Transect Report

Overview

This report provides summary statistics and figures for ongoing transect sampling. The first section of the report focuses on the current sampling (Winter 2020-2021) and how the collected data compare to last year's sampling (Winter 2019-2020). So far 12 days have been sampled this season. The second half of the report gives summaries of all of the data that have been collected since the beginning of the project (2010-05-27). In total, 105 days have been sampled over this entire project.

Definition of Localities

LOCALITY	LOCATION
$\overline{\mathrm{BT}}$	Big Trout
CK	Cedar Key
CR	Corrigan's Reef
HB	Horseshoe Beach
LC	Lone Cabbage
LT	Little Trout
NN	No Name

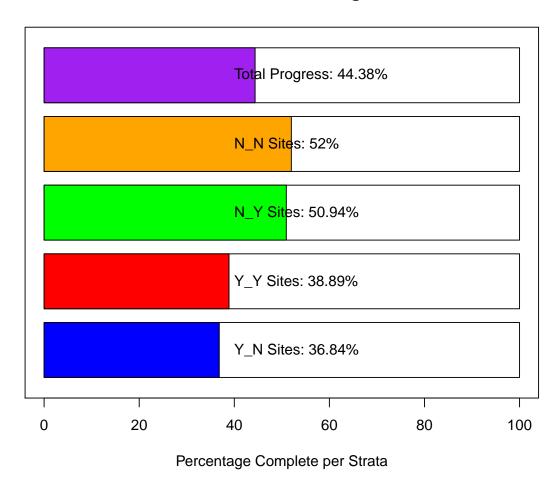
Definition of Strata

STRATA	DEFINITION
<u>Y_N</u>	Yes Harvest, No Rock
Y_Y	Yes Harvest, Yes Rock
N_N	No Harvest, No Rock
N_Y	No Harvest, Yes Rock
N_PILOT	No Harvest, Pilot Rocks

Current Sampling

Here, we provide a progress bar showing how much of the sampling has been completed for this season, plus summary tables and plots comparing live counts and density of oysters between this current season and last year. The current sampling period is period 22, and last year's sampling period is period 20.

Field Sites - Strata Progress



Summary Tables for Periods 18, 20 and 22

These summary tables provide summary statistics on live counts and oyster densities for just periods 18 (Winter 2018-2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021).

Summary statistics include:

- Locality or Strata or Period Mean
- Median
- Standard Deviation (SD)
- Variance (Var)
- Coefficient of variation (CV)
- Standard Error (SE)
- Lower 95% Confidence Interval assuming normal distribution (L95)
- Upper 95% Confidence Interval assuming normal distribution (U95)
- Bootstrap Mean (Bstrap Mean)
- Lower 95% Confidence Interval from Bootstrap Values (L95 Bstrap)
- Upper 95% Confidence Interval from Bootstrap Values (U95 Bstrap)

Summary of Live Counts for Periods 18, 20 and 22

Live Oyster Counts by Locality		
Locality Mean Median SD Var CV SE L95 U95 Bstra	ap_Mean L95_Bstrap U95_Bstra	ιp
BT 1805 897 2435 5931263 1.35 734 366 3245	1854 759 349	8
LC 1355 880 1575 2480317 1.16 155 1051 1659	1359 1085 168	30
LT 1054 877 645 416505 0.61 167 728 1381	1062 780 138	37
NN 720 649 644 414522 0.89 204 321 1119	703 403 113	31
Live Oyster Counts by Strata		
	p_Mean L95_Bstrap U95_Bstrap)
N_N 1123 816 1299 1687484 1.16 186 760 1487	1119 841 1510	
N PILOT 356 356 NA NA NA NA NA	178 13 346	;
N_Y 2194 1436 2126 4519300 0.97 434 1343 3044	2206 1497 3134	Ĺ
Y_N 901 698 796 632829 0.88 113 680 1121	902 691 1122	2
Y_Y 1956	1977 1002 3237	,
Live Oyster Counts by Period		
Period Mean Median SD Var CV SE L95 U95 Bstrap	_Mean L95_Bstrap U95_Bstrap	
18 982 695 935 874733 0.95 120 748 1217	984 770 1227	
20 1844 1253 2125 4517189 1.15 310 1236 2451	1850 1298 2540	
22 1155 679 1269 1609202 1.10 228 709 1602	1160 781 1619	
Live Density by Locality		
Locality Mean Median SD Var CV SE L95 U95 Bstrap_Mean	n L95_Bstrap U95_Bstrap	
BT 262 218 207 42972 0.79 63 140 385 262	2 161 381	
LC 172 153 129 16544 0.75 13 147 196 172	2 148 196	
LT 274 239 152 23145 0.56 39 197 351 272	2 201 346	
NN 215 154 234 54714 1.09 74 70 360 214	4 108 366	
Live Density by Strata	LOE D. HOE D.	
Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean		
N_N 234 185 176 30838 0.75 25 185 283 234		
N_PILOT 102 102 NA NA NA NA NA NA 51		
N_Y 147 136 99 9743 0.67 20 108 187 149		
Y_N 198 185 150 22392 0.76 21 157 240 197	155 238	

Y_Y 119 112 89 7937 0.75 23 74 164 119 78 163

Live Density by Period

	J										
Period	${\tt Mean}$	${\tt Median}$	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
18	177	155	131	17117	0.74	17	144	210	177	144	211
20	258	203	188	35185	0.73	27	204	312	257	206	310
22	125	121	67	4458	0.53	12	101	148	124	103	146

Summary of Dead Counts for Periods $18,\,20$ and 22

Dead Oyster Counts by Locality		
Locality Mean Median SD Var CV SE L95 U95 Bstrap_Mean L	95_Bstrap (J95_Bstrap
BT 348 178 333 111065 0.96 100 151 545 347	178	530
LC 120 67 123 15180 1.02 12 96 144 120	98	144
LT 240 210 202 40850 0.84 52 137 342 240	146	351
NN 100 68 100 10018 1.00 32 38 162 101	50	168
Dead Oyster Counts by Strata	D-+ IIOF	Datas
Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_	157	
N_N 213 135 220 48338 1.03 31 151 275 212		273
N_PILOT 9 9 NA NA NA NA NA NA 5	1	9
N_Y 74 54 91 8199 1.23 18 38 110 73	43	109
Y_N 134 83 129 16610 0.96 18 98 169 134	101	169
Y_Y 127 56 144 20777 1.14 37 54 200 127	66	202
Dead Oyster Counts by Period		. .
Period Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_B		-
18 133 55 192 36903 1.44 25 85 182 133	91	185
20 148 107 140 19727 0.95 20 108 188 149	113	191
22 185 108 164 27054 0.89 30 127 243 185	131	241
Dead Oyster Density by Locality Locality Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95	_Bstrap U99	5_Bstrap
BT 55 51 37 1332 0.66 11.0 34 77 55	36	78
LC 20 11 22 501 1.10 2.2 16 25 20	16	25
LT 58 47 40 1570 0.68 10.2 38 78 57	40	79
NN 28 16 26 668 0.91 8.2 12 45 29	14	44
Dead Oyster Density by Strata		
Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean	L95 Bstrap	U95 Bstrap
N_N 43.8 37.0 34.0 1159 0.78 4.86 34.2 53.3 44.0	34.4	53.6
N PILOT 2.6 2.6 NA NA NA NA NA NA 1.5	1.0	2.0
N Y 5.2 3.8 4.7 22 0.89 0.96 3.4 7.1 5.3	3.7	7.2
Y N 29.1 22.0 25.9 671 0.89 3.66 21.9 36.2 29.1	22.3	36.0
Y Y 8.6 7.9 6.6 43 0.76 1.70 5.3 12.0 8.6	5.5	12.0
1_1 010 110 010 10 010 1110 010 1210	0.0	12.0
Dead Oyster Density by Period		
Period Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bst	rap U95 Bst	trap
18 26 16 31 980 1.19 4.0 19 34 26	19	34
20 28 18 26 698 0.95 3.9 20 35 28	21	37
22 30 15 31 980 1.04 5.6 19 41 30	19	42

Summary Plots for Periods 18, 20 and 22

Live Oyster Density by Locality for Periods 18, 20, and 22

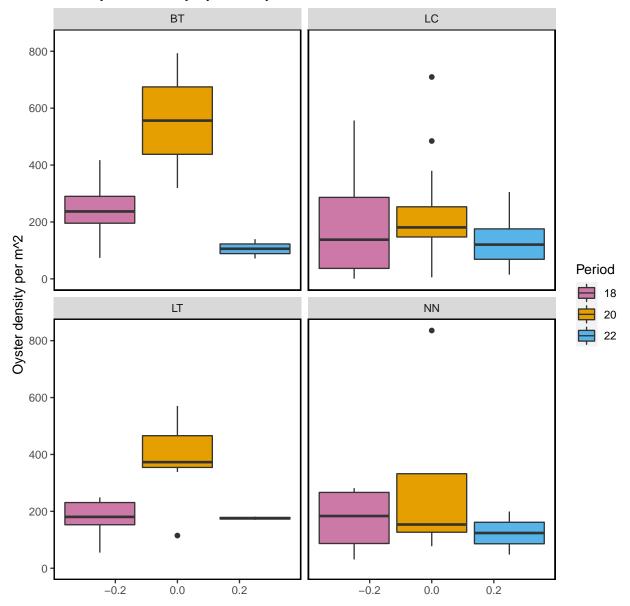


Figure- Calculated live oyster density by locality for periods 18 (Winter 2018-2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021) with the last sample date of period 22 as 2020-12-29.

Dead Oyster Density by Locality for Periods 18, 20, and 22

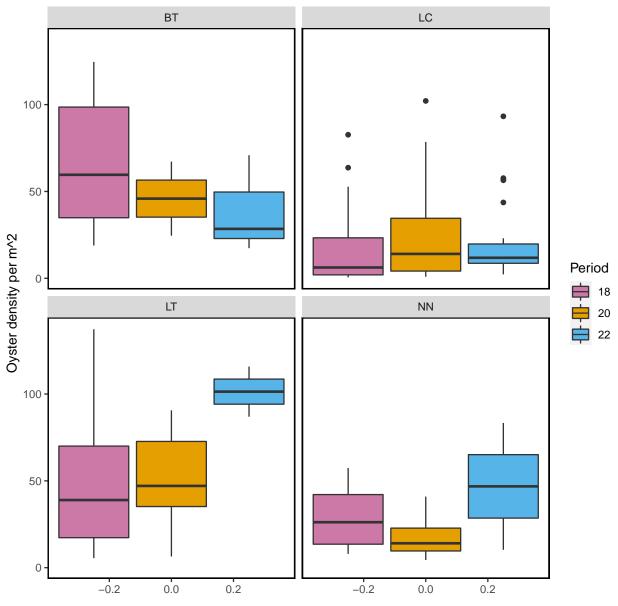


Figure- Calculated dead oyster density by locality for periods 18 (Winter 2018-2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021) with the last sample date of period 22 as 2020-12-29.

