

Results for the 2011 VIMS/Industry Cooperative Survey of Georges Bank Closed Area II

Submitted to:
Sea Scallop Fishing Industry

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The Virginia Institute of Marine Science (VIMS), College of William and Mary conducted a scallop resource survey in the access area of Georges Bank Closed Area II (GBCAII) during May of 2011. The survey was funded by the Sea Scallop Research Set-Aside Program.

The survey was conducted aboard the F/V *Celtic* based out of New Bedford, MA. The vessel towed a National Marine Fisheries Service (NMFS) 8 foot survey dredge with 2 inch rings, a three inch mesh twine-top and a 0.25 inch mesh liner along with a 15 foot Coonamessett Farm Turtle Deflector Dredge (CFTDD) with a 10 inch mesh twine top with a 1.76 hanging ratio (60 meshes, 34 rings) and 8.5 meshes on the side. The dredges were towed at 3.8 kts with a scope of 3:1 for 15 minutes. While the comparison of the catches is informative for management purposes, for this report we are presenting the catch composition for only the CFTDD modification of the standard commercial New Bedford style dredge.

The catch data is presented in tabular form (Table 1). This table shows the tow location, scallop catch in baskets, number of scallops and meat count. For this report, we also show the bycatch of yellowtail flounder both in numbers and pounds. The catch data is also displayed in a spatial format (Figures 1- 4) showing the distribution of scallop catch (baskets, scallop meat count) and yellowtail flounder bycatch in terms of both numbers and weight caught.

The scallops in GBCAII are dominated by large scallops in the 130-140 mm size range (5.25-5.5 inches) with a significant number of scallops larger than 5.5 inches. We also observed a sizable number of scallops in the 100-120 mm size range (4-5 inches) which are probably from the 2006 year class that was first detected in the 2008 surveys (Figure 5). Data from the NMFS survey dredge indicated some scallops around 90 mm (3.25-4.0 inches) which were not retained by the commercial dredge in significant numbers. Importantly, we did not observe the presence of scallop seed in the 40-60 mm (around 2 inches) size range which would be an indication of future recruitment of scallops in GBCAII.

Also of importance is the data for yellowtail flounder bycatch. The tows with the largest amount of yellowtail flounder also had very low catches of scallops (tows 90, 91, 5, 23, 26, 28). The spatial data presented in the figures clearly indicate that significant scallop catches can be obtained in areas with the lowest yellowtail flounder bycatch. We recognize that this data is for the period from May 7-14, 2011 and the GBCAII opening will be in mid to late July 2011. This baseline information should be helpful in diverting fishing effort from areas of high yellowtail bycatch. We urge industry to participate in the yellowtail bycatch avoidance program conducted

by SMAST and to practice smart fishing techniques so that the yellowtail bycatch TAC is not reached. The access area trip you save may be your own.

A word about twine top configuration

VIMS conducted several research trips aboard the F/V *Celtic* within the boundaries of the Georges Bank Access Areas during 2006 and 2007 to test the effects of altering the twine top ratio on finfish bycatch. Results indicated that there was a significant reduction in yellowtail bycatch and no loss of scallops when a twine top hanging ratio of 1.76 (60 meshes, 34 rings) was used compared to a 2.64 hanging ratio (90 meshes, 34 rings). During the experiment, both dredges had twine tops with 8.5 meshes on the side and 7 rings to the clubstick.

An additional experiment was conducted using a short twine top (5.5 meshes on the side) with an apron of 13 rings compared with a standard twine top with 8.5 meshes on the side and a 7 ring apron. The results showed that the short twine top configuration caught more yellowtail flounder than the standard configuration. Dredges rigged with short twine tops and high hanging ratios are not useful for the reduction of yellowtail flounder bycatch. In addition to the spatial strategy for avoiding yellowtail bycatch, gear modifications with respect to twine top configuration can also have a positive impact during the opening of GBCAII in 2011.

