

Reports

10-3-2017

Results for the 2017 VIMS Industry Cooperative Surveys of the Mid-Atlantic, Nantucket Lightship Closed Area, and Closed Area II Resource Areas

David Rudders
Virginia Institute of Marine Science

Sally Roman
Virginia Institute of Marine Science

Hunter Tipton
Virginia Institute of Marine Science

Jennifer Anders
Virginia Institute of Marine Science

Follow this and additional works at: <https://scholarworks.wm.edu/reports>



Part of the [Aquaculture and Fisheries Commons](#)

Recommended Citation

Rudders, D., Roman, S., Tipton, H., & Anders, J. (2017) Results for the 2017 VIMS Industry Cooperative Surveys of the Mid-Atlantic, Nantucket Lightship Closed Area, and Closed Area II Resource Areas. Marine Resource Report No. 2017- 8. Virginia Institute of Marine Science, College of William and Mary. <https://doi.org/10.25773/zqw3-ky49>

This Report is brought to you for free and open access by W&M ScholarWorks. It has been accepted for inclusion in Reports by an authorized administrator of W&M ScholarWorks. For more information, please contact scholarworks@wm.edu.

Results for the 2017 VIMS Industry Cooperative Surveys of the Mid-Atlantic, Nantucket Lightship Closed Area, and Closed Area II Resource Areas

Submitted to:
Sea Scallop Fishing Industry

David B. Rudders
Sally Roman
Hunter Tipton
Jennifer Anders

Virginia Institute of Marine Science
College of William and Mary
Gloucester Point, VA 23062

October 3, 2017

VIMS Marine Resource Report No. 2017-8

Additional copies of this publication are available:

David B. Rudders
Virginia Institute of Marine Science
P.O. Box 1346
Gloucester Point, VA 23062
804-684-7531

rudders@vims.edu

www.vims.edu/adv



This work is a result of research sponsored by NOAA/National Marine Fisheries Service, Sea Scallop Research Set Aside Program under Grant Numbers NA16NMF4540041, NA16NMF4540044, and NA17NMF4540045. The views expressed herein do not necessarily reflect the views of any of those organizations.

The Virginia Institute of Marine Science (VIMS) conducted high resolution sea scallop dredge surveys of the entire Mid-Atlantic (MAB) sea scallop resource area, the Nantucket Lightship (NLCA) access area and surrounds, and the CA II access area and Extension Closure during May-July of 2017 (Figure 1). These surveys were funded by the Sea Scallop Research Set-Aside Program (RSA). Exploitable biomass for each survey is shown in Table 1 for each spatially explicit SAMS (Scallop Area Management Simulator) model area (Figure 2-4). SAMS areas account for differences in recruitment, vital rates, and fishing effort. At the time of the surveys, exploitable biomass estimated from the commercial dredge was 13,711 mt or 30.2 million pounds for the Open Elephant Trunk (ET-Open) SAMS area and 8,907 mt or 19.6 million pounds in Elephant Trunk Flex (ET-Flex) SAMS area. For open access area in the Long Island (LI) SAMS area, exploitable biomass was estimated at 10,711 mt or 23.6 million pounds. In the NLCA, the exploitable biomass in the northern region (NLS_AC_N area in Table 1) was 5,600 mt or 12.3 million pounds. Exploitable biomass in the CAII survey traditional access area (CAII_S_AC in Table 1) was 6,296 mt or 13.9 million pounds.

The MAB survey was conducted aboard two commercial vessels: F/V *Carolina Capes II* and F/V *Sea Hawk* during May 2017. Each vessel completed one survey leg and approximately 220 stations in different regions of the survey area. The NLCA and CA II surveys were each conducted by a single commercial vessel in June and July of 2017. The F/V *Celtic* conducted the NLCA survey and completed 115 stations throughout the survey area. The F/V *Flavian S* completed 100 stations throughout the CA II survey area. All vessels towed a NMFS 8 foot survey dredge along with either a 14 foot Coonamessett Farm Turtle Deflector Dredge (CFTDD) equipped with a 10 inch diamond mesh twine top with a 1.76 hanging ratio (60 meshes, 34 rings) and 8.5 meshes on the side, or a 14 foot New Bedford style commercial dredge. While the comparison of catches between the survey dredge and the commercial dredge are informative on a relative basis, for the purposes of this report, we present only the catch data from the commercial dredges during a 15 minute survey tow at 3.8 kts with a 3:1 scope in Table 2. This information is more applicable to the resource conditions that the industry is likely to encounter.

Catch data in tabular form is shown in Table 2. The density and number of scallops caught in three size classes (0-30mm, 31-75mm, and >75mm) in each tow is shown in Figures 5-13. In Figures 14-16, the shell height frequency distribution from the catches by the survey dredge and commercial dredges are shown for the different surveys and SAMS areas.

In addition to data on scallop abundance and biomass, we monitored meat quality during each survey. This protocol includes documenting the presence and intensity of a parasitic nematode observed in the scallop meat. Infected scallops have rust colored lesions on the meats. Nematode infected scallops were observed only during the MAB survey. The typical number of nematodes observed per scallop meat ranged from 1-6 and nematodes were usually present on the exterior of the adductor muscle, typically opposite the sweet meat. The spatial distribution of the prevalence (% of sampled scallops at a given station with at least one lesion) of nematodes observed in sampled scallops by year is shown in Figure 17. Prevalence appears to be contracting in 2017 compared to 2016, which had the largest spatial extent of infected

scallops. Overall, the extent of nematode prevalence still covers the majority of the southern range for these surveys. In Figure 18, the spatial distribution of nematode prevalence in sampled scallops is displayed by year and size class. Smaller sizes of scallops appear to be less infected over time. VIMS will continue to investigate the nematode infection. This includes research to understand the biology of the parasite and how it affects scallops, as well as the impact to the fishery.

Table 1. Exploitable biomass for scallops captured in the commercial during the VIMS/Industry cooperative surveys by survey, gear, and SAMS Area during May-July 2017.

Survey	SAMS Area	Gear	Exploitable Biomass (mt)	95% CI Lower Bound	95% CI Upper Bound
MAB	DMV	COMM	1,393.10	870.75	1,915.46
	ET-Open	COMM	13,711.89	11,569.48	15,854.31
	ET-Flex	COMM	8,907.62	7,111.10	10,704.14
	HCS	COMM	5,334.08	4,249.19	6,418.96
	NYB	COMM	3,800.50	2,458.87	5,031.23
	NYB-Inshore	COMM	418.51	281.67	555.35
	VIR	COMM	0	0	0
	BI	COMM	853.9	653.67	1,054.13
	LI	COMM	10,711.16	9,040.71	12,381.61
NLCA	NLS_AC_N	COMM	5,600.12	4,831.82	6,368.43
	NLS_AC_S	COMM	5,393.52	3,752.20	7,034.83
	NLS_EXT	COMM	437.15	194.96	679.33
	NLS_NA	COMM	1,585.22	-61.2	3,231.64
	VIMS_45	COMM	92.08	-0.28	184.44
CA II	CAII_S_AC	COMM	6,296.40	5,403.09	7,189.71
	CAII_S_Ext	COMM	1,636.90	1,123.62	2,150.18

Table 2. Catch data for the commercial dredge from the VIMS/Industry cooperative surveys completed during May-July 2017. Nematode prevalence (% of sampled scallops sampled at a given station infected with nematodes) is also provided for each station.

Survey	Station ID	Latitude (degrees)	Latitude (minutes)	Longitude (degrees)	Longitude (minutes)	Scallop (number)	Scallop (lbs)	Scallop (baskets)	Scallop/m ² Density	Nematode Prevalence
MAB	201704001	36	30.93	74	47.74	0.00	0.00	0.00	0.00	0%
MAB	201704003	36	37.87	74	49.37	0.00	0.00	0.00	0.00	0%
MAB	201704004	36	45.50	74	46.66	0.00	0.00	0.00	0.00	0%
MAB	201704005	36	49.47	74	44.70	0.00	0.00	0.00	0.00	0%
MAB	201704006	36	55.75	74	50.78	0.00	0.00	0.00	0.00	0%
MAB	201704007	36	58.12	74	45.30	0.00	0.00	0.00	0.00	0%
MAB	201704008	37	0.07	74	49.07	0.00	0.00	0.00	0.00	0%
MAB	201704009	37	6.31	74	47.88	0.00	0.00	0.00	0.00	0%
MAB	201704010	37	12.22	74	45.78	0.00	0.00	0.00	0.00	0%
MAB	201704011	37	15.01	74	36.48	0.00	0.00	0.00	0.00	0%
MAB	201704012	37	21.12	74	37.00	0.00	0.00	0.00	0.00	0%
MAB	201704013	37	20.98	74	43.26	0.00	0.00	0.00	0.00	0%
MAB	201704014	37	22.47	74	46.22	0.00	0.00	0.00	0.00	0%
MAB	201704015	37	26.06	74	41.96	0.00	0.00	0.00	0.00	0%
MAB	201704016	37	29.70	74	42.69	0.00	0.00	0.00	0.00	0%
MAB	201704017	37	28.32	74	31.76	0.00	0.00	0.00	0.00	0%
MAB	201704018	37	33.49	74	27.79	0.00	0.00	0.00	0.00	0%
MAB	201704019	37	33.13	74	36.80	0.00	0.00	0.00	0.00	0%
MAB	201704020	37	34.57	74	39.88	0.00	0.00	0.00	0.00	0%
MAB	201704021	37	34.34	74	49.43	0.00	0.00	0.00	0.00	0%
MAB	201704022	37	36.65	74	45.46	0.00	0.00	0.00	0.00	0%
MAB	201704023	37	37.90	74	39.97	0.00	0.00	0.00	0.00	0%
MAB	201704024	37	38.00	74	37.10	0.00	0.00	0.00	0.00	0%
MAB	201704025	37	37.64	74	30.36	196.10	12.28	2.00	0.04	73%
MAB	201704026	37	45.08	74	22.89	232.08	15.52	2.25	0.05	47%
MAB	201704027	37	46.51	74	28.93	59.97	5.36	0.75	0.01	67%
MAB	201704028	37	46.17	74	32.70	2.74	0.27	0.01	0.00	100%
MAB	201704029	37	44.53	74	38.51	0.00	0.00	0.00	0.00	0%
MAB	201704030	37	43.99	74	41.66	0.03	0.00	0.01	0.00	0%
MAB	201704031	37	45.98	74	40.87	0.00	0.00	0.00	0.00	0%
MAB	201704033	37	52.52	74	33.93	0.00	0.00	0.00	0.00	0%
MAB	201704035	37	50.22	74	30.82	0.00	0.00	0.00	0.00	0%
MAB	201704036	37	49.14	74	29.49	32.06	2.76	0.50	0.01	92%
MAB	201704037	37	48.18	74	22.61	384.57	23.12	3.00	0.08	81%
MAB	201704038	37	51.01	74	18.52	349.04	21.79	3.25	0.08	87%
MAB	201704039	37	54.49	74	23.94	165.37	20.04	2.50	0.04	100%
MAB	201704040	37	55.07	74	12.55	1.88	0.18	0.01	0.00	100%