Live Oyster Density by Strata for Periods 18, 20 and 22

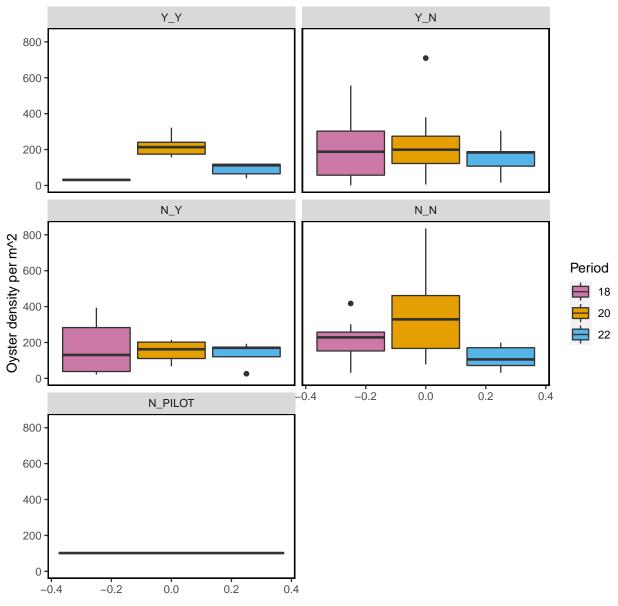


Figure- Calculated live oyster density by strata for periods 18 (Winter 2018-2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021) with the last sample date of period 22 as 2020-12-29.

Dead Oyster Density by Strata for Periods 18, 20 and 22

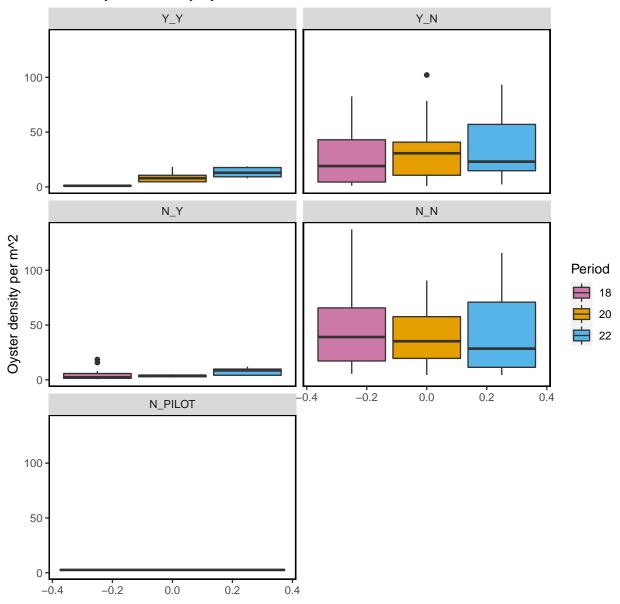


Figure- Calculated dead oyster density by strata for periods 18 (Winter 2018-2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021) with the last sample date of period 22 as 2020-12-29.

The following summary plot is calculated in R using the <code>geom_density</code> (https://ggplot2.tidyverse.org/reference/geom_density.html) statistical function in <code>ggplot</code>. The <code>geom_density</code> function computes and draws kernel density estimates, which is then represented as a smoothed version of a histogram.

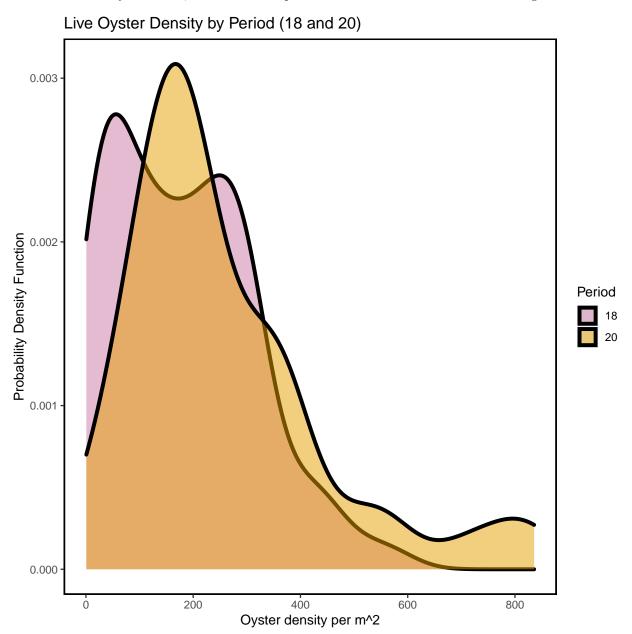


Figure- Calculated live oyster density by periods 18 (Winter 2018-2019) and 20 (Winter 2019-2020) using a probability density function with the last sample date of period 22 as 2020-12-29.

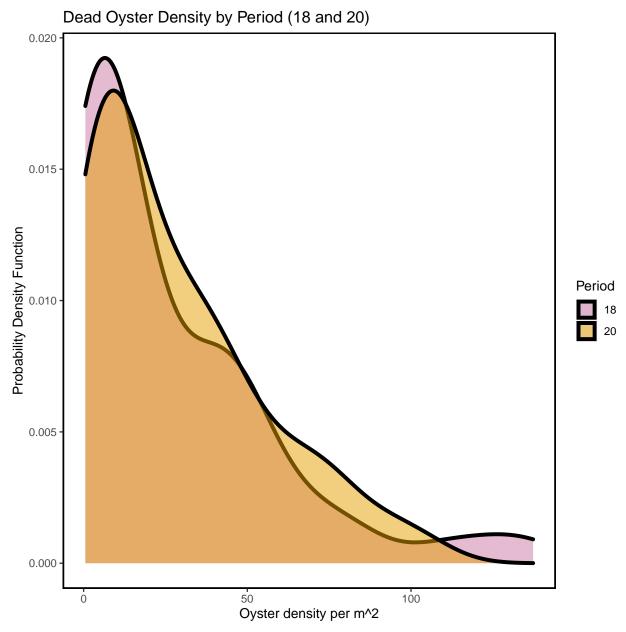


Figure- Calculated dead oyster density by periods 18 (Winter 2018-2019) and 20 (Winter 2019-2020) using a probability density function with the last sample date of period 22 as 2020-12-29.

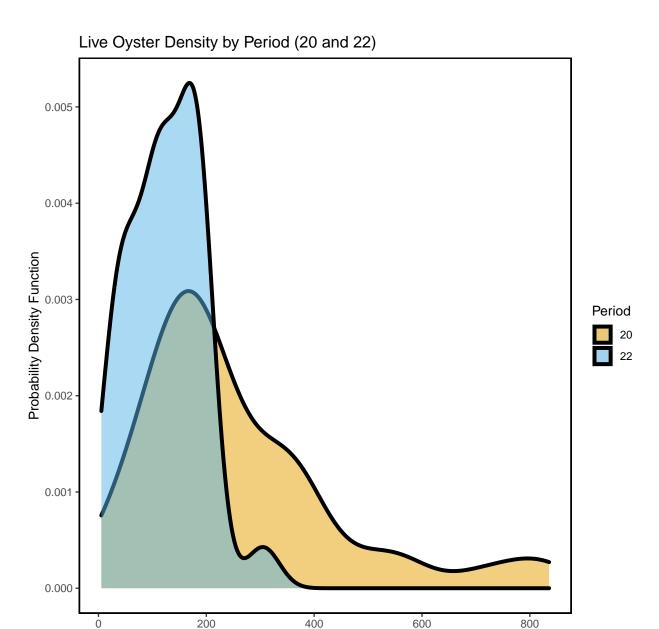


Figure- Calculated live oyster density by periods 20 (Winter 2019-2020) and 22 (Winter 2020-2021) using a probability density function with the last sample date of period 22 as 2020-12-29.

Oyster density per m^2

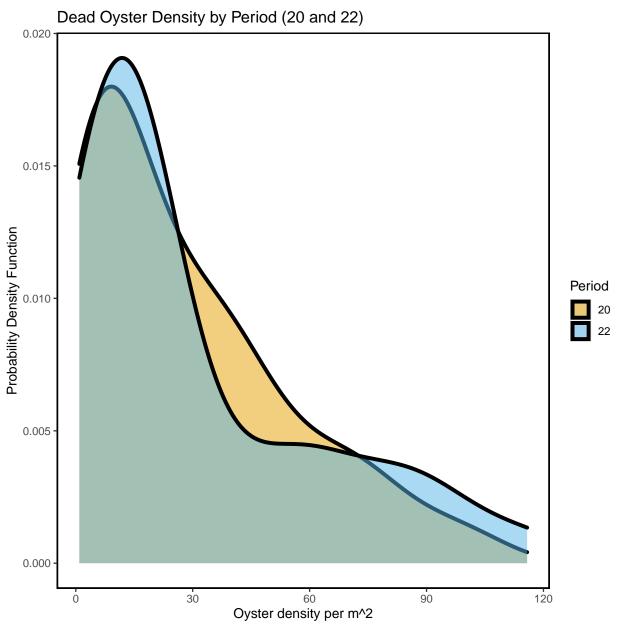


Figure- Calculated dead oyster density by periods 20 (Winter 2019-2020) and 22 (Winter 2020-2021) using a probability density function with the last sample date of period 22 as 2020-12-29.