Table 1: Catch data for a 15 min. tow using a 15 ft. commercial CFTDD. May 2011

Station	Latitude (degrees)	Latitude (minutes)	Longitude (degrees)	Longitude (minutes)	Scallop (baskets)	Scallop (number)	Scallop (lbs.)	Count (MPP)	Yellowtail (number)	Yellowtail (lbs.)
CA2-1	41	28.39	67	18.37	0	0	0.00		0	0.00
CA2-2	41	28.39	67	13.77	0	0	0.00		0	0.00
CA2-3	41	28.39	67	9.17	0	0	0.00		3	2.03
CA2-4	41	28.39	67	4.57	0	0	0.00		0	0.00
CA2-5	41	28.39	66	59.97	0.1	4	0.30	13.30	13	14.94
CA2-6	41	28.39	66	55.37	0.1	20	1.72	11.61	0	0.00
CA2-7	41	28.39	66	50.77	1	75	7.20	10.42	2	1.16
CA2-8	41	28.39	66	46.17	2.15	152.65	15.67	9.74	2	2.43
CA2-9	41	28.39	66	41.57	3.9	253.5	27.25	9.30	2	1.96
CA2-10	41	28.39	66	36.97	4.9	396.9	36.90	10.76	2	2.25
CA2-11	41	25.05	67	18.37	0	0	0.00		1	1.11
CA2-12	41	25.05	67	13.77	0	0	0.00		0	0.00
CA2-13	41	25.05	67	9.17	0	0	0.00		0	0.00
CA2-14	41	25.05	67	4.57	0	0	0.00		0	0.00
CA2-15	41	25.05	66	59.97	0	0	0.00		1	1.11
CA2-16	41	25.05	66	55.37	1	67	6.81	9.84	3	3.06
CA2-17	41	25.05	66	50.77	4	286	27.66	10.34	1	0.78
CA2-18	41	25.05	66	46.17	6.2	492.9	43.60	11.31	3	3.11
CA2-19	41	25.05	66	41.57	3.3	265.65	23.08	11.51	2	1.42
CA2-20	41	25.05	66	36.97	6	648	52.88	12.25	1	1.02
CA2-21	41	25.05	66	32.37	7	535.5	55.34	9.68	1	1.02
CA2-22	41	21.72	67	18.37	0	0	0.00		4	4.58
CA2-23	41	21.72	67	13.77	0	0	0.00		11	12.57
CA2-24	41	21.72	67	9.17	0	0	0.00		1	1.02
CA2-25	41	21.72	67	4.57	0	0	0.00		0	0.00
CA2-26	41	21.72	66	59.97	0.1	4	0.40	9.94	10	11.49
CA2-27	41	21.72	66	55.37	3.5	227.5	26.26	8.66	4	4.97
CA2-28	41	21.72	66	50.77	4	262	27.07	9.68	5	4.90
CA2-29	41	21.72	66	46.17	5	332.5	34.67	9.59	6	6.01
CA2-30	41	21.72	66	41.57	2.4	234	18.72	12.50	2	1.46
CA2-31	41	21.72	66	36.97	4	358	34.02	10.52	1	0.78

