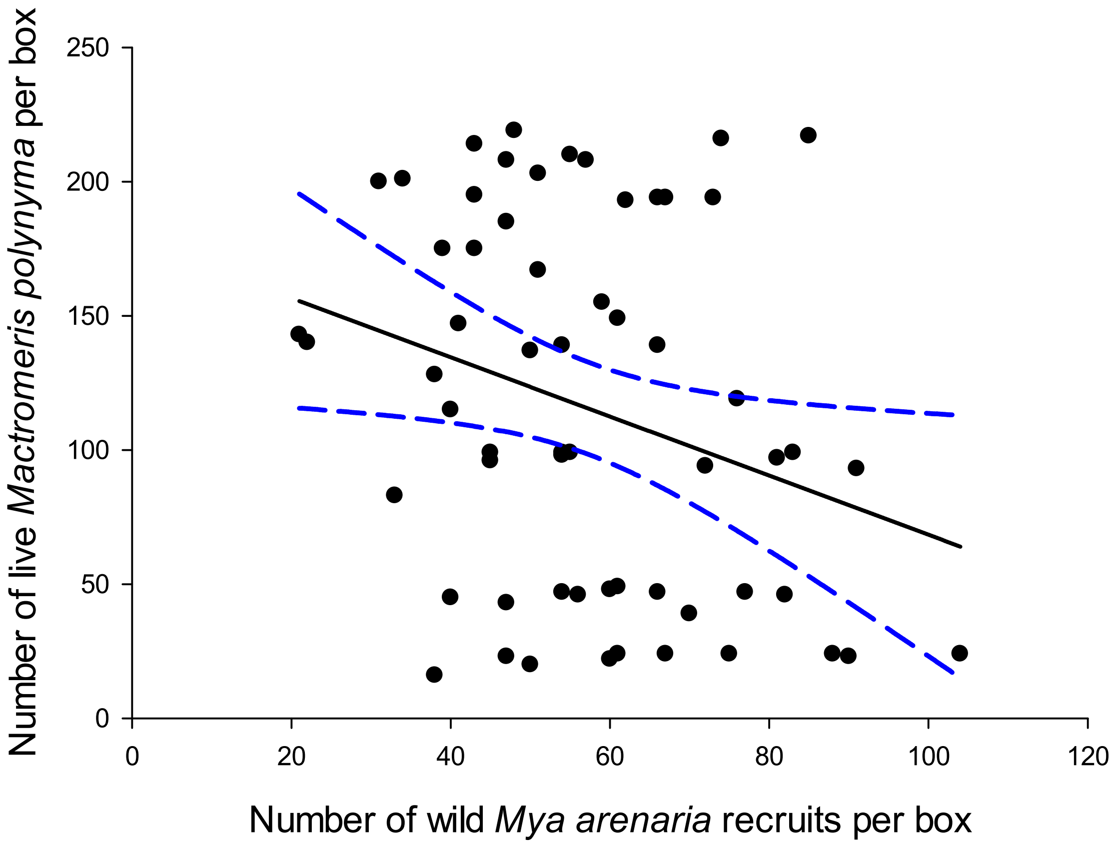
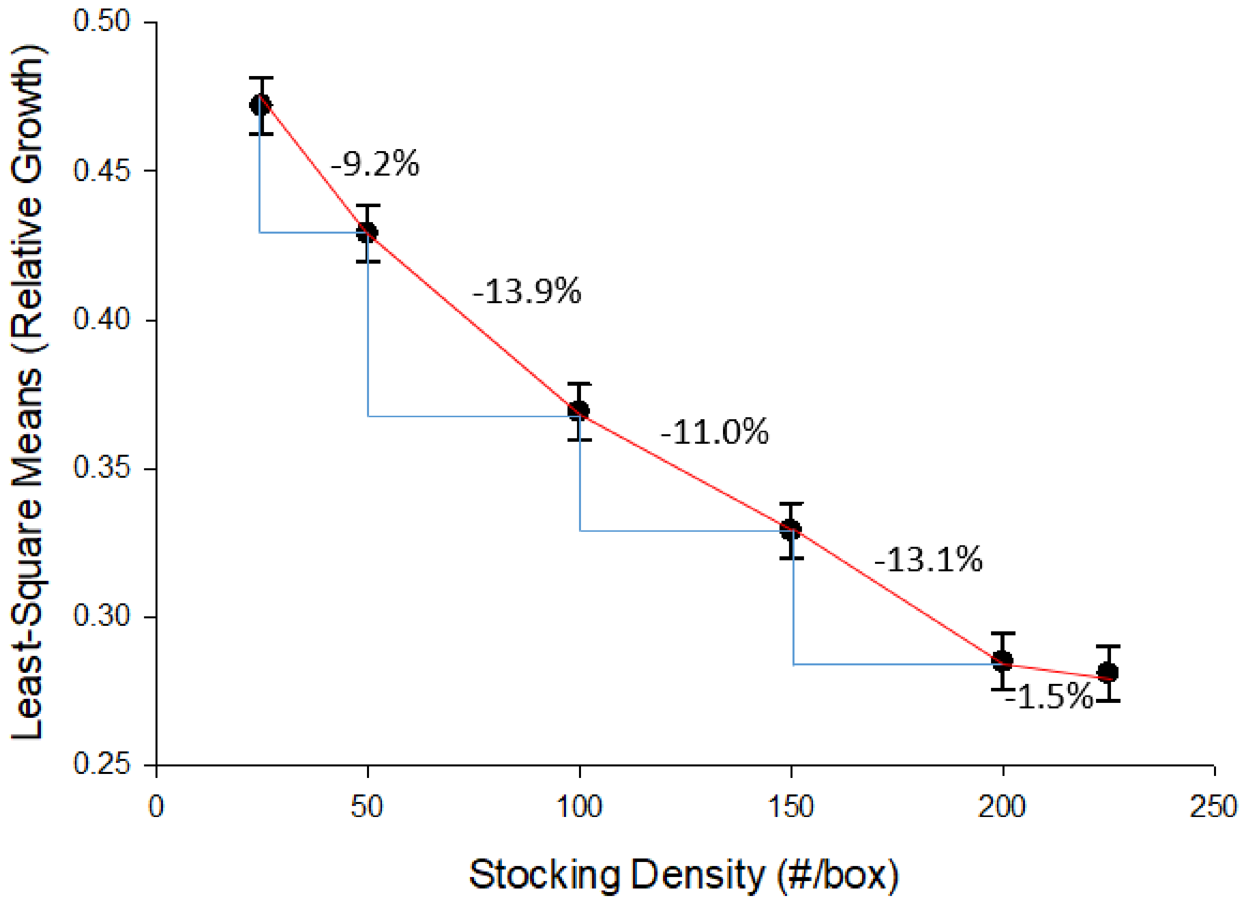