MAB	201704041	37	57.17	74	11.96	1.59	0.14	0.01	0.00	83%
MAB	201704042	37	59.53	74	15.12	458.11	41.97	3.75	0.10	73%
MAB	201704043	37	58.05	74	20.95	77.31	7.08	1.25	0.02	67%
MAB	201704044	37	58.91	74	23.38	27.27	2.72	0.50	0.01	13%
MAB	201704046	38	1.61	74	20.82	0.00	0.00	0.00	0.00	0%
MAB	201704047	38	1.98	74	18.67	0.00	0.00	0.00	0.00	0%
MAB	201704048	38	5.57	74	17.44	0.00	0.00	0.00	0.00	0%
MAB	201704050	38	3.74	74	14.43	35.19	2.89	0.50	0.01	60%
MAB	201704051	38	4.29	74	12.88	168.34	10.45	2.00	0.03	60%
MAB	201704052	38	3.66	74	5.91	0.00	0.00	0.00	0.00	0%
MAB	201704053	38	5.72	74	3.23	0.00	0.00	0.00	0.00	0%
MAB	201704054	38	11.46	73	58.75	0.00	0.00	0.00	0.00	0%
MAB	201704055	38	13.13	73	57.16	538.68	24.83	5.50	0.12	7%
MAB	201704056	38	14.64	73	55.43	207.03	10.51	2.00	0.04	20%
MAB	201704057	38	15.29	73	56.47	2,946.28	127.10	31.00	0.62	7%
MAB	201704058	38	17.06	73	55.54	283.06	14.05	2.75	0.06	7%
MAB	201704059	38	18.60	73	47.49	1.61	0.07	0.01	0.00	0%
MAB	201704060	38	20.38	73	51.08	1.84	0.23	0.01	0.00	14%
MAB	201704061	38	22.11	74	0.56	250.91	20.74	2.50	0.05	60%
MAB	201704062	38	24.30	74	2.51	4,690.01	231.89	45.00	1.01	47%
MAB	201704065	38	24.31	73	56.92	3,102.38	166.92	35.00	0.63	47%
MAB	201704066	38	26.58	73	54.07	2,997.61	150.25	16.00	0.64	27%
MAB	201704070	38	26.15	73	46.90	3.11	0.16	0.01	0.00	47%
MAB	201704071	38	26.25	73	39.14	1.21	0.06	0.01	0.00	100%
MAB	201704072	38	27.02	73	44.38	1,046.99	63.72	10.00	0.22	33%
MAB	201704073	38	28.05	73	47.18	1,054.72	65.22	12.00	0.23	87%
MAB	201704075	38	30.35	73	48.08	4,038.66	197.90	42.00	0.83	67%
MAB	201704076	38	30.79	73	46.72	3,917.83	195.46	38.00	0.84	20%
MAB	201704077	38	33.72	73	46.88	2,401.73	107.35	30.00	0.46	40%
MAB	201704078	38	32.06	73	45.31	2,888.34	144.43	30.00	0.57	60%
MAB	201704079	38	31.44	73	40.51	828.78	41.85	10.00	0.16	40%
MAB	201704080	38	33.51	73	40.71	1,146.12	68.81	12.00	0.22	13%
MAB	201704081	38	36.78	73	36.92	825.90	45.93	5.00	0.16	47%
MAB	201704083	38	35.62	73	32.70	239.78	11.52	2.50	0.05	20%
MAB	201704084	38	35.92	73	22.29	1.65	0.13	0.01	0.00	100%
MAB	201704085	38	38.36	73	30.97	1,221.40	60.31	13.00	0.23	7%
MAB	201704086	38	40.45	73	28.96	268.54	15.29	3.50	0.05	13%
MAB	201704087	38	42.33	73	31.40	2,191.87	105.86	24.00	0.47	7%
MAB	201704088	38	43.25	73	33.85	2,916.80	145.80	30.00	0.66	7%
MAB	201704089	38	44.05	73	36.47	1,374.66	64.10	15.50	0.30	20%
MAB	201704090	38	46.84	73	34.34	1,030.41	53.83	20.00	0.23	0%
MAB	201704091	38	47.14	73	32.48	396.76	21.71	5.00	0.08	27%
MAB	201704092	38	46.65	73	24.63	33.44	3.03	0.25	0.01	33%

MAB	201704094	38	47.34	73	19.71	14.37	1.29	0.10	0.00	13%
MAB	201704095	38	47.82	73	15.67	4.18	0.30	0.01	0.00	7%
MAB	201704096	38	49.56	73	21.69	473.72	34.44	6.00	0.09	27%
MAB	201704097	38	49.07	73	24.82	1,306.46	69.84	17.00	0.26	20%
MAB	201704098	38	51.45	73	31.14	684.29	36.54	15.50	0.13	20%
MAB	201704099	38	53.23	73	29.59	738.02	42.98	11.25	0.15	13%
MAB	201704100	38	53.19	73	25.71	342.82	19.28	5.25	0.07	27%
MAB	201704101	38	55.41	73	26.23	1,524.71	78.05	19.00	0.33	7%
MAB	201704102	38	57.76	73	25.22	4,212.19	205.72	65.00	0.92	7%
MAB	201704103	38	55.00	73	22.00	123.33	6.52	3.00	0.03	13%
MAB	201704104	38	54.19	73	20.79	254.26	14.63	4.50	0.05	20%
MAB	201704105	38	54.92	73	17.66	924.68	48.04	14.25	0.18	20%
MAB	201704106	38	57.17	73	19.33	492.10	24.81	10.00	0.09	20%
MAB	201704107	38	57.10	73	16.82	33.48	1.81	0.50	0.01	13%
MAB	201704109	38	58.61	73	14.38	7.12	0.59	0.01	0.00	0%
MAB	201704110	39	0.15	73	13.52	2.37	0.13	0.01	0.00	0%
MAB	201704111	38	59.69	73	11.80	14.57	1.23	0.25	0.00	40%
MAB	201704112	38	59.83	73	10.51	47.69	3.64	0.50	0.01	7%
MAB	201704113	38	54.99	73	2.51	6.77	0.52	0.05	0.00	8%
MAB	201704114	38	53.83	73	1.22	0.00	0.00	0.00	0.00	0%
MAB	201704115	38	59.15	72	58.52	0.00	0.00	0.00	0.00	0%
MAB	201704116	38	59.91	72	56.59	0.00	0.00	0.00	0.00	0%
MAB	201704117	39	3.23	73	6.86	214.80	8.72	2.00	0.04	20%
MAB	201704118	39	4.36	73	13.02	159.79	12.37	2.50	0.03	7%
MAB	201704119	39	4.77	73	12.05	0.00	0.00	0.00	0.00	0%
MAB	201704120	39	5.45	73	8.84	517.47	31.61	5.00	0.11	7%
MAB	201704121	39	7.81	73	6.72	2,010.16	107.58	19.00	0.41	0%
MAB	201704122	39	7.77	73	5.02	60.25	4.81	0.50	0.01	0%
MAB	201704123	39	8.05	73	0.23	4.41	0.34	0.01	0.00	0%
MAB	201704124	39	6.05	72	56.98	0.40	0.01	0.01	0.00	0%
MAB	201704125	39	10.33	72	57.53	3.26	0.18	0.01	0.00	0%
MAB	201704126	39	13.73	72	56.34	4.99	0.30	0.01	0.00	7%
MAB	201704127	39	15.43	72	58.82	81.51	3.04	1.00	0.02	0%
MAB	201704128	39	17.76	73	2.36	866.59	32.56	10.00	0.18	0%
MAB	201704129	39	18.39	72	59.89	345.91	19.72	4.00	0.08	0%
MAB	201704130	39	18.66	72	56.85	388.02	21.82	4.50	0.08	0%
MAB	201704131	39	20.82	72	52.46	355.40	15.12	3.75	0.08	0%
MAB	201704132	39	20.76	72	54.81	1,319.98	56.58	20.10	0.29	7%
MAB	201704133	39	21.55	72	58.47	38.61	2.59	0.50	0.01	40%
MAB	201704134	39	25.59	73	0.66	103.14	6.29	2.00	0.02	7%
MAB	201704135	39	26.06	73	4.73	190.90	10.57	2.50	0.04	7%
MAB	201704136	39	23.75	73	5.70	123.62	7.04	2.00	0.03	7%
MAB	201704137	39	21.77	73	5.79	164.98	10.50	1.50	0.03	7%

