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 0 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, 93 days have been sampled over this entire project.

Definition of Localities

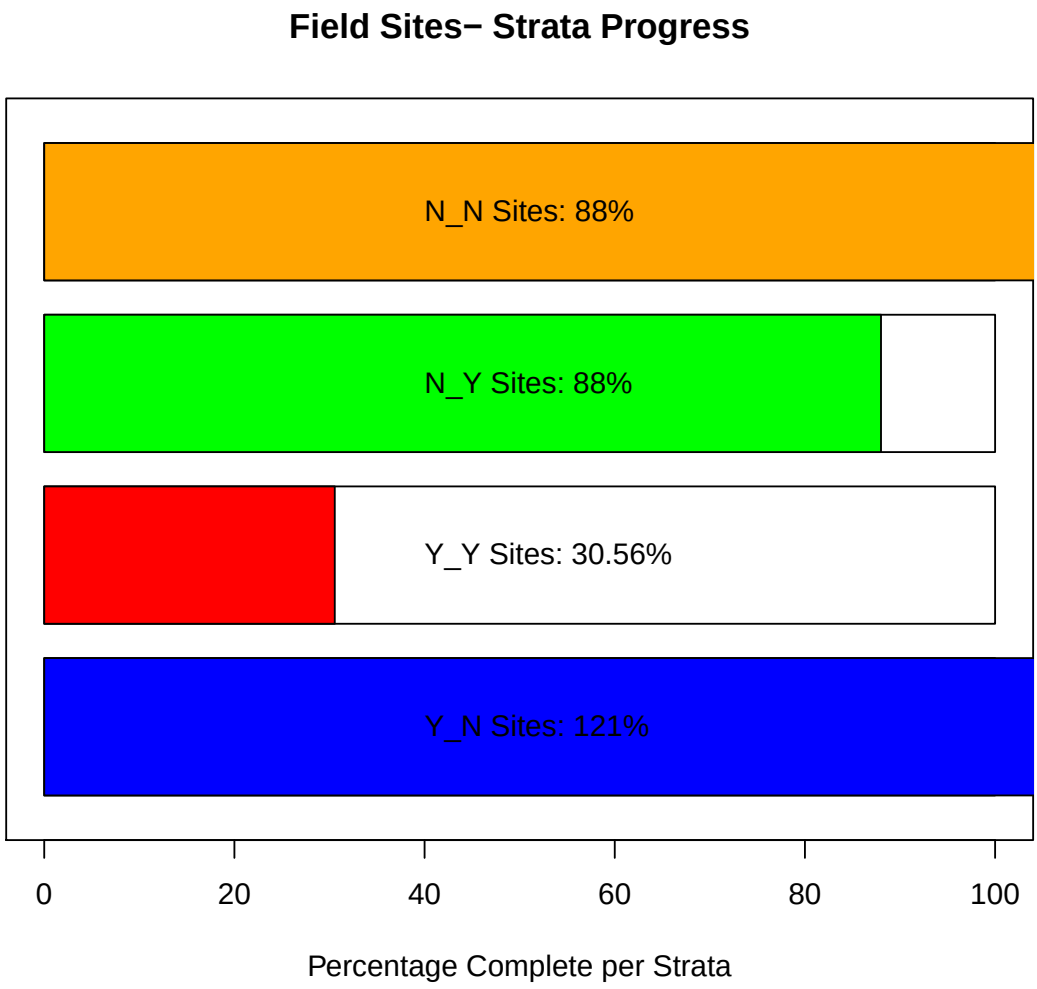
LOCALITY	LOCATION
BT	Big Trout
CK	Cedar Key
CR	Corrigan's Reef
HB	Horseshoe Beach
LC	Lone Cabbage
LT	Little Trout
NN	No Name

Definition of Strata

STRATA	DEFINITION
Y_N	Yes Harvest, No Rock
Y_Y	Yes Harvest, Yes Small Rock
N_N	No Harvest, No Rock
N_Y	No Harvest, Yes Small and Large 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.**



Summary Tables for Periods 20 and 22

These summary tables provide summary statistics on live counts and oyster densities for just periods **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)

Total Counts by Locality

Locality	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
BT	4881	4881	5100	26006472	1.04	3606	-2187	11949	4881	1275	8487
LC	1859	1257	2155	4645342	1.16	370	1135	2584	1845	1210	2642
LT	1331	1062	788	620695	0.59	298	747	1914	1330	834	1894
NN	1093	747	858	736488	0.79	429	252	1934	1075	564	1958

Total Counts by Strata

Strata	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
N_N	1660	1162	1828	3341160	1.10	431	816	2505	1660	1029	2596
N_PILOT	356	356	NA	NA	NA	NA	NA	NA	174	9	346
N_Y	3682	2804	3076	9463858	0.84	1256	1221	6144	3720	1752	6238
Y_N	1010	855	818	668486	0.81	198	621	1398	1004	624	1421
Y_Y	3432	2080	3370	11358070	0.98	1507	478	6386	3451	1738	6491

Total Counts by Period

Period	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
20	1844	1253	2125	4517189	1.2	310	1236	2451	1844	1318	2501

Density by Locality

Locality	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
BT	556	556	335	112324	0.60	237	92	1021	548	319	793
LC	209	181	136	18456	0.65	23	163	254	208	167	256
LT	386	373	149	22338	0.39	56	275	496	386	284	484
NN	305	154	356	126476	1.17	178	-43	654	310	99	663

Density by Strata

Strata	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
N_N	347	329	225	50652	0.65	53	243	451	346	253	454
N_PILOT	102	102	NA	NA	NA	NA	NA	NA	51	4	100
N_Y	153	162	60	3623	0.39	25	104	201	153	108	196
Y_N	221	199	169	28665	0.77	41	141	302	221	148	303
Y_Y	221	213	65	4276	0.30	29	164	279	222	177	273

Density by Period

Period	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
20	258	203	188	35185	0.73	27	204	312	257	206	310

Summary Plots for Periods 20 and 22

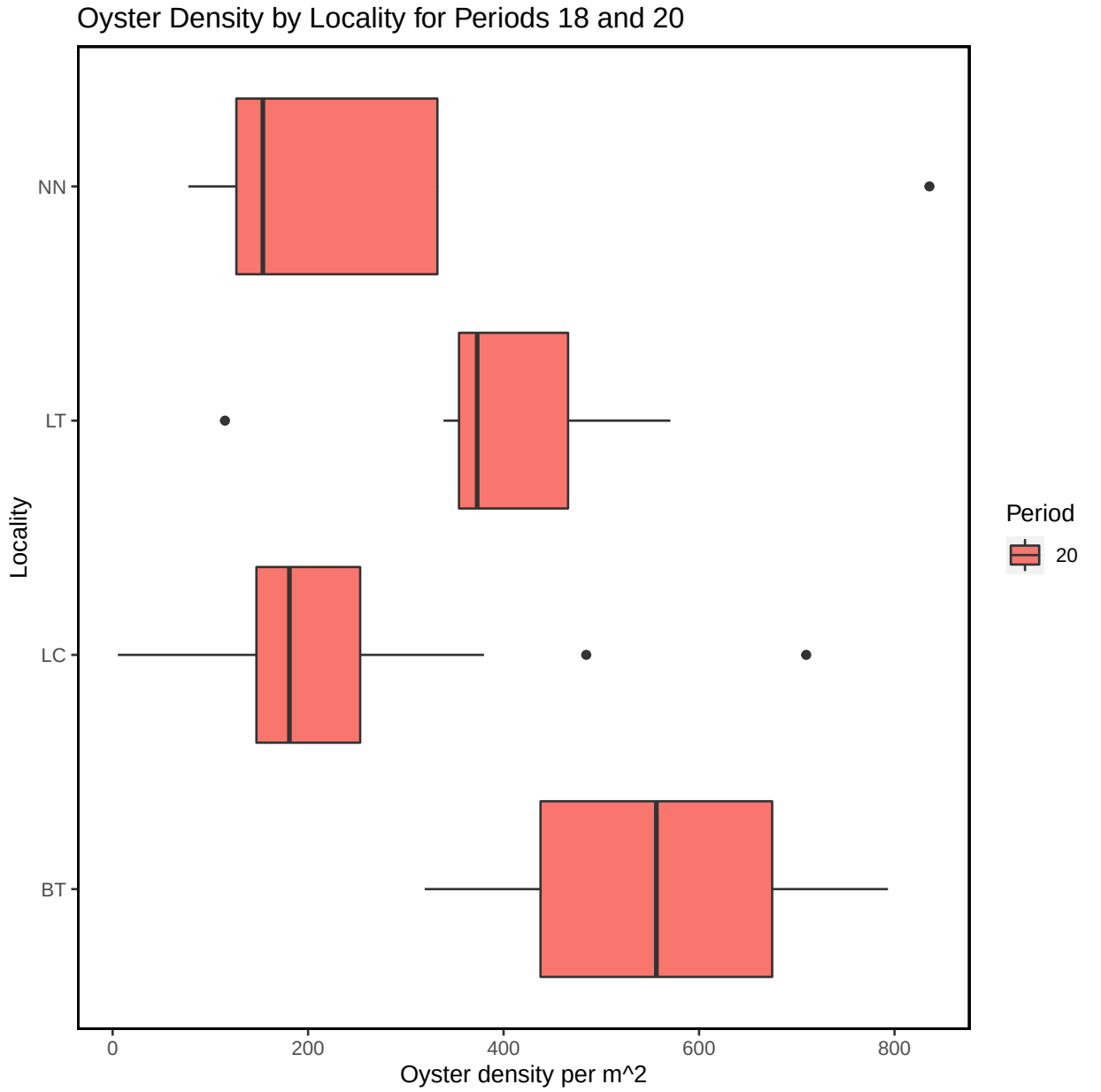


Figure- Calculated oyster density by locality for periods 20 (Winter 2019-2020) and 22 (Winter 2020-2022) with the last sample date of period 22 as 2020-01-13.