CA2-32	41	21.72	66	32.37	10.4	873.6	86.15	10.14	0	0.00
CA2-33	41	21.72	66	27.77	12.2	1549.4	106.40	14.56	1	1.66
CA2-34	41	18.39	67	18.37	0	0	0.00		0	0.00
CA2-35	41	18.39	67	13.77	0	0	0.00		0	0.00
CA2-36	41	18.39	67	9.17	0	0	0.00		0	0.00
CA2-37	41	18.39	67	4.57	0.1	4	0.50	7.94	0	0.00
CA2-38	41	18.39	66	59.97	2.1	141	16.47	8.56	0	0.00
CA2-39	41	18.39	66	55.37	2.9	195.75	20.94	9.35	4	4.78
CA2-40	41	18.39	66	50.77	3	226.5	23.31	9.72	4	3.63
CA2-41	41	18.39	66	46.17	3	189	18.03	10.48	0	0.00
CA2-42	41	18.39	66	41.57	3.1	232.5	23.91	9.72	2	2.05
CA2-43	41	18.39	66	36.97	11.5	1293.75	89.23	14.50	0	0.00
CA2-44	41	18.39	66	32.37	22	4202	199.90	21.02	0	0.00
CA2-45	41	18.39	66	27.77	9.1	1733.55	77.13	22.47	0	0.00
CA2-46	41	15.05	67	18.37	0	0	0.00		0	0.00
CA2-47	41	15.05	67	13.77	0	0	0.00		0	0.00
CA2-48	41	15.05	67	9.17	0.1	2	0.20	10.06	5	5.57
CA2-49	41	15.05	67	4.57	1.4	89	9.93	8.97	2	2.65
CA2-50	41	15.05	66	59.97	2	134	14.11	9.50	2	1.80
CA2-51	41	15.05	66	55.37	4.5	292.5	30.91	9.46	3	3.36
CA2-52	41	15.05	66	50.77	5.8	400.2	41.98	9.53	0	0.00
CA2-53	41	15.05	66	46.17	4.75	420.375	40.04	10.50	0	0.00
CA2-54	41	15.05	66	41.57	6.1	469.7	43.58	10.78	0	0.00
CA2-55	41	15.05	66	36.97	6.25	771.875	59.01	13.08	1	0.71
CA2-56	41	15.05	66	32.37	22.5	3858.75	213.54	18.07	1	0.94
CA2-57	41	15.05	66	27.77	7	703.5	55.55	12.66	4	3.79
CA2-58	41	11.72	67	18.37	0	0	0.00		0	0.00
CA2-59	41	11.72	67	13.77	0.1	19	1.74	10.92	0	0.00
CA2-60	41	11.72	67	9.17	3.2	227.2	21.69	10.47	0	0.00
CA2-61	41	11.72	67	4.57	3.5	241.5	25.09	9.62	0	0.00
CA2-62	41	11.72	66	59.97	2.8	183.4	20.20	9.08	1	1.21
CA2-63	41	11.72	66	55.37	4.4	352	34.51	10.20	3	2.90
CA2-64	41	11.72	66	50.77	9.1	1228.5	95.53	12.86	0	0.00
CA2-65	41	11.72	66	46.17	4	322	28.85	11.16	0	0.00
CA2-66	41	11.72	66	41.57	8	636	61.83	10.29	0	0.00

CA2-67	41	11.72	66	36.97	29.5	4380.75	239.23	18.31	2	1.87
CA2-68	41	11.72	66	32.37	11	1182.5	79.40	14.89	2	2.28
CA2-69	41	8.39	67	18.37	0.2	19	2.01	9.44	1	1.31
CA2-70	41	8.39	67	13.77	1.9	134.9	14.52	9.29	0	0.00
CA2-71	41	8.39	67	9.17	4.1	319.8	34.35	9.31	4	3.76
CA2-72	41	8.39	67	4.57	3	219	18.72	11.70	0	0.00
CA2-73	41	8.39	66	59.97	5.1	451.35	33.87	13.33	0	0.00
CA2-74	41	8.39	66	55.37	9	715.5	68.08	10.51	0	0.00
CA2-75	41	8.39	66	50.77	15	1335	118.01	11.31	0	0.00
CA2-76	41	8.39	66	46.17	12.8	1177.6	104.71	11.25	0	0.00
CA2-77	41	8.39	66	41.57	8.8	844.8	72.35	11.68	0	0.00
CA2-78	41	8.39	66	36.97	4.4	528	35.42	14.91	0	0.00
CA2-79	41	8.39	66	32.37	0.5	55	2.96	18.56	0	0.00
CA2-80	41	5.05	67	18.37	2.2	145.2	16.87	8.61	4	3.91
CA2-81	41	5.05	67	13.77	1.8	126	13.19	9.55	0	0.00
CA2-82	41	5.05	67	9.17	3.1	201.5	21.66	9.30	2	2.63
CA2-83	41	5.05	67	4.57	4	322	32.00	10.06	2	1.89
CA2-84	41	5.05	66	59.97	7	623	55.49	11.23	3	3.13
CA2-85	41	5.05	66	55.37	6.25	593.75	52.21	11.37	0	0.00
CA2-86	41	5.05	66	50.77	11.2	952	90.23	10.55	1	1.11
CA2-87	41	5.05	66	46.17	18	1602	146.47	10.94	1	1.31
CA2-88	41	5.05	66	41.57	7	910	63.77	14.27	1	1.02
CA2-89	41	5.05	66	36.97	13	1722.5	123.70	13.93	1	1.31
CA2-90	41	1.72	67	18.37	2.25	146.25	16.74	8.74	7	7.19
CA2-91	41	1.72	67	13.77	3	207	25.02	8.27	11	13.24
CA2-92	41	1.72	67	9.17	2.4	192	21.38	8.98	1	0.71
CA2-93	41	1.72	67	4.57	2.5	240	22.73	10.56	0	0.00
CA2-94	41	1.72	66	59.97	8.25	907.5	76.49	11.86	1	1.11
CA2-95	41	1.72	66	55.37	9	927	71.69	12.93	0	0.00
CA2-96	41	1.72	66	50.77	11	1100	85.56	12.86	1	0.94
CA2-97	41	1.72	66	46.17	10	1220	110.75	11.02	0	0.00
CA2-98	41	1.72	66	41.57	2.75	343.75	25.99	13.23	1	0.58
CA2-99	41	1.72	66	36.97	0.2	35	1.92	18.20	0	0.00