MAB	201704138	39	21.62	73	7.31	208.62	13.11	2.10	0.05	8%
MAB	201704139	39	21.83	73	10.28	59.69	3.97	0.50	0.01	0%
MAB	201704141	39	19.77	73	7.76	162.46	9.81	1.50	0.04	13%
MAB	201704142	39	18.42	73	10.60	137.48	7.88	1.25	0.03	7%
MAB	201704143	39	17.69	73	8.81	116.30	6.70	1.00	0.03	7%
MAB	201704144	39	17.09	73	5.72	472.18	26.24	5.00	0.10	0%
MAB	201704145	39	16.02	73	4.09	816.82	42.65	8.90	0.18	0%
MAB	201704146	39	13.83	73	3.84	75.74	5.13	1.20	0.02	7%
MAB	201704147	39	12.19	73	4.73	18.42	1.33	0.25	0.00	7%
MAB	201704148	39	13.75	73	7.29	390.03	20.12	4.85	0.08	7%
MAB	201704149	39	13.76	73	10.49	187.19	10.72	2.25	0.04	0%
MAB	201704150	39	13.11	73	12.11	219.72	13.20	3.00	0.05	0%
MAB	201704151	39	11.01	73	9.89	2,025.11	94.72	25.00	0.39	13%
MAB	201704152	39	9.85	73	12.94	253.07	14.42	3.00	0.05	7%
MAB	201704153	39	8.48	73	14.84	154.61	8.94	2.00	0.03	7%
MAB	201704154	39	6.66	73	14.84	193.04	13.26	2.50	0.04	13%
MAB	201704155	39	6.70	73	16.75	275.24	16.19	4.00	0.05	0%
MAB	201704156	39	5.87	73	19.45	254.57	14.65	3.00	0.05	0%
MAB	201704157	39	6.43	73	25.15	474.17	26.98	6.00	0.09	0%
MAB	201704158	39	4.21	73	25.22	278.46	15.92	3.50	0.06	0%
MAB	201704159	39	3.25	73	21.58	475.20	25.69	5.50	0.09	0%
MAB	201704160	39	0.30	73	18.87	33.05	2.35	0.50	0.01	27%
MAB	201704161	38	59.16	73	19.83	1,349.58	62.69	16.00	0.27	13%
MAB	201704162	39	0.90	73	21.60	248.77	13.59	3.00	0.05	7%
MAB	201704163	39	1.63	73	24.72	320.52	18.68	3.50	0.07	13%
MAB	201704165	39	0.08	73	31.27	247.13	15.16	2.75	0.05	33%
MAB	201704166	38	58.83	73	30.91	295.14	16.36	2.75	0.06	7%
MAB	201704167	38	57.97	73	27.49	1,245.09	68.12	14.10	0.27	14%
MAB	201704169	38	54.91	73	31.36	216.27	12.13	2.25	0.05	7%
MAB	201704170	38	55.37	73	32.72	118.68	7.10	1.30	0.02	13%
MAB	201704171	38	54.35	73	35.23	173.33	10.92	2.00	0.04	7%
MAB	201704172	38	53.72	73	33.67	95.40	5.44	1.00	0.02	13%
MAB	201704174	38	51.11	73	36.46	1,706.33	93.75	9.25	0.38	20%
MAB	201704175	38	51.39	73	38.26	130.20	7.86	1.10	0.03	40%
MAB	201704176	38	49.00	73	38.07	970.48	50.54	5.10	0.20	50%
MAB	201704177	38	47.53	73	38.92	1,233.48	65.95	6.90	0.28	60%
MAB	201704178	38	43.44	73	44.00	2,405.52	142.09	25.75	0.53	47%
MAB	201704179	38	42.24	73	43.07	2,714.57	156.78	30.80	0.60	67%
MAB	201704180	38	38.63	73	42.38	2,314.71	111.17	22.50	0.52	67%
MAB	201704181	38	38.28	73	44.85	1,922.75	95.18	20.00	0.40	73%
MAB	201704182	38	39.08	73	48.14	3,292.62	171.24	32.00	0.68	40%
MAB	201704183	38	38.37	73	49.96	5,189.20	264.71	53.30	1.08	27%
MAB	201704184	38	37.86	73	51.73	9,625.57	512.40	104.00	1.88	7%

MAB	201704185	38	38.18	73	56.10	369.40	24.06	5.00	0.07	0%
MAB	201704186	38	37.01	73	58.36	3,203.08	175.58	38.50	0.61	27%
MAB	201704187	38	38.34	73	59.11	56.78	3.51	0.75	0.01	13%
MAB	201704188	38	37.71	74	3.07	268.45	18.91	3.00	0.05	13%
MAB	201704190	38	35.65	74	2.15	4,672.23	221.42	62.00	0.91	7%
MAB	201704191	38	34.90	74	1.51	9,013.53	298.42	148.00	1.75	13%
MAB	201704193	38	34.72	73	57.24	10,652.48	410.97	160.00	1.96	7%
MAB	201704194	38	35.03	73	54.38	8,332.75	343.41	96.00	1.61	40%
MAB	201704195	38	35.42	73	51.16	6,336.65	320.93	97.00	1.34	20%
MAB	201704196	38	33.22	73	52.56	1,548.65	90.74	20.00	0.31	47%
MAB	201704197	38	32.42	73	56.06	4,202.73	178.74	36.50	0.82	27%
MAB	201704198	38	32.48	73	59.40	1,189.59	49.49	18.00	0.24	20%
MAB	201704199	38	31.49	74	1.07	1,199.66	51.80	19.00	0.26	27%
MAB	201704200	38	32.47	74	2.76	1,113.41	89.65	20.00	0.24	47%
MAB	201704201	38	32.79	74	5.70	133.87	11.45	2.00	0.03	80%
MAB	201704202	38	33.71	74	5.47	305.39	23.14	3.00	0.07	60%
MAB	201704203	38	35.67	74	7.46	1,133.31	84.67	15.00	0.24	33%
MAB	201704204	38	34.47	74	9.63	153.53	11.43	1.75	0.04	67%
MAB	201704205	38	34.84	74	12.87	1,337.90	81.24	16.00	0.29	80%
MAB	201704206	38	33.15	74	13.97	356.11	22.08	3.75	0.08	40%
MAB	201704207	38	32.36	74	12.64	180.57	14.99	2.50	0.05	60%
MAB	201704209	38	31.44	74	8.10	2,152.45	115.00	27.00	0.46	40%
MAB	201704210	38	30.35	74	4.25	1,044.18	41.55	17.00	0.22	40%
MAB	201704211	38	28.88	74	1.87	234.93	15.23	12.00	0.05	40%
MAB	201704212	38	29.26	73	58.80	805.13	36.46	10.50	0.17	53%
MAB	201704213	38	28.62	73	57.34	1,481.83	67.10	19.00	0.32	73%
MAB	201704214	38	27.50	73	58.34	1,278.43	60.28	12.50	0.28	73%
MAB	201704215	38	27.33	74	2.41	1,260.25	57.33	13.80	0.27	43%
MAB	201704217	38	26.96	74	6.47	2,059.00	104.48	27.00	0.43	47%
MAB	201704218	38	28.19	74	8.12	1,685.62	82.10	17.00	0.34	53%
MAB	201704220	38	30.44	74	10.62	828.57	58.19	10.50	0.16	60%
MAB	201704221	38	30.79	74	12.28	413.80	35.30	8.00	0.08	67%
MAB	201704222	38	28.95	74	12.00	259.32	14.45	5.00	0.05	40%
MAB	201704223	38	28.55	74	13.18	165.08	8.93	2.00	0.03	47%
MAB	201704224	38	29.22	74	19.58	20.37	1.76	0.25	0.00	73%
MAB	201704225	38	26.53	74	18.88	1.63	0.10	0.01	0.00	7%
MAB	201704226	38	24.24	74	17.75	13.16	1.05	0.01	0.00	93%
MAB	201704227	38	26.06	74	14.22	112.05	6.91	1.25	0.02	67%
MAB	201704228	38	24.70	74	12.29	763.34	37.87	9.75	0.14	13%
MAB	201704229	38	23.29	74	10.16	725.92	35.13	9.00	0.14	13%
MAB	201704230	38	24.57	74	8.67	200.77	10.25	3.00	0.04	33%
MAB	201704231	38	25.23	74	5.49	368.98	19.00	7.00	0.07	27%
MAB	201704232	38	20.44	74	4.44	99.23	6.72	1.25	0.02	53%