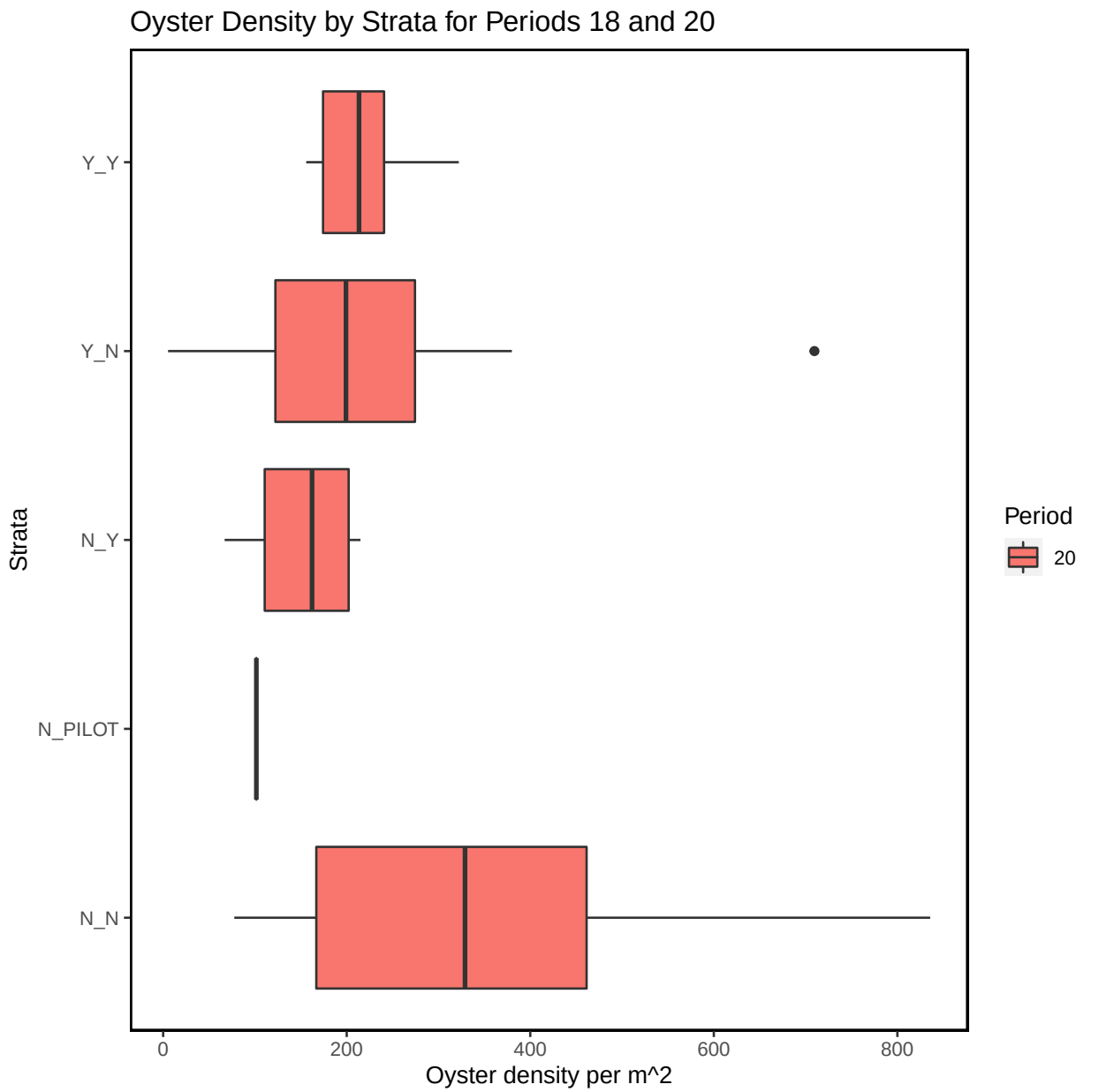


Figure- Calculated oyster density by strata for periods 20 (Winter 2019-2020) and 20 (Winter 2019-2020) with the last sample date of period 22 as 2020-01-13.

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

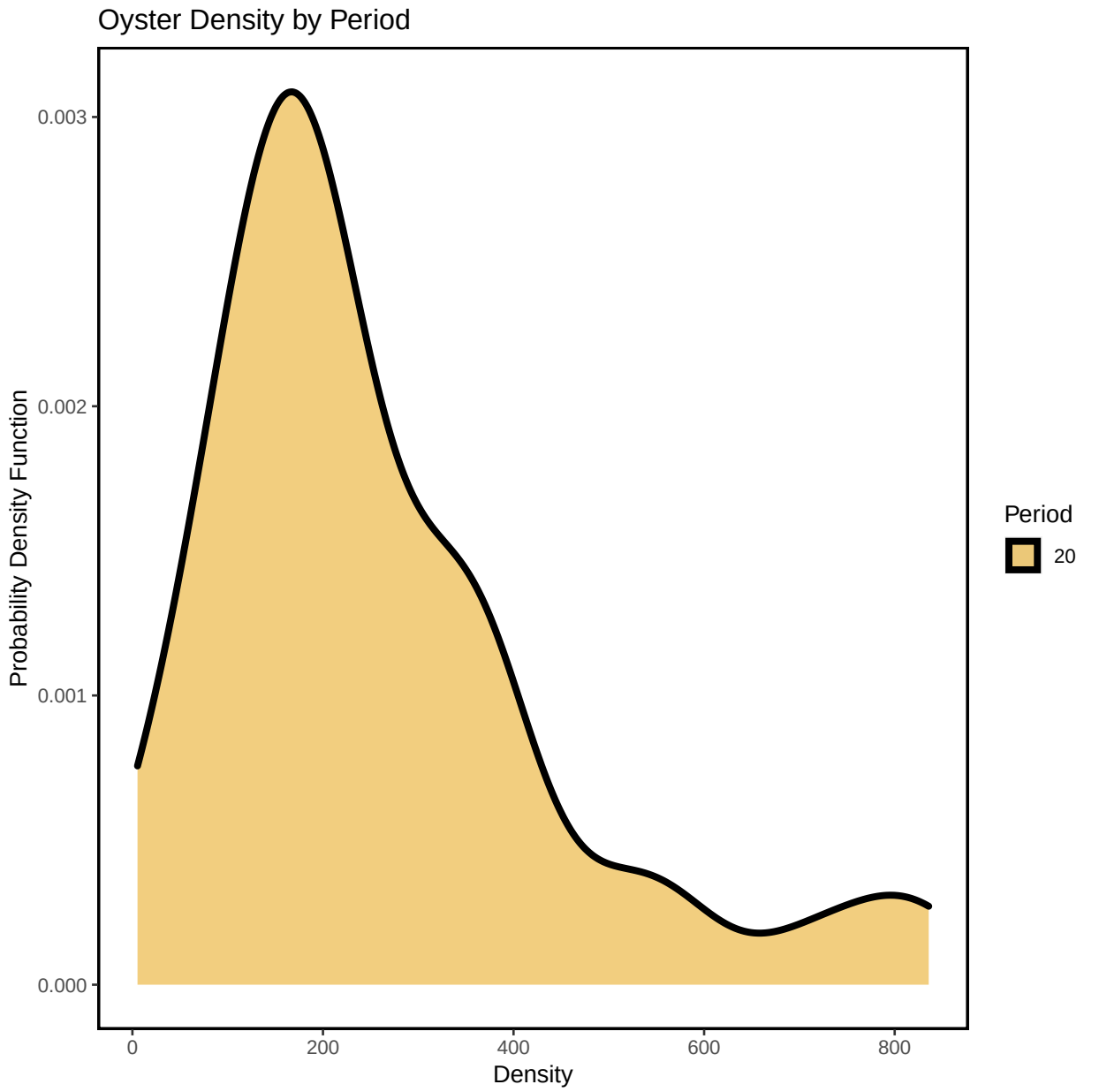


Figure- Calculated oyster density by periods 20 (Winter 2019-2020) and 22 (Winter 2020-2021) using a probability density function with the last sample date of period 20 as 2020-01-13.

Sampling for all Periods

Next, we provide summary tables and plots for all transect sampling. These data were collected between 2010-05-27 and 2020-01-13.