Figure 1. Spatial representation of sea scallop catch (baskets) encountered during the VIMS/Industry survey of Georges Bank Closed Area II during May of 2011.

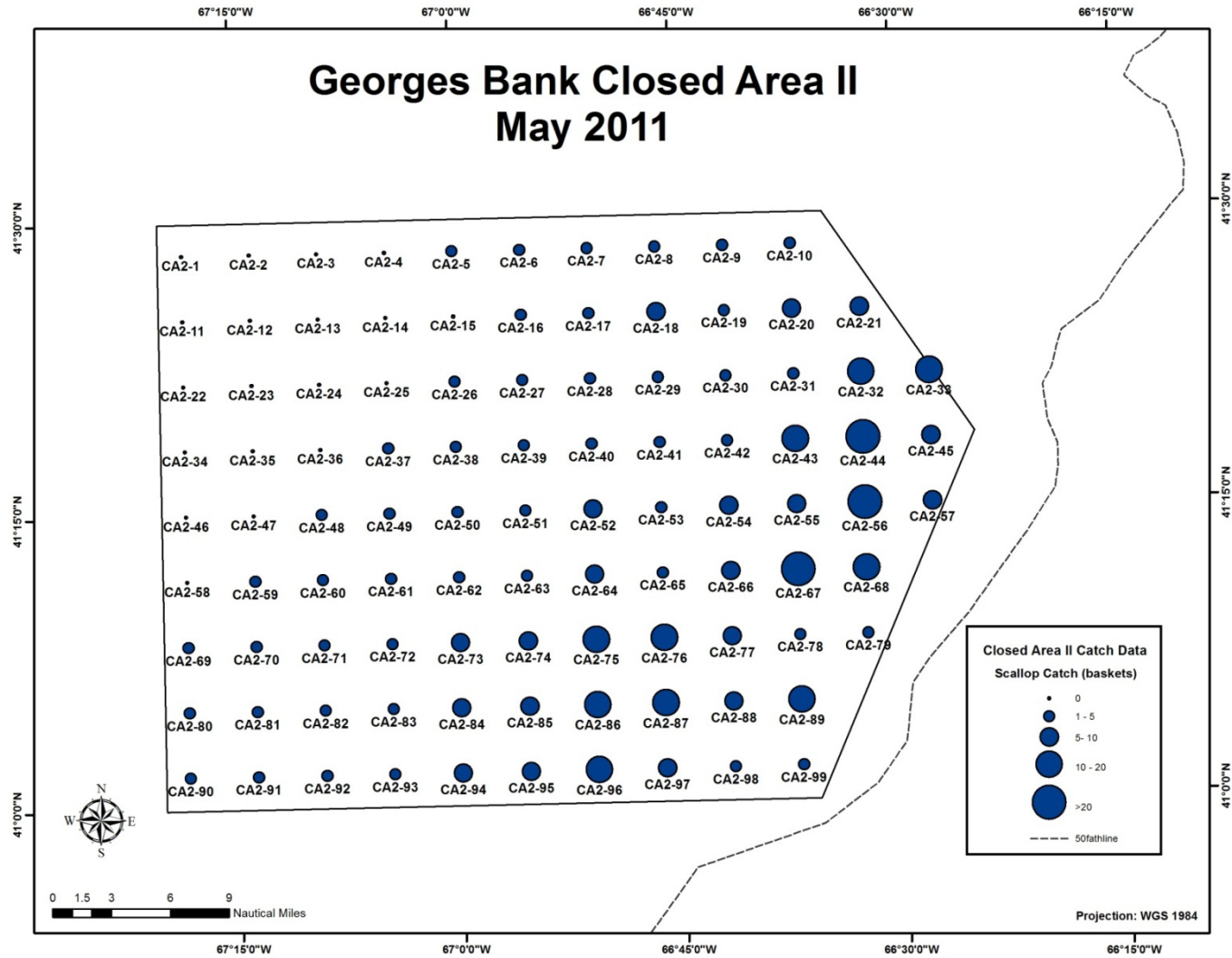


Figure 2. Spatial representation of scallop meat count (MPP) encountered during the