MAB	201704233	38	18.03	74	9.09	286.43	14.82	4.00	0.06	67%
MAB	201704234	38	17.83	74	16.07	269.26	18.64	3.00	0.05	80%
MAB	201704235	38	17.88	74	22.69	9.06	0.69	0.01	0.00	73%
MAB	201704236	38	12.79	74	22.70	0.00	0.00	0.00	0.00	0%
MAB	201704237	38	11.22	74	21.69	1.88	0.17	0.01	0.00	0%
MAB	201704238	38	9.45	74	24.87	0.00	0.00	0.00	0.00	0%
MAB	201704239	38	9.25	74	29.58	0.00	0.00	0.00	0.00	0%
MAB	201704240	38	5.92	74	43.05	0.00	0.00	0.00	0.00	0%
MAB	201704241	38	1.29	74	43.42	0.00	0.00	0.00	0.00	0%
MAB	201704242	37	53.74	74	48.51	0.00	0.00	0.00	0.00	0%
MAB	201705001	38	40.27	73	53.33	3,180.06	239.18	32.10	0.62	40%
MAB	201705002	38	40.41	73	51.65	295.34	20.14	2.50	0.06	60%
MAB	201705003	38	40.85	73	48.48	994.99	72.16	12.75	0.19	33%
MAB	201705004	38	41.87	73	48.95	965.84	70.27	11.00	0.19	33%
MAB	201705005	38	46.14	73	44.19	344.92	25.03	4.00	0.07	40%
MAB	201705006	38	56.51	73	40.76	93.76	7.70	1.00	0.02	13%
MAB	201705007	38	57.63	73	38.36	39.99	3.34	0.30	0.01	21%
MAB	201705008	39	3.13	73	35.78	69.70	5.05	0.80	0.01	33%
MAB	201705009	39	6.45	73	40.14	5.22	0.42	0.01	0.00	13%
MAB	201705010	39	8.57	73	35.58	22.53	2.24	0.25	0.00	13%
MAB	201705011	39	8.03	73	32.94	23.00	1.89	0.20	0.00	13%
MAB	201705012	39	6.82	73	30.97	142.71	10.05	1.25	0.03	0%
MAB	201705013	39	11.33	73	27.12	41.56	3.44	0.50	0.01	7%
MAB	201705014	39	10.53	73	25.07	50.88	4.91	0.60	0.01	7%
MAB	201705015	39	9.97	73	23.12	119.32	9.63	1.25	0.03	7%
MAB	201705016	39	12.10	73	23.00	31.51	3.32	0.25	0.01	7%
MAB	201705017	39	13.82	73	19.60	116.75	9.94	1.25	0.03	7%
MAB	201705018	39	14.69	73	22.69	39.32	3.83	0.40	0.01	0%
MAB	201705019	39	16.75	73	22.63	29.63	2.96	0.33	0.01	20%
MAB	201705020	39	17.39	73	19.93	100.49	8.49	1.10	0.02	0%
MAB	201705021	39	19.61	73	22.14	55.61	5.13	0.60	0.01	0%
MAB	201705022	39	20.34	73	22.29	27.79	2.53	0.33	0.01	0%
MAB	201705023	39	20.29	73	20.06	69.94	6.54	0.80	0.01	0%
MAB	201705024	39	20.65	73	16.75	59.76	5.07	0.80	0.01	0%
MAB	201705025	39	21.74	73	13.07	48.45	3.94	0.50	0.01	7%
MAB	201705026	39	21.84	73	14.45	89.31	6.83	1.00	0.02	0%
MAB	201705027	39	25.37	73	21.68	8.45	0.77	0.01	0.00	0%
MAB	201705028	39	25.22	73	17.41	21.74	2.03	0.10	0.00	0%
MAB	201705029	39	25.37	73	15.73	77.14	7.44	0.90	0.01	0%
MAB	201705030	39	25.60	73	13.60	80.20	6.51	0.90	0.02	7%
MAB	201705031	39	25.16	73	11.09	23.67	1.60	0.10	0.00	0%
MAB	201705032	39	25.07	73	8.82	97.74	7.97	1.00	0.02	7%
MAB	201705033	39	26.59	73	6.54	106.03	8.45	1.10	0.02	0%

MAB	201705034	39	27.25	73	5.02	126.91	8.13	1.20	0.02	0%
MAB	201705035	39	28.60	73	4.84	110.27	8.50	1.10	0.02	13%
MAB	201705036	39	31.42	73	2.09	152.79	11.88	2.00	0.03	0%
MAB	201705037	39	29.34	72	59.58	113.27	7.22	1.00	0.02	20%
MAB	201705038	39	30.60	72	55.33	320.13	20.85	3.25	0.06	0%
MAB	201705039	39	27.87	72	56.23	239.90	14.23	2.75	0.05	0%
MAB	201705040	39	29.07	72	51.91	38.64	2.92	0.50	0.01	0%
MAB	201705041	39	26.32	72	52.03	111.93	7.58	1.50	0.02	7%
MAB	201705042	39	25.56	72	49.87	201.20	11.64	2.25	0.05	0%
MAB	201705043	39	23.34	72	37.60	1.53	0.09	0.01	0.00	0%
MAB	201705044	39	28.76	72	38.83	0.00	0.00	0.00	0.00	0%
MAB	201705045	39	30.85	72	39.04	1.53	0.11	0.01	0.00	0%
MAB	201705046	39	31.46	72	41.04	0.00	0.00	0.00	0.00	0%
MAB	201705047	39	35.29	72	43.09	125.10	7.90	1.00	0.03	0%
MAB	201705048	39	37.49	72	44.47	48.06	3.55	0.60	0.01	7%
MAB	201705049	39	35.01	72	48.16	3,341.84	200.69	32.00	0.71	0%
MAB	201705050	39	30.66	72	48.62	124.11	9.29	1.25	0.03	0%
MAB	201705051	39	32.26	72	52.31	484.83	35.96	4.25	0.11	0%
MAB	201705052	39	33.27	72	54.75	153.74	11.50	1.50	0.03	0%
MAB	201705053	39	33.07	72	58.35	645.44	42.64	5.75	0.12	0%
MAB	201705054	39	34.84	73	0.88	106.60	9.15	1.20	0.02	7%
MAB	201705055	39	35.12	73	5.63	84.94	7.81	1.00	0.02	0%
MAB	201705056	39	37.24	73	2.33	63.84	4.99	0.80	0.01	0%
MAB	201705057	39	38.26	72	59.12	501.75	35.79	5.00	0.10	13%
MAB	201705058	39	40.05	72	59.24	58.20	5.05	0.75	0.01	7%
MAB	201705059	39	40.46	72	57.94	115.08	8.76	1.25	0.02	7%
MAB	201705060	39	40.14	72	55.83	142.95	10.49	1.40	0.03	7%
MAB	201705061	39	40.56	72	50.76	81.84	5.39	1.00	0.02	0%
MAB	201705062	39	40.50	72	48.31	29.82	2.20	0.50	0.01	0%
MAB	201705064	39	43.43	72	47.59	17.10	1.59	0.10	0.00	0%
MAB	201705065	39	45.18	72	35.51	19.76	1.84	0.10	0.00	0%
MAB	201705066	39	45.87	72	31.92	56.54	5.42	0.75	0.01	0%
MAB	201705067	39	46.75	72	28.95	9.89	0.85	0.01	0.00	0%
MAB	201705068	39	49.24	72	43.25	134.67	11.29	1.50	0.03	0%
MAB	201705069	39	47.47	72	45.27	98.38	8.34	1.00	0.02	7%
MAB	201705070	39	51.10	72	49.50	132.49	11.12	1.25	0.03	0%
MAB	201705071	39	52.68	72	48.31	84.74	7.84	1.00	0.02	0%
MAB	201705072	39	53.32	72	45.68	100.76	8.09	1.00	0.02	0%
MAB	201705073	39	55.71	72	25.18	12.01	1.00	0.10	0.00	7%
MAB	201705074	40	3.32	72	33.09	282.31	19.13	3.00	0.06	0%
MAB	201705075	40	5.85	72	30.63	723.57	48.25	7.50	0.16	13%
MAB	201705076	40	6.35	72	27.10	80.06	7.76	1.00	0.02	0%
MAB	201705077	40	6.37	72	24.30	93.32	7.78	1.00	0.02	0%