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

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.**

Effort by Locality

Locality	Number of Transects	Total Length (m)
BT	8	334
CK	26	712
CR	46	1330
HB	45	1129
LC	159	7454
LT	13	353
NN	8	210

Effort by Strata

Strata	Number of Transects	Total Length (m)
N_N	93	3166
N_PILOT	13	799
N_Y	19	1850
Y_N	171	4876
Y_Y	9	830

Effort by Period

Period	Number of Transects	Total 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

Effort by Locality and Period

Period	Locality	Number of Transects	Total Length (m)
1	CK	9	242
1	CR	10	300
1	HB	12	293
1	LC	11	250
10	LC	8	512
11	LC	8	511
16	LC	8	528
18	BT	6	238
18	LC	45	2128
18	LT	6	182
18	NN	4	84
19	CK	9	221
19	CR	9	227
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
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

Period	Strata	Number of Transects	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
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

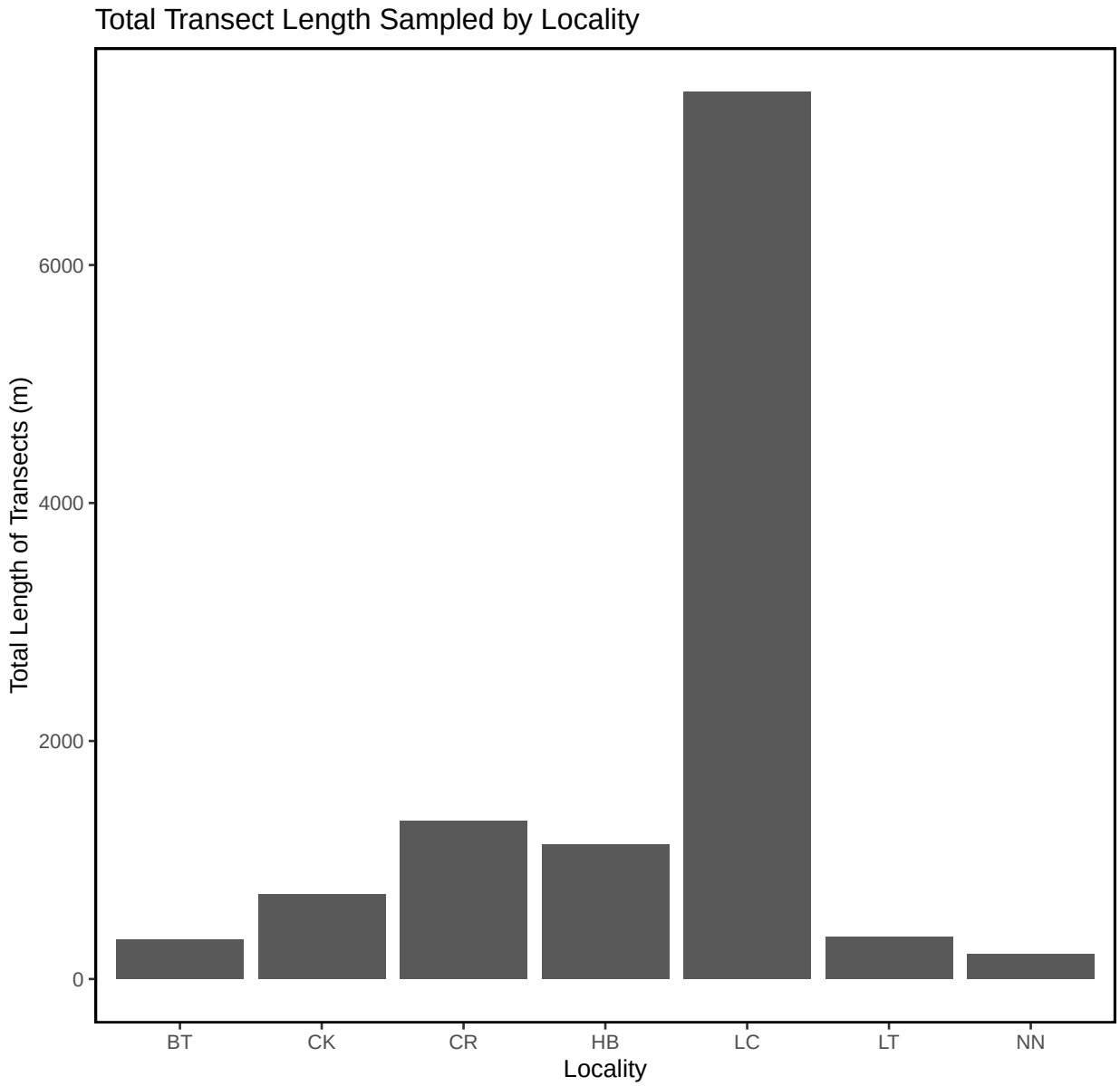


Figure − Bar plot of total transect length in meters sampled by locality for all periods.

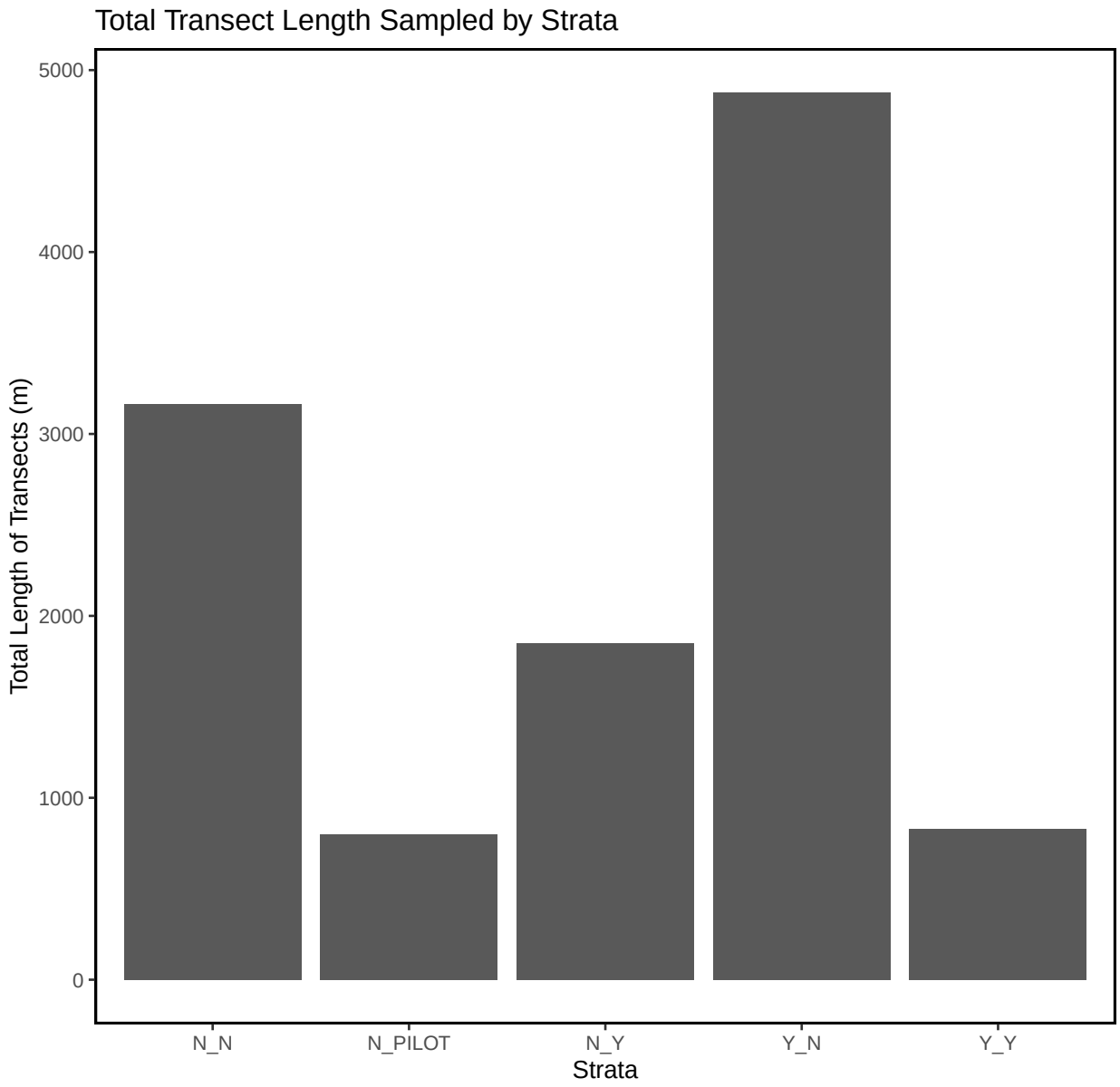
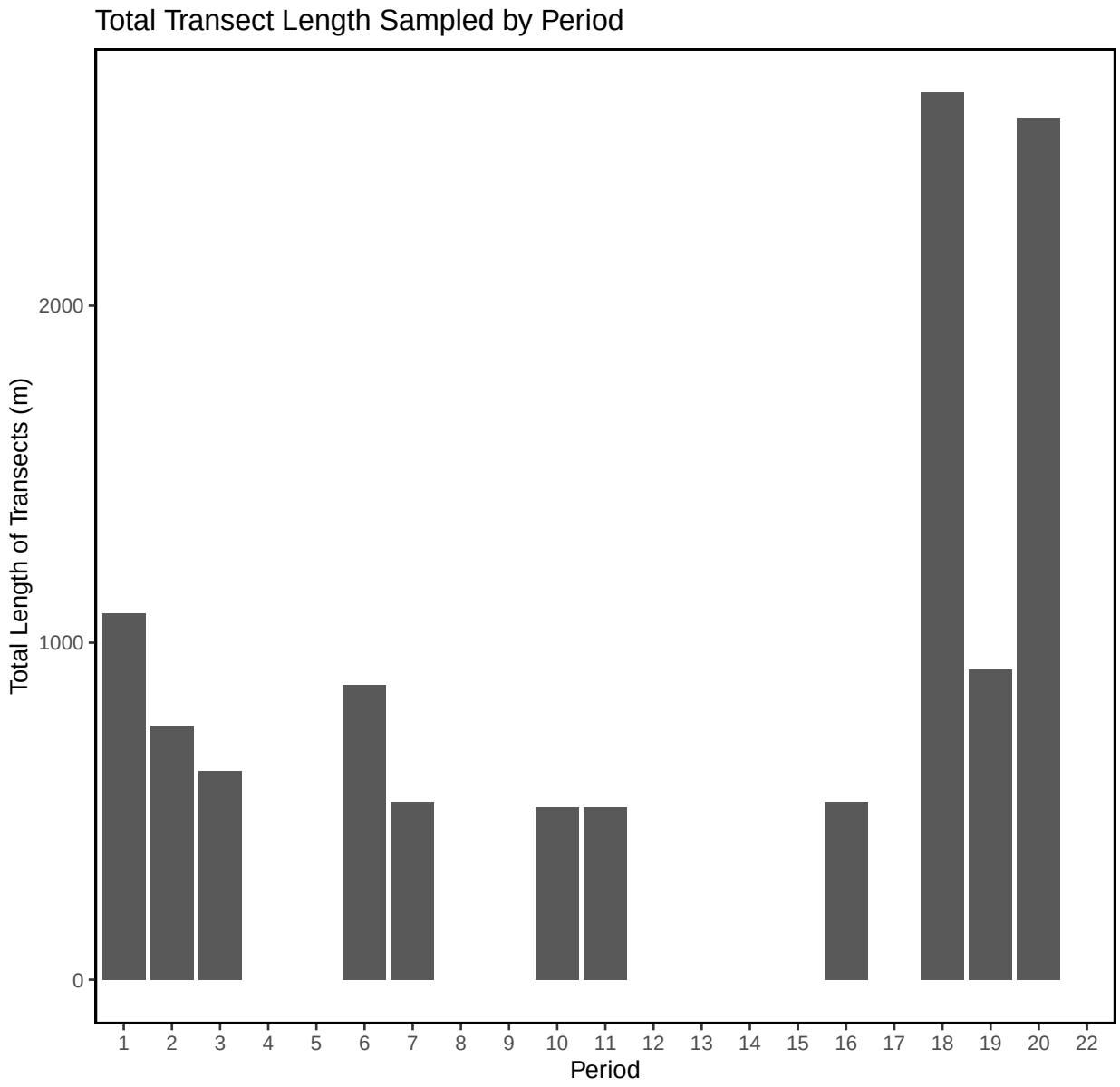