VIMS/Industry survey of Georges Bank Closed Area II during May of 2011.

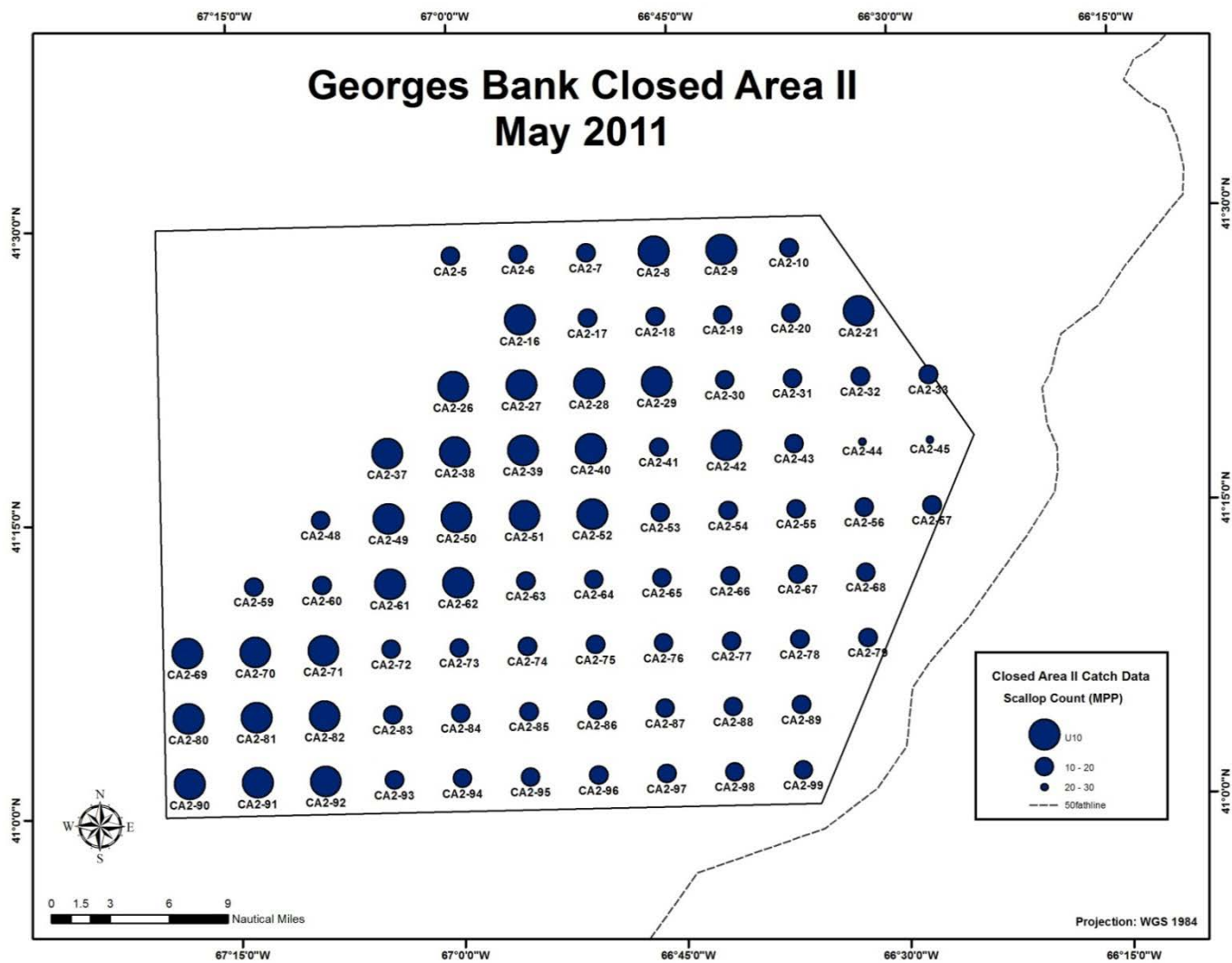


Figure 3. Spatial representation of yellowtail flounder catch (numbers) encountered during the VIMS/Industry survey of Georges Bank Closed Area II during May of 2011.