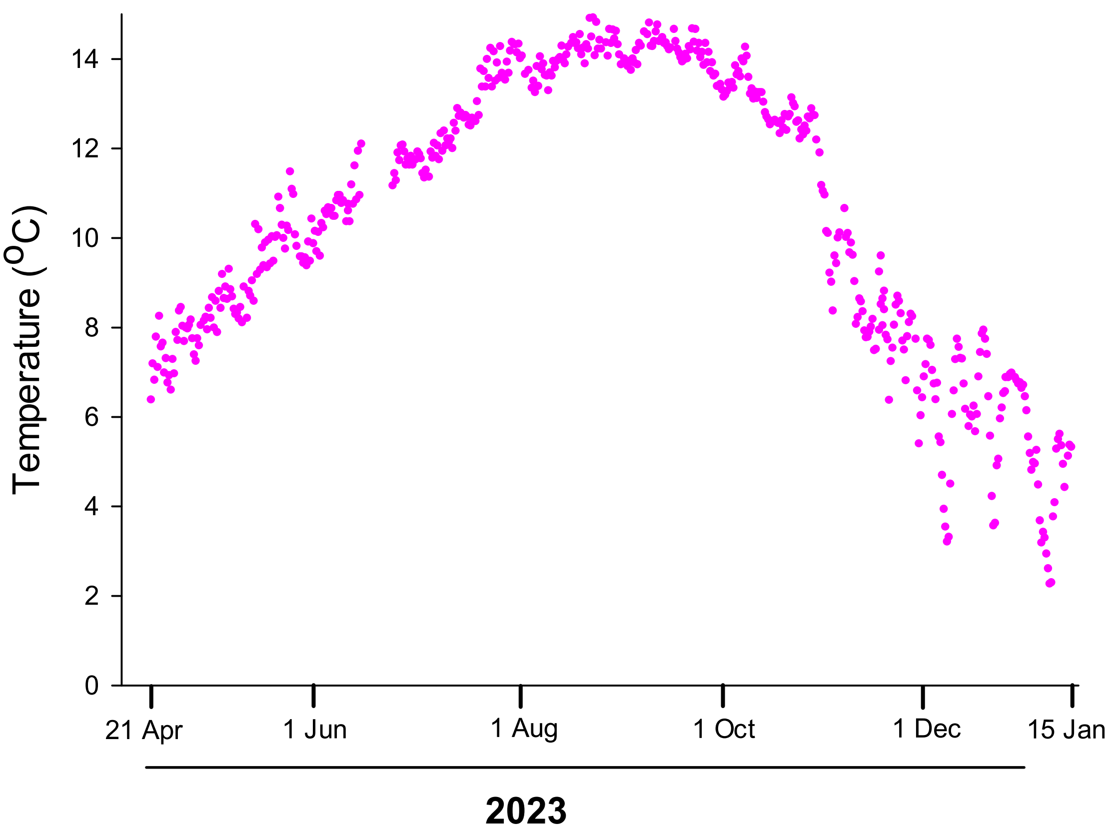