Figure − Bar plot of total transect length in meters sampled by strata for all periods.



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

Total Counts by Locality

Locality	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
BT	2316	1192	2713	7359423	1.17	959	436	4195	2339	960	4329
CK	857	444	1091	1190933	1.27	214	438	1277	861	499	1287
CR	1026	716	1035	1072162	1.01	153	727	1325	1027	756	1341
HB	902	364	1047	1095622	1.16	158	592	1211	892	613	1189
LC	991	656	1306	1705184	1.32	105	786	1196	990	795	1191
LT	1108	883	680	461737	0.61	188	739	1478	1102	770	1495
NN	780	649	692	478603	0.89	245	301	1260	768	418	1246

Total Counts by Strata

Strata	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
N_N	1060	823	1138	1295006	1.1	119	828	1293	1063	844	1325
N_PILOT	1046	1109	627	392853	0.6	174	705	1386	1050	737	1406
N_Y	2067	1200	2227	4958067	1.1	511	1065	3068	2087	1248	3114
Y_N	795	431	942	886815	1.2	73	653	938	793	657	939
Y_Y	2114	1506	2853	8140212	1.3	951	250	3978	2117	779	4078

Total Counts by Period

Period	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
1	1404	1018	1288	1657932	0.92	199	1014	1793	1392	1034	1775
2	890	476	945	893727	1.06	176	546	1234	897	567	1252
3	738	296	817	668064	1.11	167	411	1065	735	437	1059
6	433	176	534	284791	1.23	96	245	621	431	258	634
7	50	29	56	3186	1.12	20	11	90	50	15	91
10	1207	1074	671	449607	0.56	237	743	1672	1212	815	1658
11	886	776	678	459708	0.77	240	416	1356	888	458	1352
16	494	366	467	217855	0.95	165	170	817	493	212	816
18	982	695	935	874733	0.95	120	748	1217	982	761	1205
19	555	329	573	328431	1.03	97	365	745	552	367	741
20	1844	1253	2125	4517189	1.15	310	1236	2451	1841	1283	2502

Density Statistics for all Periods

Density by Locality

Locality	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
BT	321	279	216	46621	0.67	76	171	471	326	203	478
CK	241	112	321	102795	1.33	63	118	365	239	140	371
CR	288	181	294	86231	1.02	43	203	373	286	202	370
HB	257	101	303	92052	1.18	46	168	347	258	178	350
LC	160	122	160	25663	1.00	13	135	185	159	136	186
LT	289	249	159	25148	0.55	44	203	375	291	212	379
NN	238	154	256	65757	1.08	91	60	415	239	109	428

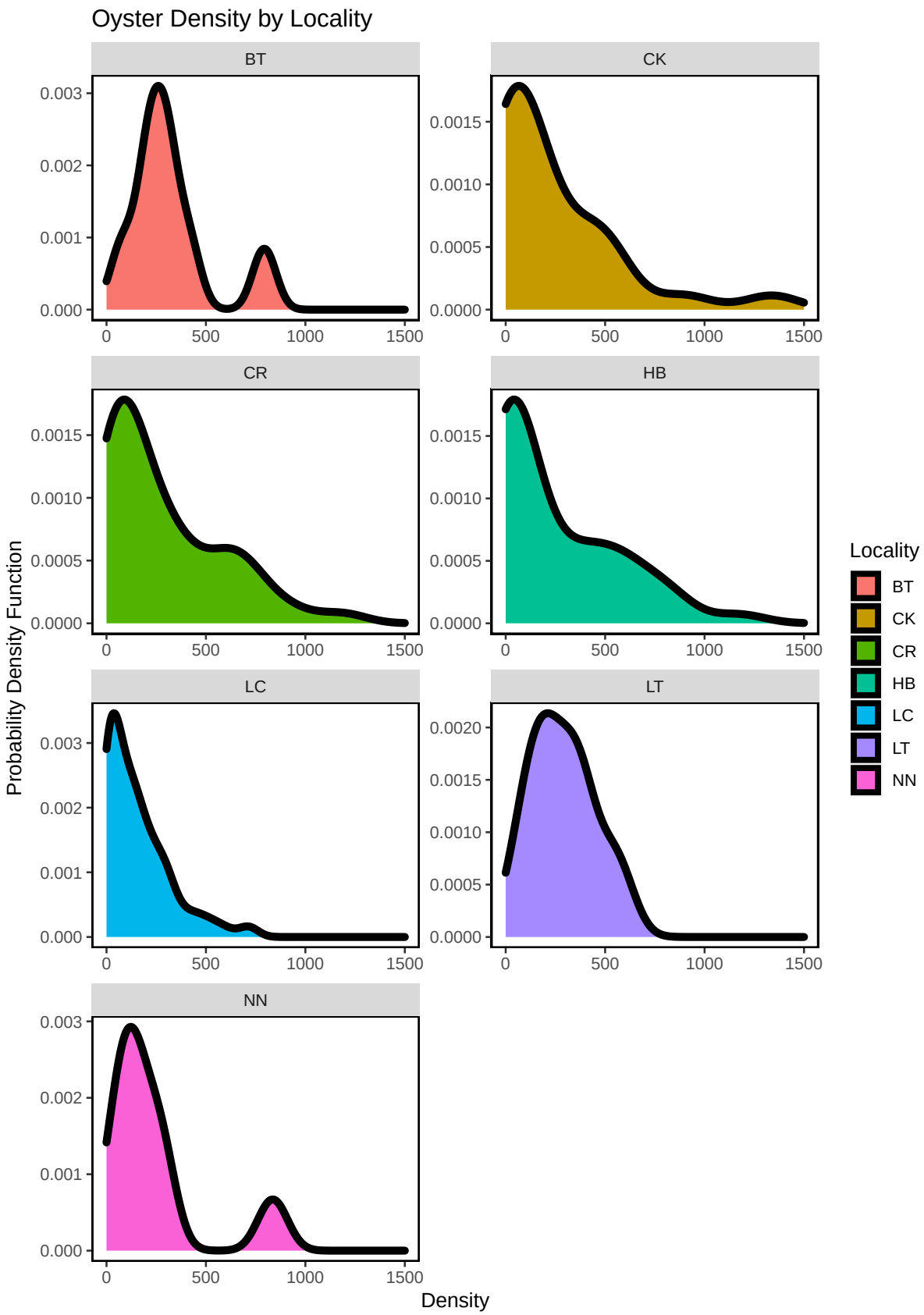
Density by Strata

Strata	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
N_N	283	212	275	75876	0.97	29	226	339	282	231	342
N_PILOT	111	111	60	3604	0.54	17	79	144	111	83	145
N_Y	150	135	107	11399	0.71	24	102	198	152	107	201
Y_N	193	108	225	50478	1.16	17	159	227	193	159	228
Y_Y	137	156	110	12106	0.80	37	65	209	138	76	206