MAB	201705078	40	7.15	72	13.72	3.60	0.38	0.01	0.00	0%
MAB	201705079	40	8.54	72	20.52	3.56	0.35	0.01	0.00	0%
MAB	201705080	40	9.09	72	24.54	78.65	6.29	1.00	0.02	7%
MAB	201705081	40	8.36	72	39.75	204.25	14.14	1.90	0.04	0%
MAB	201705082	40	12.30	72	42.15	13.07	1.13	0.01	0.00	13%
MAB	201705083	40	12.53	72	38.91	16.13	1.69	0.10	0.00	0%
MAB	201705084	40	13.74	72	35.37	131.90	9.36	1.10	0.03	0%
MAB	201705085	40	12.04	72	32.44	64.66	6.32	0.80	0.01	7%
MAB	201705086	40	13.08	72	26.59	82.11	7.09	0.90	0.02	7%
MAB	201705087	40	11.73	72	23.37	25.39	2.44	0.20	0.01	9%
MAB	201705088	40	12.96	72	17.58	36.44	3.53	0.50	0.01	0%
MAB	201705089	40	10.48	72	7.59	9.23	0.84	0.01	0.00	0%
MAB	201705090	40	12.61	72	5.16	200.06	15.18	2.00	0.04	0%
MAB	201705091	40	17.35	72	10.47	38.45	3.63	0.30	0.01	7%
MAB	201705092	40	16.30	72	20.26	303.00	22.59	2.75	0.07	7%
MAB	201705093	40	14.81	72	21.94	162.78	12.48	1.50	0.04	0%
MAB	201705094	40	16.95	72	27.88	435.94	30.24	4.40	0.11	0%
MAB	201705095	40	16.23	72	37.73	276.99	21.05	3.25	0.06	7%
MAB	201705096	40	17.35	72	44.00	191.78	14.52	2.25	0.04	0%
MAB	201705097	40	23.59	72	41.73	179.23	12.90	2.10	0.05	0%
MAB	201705098	40	24.48	72	22.84	235.70	17.26	2.50	0.05	0%
MAB	201705099	40	22.43	72	26.48	142.92	10.09	1.50	0.03	7%
MAB	201705100	40	21.12	72	28.10	344.22	23.02	3.50	0.07	0%
MAB	201705101	40	19.63	72	22.04	192.61	14.31	2.00	0.04	0%
MAB	201705102	40	19.87	72	19.28	101.52	7.57	0.90	0.02	0%
MAB	201705103	40	22.69	72	12.81	19.59	1.93	0.10	0.00	7%
MAB	201705104	40	23.51	72	10.15	10.83	1.21	0.10	0.00	7%
MAB	201705105	40	22.90	72	3.70	63.98	6.18	1.00	0.01	0%
MAB	201705106	40	17.44	71	47.71	7.74	0.74	0.01	0.00	0%
MAB	201705107	40	23.06	71	45.73	0.00	0.00	0.00	0.00	0%
MAB	201705108	40	24.80	71	50.36	0.00	0.00	0.00	0.00	0%
MAB	201705109	40	28.79	71	54.29	0.98	0.14	0.01	0.00	0%
MAB	201705110	40	27.83	71	57.19	1.81	0.18	0.01	0.00	0%
MAB	201705111	40	27.40	72	3.12	193.03	16.52	2.00	0.04	0%
MAB	201705112	40	28.80	72	17.86	22.48	2.48	0.20	0.00	20%
MAB	201705113	40	32.49	72	12.96	77.56	7.34	0.90	0.02	0%
MAB	201705114	40	36.01	71	59.92	145.15	12.92	1.75	0.03	0%
MAB	201705115	40	34.64	71	59.13	89.80	6.84	1.00	0.02	7%
MAB	201705116	40	33.37	71	56.26	549.76	36.41	5.90	0.11	0%
MAB	201705117	40	36.23	71	55.69	583.77	44.61	5.50	0.12	0%
MAB	201705118	40	34.86	71	54.28	67.32	5.74	0.75	0.02	0%
MAB	201705119	40	34.91	71	50.51	65.60	6.74	0.75	0.01	0%
MAB	201705120	40	34.56	71	40.10	4.18	0.39	0.01	0.00	0%

MAB	201705121	40	40.64	71	45.78	655.38	46.32	7.20	0.14	0%
MAB	201705122	40	41.36	71	48.70	320.52	24.95	3.00	0.07	0%
MAB	201705123	40	43.52	71	51.87	242.13	19.26	2.50	0.05	0%
MAB	201705124	40	42.01	71	57.43	807.90	52.46	9.50	0.17	0%
MAB	201705125	40	41.48	72	0.98	1,352.66	79.58	15.90	0.29	0%
MAB	201705126	40	43.93	72	8.15	40.04	2.92	0.40	0.01	0%
MAB	201705127	40	48.61	71	59.71	83.49	6.79	0.90	0.02	0%
MAB	201705128	40	57.37	71	41.06	227.05	14.82	2.25	0.04	0%
MAB	201705129	40	57.46	71	19.64	112.65	9.90	1.10	0.02	0%
MAB	201705130	41	0.94	71	21.59	146.67	11.38	1.75	0.03	0%
MAB	201705131	41	3.58	71	23.15	441.93	33.80	4.50	0.09	0%
MAB	201705132	41	1.52	71	23.91	230.83	17.93	2.25	0.04	0%
MAB	201705133	41	1.36	71	27.99	119.63	9.76	1.20	0.02	0%
MAB	201705134	41	2.28	71	35.32	124.38	12.62	1.20	0.02	0%
MAB	201705135	40	58.97	71	43.00	31.34	2.43	0.25	0.01	7%
MAB	201705137	40	51.47	72	12.53	0.00	0.00	0.00	0.00	0%
MAB	201705138	40	49.42	72	12.29	0.00	0.00	0.00	0.00	0%
MAB	201705139	40	47.90	72	17.41	0.00	0.00	0.00	0.00	0%
MAB	201705140	40	47.01	72	24.30	0.00	0.00	0.00	0.00	0%
MAB	201705141	40	46.07	72	26.73	0.00	0.00	0.00	0.00	0%
MAB	201705142	40	45.44	72	32.27	0.61	0.04	0.01	0.00	0%
MAB	201705143	40	43.47	72	37.89	0.00	0.00	0.00	0.00	0%
MAB	201705144	40	43.30	72	34.18	0.00	0.00	0.00	0.00	0%
MAB	201705145	40	41.84	72	28.34	7.08	0.71	0.10	0.00	0%
MAB	201705146	40	35.96	72	20.00	6.36	0.57	0.01	0.00	0%
MAB	201705147	40	32.79	72	21.61	2.26	0.17	0.01	0.00	0%
MAB	201705148	40	32.11	72	29.73	22.01	1.72	0.10	0.00	0%
MAB	201705149	40	36.16	72	36.29	6.10	0.69	0.01	0.00	0%
MAB	201705150	40	30.49	72	37.92	33.40	2.47	0.20	0.01	0%
MAB	201705151	40	28.00	72	36.27	45.14	2.95	0.50	0.01	0%
MAB	201705152	40	32.67	73	0.56	0.00	0.00	0.00	0.00	0%
MAB	201705153	40	30.08	73	10.65	0.00	0.00	0.00	0.00	0%
MAB	201705154	40	27.88	73	5.63	0.00	0.00	0.00	0.00	0%
MAB	201705155	40	28.38	73	2.98	0.00	0.00	0.00	0.00	0%
MAB	201705156	40	28.32	72	59.14	7.78	0.84	0.10	0.00	0%
MAB	201705157	40	22.94	72	58.41	133.39	11.63	1.50	0.03	0%
MAB	201705158	40	21.25	73	1.36	14.82	1.49	0.10	0.00	0%
MAB	201705159	40	24.63	73	4.82	13.32	1.39	0.10	0.00	0%
MAB	201705160	40	24.00	73	20.07	1.69	0.17	0.01	0.00	0%
MAB	201705161	40	23.94	73	23.68	0.00	0.00	0.00	0.00	0%
MAB	201705162	40	20.84	73	15.11	16.19	1.76	0.10	0.00	0%
MAB	201705163	40	21.01	73	9.68	2.49	0.23	0.01	0.00	0%
MAB	201705164	40	18.55	73	11.65	16.51	1.56	0.10	0.00	0%

MAB	201705165	40	15.17	73	12.68	8.71	0.86	0.10	0.00	0%
MAB	201705166	40	16.13	72	56.39	158.43	11.87	1.40	0.03	0%
MAB	201705167	40	13.77	72	57.70	136.34	11.09	1.25	0.03	0%
MAB	201705168	40	10.81	72	56.51	224.77	20.42	2.10	0.05	7%
MAB	201705169	40	11.81	72	51.68	240.32	16.10	2.25	0.05	0%
MAB	201705170	40	9.94	72	51.93	146.21	10.91	1.25	0.03	0%
MAB	201705171	40	7.33	72	51.08	196.16	13.56	1.80	0.04	0%
MAB	201705172	40	4.94	72	50.42	103.10	8.50	1.50	0.02	0%
MAB	201705173	40	2.80	73	3.18	122.07	9.95	1.25	0.03	0%
MAB	201705174	40	5.33	73	2.84	103.13	8.22	1.00	0.02	0%
MAB	201705175	40	5.94	72	58.02	106.80	7.74	1.10	0.02	7%
MAB	201705176	40	8.96	73	6.25	64.36	5.36	0.75	0.01	0%
MAB	201705177	40	8.45	73	21.45	59.76	5.92	0.75	0.01	0%
MAB	201705178	40	7.05	73	34.78	1.47	0.10	0.01	0.00	0%
MAB	201705179	40	6.29	73	38.33	5.34	0.45	0.10	0.00	0%
MAB	201705180	39	59.83	73	46.67	0.00	0.00	0.00	0.00	0%
MAB	201705181	39	57.97	73	43.54	0.00	0.00	0.00	0.00	0%
MAB	201705182	40	1.41	73	31.48	9.25	0.98	0.10	0.00	0%
MAB	201705183	40	2.78	73	16.62	32.68	2.66	0.25	0.01	0%
MAB	201705184	40	0.00	73	10.11	131.86	10.27	1.25	0.03	0%
MAB	201705185	39	56.48	72	56.32	73.13	6.39	1.00	0.02	0%
MAB	201705186	39	53.66	72	58.50	113.54	11.96	1.10	0.02	0%
MAB	201705187	39	42.95	73	3.27	203.50	15.39	1.80	0.04	0%
MAB	201705188	39	42.84	73	4.57	172.83	12.97	1.60	0.03	0%
MAB	201705189	39	47.07	73	17.05	55.46	5.37	0.60	0.01	0%
MAB	201705190	39	46.19	73	20.42	8.16	0.88	0.01	0.00	5%
MAB	201705191	39	53.29	73	27.92	4.77	0.63	0.01	0.00	0%
MAB	201705192	39	48.03	73	30.30	0.73	0.05	0.01	0.00	0%
MAB	201705193	39	44.07	73	27.62	0.99	0.15	0.01	0.00	0%
MAB	201705194	39	37.64	73	25.94	9.46	0.87	0.01	0.00	5%
MAB	201705195	39	39.24	73	19.87	18.56	1.94	0.10	0.00	0%
MAB	201705196	39	39.23	73	12.77	58.34	5.35	0.75	0.01	0%
MAB	201705197	39	39.80	73	6.24	40.25	3.12	0.30	0.01	0%
MAB	201705198	39	36.73	73	7.55	92.28	8.45	1.00	0.02	10%
MAB	201705199	39	30.62	73	22.28	40.94	4.16	0.50	0.01	10%
MAB	201705200	39	28.19	73	25.95	4.13	0.38	0.01	0.00	0%
MAB	201705201	39	22.92	73	33.37	29.83	2.89	0.30	0.01	5%
MAB	201705202	39	18.94	73	32.79	58.34	5.34	0.80	0.01	15%
MAB	201705203	39	18.39	73	35.34	27.13	2.42	0.25	0.01	5%
MAB	201705204	39	17.91	73	37.88	0.89	0.08	0.01	0.00	0%
MAB	201705205	39	16.66	73	39.87	1.97	0.32	0.01	0.00	67%
MAB	201705206	39	14.90	73	30.95	44.56	3.79	0.50	0.01	5%
MAB	201705207	39	3.93	73	56.18	7.26	0.62	0.01	0.00	20%