Number of live *Mactromeris polynyma* per box
250
200
150
100
50
0
0
20
40
60
80
100
120
Number of wild *Mya arenaria* recruits per box

Figure 60.



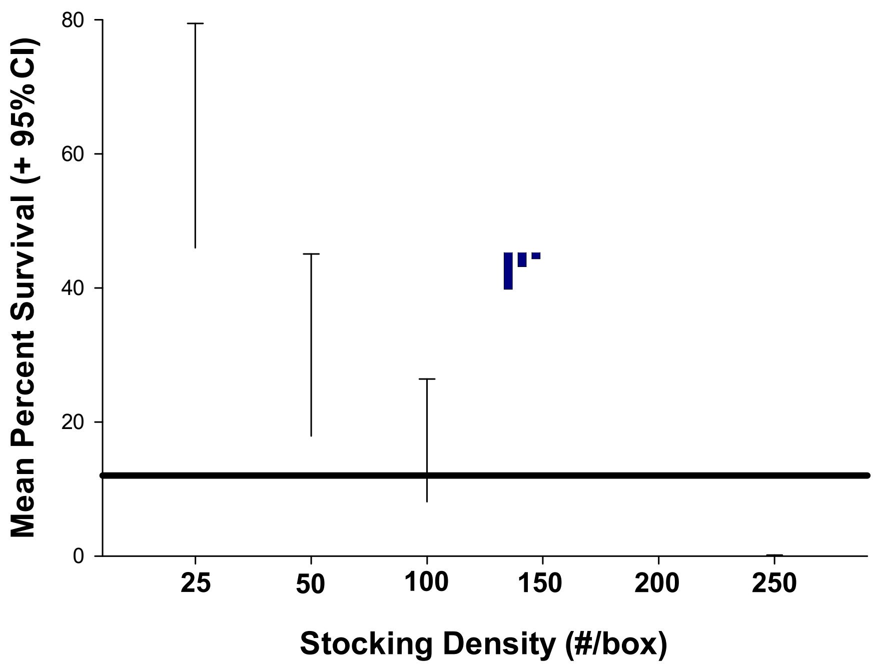
0.50
0.45
0.40
0.35
0.30
0.25
Least-Square Means (Relative Growth)
-9.2%
-13.9%
-11.0%
-13.1%
-1.5%
0
50
100
150
200
250
Stocking Density (#/box)

Figure 61.