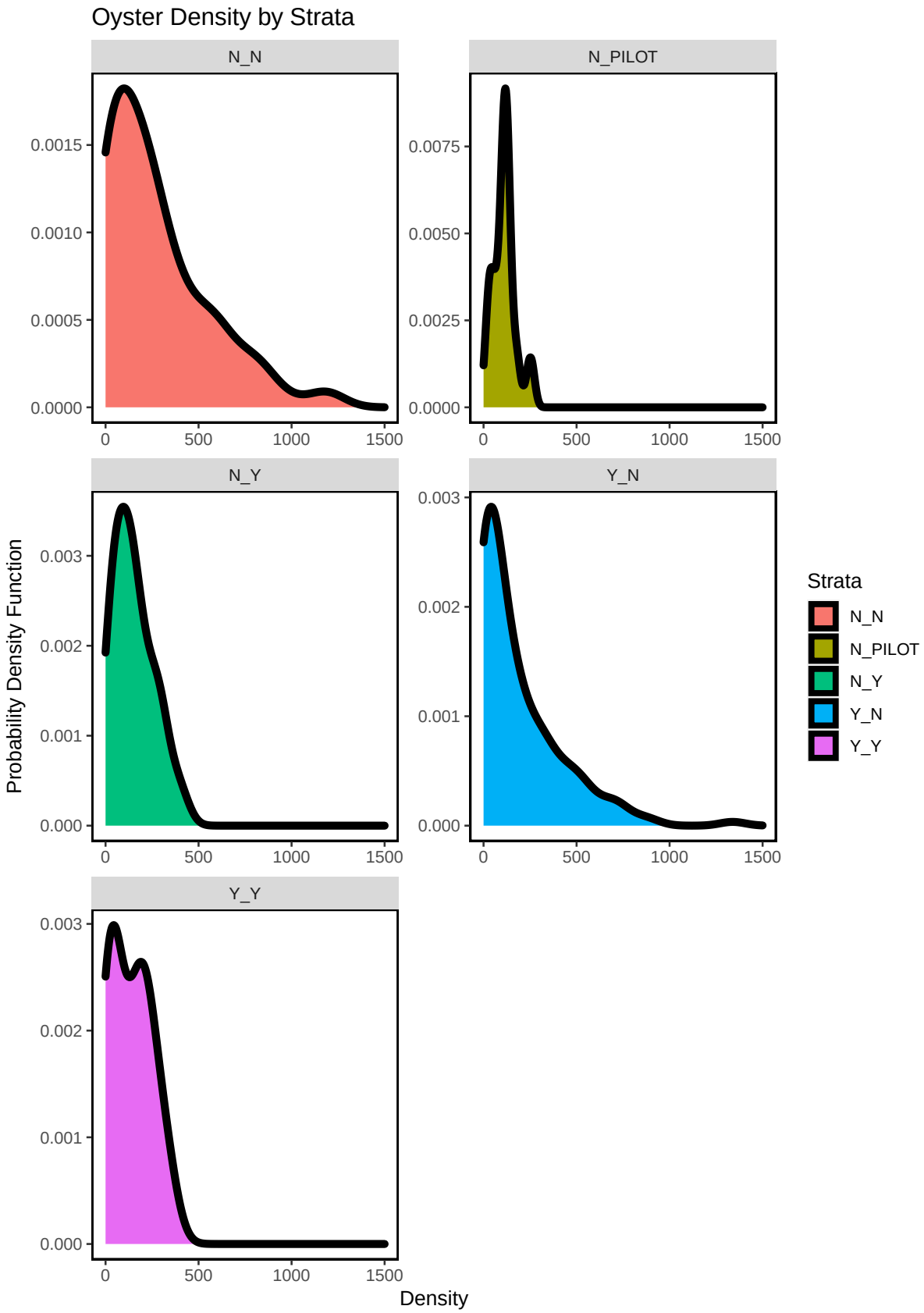
Density by Period

Period	Mean	Median	SD	Var	CV	SE	L95	U95	Bstrap_Mean	L95_Bstrap	U95_Bstrap
1	393	300.8	362.6	131444	0.92	56	283.8	503.1	393.0	292.3	501.9
2	255	119.0	285.2	81348	1.12	53	151.3	358.9	256.6	163.5	362.8
3	234	85.3	269.3	72523	1.15	55	126.1	341.6	234.3	127.6	341.2
6	122	72.2	150.9	22769	1.24	27	68.6	174.9	120.4	73.3	176.3
7	5	2.9	5.6	31	1.12	2	1.1	8.9	5.1	1.8	9.1
10	124	113.3	67.4	4536	0.54	24	76.9	170.3	123.6	82.7	171.2
11	90	79.5	67.8	4596	0.75	24	43.4	137.4	90.2	49.4	137.6
16	49	36.3	46.4	2154	0.95	16	16.9	81.2	48.9	21.1	81.6
18	177	154.5	130.8	17117	0.74	17	144.3	210.0	177.3	143.2	212.2
19	160	85.6	171.9	29552	1.08	29	102.9	216.8	161.2	108.2	215.4
20	258	202.8	187.6	35185	0.73	27	204.4	311.7	258.4	211.1	315.0