MAB	201705208	38	56.19	73	56.11	0.70	0.05	0.01	0.00	33%
MAB	201705209	38	56.49	73	50.68	6.13	0.69	0.01	0.00	20%
MAB	201705210	38	53.45	73	53.17	1.65	0.14	0.01	0.00	25%
MAB	201705211	38	53.36	74	2.76	0.00	0.00	0.00	0.00	0%
MAB	201705212	38	46.09	74	11.21	0.98	0.13	0.01	0.00	20%
MAB	201705213	38	44.63	74	13.16	0.99	0.15	0.01	0.00	0%
MAB	201705214	38	43.99	74	18.83	0.00	0.00	0.00	0.00	0%
MAB	201705216	38	42.27	74	11.57	5.48	0.59	0.10	0.00	50%
MAB	201705217	38	41.91	74	6.85	32.07	2.31	0.25	0.01	30%
MAB	201705218	38	43.20	74	4.00	92.10	8.58	1.00	0.02	20%
MAB	201705219	38	42.29	74	0.05	373.45	23.67	3.30	0.08	30%
MAB	201705220	38	40.56	74	7.55	75.76	5.53	0.75	0.01	25%
MAB	201705221	38	40.37	74	9.13	252.61	19.51	2.60	0.05	40%
MAB	201705222	38	37.71	74	10.87	1,613.59	104.83	15.50	0.32	35%
MAB	201705223	38	36.02	74	16.16	9.66	1.05	0.10	0.00	55%
MAB	201705224	38	34.82	74	20.45	0.78	0.06	0.01	0.00	50%
CA II	201706002	41	22.10	67	17.19	0.00	0.00	0.00	0.00	0%
CA II	201706004	41	27.59	67	17.13	0.00	0.00	0.00	0.00	0%
CA II	201706005	41	27.68	67	8.77	0.00	0.00	0.00	0.00	0%
CA II	201706006	41	25.02	67	2.61	0.00	0.00	0.00	0.00	0%
CA II	201706007	41	21.10	67	3.24	0.00	0.00	0.00	0.00	0%
CA II	201706008	41	18.74	67	9.84	0.00	0.00	0.00	0.00	0%
CA II	201706009	41	16.03	67	5.66	0.00	0.00	0.00	0.00	0%
CA II	201706010	41	13.53	67	15.74	0.00	0.00	0.00	0.00	0%
CA II	201706011	41	12.45	67	12.98	0.00	0.00	0.00	0.00	0%
CA II	201706012	41	10.30	67	8.81	13.97	1.90	0.25	0.00	0%
CA II	201706013	41	5.16	67	4.26	22.83	4.26	0.50	0.01	0%
CA II	201706015	41	9.08	67	3.09	59.42	6.26	1.00	0.01	0%
CA II	201706016	41	11.19	67	0.05	31.13	4.93	0.75	0.01	0%
CA II	201706017	41	13.01	66	55.18	33.33	4.48	0.50	0.01	0%
CA II	201706018	41	17.37	66	56.39	50.11	5.90	1.00	0.01	0%
CA II	201706019	41	20.15	66	55.19	43.11	5.12	0.80	0.01	0%
CA II	201706020	41	22.09	66	52.52	22.71	2.48	0.25	0.00	0%
CA II	201706021	41	24.05	66	47.08	139.85	15.87	1.80	0.03	0%
CA II	201706022	41	27.08	66	48.62	23.40	3.47	0.30	0.00	0%
CA II	201706023	41	26.73	66	44.26	71.06	7.76	1.00	0.01	0%
CA II	201706024	41	28.69	66	41.44	64.37	6.76	1.00	0.01	0%
CA II	201706025	41	28.32	66	37.95	74.75	7.87	1.00	0.01	0%
CA II	201706026	41	29.69	66	34.90	154.92	17.41	2.10	0.03	0%
CA II	201706027	41	27.31	66	32.85	321.21	31.24	3.90	0.06	0%
CA II	201706028	41	25.37	66	35.05	330.75	32.43	3.80	0.06	0%
CA II	201706029	41	25.53	66	39.93	142.42	16.01	1.80	0.03	0%
CA II	201706030	41	23.21	66	38.01	237.63	33.80	3.00	0.05	0%

CA II	201706031	41	23.24	66	33.09	719.60	64.51	7.80	0.16	0%
CA II	201706032	41	24.05	66	29.90	1,406.26	106.54	16.80	0.28	0%
CA II	201706034	41	20.95	66	29.57	920.05	74.79	9.40	0.19	0%
CA II	201706035	41	20.17	66	36.00	622.96	68.51	6.60	0.13	0%
CA II	201706036	41	22.49	66	43.27	124.32	17.54	1.50	0.03	0%
CA II	201706037	41	20.93	66	46.09	54.41	5.58	1.10	0.01	0%
CA II	201706038	41	19.43	66	48.80	59.78	6.24	1.00	0.01	0%
CA II	201706039	41	19.21	66	41.83	96.68	10.67	1.50	0.02	0%
CA II	201706040	41	17.51	66	38.72	142.11	14.73	2.00	0.03	0%
CA II	201706041	41	17.42	66	34.30	930.60	81.27	11.00	0.23	0%
CA II	201706042	41	17.46	66	30.81	581.49	42.13	7.00	0.12	0%
CA II	201706043	41	19.04	66	27.49	1,832.51	108.76	21.25	0.43	0%
CA II	201706044	41	14.57	66	24.72	75.88	4.35	1.00	0.02	0%
CA II	201706046	41	15.05	66	28.45	1,032.77	56.90	13.50	0.25	0%
CA II	201706047	41	13.16	66	32.95	1,667.05	95.88	22.50	0.39	0%
CA II	201706048	41	15.26	66	35.42	690.35	53.37	10.00	0.16	0%
CA II	201706049	41	13.92	66	38.51	107.18	10.56	1.50	0.03	0%
CA II	201706050	41	17.09	66	43.65	124.18	12.91	2.00	0.03	0%
CA II	201706051	41	14.89	66	46.12	101.68	11.30	2.00	0.02	0%
CA II	201706052	41	12.74	66	49.93	115.66	13.95	2.00	0.02	0%
CA II	201706054	41	12.41	66	43.33	90.46	14.40	1.10	0.02	0%
CA II	201706055	41	10.63	66	39.63	581.79	49.93	5.80	0.12	0%
CA II	201706056	41	11.40	66	36.22	2,039.22	142.56	19.50	0.42	0%
CA II	201706057	41	12.08	66	29.78	1,046.92	57.06	10.25	0.22	0%
CA II	201706058	41	11.46	66	25.55	14.71	0.94	0.10	0.00	0%
CA II	201706060	41	11.66	66	22.40	0.00	0.00	0.00	0.00	0%
CA II	201706062	41	9.20	66	28.21	0.00	0.00	0.00	0.00	0%
CA II	201706063	41	9.14	66	32.71	1,441.56	79.68	14.00	0.28	0%
CA II	201706064	41	8.63	66	36.43	1,478.60	102.46	14.80	0.29	0%
CA II	201706065	41	9.28	66	41.98	116.05	10.65	1.25	0.02	0%
CA II	201706066	41	8.64	66	52.07	105.95	12.55	1.40	0.02	0%
CA II	201706067	41	3.67	66	49.22	259.15	23.56	2.50	0.05	0%
CA II	201706069	41	5.52	66	44.33	319.84	24.82	2.75	0.07	0%
CA II	201706071	41	5.25	66	41.19	858.15	68.82	13.00	0.18	0%
CA II	201706072	41	3.84	66	38.70	1,792.86	117.01	25.50	0.41	0%
CA II	201706073	41	5.83	66	34.91	443.90	28.73	6.00	0.11	0%
CA II	201706075	41	5.18	66	30.19	20.83	0.98	0.25	0.00	0%
CA II	201706076	41	3.37	66	32.27	4.27	0.32	0.01	0.00	0%
CA II	201706077	41	0.78	66	30.78	0.00	0.00	0.00	0.00	0%
CA II	201706079	41	0.33	66	34.13	1.55	0.05	0.01	0.00	0%
CA II	201706080	40	56.62	66	37.56	0.00	0.00	0.00	0.00	0%
CA II	201706082	41	0.22	66	37.95	0.53	0.02	0.01	0.00	0%
CA II	201706083	41	1.64	66	41.86	856.61	101.00	12.50	0.17	0%