Live and Dead Oyster Count Comparison for Periods 18, 20 and 22

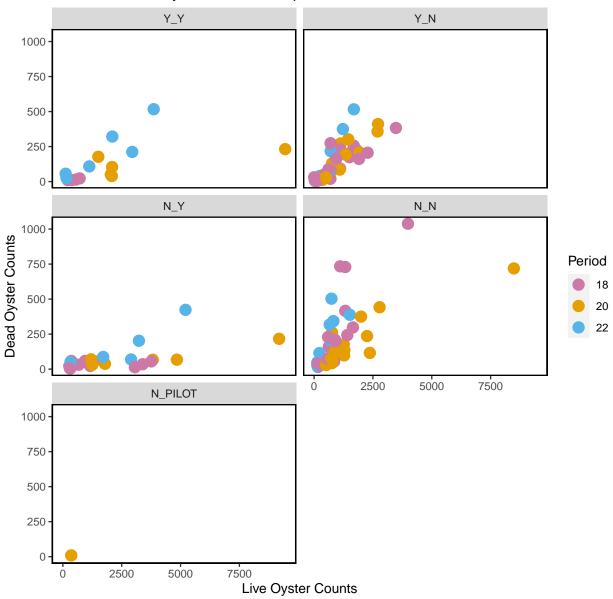


Figure- Live and dead oyster count comparison by periods 18 (Winter 2018- 2019), 20 (Winter 2019-2020) and 22 (Winter 2020-2021), last sample date of period 22 as 2020-12-29.

Live Counts Double Pass Results

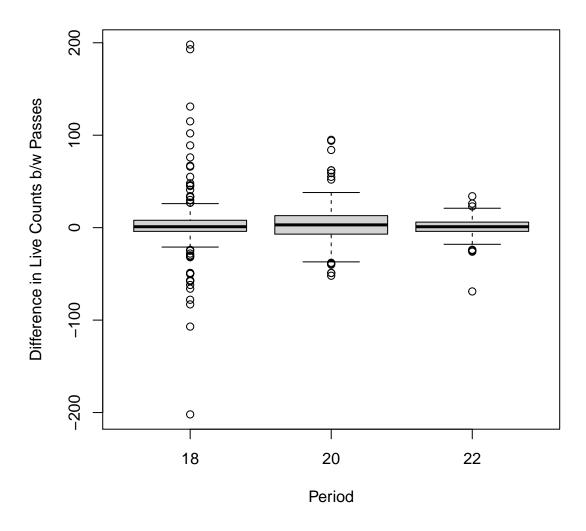


Figure- Boxplot of the difference in live counts between pass 1 and pass 2 (pass 1 live counts - pass 2 live counts) for period 18, 20, and 22

locality	period	CV_1	CV_2
BT	18	0.82	0.83
LC	18	1.34	1.43
NN	18	0.47	0.63
LC	20	0.83	0.80
LT	20	0.61	0.60
BT	22	0.39	0.52
LC	22	0.69	0.73
LT	22	0.47	0.43

Table- Coefficient variation between pass 1 and pass 2, aggregated by locality and period for live counts

Dead Counts Double Pass Results

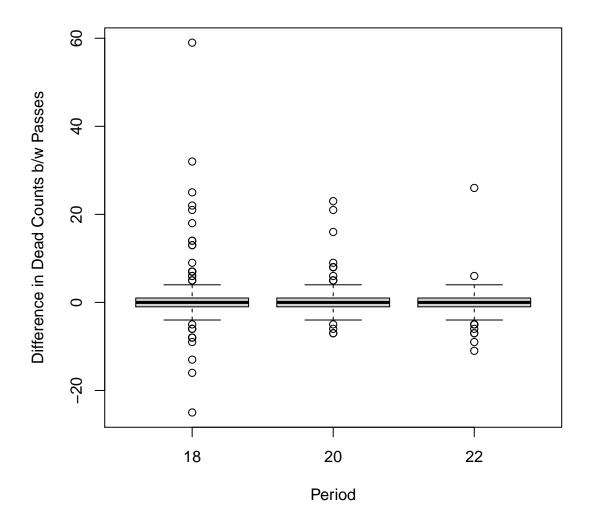


Figure- Boxplot of the difference in dead counts between pass 1 and pass 2 (pass 1 dead counts - pass 2 dead counts) for period 18, 20, and 22

locality	period	CV_1	CV_2
BT	18	0.78	0.82
LC	18	2.35	2.06
NN	18	0.55	0.73
LC	20	1.93	1.62
LT	20	0.76	0.67
BT	22	0.60	0.66
LC	22	0.75	0.78
LT	22	0.79	0.74

Table- Coefficient variation between pass 1 and pass 2, aggregated by locality and period for dead counts

Sampling for all Periods

Next, we provide summary tables and plots for all transect sampling. These data were collected between 2010-05-27 and 2020-12-29. The following are only for live oysters.

Definitions of Periods

PERIOD	SEASON	YEAR
1	Summer	2010
2	Winter	2010-2011
3	Summer	2011
4	Winter	2011-2012
5	Summer	2012
6	Winter	2012-2013
7	Summer	2013
8	Winter	2013-2014
9	Summer	2014
10	Winter	2014-2015
11	Summer	2015
12	Winter	2015-2016
13	Summer	2016
14	Winter	2016-2017
15	Summer	2017
16	Winter	2017-2018
17	Summer	2018
18	Winter	2018-2019
19	Summer	2019
20	Winter	2019-2020
21	Summer	2020
22	Winter	2020-2021

Summary of Effort for all Periods

Effort by Locality

NN

CK

 ${\tt CR}$

These effort summaries show the total number of transects and total number of meters walked per locality, strata, locality per period, and strata per period. These tables contain all data collected on the transects.

-	Locality							
Locality	Number of	Transects Total	L Length (m)					
BT		11	424					
CK		26	712					
CR		46	1330					
HB		45	1129					
LC		183 9099						
LT		15 406						
NN		10 255						
1414		10	200					
Effort by	Strata							
-		ransects Total	I angth (m)					
	Number of 1	106	_					
N_N			3537					
N_PILOT		13	799					
N_Y		24	2502					
Y_N		178	5078					
Y_Y		15	1437					
Effort by								
Period N	umber of Tra	ansects Total I	Length (m)					
1		42	1086					
2		30	753					
3		25	619					
6		33	874					
7		8	528					
10		8	512					
11		8	511					
16		8	528					
18		61	2632					
19		35						
			921					
20		47	2556					
22		31	1833					
	Locality an							
	•	ber of Transect	ts Total Length (m)					
1	CK		9 242					
1	CR	=	10 300)				
1	HB	-	12 293	3				
1	LC	3	11 250)				
10	LC		8 512)				
11	LC		8 511					
16	LC		8 528					
18	BT	6 23						
18	LC	2	15 2128					
18	LT	7	6 182					
10	ът. Т		102	•				

19	HB	9	247
19	LC	8	226
2	CR	9	283
2	HB	11	271
2	LC	10	199
20	BT	2	96
20	LC	34	2163
20	LT	7	171
20	NN	4	126
22	BT	3	90
22	LC	24	1646
22	LT	2	52
22	NN	2	46
3	CR	9	269
3	HB	7	184
3	LC	9	167
6	CK	8	248
6	CR	9	250
6	HB	6	134
6	LC	10	242
7	LC	8	528

Effort by Strata and Period

ETIOL !	by Strate	i and re	STIC	Ju			
Period	Strata	${\tt Number}$	of	${\tt Transects}$	${\tt Total}$	Length	(m)
1	N_N			8			149
1	Y_N			34			937
10	N_N			4			256
10	N_PILOT			4			256
11	N_N			4			255
11	N_PILOT			4			256
16	N_N			4			264
16	N_PILOT			4			264
18	N_N			18			571
18	N_Y			13			962
18	Y_N			26			723
18	Y_Y			4			376
19	N_N			5			80
19	Y_N			30			841
2	N_N			8			148
2	Y_N			22			605
20	N_N			18			590
20	N_PILOT			1			23
20	N_Y			6			888
20	Y_N			17			602
20	Y_Y			5			454
22	N_N			13			372
22	N_Y			5			652
22	Y_N			7			202
22	Y_Y			6			607
3	N_N			8			147
3	Y_N			17			472
6	N_N			8			178
6	Y_N			25			695
7	N_N			8			528

Effort Plot Summaries for all Periods

Total Transect Length Sampled by Locality

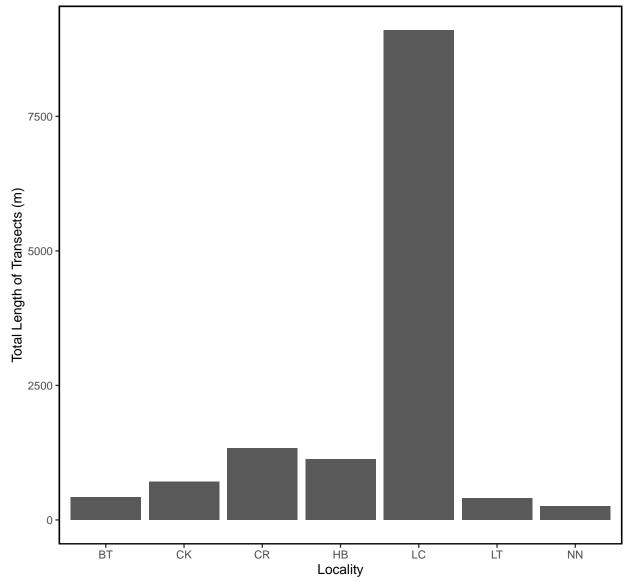


Figure – Bar plot of total transect length in meters sampled by locality for all periods.

Total Transect Length Sampled by Strata

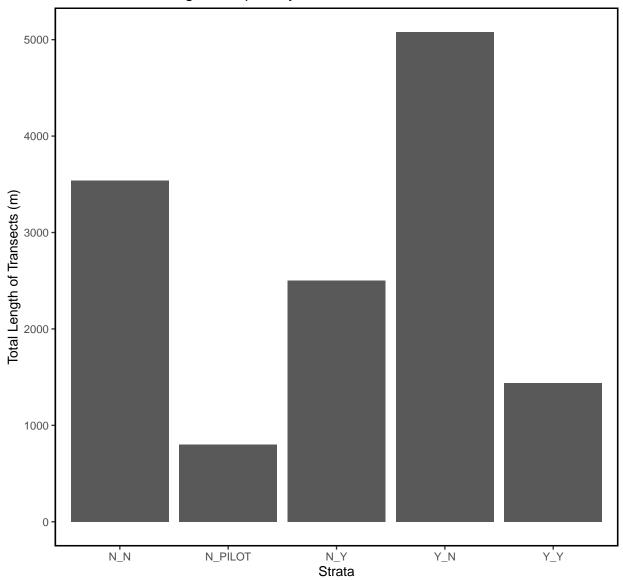


Figure – Bar plot of total transect length in meters sampled by strata for all periods.