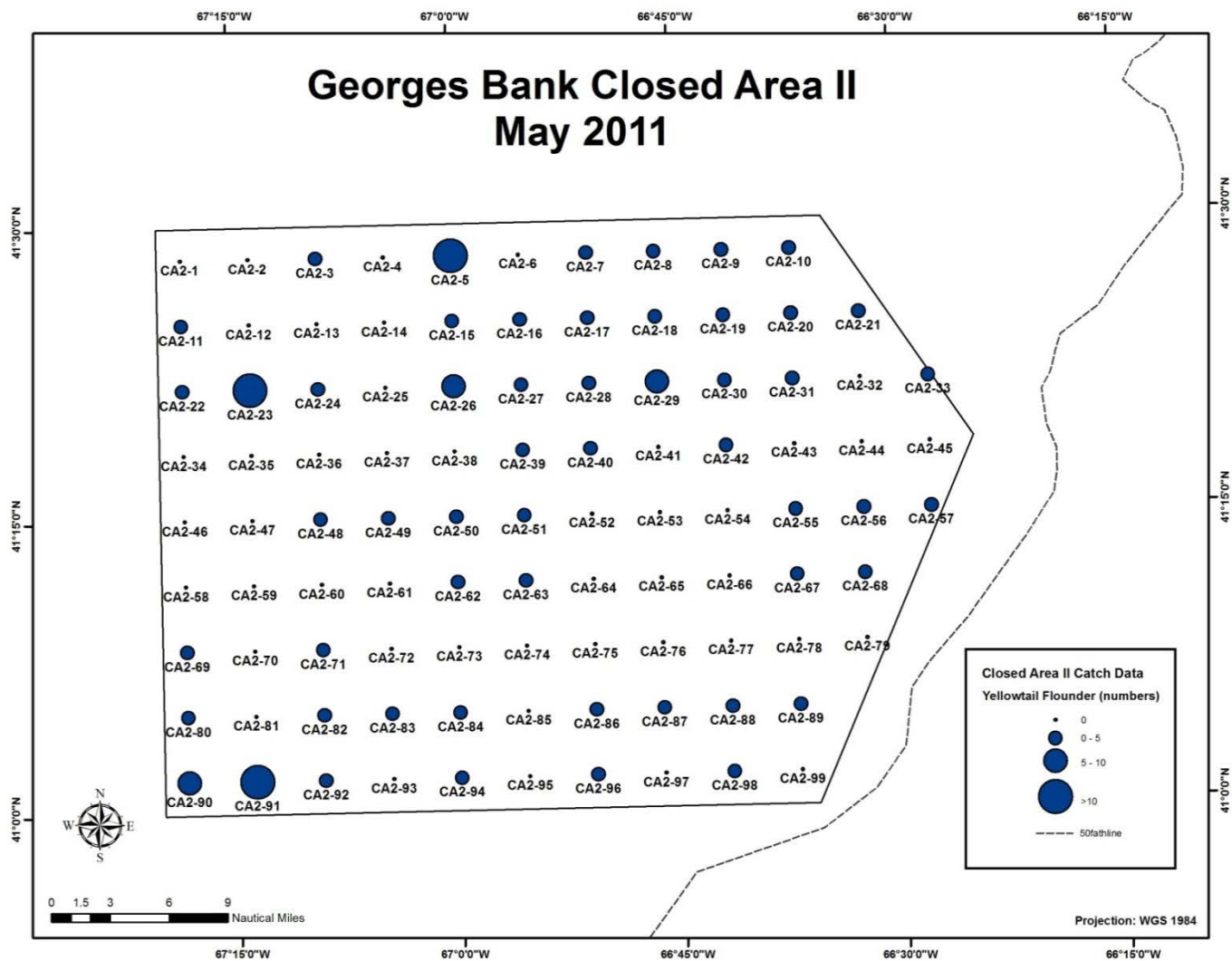


Figure 4. Spatial representation of yellowtail flounder catch (pounds) encountered during the VIMS/Industry survey of Georges Bank Closed Area II during May of 2011.