CA II	201706084	41	1.92	66	47.24	775.23	59.22	11.00	0.15	0%
CA II	201706085	40	59.09	66	43.11	79.41	5.04	0.80	0.02	0%
CA II	201706086	40	58.02	66	46.38	704.34	41.28	10.00	0.14	0%
CA II	201706087	40	57.49	66	50.56	337.48	24.54	5.00	0.07	0%
CA II	201706088	40	58.07	66	53.54	326.91	23.95	3.00	0.07	0%
CA II	201706089	40	56.18	66	56.45	591.82	38.49	4.90	0.13	0%
CA II	201706090	40	56.67	67	0.17	391.66	29.75	3.75	0.08	0%
CA II	201706091	40	53.39	67	3.84	477.59	34.78	4.50	0.10	0%
CA II	201706092	40	53.92	67	0.51	496.20	33.08	4.60	0.10	0%
CA II	201706093	40	53.94	66	54.39	1,237.92	59.79	14.00	0.27	0%
CA II	201706094	40	54.16	66	49.89	370.75	18.92	3.10	0.08	0%
CA II	201706095	40	54.50	66	46.64	15.49	0.62	0.10	0.00	0%
CA II	201706096	40	55.15	66	42.20	0.00	0.00	0.00	0.00	0%
CA II	201706097	40	52.01	66	43.50	0.00	0.00	0.00	0.00	0%
CA II	201706098	40	50.36	66	46.77	0.00	0.00	0.00	0.00	0%
CA II	201706099	40	50.48	66	51.14	0.00	0.00	0.00	0.00	0%
CA II	201706100	40	49.45	66	54.51	0.00	0.00	0.00	0.00	0%
CA II	201706101	40	49.79	66	57.94	0.00	0.00	0.00	0.00	0%
CA II	201706102	40	44.80	67	0.23	0.00	0.00	0.00	0.00	0%
CA II	201706103	40	42.78	67	3.74	0.00	0.00	0.00	0.00	0%
CA II	201706104	40	37.65	67	18.07	0.00	0.00	0.00	0.00	0%
CA II	201706105	40	42.09	67	14.65	0.41	0.02	0.01	0.00	0%
CA II	201706106	40	47.21	67	9.22	0.57	0.03	0.01	0.00	0%
CA II	201706107	40	48.70	67	4.56	51.00	2.65	0.50	0.01	0%
CA II	201706109	40	52.24	67	10.56	85.43	4.80	2.25	0.02	0%
CA II	201706111	40	53.49	67	13.60	239.46	16.31	3.25	0.05	0%
CA II	201706112	40	53.94	67	19.82	229.41	17.09	3.50	0.04	0%
CA II	201706114	40	57.56	67	9.67	197.57	15.98	3.00	0.04	0%
CA II	201706116	41	1.48	67	11.05	116.35	12.56	1.50	0.02	0%
CA II	201706117	41	4.46	67	16.88	8.38	0.89	0.01	0.00	0%
NLCA	201707001	40	29.62	70	0.03	0.00	0.00	0.00	0.00	0%
NLCA	201707002	40	29.88	69	56.65	0.00	0.00	0.00	0.00	0%
NLCA	201707003	40	34.01	69	56.93	0.00	0.00	0.00	0.00	0%
NLCA	201707004	40	36.65	69	59.42	0.00	0.00	0.00	0.00	0%
NLCA	201707005	40	39.95	69	55.66	6.54	0.59	0.01	0.00	0%
NLCA	201707006	40	36.18	69	51.32	1.81	0.16	0.01	0.00	0%
NLCA	201707007	40	36.61	69	48.87	0.85	0.06	0.01	0.00	0%
NLCA	201707008	40	33.49	69	47.72	4,556.11	239.12	52.50	0.93	0%
NLCA	201707009	40	34.09	69	44.84	12.43	0.80	0.16	0.00	0%
NLCA	201707010	40	37.27	69	43.17	47.59	4.21	0.70	0.01	0%
NLCA	201707011	40	34.42	69	41.43	21.99	1.59	0.20	0.00	0%
NLCA	201707012	40	34.20	69	40.39	48.43	3.30	0.70	0.01	0%
NLCA	201707013	40	40.59	69	37.20	4.42	0.25	0.01	0.00	0%

NLCA	201707014	40	38.22	69	32.93	0.00	0.00	0.00	0.00	0%
NLCA	201707015	40	36.36	69	33.67	13.11	1.06	0.10	0.00	0%
NLCA	201707016	40	47.19	69	28.72	0.77	0.07	0.01	0.00	0%
NLCA	201707017	40	49.31	69	26.29	195.36	27.46	2.50	0.04	0%
NLCA	201707018	40	46.60	69	25.47	3.71	0.45	0.01	0.00	0%
NLCA	201707019	40	49.91	69	19.19	6.31	0.89	0.01	0.00	0%
NLCA	201707020	40	48.60	69	16.15	314.18	39.07	3.80	0.06	0%
NLCA	201707021	40	47.22	69	15.24	47.20	5.93	0.75	0.01	0%
NLCA	201707022	40	49.15	69	7.51	200.76	52.96	2.60	0.04	0%
NLCA	201707023	40	49.77	69	3.48	648.36	103.66	9.25	0.12	0%
NLCA	201707024	40	47.94	69	2.57	1,028.04	157.09	15.50	0.20	0%
NLCA	201707025	40	45.54	69	0.24	829.99	115.58	10.00	0.16	0%
NLCA	201707026	40	45.00	69	9.79	279.53	34.76	4.00	0.06	0%
NLCA	201707027	40	46.16	69	12.13	515.72	95.20	6.50	0.10	0%
NLCA	201707028	40	44.76	69	16.19	1,581.82	167.60	21.50	0.45	0%
NLCA	201707029	40	45.07	69	20.67	10.56	0.97	0.20	0.00	0%
NLCA	201707030	40	46.06	69	23.13	9.40	1.55	0.10	0.00	0%
NLCA	201707031	40	42.50	69	23.35	3.30	0.33	0.10	0.00	0%
NLCA	201707032	40	42.16	69	19.79	1.27	0.19	0.10	0.00	0%
NLCA	201707033	40	40.13	69	18.40	2.43	0.28	0.10	0.00	0%
NLCA	201707034	40	41.00	69	13.96	162.44	19.78	1.80	0.03	0%
NLCA	201707035	40	43.08	69	12.12	207.65	33.60	3.00	0.04	0%
NLCA	201707036	40	41.73	69	10.68	469.47	67.23	6.50	0.10	0%
NLCA	201707037	40	42.55	69	8.94	484.47	81.30	7.75	0.10	0%
NLCA	201707038	40	42.52	69	0.45	292.02	58.98	5.50	0.06	0%
NLCA	201707039	40	39.08	69	1.85	267.80	39.95	4.00	0.06	0%
NLCA	201707040	40	38.61	69	4.71	965.90	144.60	13.00	0.20	0%
NLCA	201707041	40	37.54	69	6.99	1,907.96	332.08	30.00	0.37	0%
NLCA	201707042	40	38.03	69	10.56	391.62	68.27	6.00	0.08	0%
NLCA	201707043	40	36.88	69	13.84	264.41	40.70	5.00	0.05	0%
NLCA	201707044	40	37.50	69	18.54	182.17	29.32	3.00	0.04	0%
NLCA	201707045	40	35.22	69	18.93	86.75	19.87	1.00	0.02	0%
NLCA	201707046	40	34.53	69	22.24	149.22	26.45	2.40	0.03	0%
NLCA	201707047	40	32.73	69	26.54	386.68	36.27	5.90	0.08	0%
NLCA	201707048	40	32.35	69	24.90	73.85	6.67	1.00	0.02	0%
NLCA	201707049	40	31.48	69	21.91	199.30	21.08	3.00	0.04	0%
NLCA	201707050	40	30.97	69	19.57	474.82	42.96	6.50	0.10	0%
NLCA	201707051	40	30.87	69	16.81	2,250.73	193.69	26.50	0.46	0%
NLCA	201707052	40	30.34	69	11.12	6.94	0.57	0.01	0.00	0%
NLCA	201707053	40	31.02	69	7.66	1.30	0.06	0.01	0.00	0%
NLCA	201707054	40	32.64	69	7.05	602.60	38.17	7.00	0.11	0%
NLCA	201707055	40	31.92	69	4.15	45.36	2.65	0.50	0.01	0%
NLCA	201707056	40	33.41	69	1.98	454.85	61.45	5.75	0.09	0%