Total Transect Length Sampled by Period

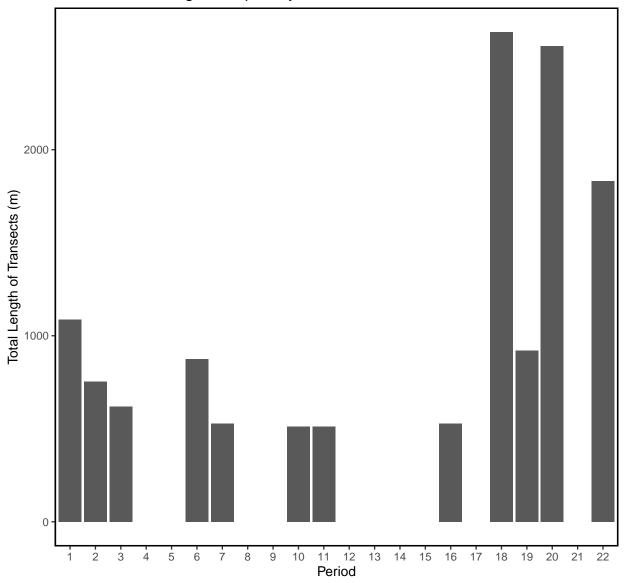


Figure – Bar plot of total transect length in meters sampled by period for all periods.

Summary Tables for all Periods

These summaries display summary statistics of live oysters by locality, strata, and period. These contain all data collected on the oyster transects.

The summary statistics include:

- Locality or Strata or Period Mean
- Median
- Standard Deviation (SD)
- Variance (Var)
- Coefficient of variation (CV)
- Standard Error (SE)
- Lower 95% Confidence Interval assuming normal distribution (L95)
- Upper 95% Confidence Interval assuming normal distribution (U95)
- Bootstrap Mean (Bstrap Mean)
- Lower 95% Confidence Interval from Bootstrap Values (L95 Bstrap)
- Upper 95% Confidence Interval from Bootstrap Values (U95 Bstrap)

Live Count Statistics for all Periods

Live Oyster Co	unts by L	ocality							
Locality Mean	Median	SD Va:	r CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
BT 1805	897 2	435 593126	3 1.35	734	366	3245	1813	776	3288
CK 857	444 1	091 119093	3 1.27	214	438	1277	851	477	1279
CR 1026	716 1	035 107216	2 1.01	153	727	1325	1027	772	1326
HB 902	364 1	047 109562	2 1.16	158	592	1211	901	588	1200
LC 1038	677 1	318 173764	5 1.27	98	845	1230	1037	855	1244
LT 1054	877	645 41650	5 0.61	167	728	1381	1056	766	1403
NN 720	649	644 41452	2 0.89	204	321	1119	724	409	1160
Live Oyster Co	•		~	~-					
Strata Mean		SD Var	CV		L95		Bstrap_Mean		
N_N 995		87 1181711				1203	996	808	1220
N_PILOT 1046						1386	1051	729	1401
N_Y 2194		26 4519300					2212	1448	3091
Y_N 793	436 9	28 861984	1.17	70	656	931	789	647	932
Y_Y 1956	1506 23	49 5520147	1.20	607	767	3145	1961	961	3235
Live Oyster Co	unta hu D	oriod							
Period Mean M	•		CV	CE I	. OE	TIOE I	Patron Moon 1	OF Datmon I	IOE Datmon
1 1404		D Var 8 1657932					Bstrap_Mean 1 1399	1028 гар	1813
2 890	476 94					1234	894	587	1242
3 738	296 81					1065	742	427	1090
6 433	176 53				245	621	430	264	630
7 50	29 5			20	11	90	51	18	88
10 1207	1074 67					1672	1205	817	1658
11 886	776 67				416	1356	893	456	1347
16 494	366 46	7 217855	0.95 1	.65	170	817	489	213	829
18 982	695 93	5 874733	0.95 1	20	748	1217	977	758	1236
19 555	329 57	3 328431	1.03	97 3	365	745	552	381	741
20 1844	1253 212	5 4517189	1.15 3	10 12	236	2451	1845	1282	2546
22 1155	679 126	9 1609202	1.10 2	28	709	1602	1160	722	1615

Live Density Statistics for all Periods

ity by	y Local	ity											
Mean	Median	SD	Var	CI	SE	L95	U95	Bstrap_Mea	n L95	_Bstrap	U95_	Bstrap	
262	218	207	42972	0.79	63	140	385	26	30	159		388	
241	112	321	102795	1.33	63	118	365	24	12	133		367	
288	181	294	86231	1.02	2 43	203	373	28	38	209		376	
257	101	303	92052	1.18	3 46	168	347	25	8	175		348	
155	121	152	23011	0.98	3 11	133	177	15	55	132		178	
274	239	152	23145	0.56	39	197	351	27	72	200		351	
215	154	234	54714	1.09	74	70	360	21	.4	106		369	
Mean M 262 111 147 192	Median 183 111 136 117	SD 264 60 99 221	69745 1 3604 0 9743 0 48797 1	.01 2 .54 1 .67 2 .15 1	26 2 .7 20 1 .7 1	12 31 79 14 08 18 59 22	.3 14 87 24	262 111 148 192		strap US 219 83 111 162 78	95_Bs	315 143 188 227 161	
			V	C1	, ce	τ	_	HOE Datase	. M	IOE Dad		IIOE D-	
								_			_	095_BS	
													50
													36 34
	Mean 262 241 288 257 155 274 215 ity by Mean 1 262 111 147 192 119 ity by ean Mean Mean Mean Mean Mean Mean Mean	Mean Median 262 218 241 112 288 181 257 101 155 121 274 239 215 154 ity by Strat Mean Median 262 183 111 111 147 136 192 117 119 112 ity by Perio ean Median 393 300.8 3 255 119.0 2	262 218 207 241 112 321 288 181 294 257 101 303 155 121 152 274 239 152 215 154 234 ity by Strata Mean Median SD 262 183 264 111 111 60 147 136 99 192 117 221 119 112 89 ity by Period ean Median SD 393 300.8 362.6 255 119.0 285.2	Mean Median SD Var 262 218 207 42972 241 112 321 102795 288 181 294 86231 257 101 303 92052 155 121 152 23011 274 239 152 23145 215 154 234 54714 ity by Strata Mean Median SD Var 262 183 264 69745 1 111 111 60 3604 0 147 136 99 9743 0 192 117 221 48797 1 119 112 89 7937 0 ity by Period ean Median SD Var 393 300.8 362.6 131444 255 119.0 285.2 81348	Mean Median SD Var CV 262 218 207 42972 0.79 241 112 321 102795 1.33 288 181 294 86231 1.02 257 101 303 92052 1.18 155 121 152 23011 0.98 274 239 152 23145 0.56 215 154 234 54714 1.09 ity by Strata Mean Median SD Var CV S 262 183 264 69745 1.01 211 111 60 3604 0.54 1147 136 99 9743 0.67 2192 117 221 48797 1.15 119 112 89 7937 0.75 21 ity by Period ean Median SD Var CV S 263 33 300.8 362.6 131444 0.92 255 119.0 285.2 81348 1.12	Mean Median SD Var CV SE 262 218 207 42972 0.79 63 241 112 321 102795 1.33 63 288 181 294 86231 1.02 43 257 101 303 92052 1.18 46 155 121 152 23011 0.98 11 274 239 152 23145 0.56 39 215 154 234 54714 1.09 74 ity by Strata Mean Median SD Var CV SE L 262 183 264 69745 1.01 26 2 111 111 60 3604 0.54 17 147 136 99 9743 0.67 20 1 192 117 221 48797 1.15 17 1 119 112 89 7937 0.75 23 ity by Period ean Median SD Var CV SE 393 300.8 362.6 131444 0.92 56 255 119.0 285.2 81348 1.12 53	Mean Median SD Var CV SE L95 262 218 207 42972 0.79 63 140 241 112 321 102795 1.33 63 118 288 181 294 86231 1.02 43 203 257 101 303 92052 1.18 46 168 155 121 152 23011 0.98 11 133 274 239 152 23145 0.56 39 197 215 154 234 54714 1.09 74 70 ity by Strata Mean Median SD Var CV SE L95 US 262 183 264 69745 1.01 26 212 31 111 111 60 3604 0.54 17 79 14 147 136 99 9743 0.67 20 108 18 192 117 221 48797 1.15 17 159 22 119 112 89 7937 0.75 23 74 16 ity by Period ean Median SD Var CV SE L9 ity by Period ean Median SD Var CV SE L9 393 300.8 362.6 131444 0.92 56 283. 255 119.0 285.2 81348 1.12 53 151.	Mean Median SD Var CV SE L95 U95 262 218 207 42972 0.79 63 140 385 241 112 321 102795 1.33 63 118 365 288 181 294 86231 1.02 43 203 373 257 101 303 92052 1.18 46 168 347 155 121 152 23011 0.98 11 133 177 274 239 152 23145 0.56 39 197 351 215 154 234 54714 1.09 74 70 360 ity by Strata Mean Median SD Var CV SE L95 U95 B8 262 183 264 69745 1.01 26 212 313 111 111 60 3604 0.54 17 79 144 147 136 99 9743 0.67 20 108 187 192 117 221 48797 1.15 17 159 224 119 112 89 7937 0.75 23 74 164 ity by Period ean Median SD Var CV SE L95 393 300.8 362.6 131444 0.92 56 283.8 50 255 119.0 285.2 81348 1.12 53 151.3 38	Mean Median SD Var CV SE L95 U95 Bstrap_Mea 262 218 207 42972 0.79 63 140 385 26 241 112 321 102795 1.33 63 118 365 24 288 181 294 86231 1.02 43 203 373 28 257 101 303 92052 1.18 46 168 347 25 155 121 152 23011 0.98 11 133 177 15 274 239 152 23145 0.56 39 197 351 27 215 154 234 54714 1.09 74 70 360 21 ity by Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean 262 183 264 69745 1.01 26 212 313 262 111 111 60 3604 0.54 17 79 144 111 147 136 99 9743 0.67 20 108 187 148 192 117 221 48797 1.15 17 159 224 192 119 112 89 7937 0.75 23 74 164 119 ity by Period ean Median SD Var CV SE L95 U95 Bstrap 393 300.8 362.6 131444 0.92 56 283.8 503.1 255 119.0 285.2 81348 1.12 53 151.3 358.9	Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95 262 218 207 42972 0.79 63 140 385 260 241 112 321 102795 1.33 63 118 365 242 288 181 294 86231 1.02 43 203 373 288 257 101 303 92052 1.18 46 168 347 258 155 121 152 23011 0.98 11 133 177 155 274 239 152 23145 0.56 39 197 351 272 215 154 234 54714 1.09 74 70 360 214 ity by Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_B 111 111 60 <td>Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap 262 218 207 42972 0.79 63 140 385 260 159 241 112 321 102795 1.33 63 118 365 242 133 288 181 294 86231 1.02 43 203 373 288 209 257 101 303 92052 1.18 46 168 347 258 175 155 121 152 23011 0.98 11 133 177 155 132 274 239 152 23145 0.56 39 197 351 272 200 215 154 234 54714 1.09 74 70 360 214 106 ity by Strata Mean Median SD Var CV SE L95 U95</td> <td>Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap U95_262 218 207 42972 0.79 63 140 385 260 159_241 112 321 102795 1.33 63 118 365 242 133_288 288_299_288 209_288 288_299_288 209_</td> <td>Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap U95_Bstrap 262 218 207 42972 0.79 63 140 385 260 159 388 241 112 321 102795 1.33 63 118 365 242 133 367 288 181 294 86231 1.02 43 203 373 288 209 376 257 101 303 92052 1.18 46 168 347 258 175 348 155 121 152 23011 0.98 11 133 177 155 132 178 274 239 152 23145 0.56 39 197 351 272 200 351 215 154 234 54714 1.09 74 70 360 214 106 369 351 111 111 60 3604 0.54 17 79 144 111 83 143 147 136 99 9743 0.67 20 108 187 148 111 88 192 117 221 48797 1.15 17 159 224 192 162 227 119 112 89 7937 0.75 23 74 164 119 78 161 393 290.1</td>	Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap 262 218 207 42972 0.79 63 140 385 260 159 241 112 321 102795 1.33 63 118 365 242 133 288 181 294 86231 1.02 43 203 373 288 209 257 101 303 92052 1.18 46 168 347 258 175 155 121 152 23011 0.98 11 133 177 155 132 274 239 152 23145 0.56 39 197 351 272 200 215 154 234 54714 1.09 74 70 360 214 106 ity by Strata Mean Median SD Var CV SE L95 U95	Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap U95_262 218 207 42972 0.79 63 140 385 260 159_241 112 321 102795 1.33 63 118 365 242 133_288 288_299_288 209_288 288_299_288 209_	Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap U95_Bstrap 262 218 207 42972 0.79 63 140 385 260 159 388 241 112 321 102795 1.33 63 118 365 242 133 367 288 181 294 86231 1.02 43 203 373 288 209 376 257 101 303 92052 1.18 46 168 347 258 175 348 155 121 152 23011 0.98 11 133 177 155 132 178 274 239 152 23145 0.56 39 197 351 272 200 351 215 154 234 54714 1.09 74 70 360 214 106 369 351 111 111 60 3604 0.54 17 79 144 111 83 143 147 136 99 9743 0.67 20 108 187 148 111 88 192 117 221 48797 1.15 17 159 224 192 162 227 119 112 89 7937 0.75 23 74 164 119 78 161 393 290.1