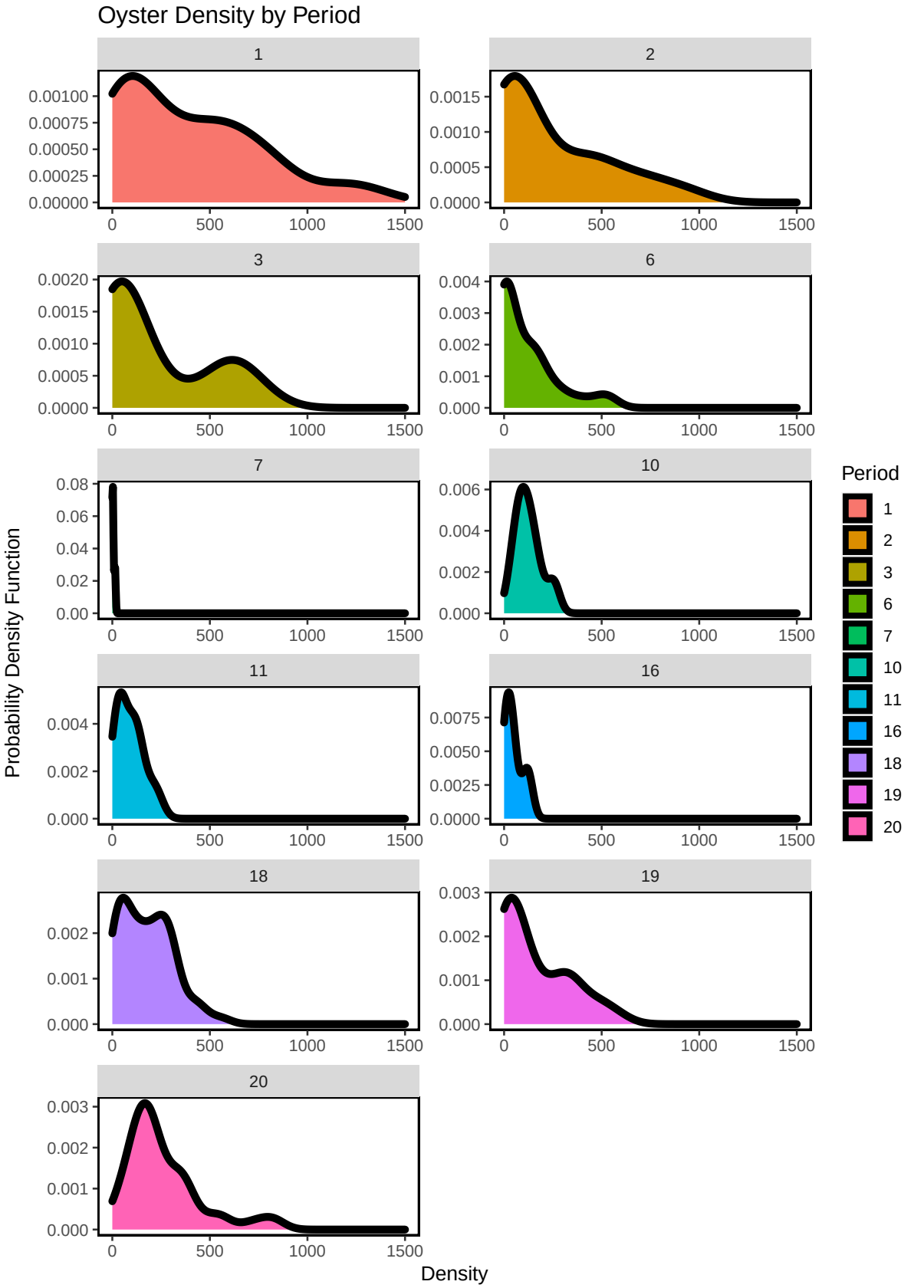
Summary Density Plots for all Periods



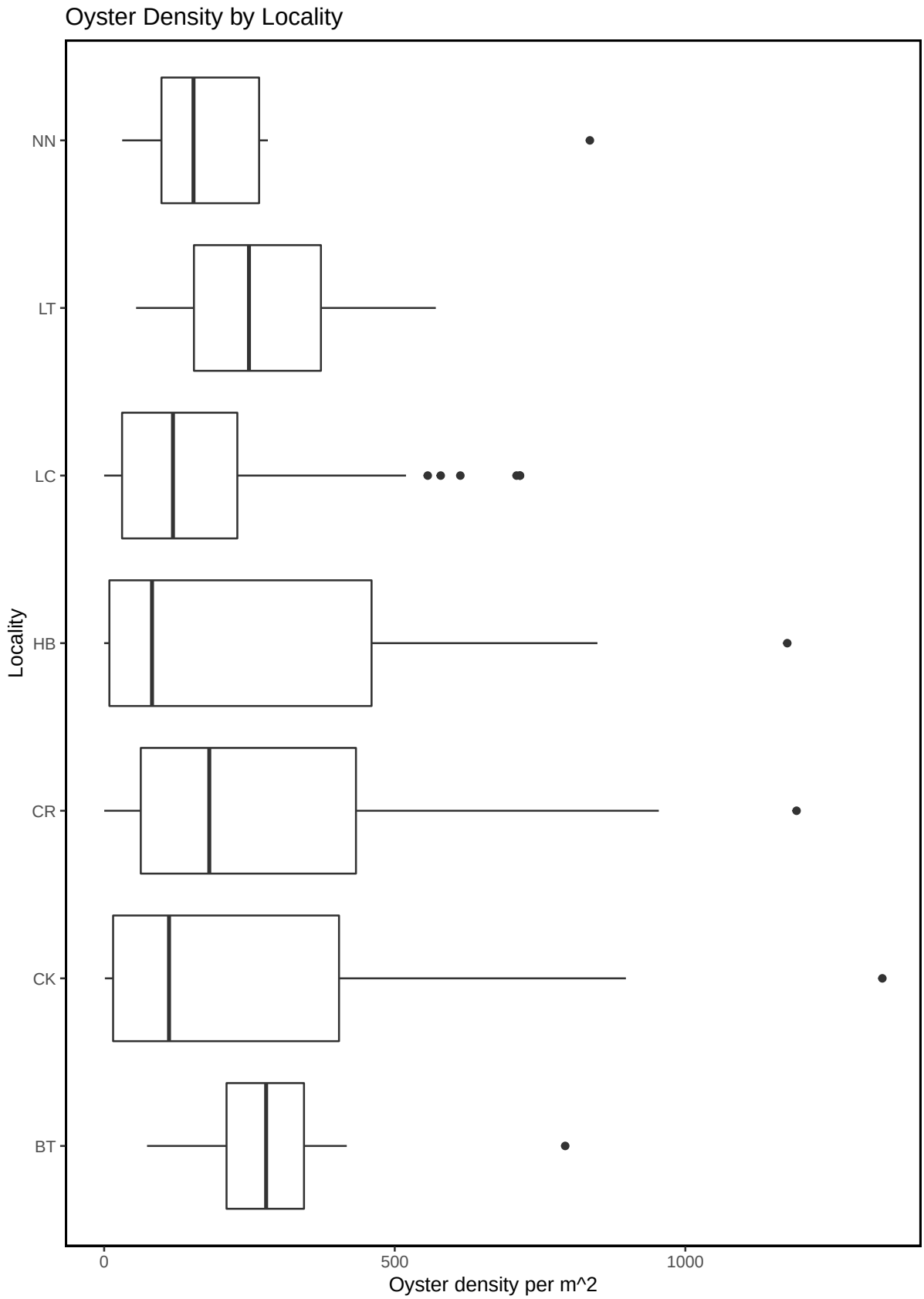
Figure− Calculated oyster density by locality for all periods including period 22 (current period).



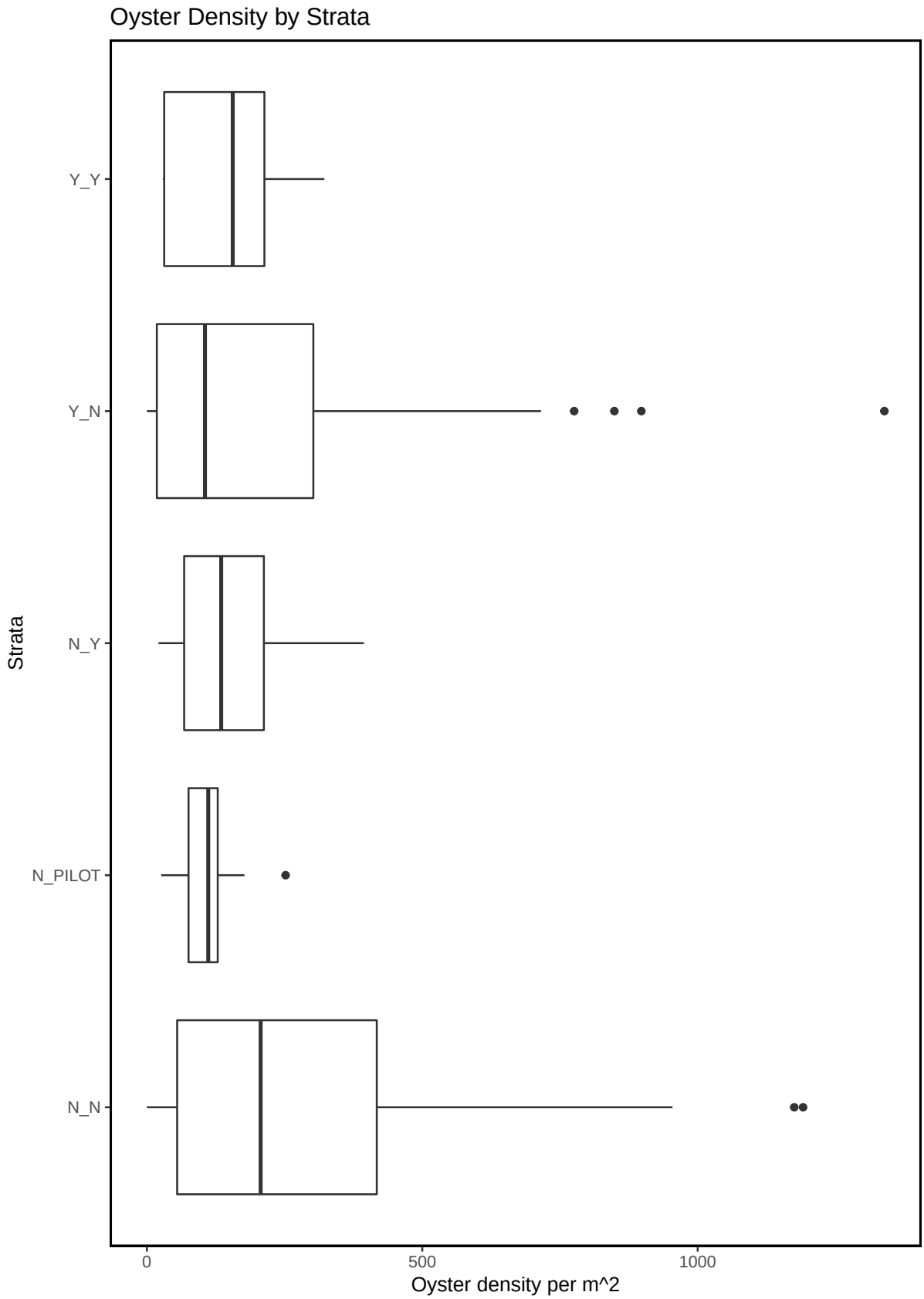
Figure− Calculated oyster density by strata for all periods including period 22 (current period).



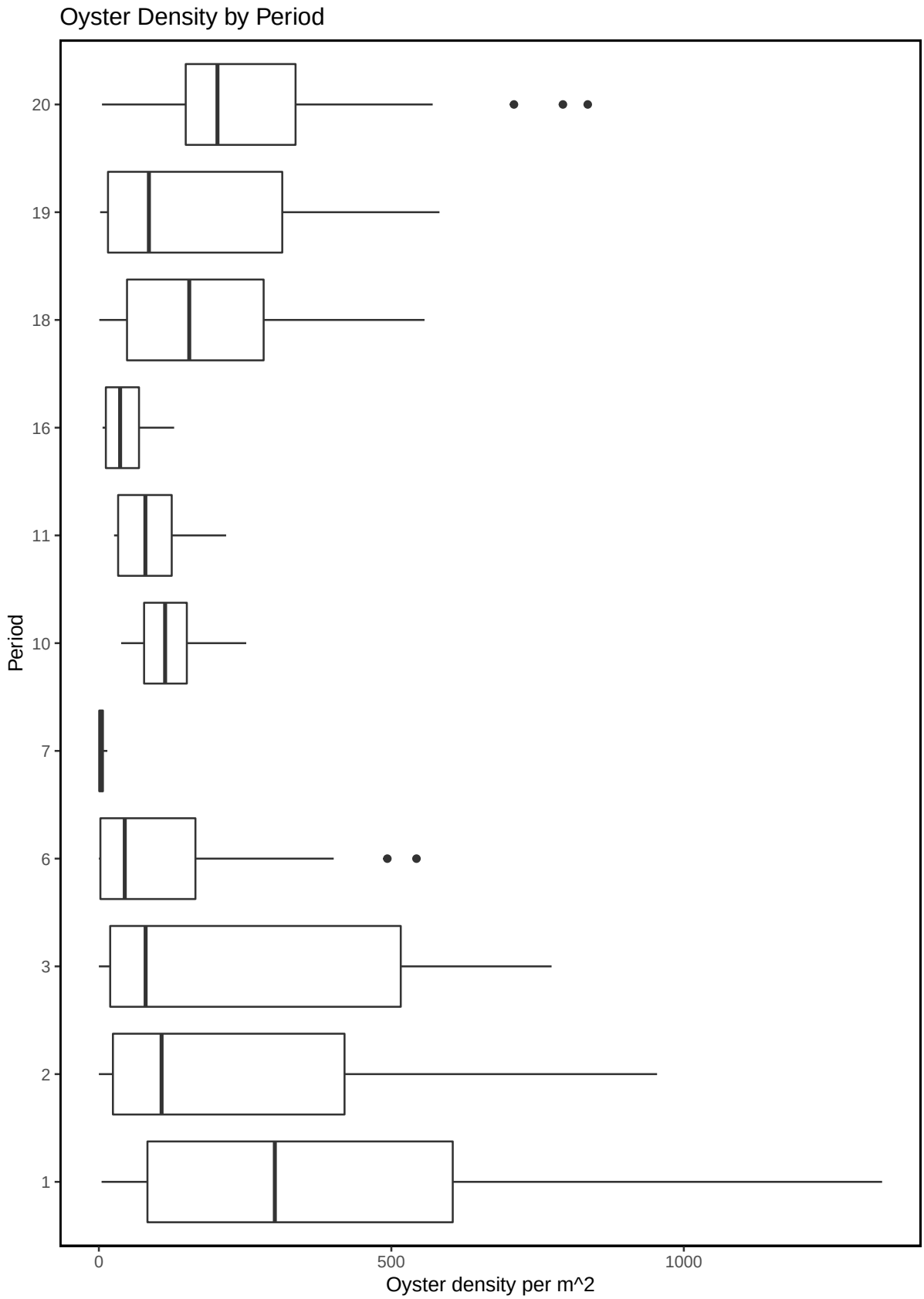
Figure− Calculated oyster density for all periods including period 22 (current period) using a probability density fu