Temperature (°C)
0
2
4
6
8
10
12
14
21 Apr
1 Jun
1 Aug
1 Oct
1 Dec
15 Jan
2023

Figure 62.


Mean Percent Survival (+ 95% CI)
80
60
40
20
0
25
50
100
150
200
250
Stocking Density (#/box)


Beals
5-5
150

Figure 63.

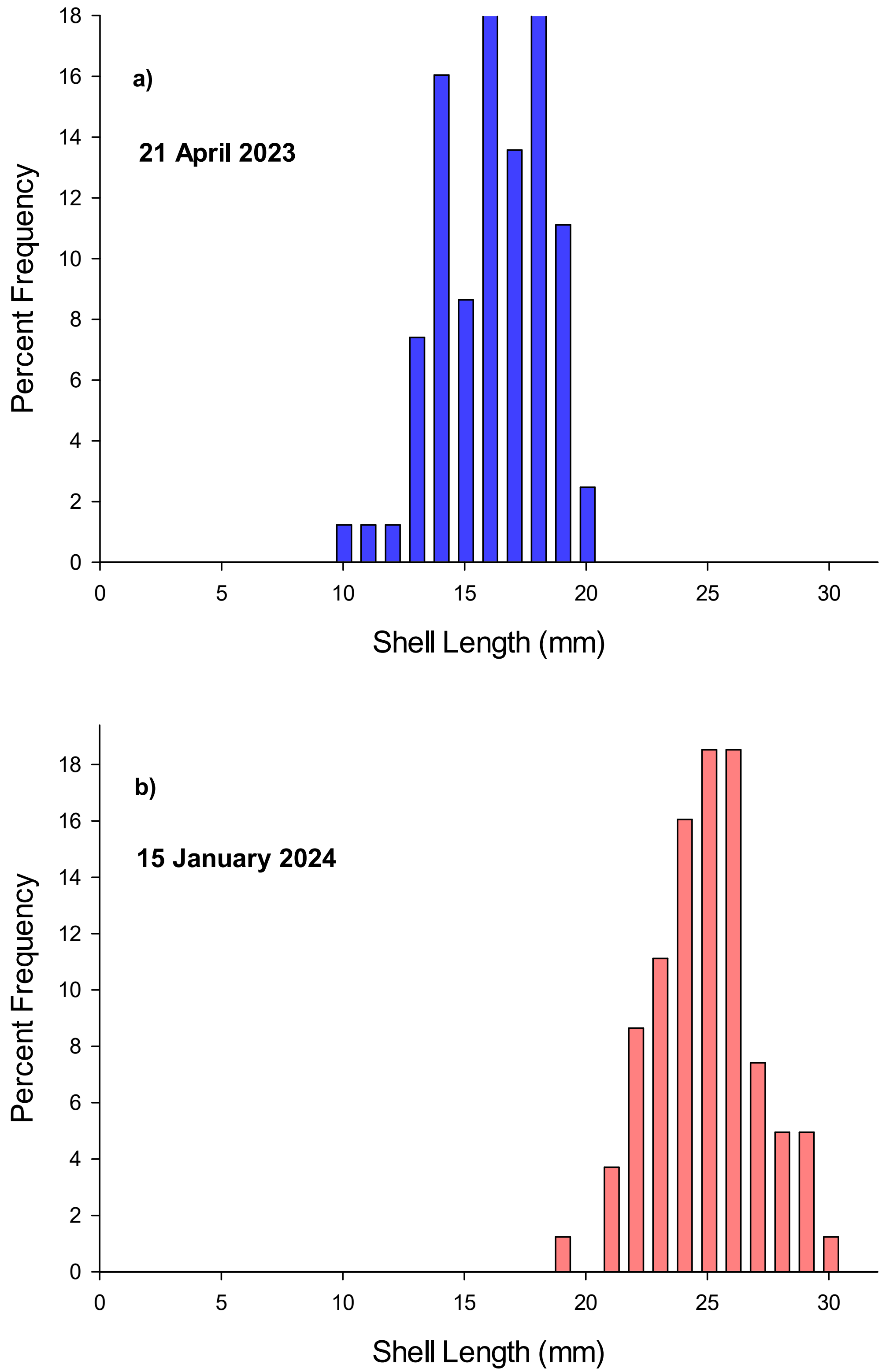

a)
21 April 2023
Percent Frequency
Shell Length (mm)
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30
b)
15 January 2024
Percent Frequency
Shell Length (mm)
0
2
4
6
8
10
12
14
16
18
0
5
10
15
20
25
30

Figure 64.