Live Density by Period												
	Period	Mean	${\tt Median}$	SD	Var	CV	SE	L95	U95	${\tt Bstrap_Mean}$	L95_Bstrap	U95_Bstrap
	1	393	300.8	362.6	131444	0.92	56	283.8	503.1	393	290.1	501
	2	255	119.0	285.2	81348	1.12	53	151.3	358.9	256	160.7	364
	3	234	85.3	269.3	72523	1.15	55	126.1	341.6	234	134.9	345
	6	122	72.2	150.9	22769	1.24	27	68.6	174.9	123	72.5	180
	7	5	2.9	5.6	31	1.12	2	1.1	8.9	5	1.7	9
	10	124	113.3	67.4	4536	0.54	24	76.9	170.3	123	82.4	167
	11	90	79.5	67.8	4596	0.75	24	43.4	137.4	91	48.3	136
	16	49	36.3	46.4	2154	0.95	16	16.9	81.2	48	21.4	79
	18	177	154.5	130.8	17117	0.74	17	144.3	210.0	177	146.0	209
	19	160	85.6	171.9	29552	1.08	29	102.9	216.8	160	107.6	220
	20	258	202.8	187.6	35185	0.73	27	204.4	311.7	259	209.4	316
	22	125	120.6	66.8	4458	0.53	12	101.5	148.5	125	102.7	147

Dead Count Statistics for all Periods

22 185

Dead Oyst	Dead Oyster Counts by Locality													
Locality	Mean	Media	n SD	Var	CV	SE	L95	U95	Bstrap_1	Mean	L95_Bs	trap	U95_Bs	trap
BT	348	17	8 333	111065	0.96	100.5	151.0	545		347		176		557
CK	78	3:	2 106	11170	1.36	37.4	4.3	151		79		18		157
CR	60	4	7 38	1444	0.63	12.7	35.2	85		60		38		87
HB	44	2	1 45	2000	1.02	14.9	14.8	73		44		20		73
LC	102	6	0 112	12502	1.10	9.4	83.7	120		102		86		120
LT	240	21	0 202	40850	0.84	52.2	137.2	342		239		145		341
NN	100	6	8 100	10018	1.00	31.7	38.1	162		100		51		164
Dead Oyster Counts by Strata														
Strata	Mean M	ſedian	SD	Var	CV SE	E L95 (J95 Bs	trap_	Mean L9	5_Bst	rap U9	5_Bs1	trap	
N_N	156	78	197	38955 1	27 23	3 111 2	201		156		113		202	
N_PILOT	82	87	46	2136 0.	56 13	3 57 3	108		83		61		108	
N_Y	74	54	91	8199 1.	.23 18	38 :	110		73		44		111	
Y_N	105	64	116	13559 1.	.11 13	3 79 3	131		105		81		133	
Y_Y	127	56	144	20777 1.	.14 37	54 2	200		127		65		205	
Dood Orgat	on Con	mta b	r Dom	-i - d										
Dead Oyst Period M			y Per SD		cv s	SE LS) E 110E	Data	an Mann	T OF	Datmon	IIOE	Datmon	
reriod M	29	18	30	898 1.0			.2 50	DSU	cap_Mean 29	L95_	овигар 9.7		_высгар 50	
10	29 80	88		4245 0.8			.2 50 .5 125		29 80		43.4		123	
10	50	40	25	620 0.4					50		35.1		67	
16	44	28		1708 0.9					44		18.5		74	
	133			6903 1.4			.6 73 .1 182		133		88.1		183	
19	63	55 44		4548 1.0					63		42.2		163 87	
	148			9727 0.9					148		112.8		190	
20	140	101	140 I	3121 0.8	20 ZU.	5 107	.0 100		148		112.0	•	190	

108 164 27054 0.89 29.5 127.0 243 184

127.7

243

Dead Density Statistics for all Periods

Dead Oyster Dea	nsity by Lo	cality									
Locality Mean	Median SD	Var CV	SE	L95 U	95 Bst	trap_Mean L9	5_Bstrap U9	5_Bstrap			
BT 55	50.8 37	1332 0.66	11.0	33.8	77	56	36.1	79			
CK 21	11.3 28	757 1.29	9.7	2.3	40	21	5.8	41			
CR 20	13.8 15	235 0.77	5.1	10.0	30	20	11.8	30			
HB 13	8.0 14	201 1.12	4.7	3.4	22	13	5.0	22			
LC 17	8.5 21	425 1.23	1.7	13.4	20	17	13.6	20			
LT 58	47.1 40	1570 0.68	10.2	38.2	78	58	39.6	78			
NN 28	16.1 26	668 0.91	8.2	12.5	45	28	14.4	45			
D1 0+ D											
•	Dead Oyster Density by Strata Strata Mean Median SD Var CV SE L95 U95 Bstrap_Mean L95_Bstrap U95_Bstrap										
) Var CV									
N_N 32.5		2 1102 1.02				32.7	24.9	39.9			
N_PILOT 8.5						8.5	6.5	10.9			
N_Y 5.2		22 0.89				5.3	3.5	7.3			
Y_N 23.6						23.8	18.4	29.1			
Y_Y 8.6	7.9 6.6	43 0.76	1.70	5.3	12.0	8.6	5.5	11.7			
Dead Oyster Dea	nsitv bv Pe	eriod									
Period Mean Me			SE	L95	U95	Bstrap Mean	L95 Bstrap	U95 Bstrap			
7 2.9		8.9 1.03				2.9		5.0			
10 8.2		44.0 0.81				8.3	4.3	12.8			
11 5.2	4.1 2.6	6.6 0.49	0.91	3.41	7.0	5.2	3.6	7.1			
16 4.4	2.8 4.1	16.9 0.93	1.45	1.55	7.2	4.3	1.8	7.0			
18 26.4	15.7 31.3	980.1 1.19	4.01	18.54	34.3	26.4	18.8	34.0			
19 18.1		370.6 1.07				18.1	12.0	24.7			
20 27.9	18.4 26.4	697.6 0.95	3.85	20.38	35.5	28.2	21.2	35.6			
22 30.1		979.8 1.04				29.9	19.6	41.7			

Summary Density Plots for all Periods

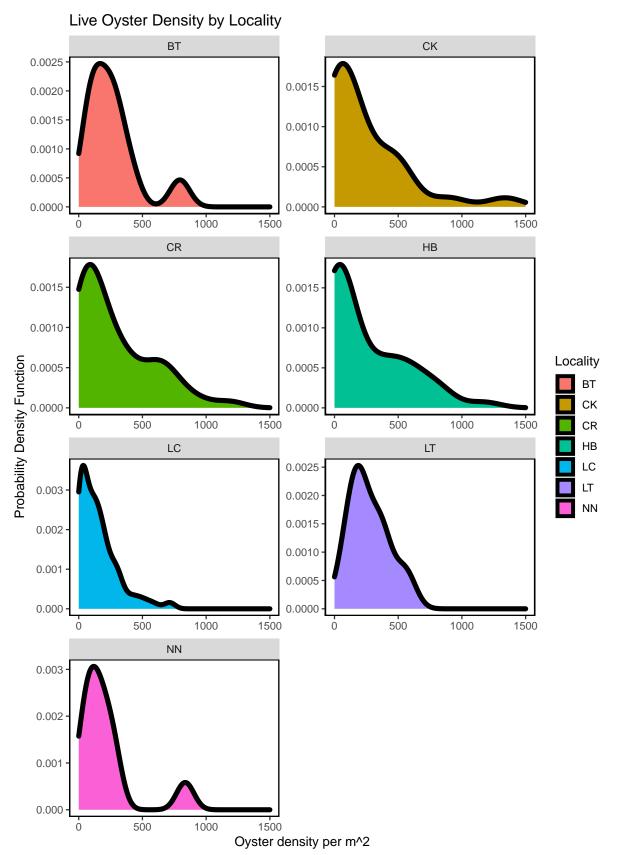


Figure – Calculated live oyster density by locality for all periods including period 22 (current period).