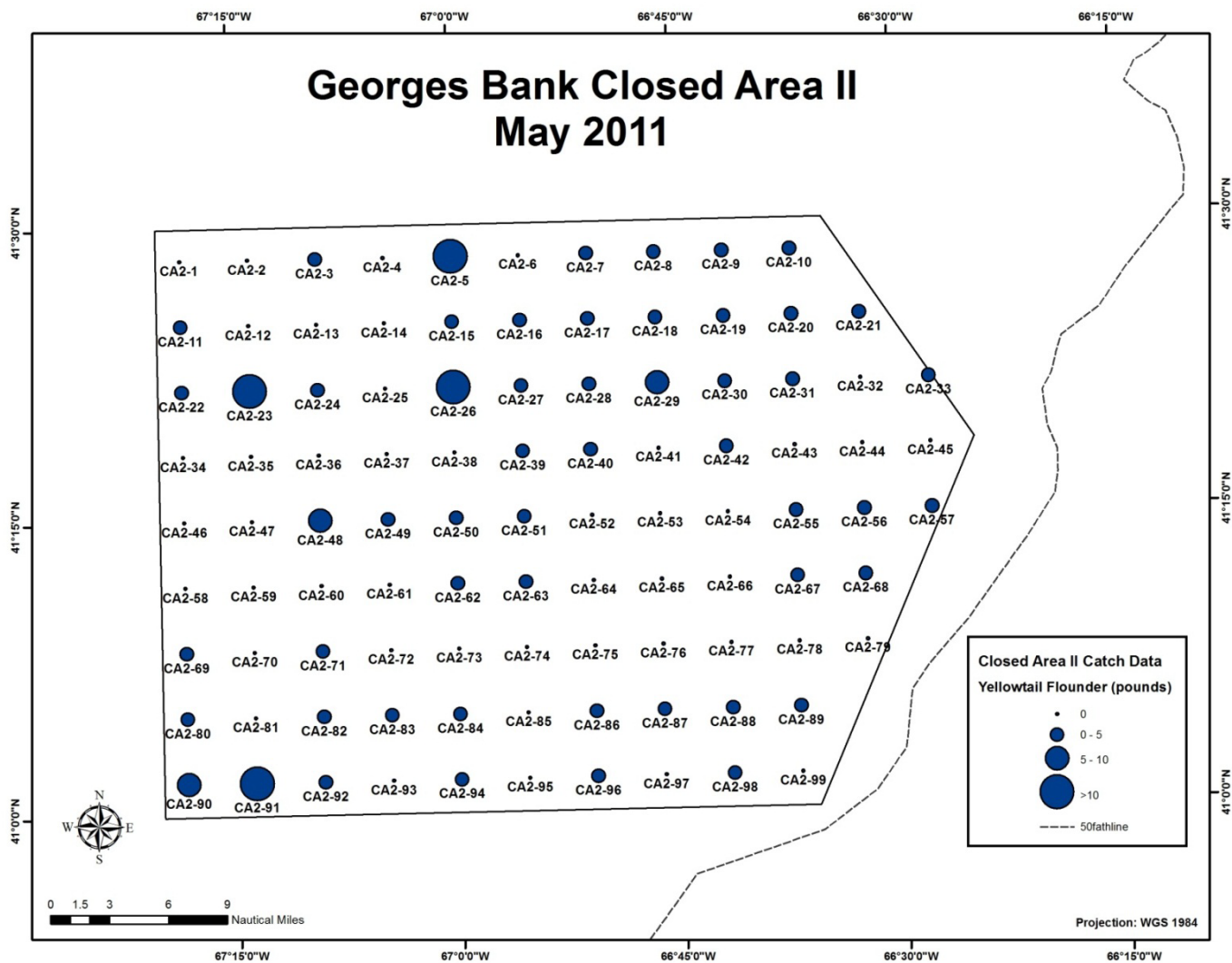


Figure 5. Shell height frequency for scallops captured in the commercial dredge during the VIMS/Industry cooperative survey of Closed Area II during May 2011.