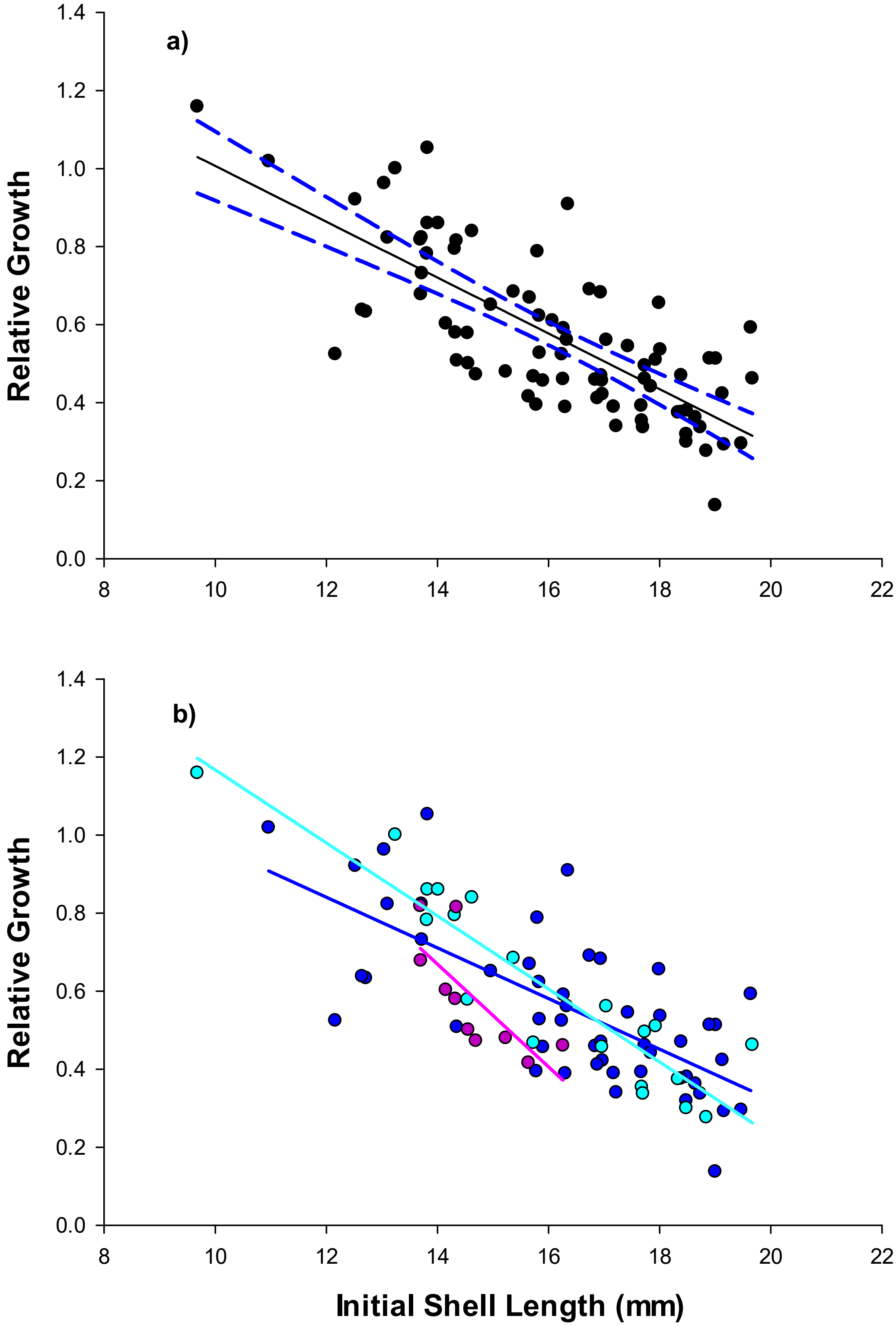
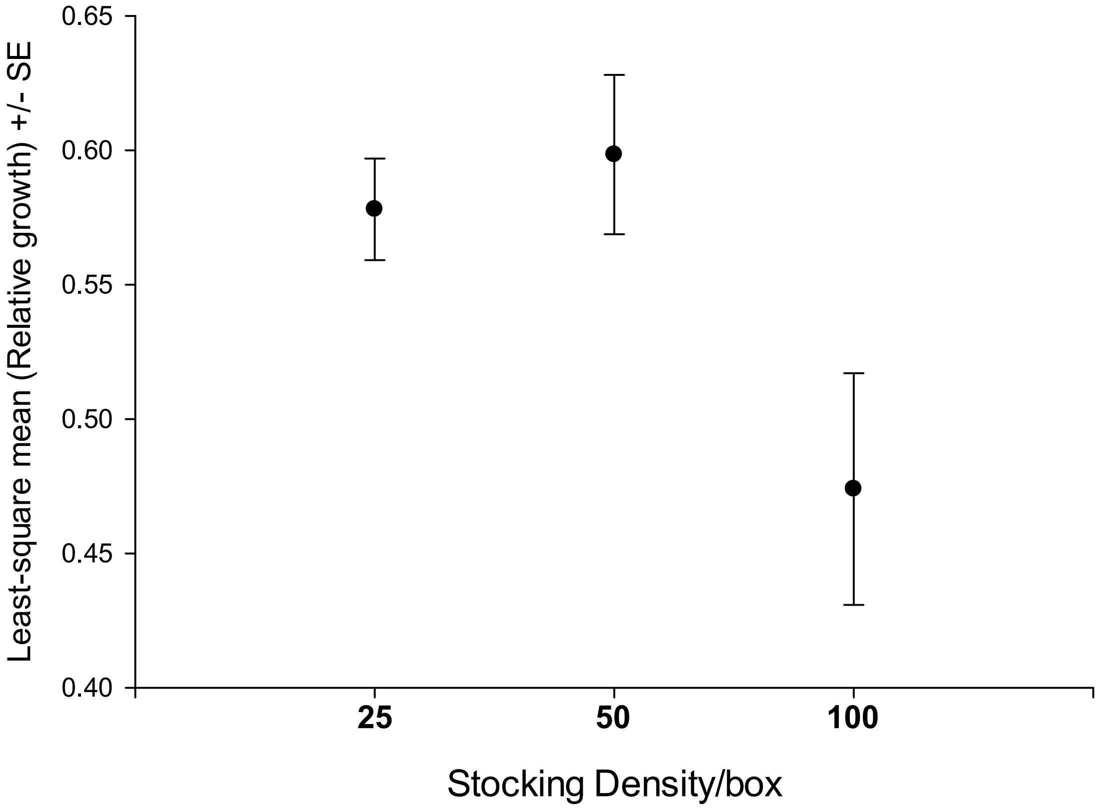

a)
b)
Relative Growth
Initial Shell Length (mm)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
8
10
12
14
16
18
20
22

Figure 65.


0.65
0.60
0.55
0.50
0.45
0.40
Least-square mean (Relative growth) +/- SE
25
50
100
Stocking Density/box