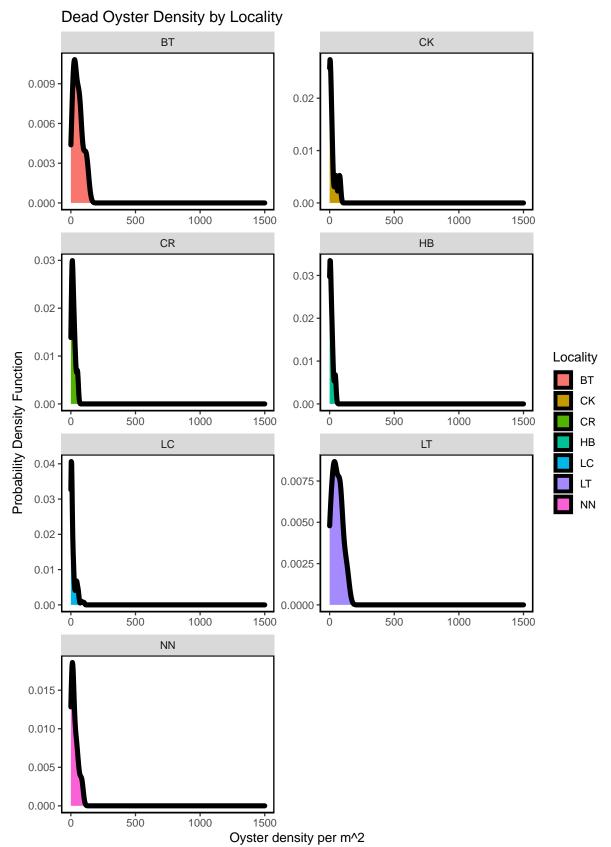


Figure – Calculated dead oyster density by locality for all periods including period 22 (current period).

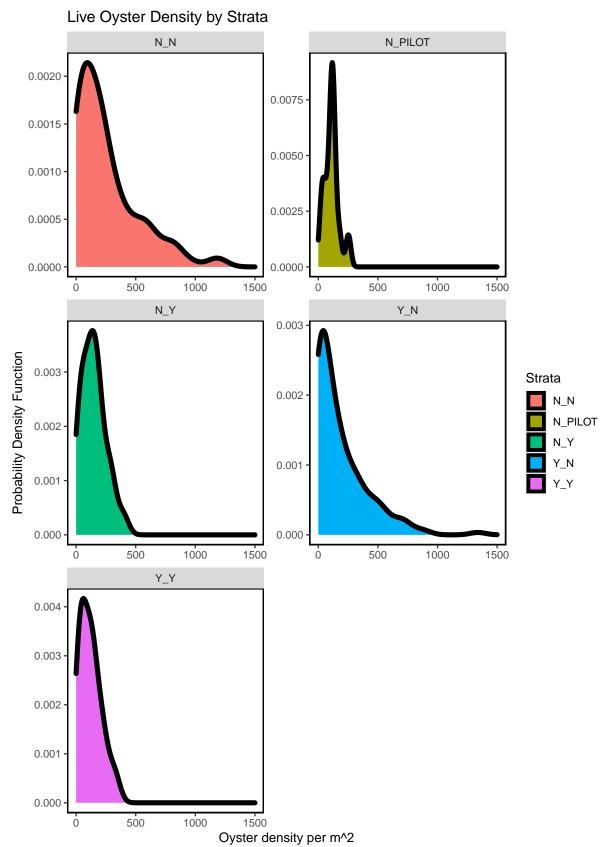


Figure – Calculated live oyster density by strata for all periods including period 22 (current period).

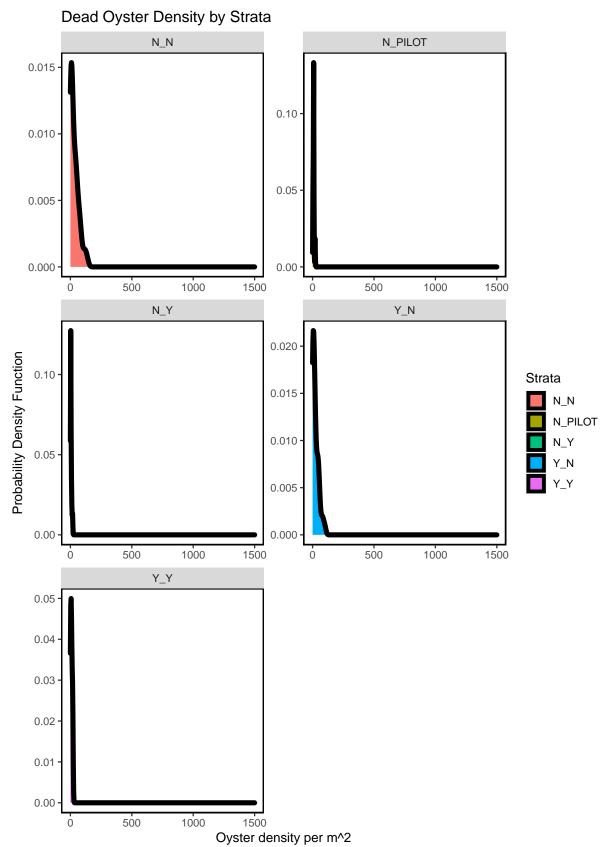


Figure – Calculated dead oyster density by strata for all periods including period 22 (current period).

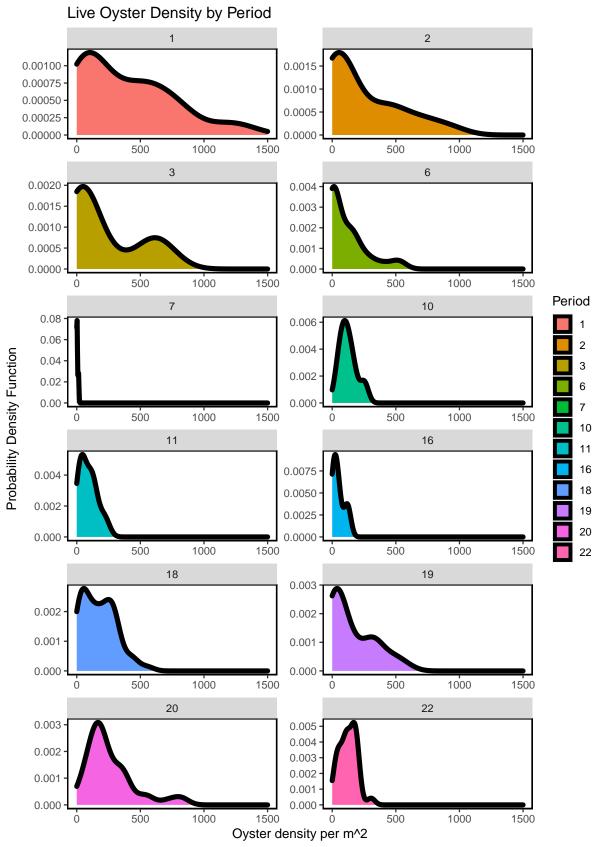


Figure – Calculated live oyster density for all periods including period 22 (current period) using a probability densit

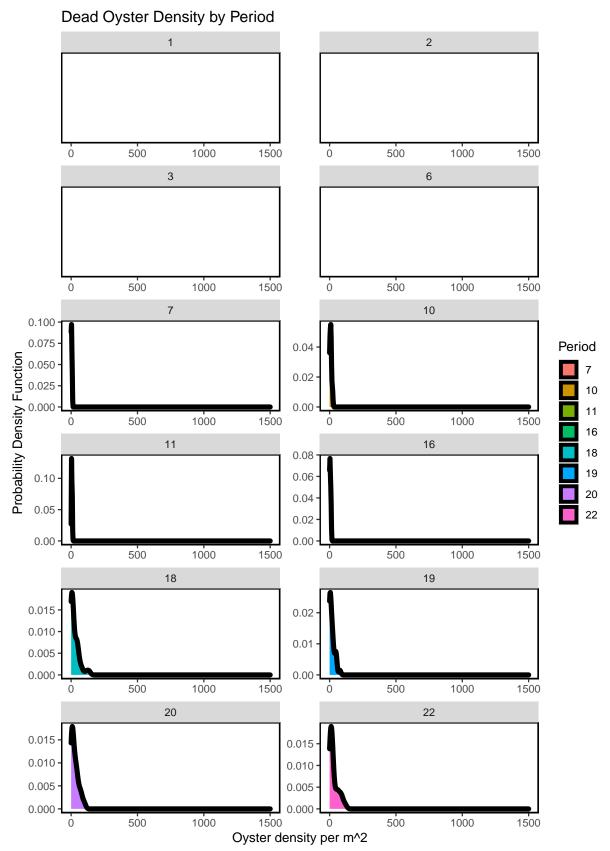


Figure – Calculated Dead oyster density for all periods including period 22 (current period) using a probability densit