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



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



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

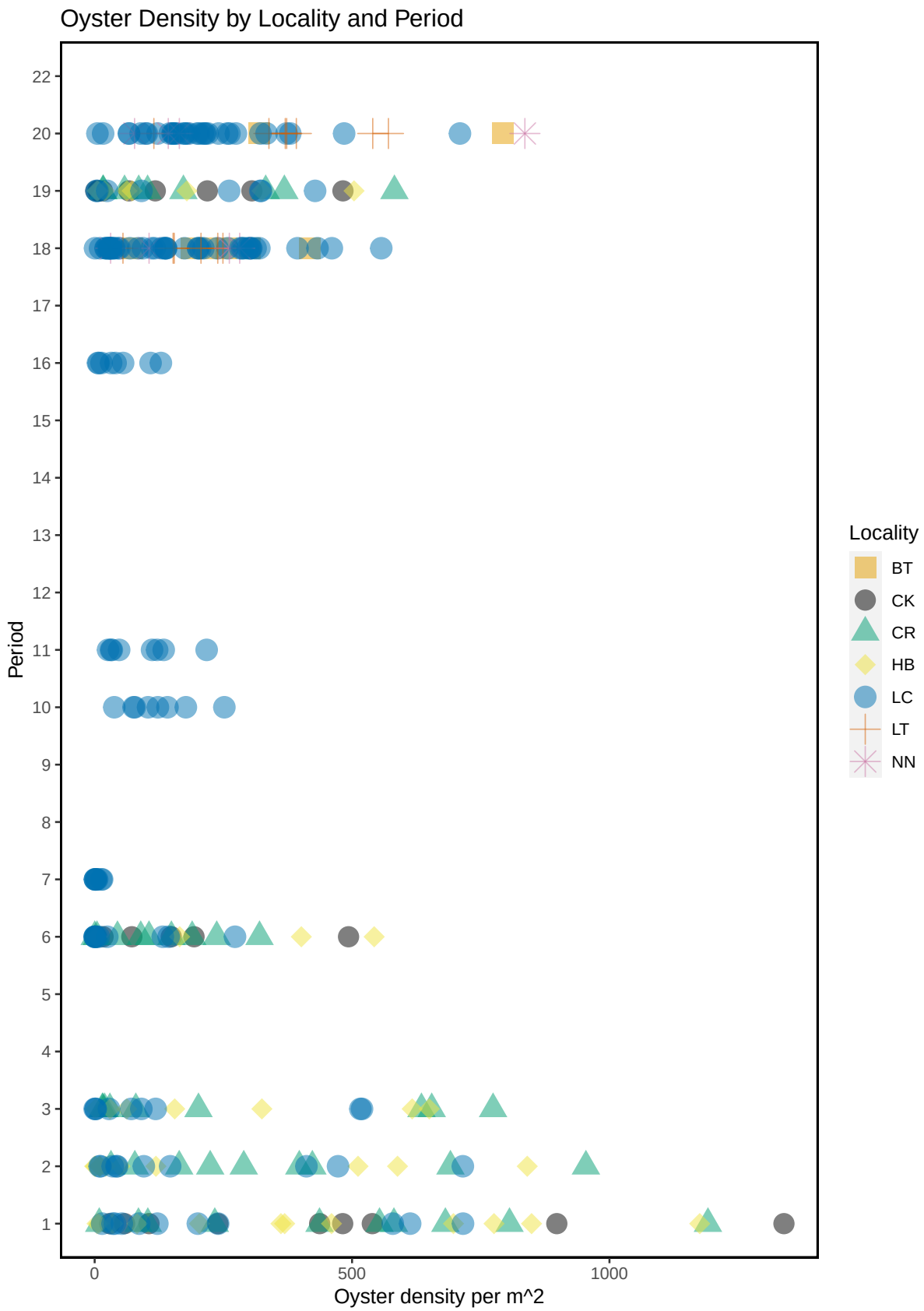


Figure − Oyster density by locality and period for all periods including period 22 (current period).

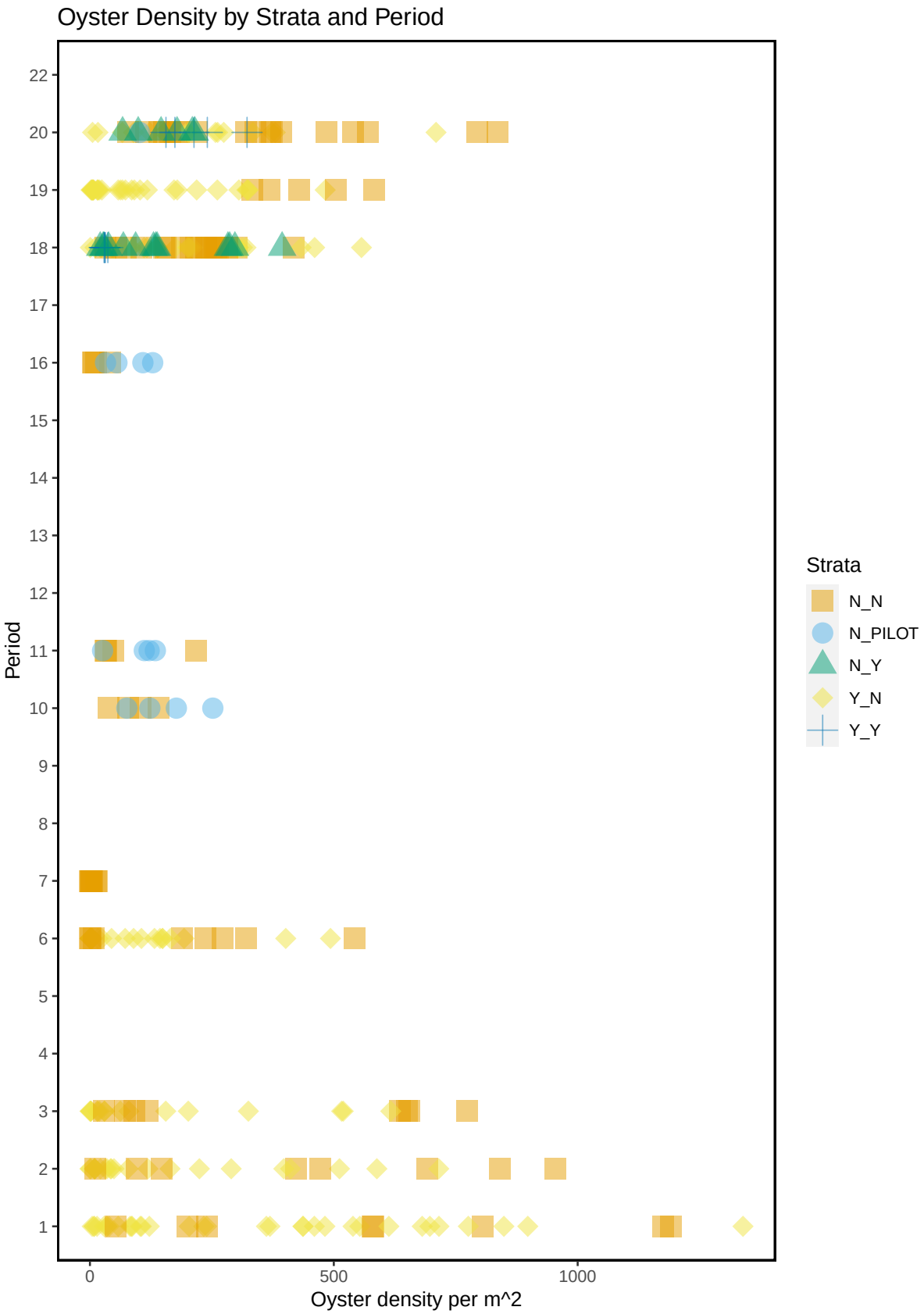


Figure − Oyster density by strata and period for all periods including period 22 (current period).

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).