Live Oyster Density by Locality

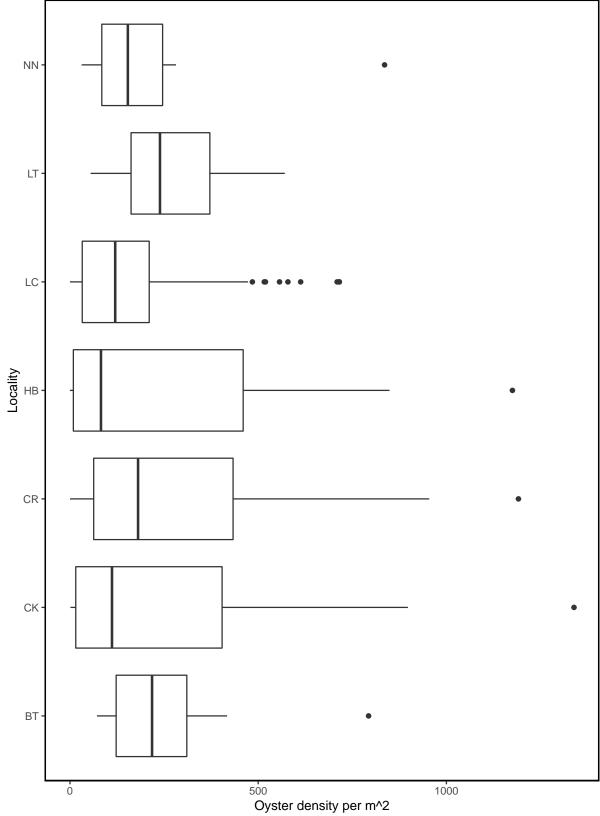


Figure – Box plot depicting live oyster density by locality for all periods including period 22 (current period).

Dead Oyster Density by Locality NN LT LC CR CK ВТ 50 100 Oyster density per m^2

Figure – Box plot depicting dead oyster density by locality for all periods including period 22 (current period).

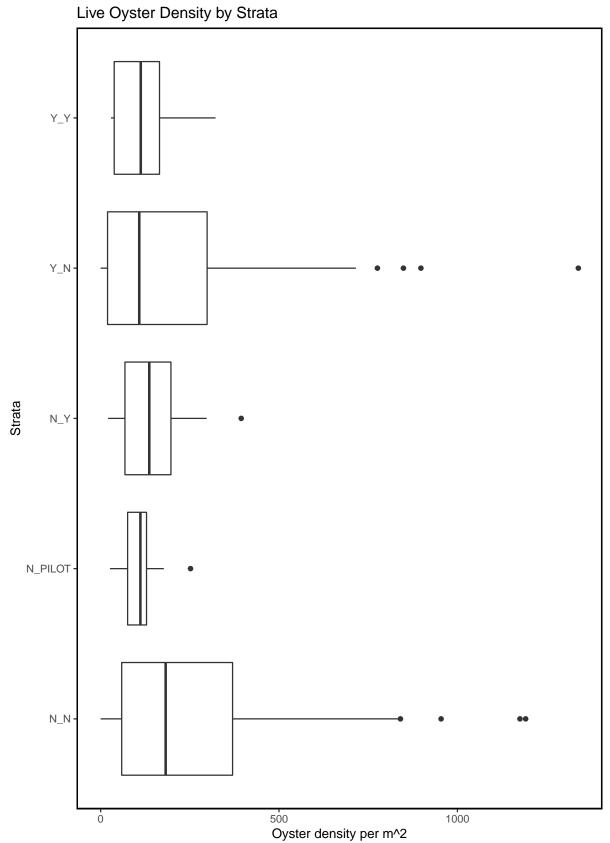


Figure – Box plot depicting live oyster density by strata for all periods including period 22 (current period).

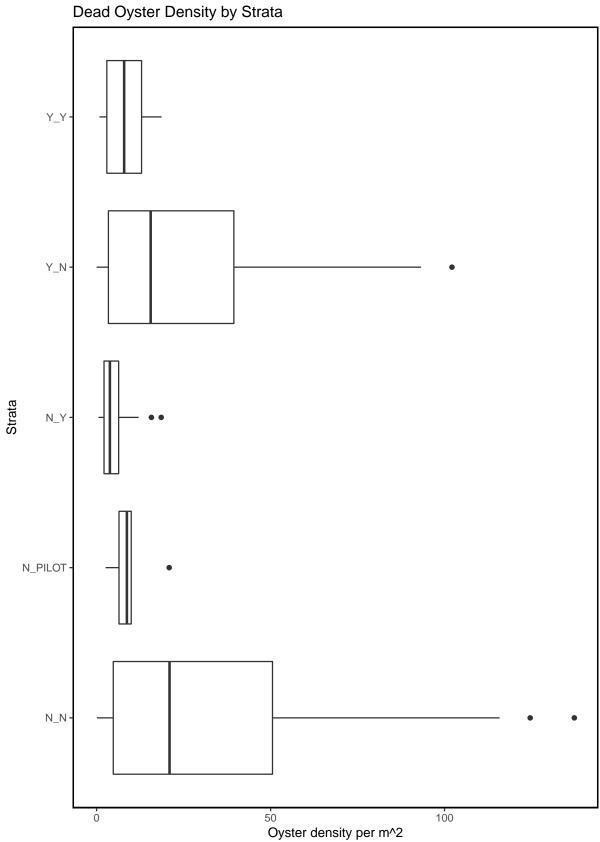


Figure – Box plot depicting dead oyster density by strata for all periods including period 22 (current period).

Live Oyster Density by Period

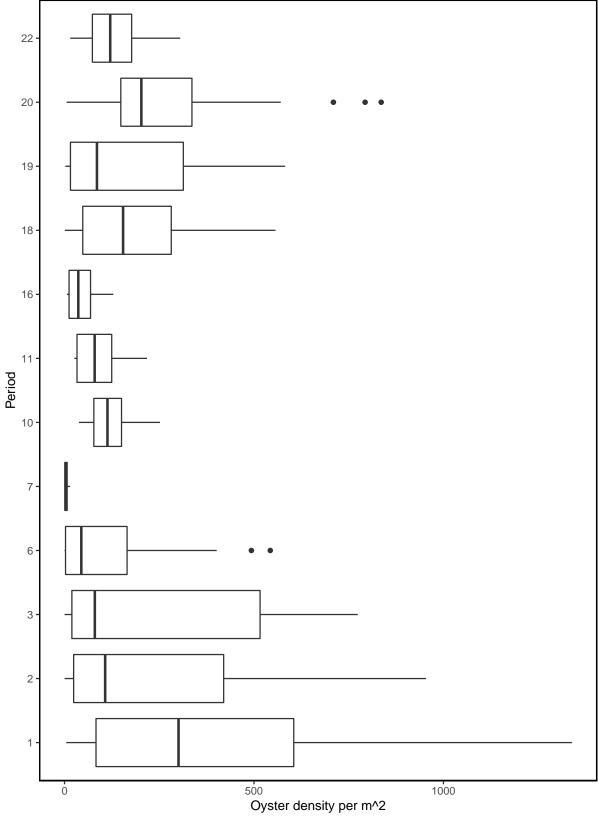


Figure – Box plot depicting live oyster density by period for all periods including period 22 (current period).

Dead Oyster Density by Period Period Oyster density per m^2

Figure – Box plot depicting dead oyster density by period for all periods including period 22 (current period).

Live Oyster Density by Locality and Period

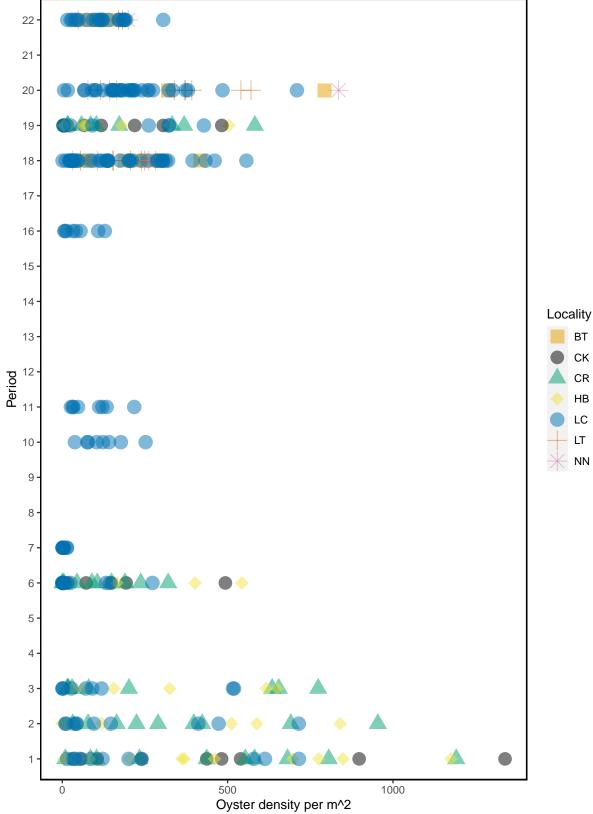


Figure – Live oyster density by locality and period for all periods including period 22 (current period).

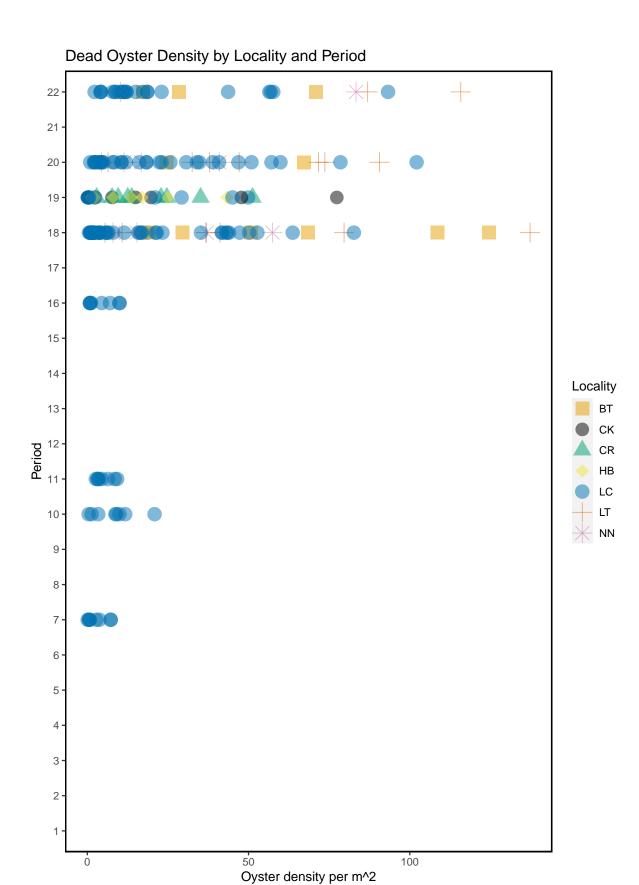


Figure – Dead oyster density by locality and period for all periods including period 22 (current period).

Live Oyster Density by Strata and Period

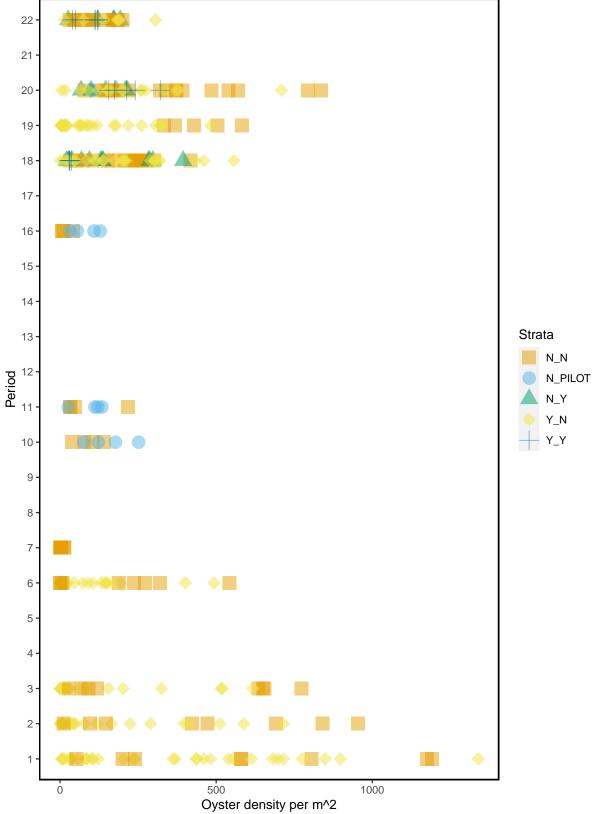


Figure – Live oyster density by strata and period for all periods including period 22 (current period).

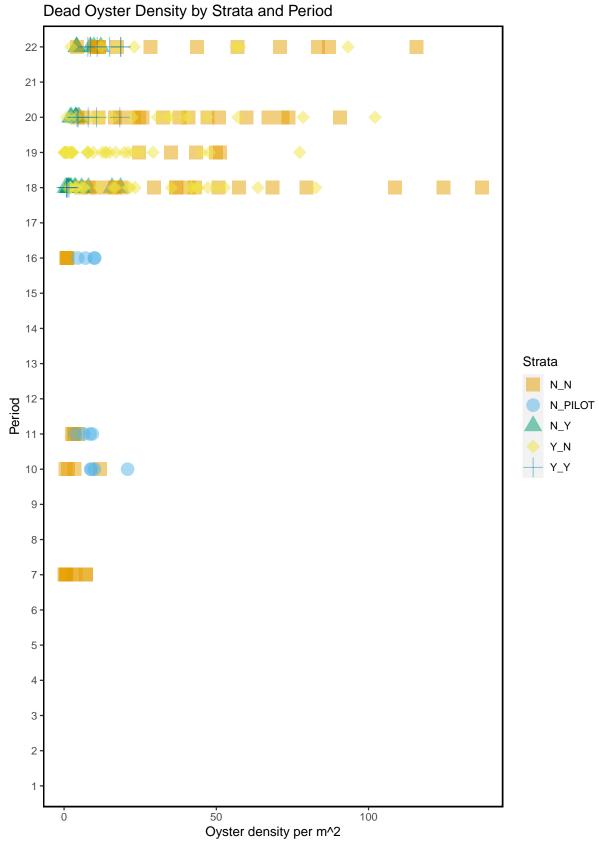


Figure – Dead oyster density by strata and period for all periods including period 22 (current period).

Live and Dead Count Comparison For All Periods

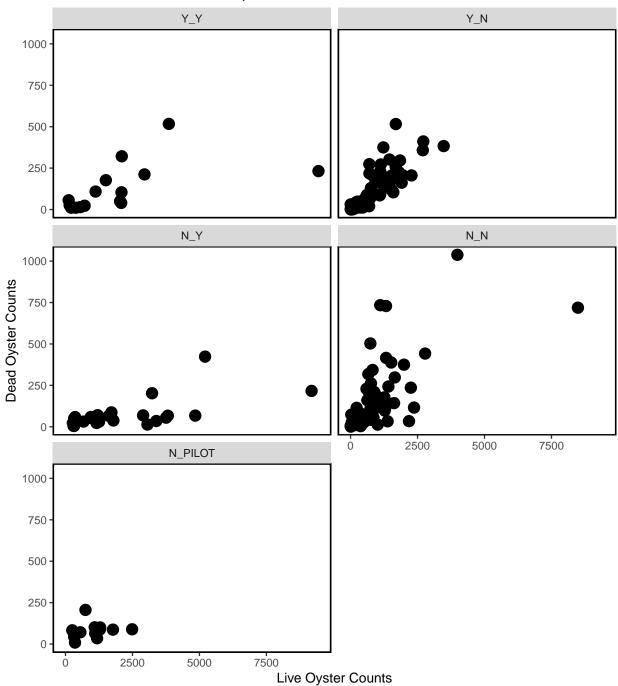


Figure- Live and dead oyster comparison for all periods, last sample date of period 22 is 2020-12-29.

Summary Plots for Pilot Study Sites

A subset of the oyster transect locations were sampled over time for a pilot study. Here we provide plots of live oyster counts and density for these pilot stations with Lone Cabbage (LCO10B, LCO11A, LCO8B, LCO9A).

Average Density by Station and Period

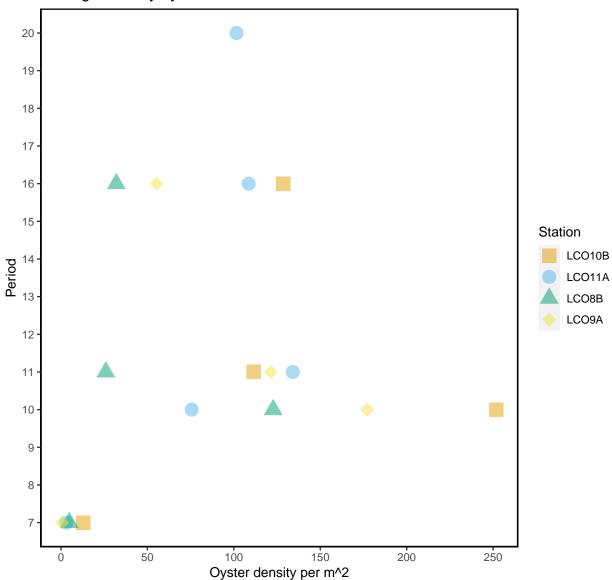


Figure - Average live oyster density comparison by station and period for all stations that were sampled during the pilc

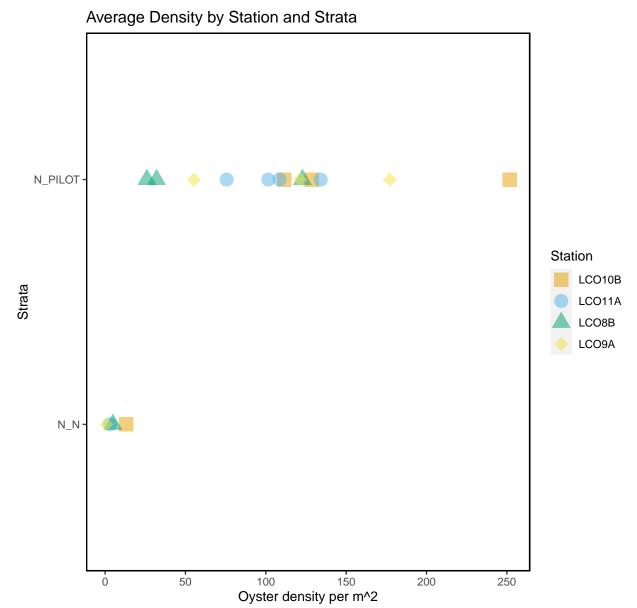


Figure – Average live oyster density comparison by station and strata for all stations that were sampled during the

Latest Data Entered

Displayed are the entries for the last date of sampling (2020-12-29).

date	${\tt station}$	$tran_length$	${\tt count_live}$	${\tt count_dead}$	${\tt treatment}$	strata
2020-12-29	LC022	2.5	22	7	rocks	Y_Y
2020-12-29	LC022	5.0	22	12	rocks	Y_Y
2020-12-29	LC022	7.5	8	3	rocks	Y_Y
2020-12-29	LC022	10.0	9	9	rocks	Y_Y
2020-12-29	LC022	12.5	18	14	rocks	Y_Y
2020-12-29	LC022	15.0	26	5	rocks	Y_Y
2020-12-29	LC022	17.5	14	6	rocks	Y_Y
2020-12-29	LC022	19.8	0	0	rocks	Y_Y
2020-12-29	LC021	2.5	7	2	rocks	Y_Y
2020-12-29	LC021	5.0	6	1	rocks	Y_Y
2020-12-29	LC021	7.5	1	0	rocks	Y_Y
2020-12-29	LC021	10.0	0	0	rocks	Y_Y
2020-12-29	LC021	10.5	0	0	rocks	Y_Y
2020-12-29	LC021	2.5	20	4	rocks	Y_Y
2020-12-29	LC021	5.0	69	6	rocks	Y_Y
2020-12-29	LC021	7.5	22	8	rocks	Y_Y
2020-12-29	LC021	10.0	32	4	rocks	Y_Y
2020-12-29	LC021	10.5	0	0	rocks	ΥΥ