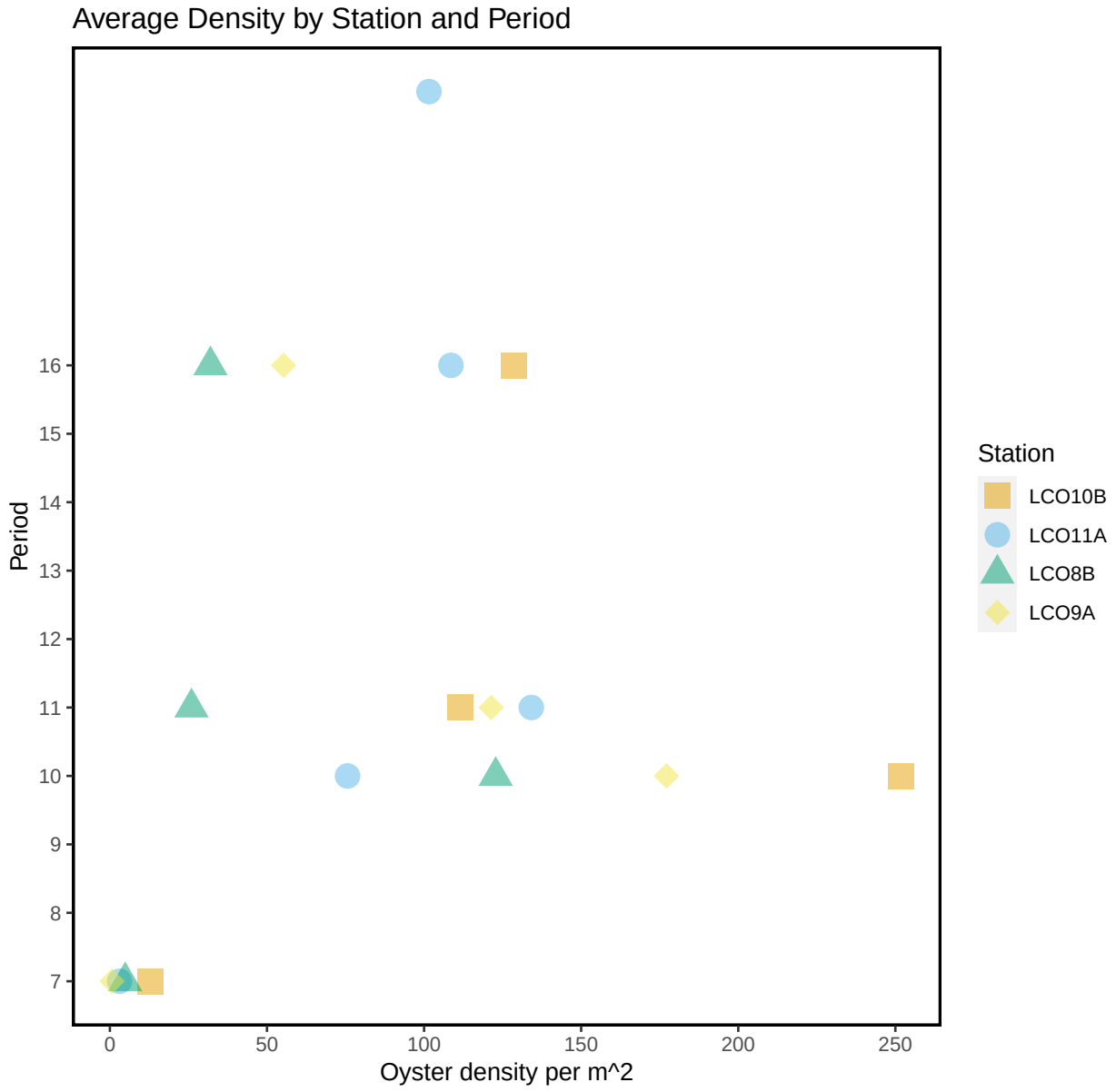


Figure − Average density comparison by period for all stations that were sampled during the pilot study.

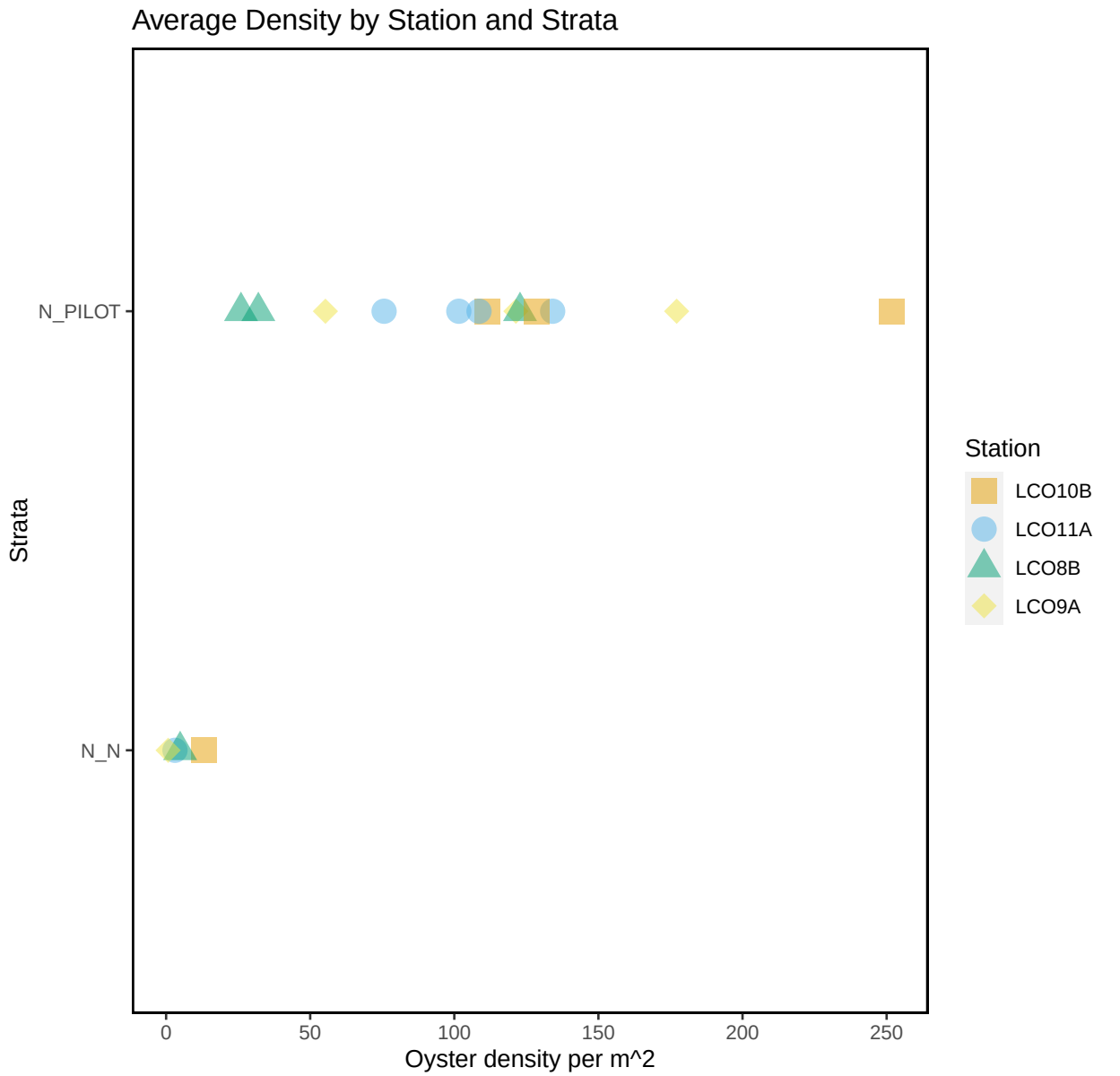


Figure − Average density comparison by strata and period for all stations that were sampled during the pilot stuc

Latest Data Entered

Displayed are the entries for the last date of sampling (2020-01-13).

date	station	tran_length	count_live	count_dead	treatment	strata
2020-01-13	LCO18	2.5	61	2	rocks	Y_Y
2020-01-13	LCO18	5.0	70	1	rocks	Y_Y
2020-01-13	LCO18	7.5	45	0	rocks	Y_Y
2020-01-13	LCO18	10.0	23	0	rocks	Y_Y
2020-01-13	LCO18	12.5	46	4	rocks	Y_Y
2020-01-13	LCO18	15.0	25	4	rocks	Y_Y
2020-01-13	LCO18	17.5	30	0	rocks	Y_Y
2020-01-13	LCO18	20.0	47	0	rocks	Y_Y
2020-01-13	LCO18	22.1	32	3	rocks	Y_Y
2020-01-13	LCO18	2.5	36	2	rocks	Y_Y
2020-01-13	LCO18	5.0	130	4	rocks	Y_Y
2020-01-13	LCO18	7.5	112	3	rocks	Y_Y
2020-01-13	LCO18	10.0	75	0	rocks	Y_Y
2020-01-13	LCO18	12.5	140	11	rocks	Y_Y
2020-01-13	LCO18	15.0	143	7	rocks	Y_Y
2020-01-13	LCO18	17.5	87	2	rocks	Y_Y
2020-01-13	LCO18	20.0	144	9	rocks	Y_Y
2020-01-13	LCO18	21.3	42	2	rocks	Y_Y
2020-01-13	LCO18	2.5	117	3	rocks	Y_Y
2020-01-13	LCO18	5.0	126	12	rocks	Y_Y
2020-01-13	LCO18	7.5	75	5	rocks	Y_Y
2020-01-13	LCO18	10.0	84	6	rocks	Y_Y
2020-01-13	LCO18	12.5	87	8	rocks	Y_Y
2020-01-13	LCO18	15.0	94	6	rocks	Y_Y
2020-01-13	LCO18	17.5	81	4	rocks	Y_Y
2020-01-13	LCO18	20.0	124	5	rocks	Y_Y
2020-01-13	LCO18	20.9	15	1	rocks	Y_Y