NLCA	201707057	40	32.84	68	56.24	116.25	16.53	1.40	0.02	0%
NLCA	201707058	40	32.45	68	50.23	17.51	2.58	0.10	0.00	0%
NLCA	201707059	40	31.35	68	48.03	177.62	47.25	2.10	0.04	0%
NLCA	201707060	40	30.58	68	50.02	166.58	23.42	2.00	0.03	0%
NLCA	201707061	40	30.23	68	54.71	562.43	65.05	6.30	0.11	0%
NLCA	201707062	40	29.09	68	59.13	59.96	5.91	0.75	0.01	0%
NLCA	201707063	40	27.82	69	0.37	12.04	0.74	0.20	0.00	0%
NLCA	201707066	40	29.01	68	50.98	24.75	4.11	0.20	0.01	0%
NLCA	201707067	40	27.85	68	50.26	0.00	0.00	0.00	0.00	0%
NLCA	201707068	40	28.20	68	48.98	0.00	0.00	0.00	0.00	0%
NLCA	201707069	40	25.15	68	49.65	1.10	0.10	0.10	0.00	0%
NLCA	201707070	40	24.84	68	52.61	0.93	0.08	0.01	0.00	0%
NLCA	201707071	40	23.73	68	55.47	0.72	0.07	0.01	0.00	0%
NLCA	201707072	40	24.10	68	58.23	1.65	0.18	0.01	0.00	0%
NLCA	201707073	40	21.84	68	56.64	0.00	0.00	0.00	0.00	0%
NLCA	201707074	40	22.79	68	54.17	0.00	0.00	0.00	0.00	0%
NLCA	201707075	40	22.75	68	51.18	0.00	0.00	0.00	0.00	0%
NLCA	201707076	40	23.58	68	48.03	0.00	0.00	0.00	0.00	0%
NLCA	201707077	40	20.94	68	48.43	0.00	0.00	0.00	0.00	0%
NLCA	201707078	40	20.43	68	51.12	0.00	0.00	0.00	0.00	0%
NLCA	201707080	40	20.38	68	55.10	0.00	0.00	0.00	0.00	0%
NLCA	201707081	40	20.05	68	59.60	0.00	0.00	0.00	0.00	0%
NLCA	201707082	40	20.04	69	8.18	0.00	0.00	0.00	0.00	0%
NLCA	201707083	40	21.94	69	7.73	0.00	0.00	0.00	0.00	0%
NLCA	201707084	40	23.85	69	9.00	0.90	0.02	0.01	0.00	0%
NLCA	201707085	40	24.34	69	7.18	1,224.03	37.19	18.00	0.26	0%
NLCA	201707086	40	24.68	69	4.57	1.84	0.08	0.01	0.00	0%
NLCA	201707087	40	26.79	69	5.01	60.34	1.53	1.00	0.01	0%
NLCA	201707088	40	27.39	69	8.76	1,923.19	68.87	31.00	0.41	0%
NLCA	201707089	40	27.67	69	14.45	1,131.59	49.22	15.00	0.24	0%
NLCA	201707090	40	28.07	69	16.66	2,454.56	120.89	33.00	0.52	0%
NLCA	201707091	40	26.72	69	16.48	1,576.02	49.42	24.00	0.33	0%
NLCA	201707092	40	25.92	69	18.21	5,527.24	143.84	92.00	1.17	0%
NLCA	201707093	40	25.87	69	22.35	2,389.42	64.68	56.00	0.51	0%
NLCA	201707094	40	23.60	69	19.27	2,347.61	62.14	44.00	0.47	0%
NLCA	201707095	40	23.56	69	16.41	0.00	0.00	0.00	0.00	0%
NLCA	201707096	40	23.69	69	13.63	0.00	0.00	0.00	0.00	0%
NLCA	201707097	40	22.35	69	12.78	0.00	0.00	0.00	0.00	0%
NLCA	201707098	40	22.09	69	15.74	0.00	0.00	0.00	0.00	0%
NLCA	201707099	40	20.15	69	16.55	0.00	0.00	0.00	0.00	0%
NLCA	201707100	40	22.90	69	21.17	617.07	11.60	24.00	0.12	0%
NLCA	201707101	40	21.88	69	21.18	1,142.91	25.40	27.00	0.24	0%
NLCA	201707102	40	21.08	69	26.48	971.33	26.92	21.00	0.21	0%

NLCA	201707103	40	22.23	69	26.83	1,231.95	27.11	28.00	0.24	0%
NLCA	201707104	40	24.78	69	25.48	1,465.11	45.17	23.00	0.30	0%
NLCA	201707105	40	25.31	69	29.01	692.94	35.69	9.50	0.14	0%
NLCA	201707106	40	27.40	69	28.70	4,454.94	273.81	52.50	0.91	0%
NLCA	201707107	40	28.59	69	26.99	5,182.28	329.00	67.00	1.01	0%
NLCA	201707108	40	29.30	69	27.60	3,503.39	232.20	47.00	0.68	0%
NLCA	201707109	40	29.77	69	32.60	414.57	27.52	5.00	0.08	0%
NLCA	201707110	40	29.03	69	35.35	40.80	2.79	0.40	0.01	0%
NLCA	201707111	40	28.97	69	44.34	7.41	0.42	0.10	0.00	0%
NLCA	201707112	40	27.76	69	43.06	20.15	1.19	0.10	0.00	0%
NLCA	201707113	40	24.47	69	43.72	8.06	0.48	0.10	0.00	0%
NLCA	201707114	40	22.94	69	38.76	1.43	0.09	0.01	0.00	0%
NLCA	201707115	40	21.93	69	36.21	0.47	0.02	0.01	0.00	0%
NLCA	201707116	40	22.88	69	33.89	9.33	0.58	0.10	0.00	0%

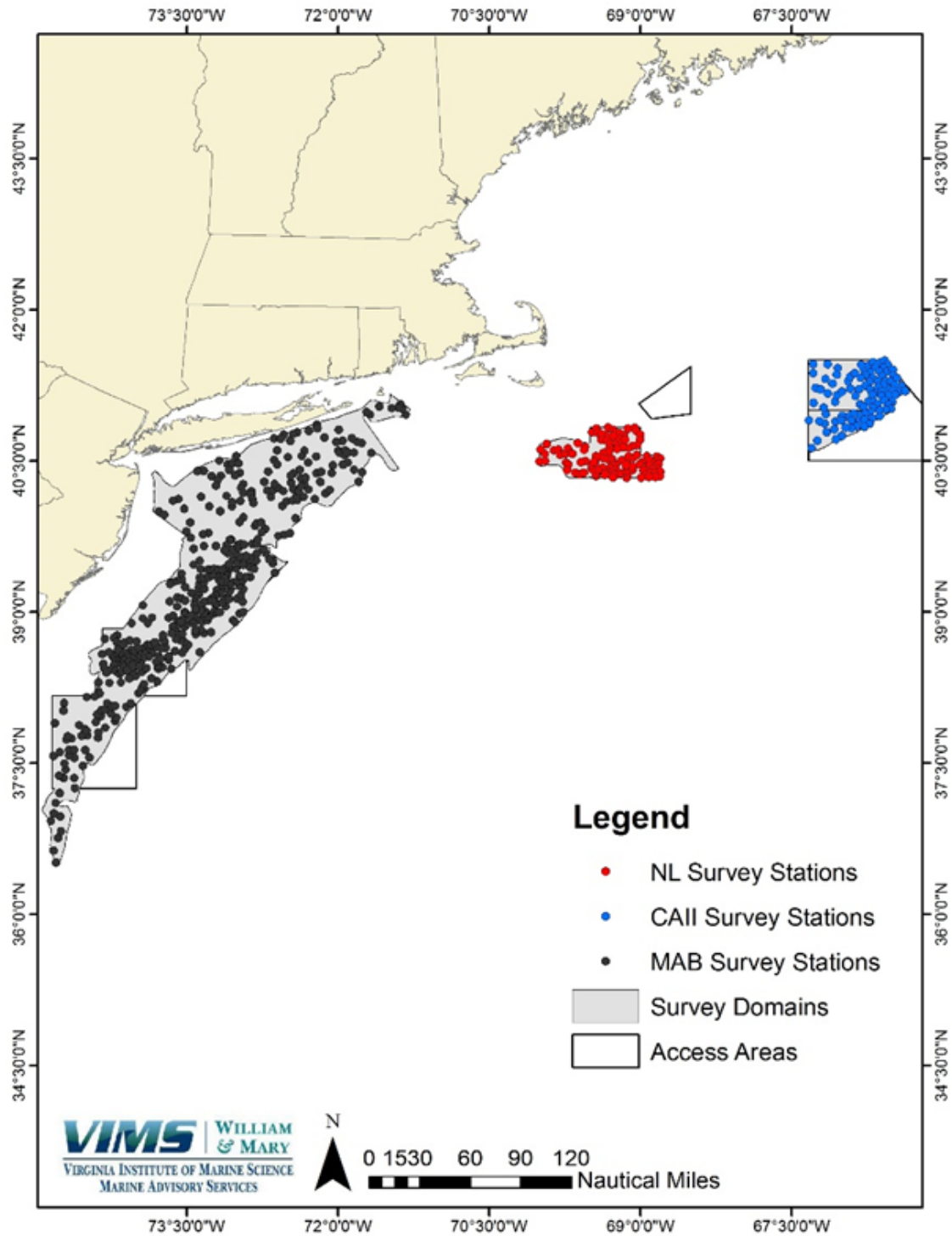


Figure 1. Survey domains with station locations for the VIMS/Industry cooperative surveys of the Mid-Atlantic sea scallop resource area, Nantucket Lightship Closed Area, and Closed Area II completed during May-July 2017.

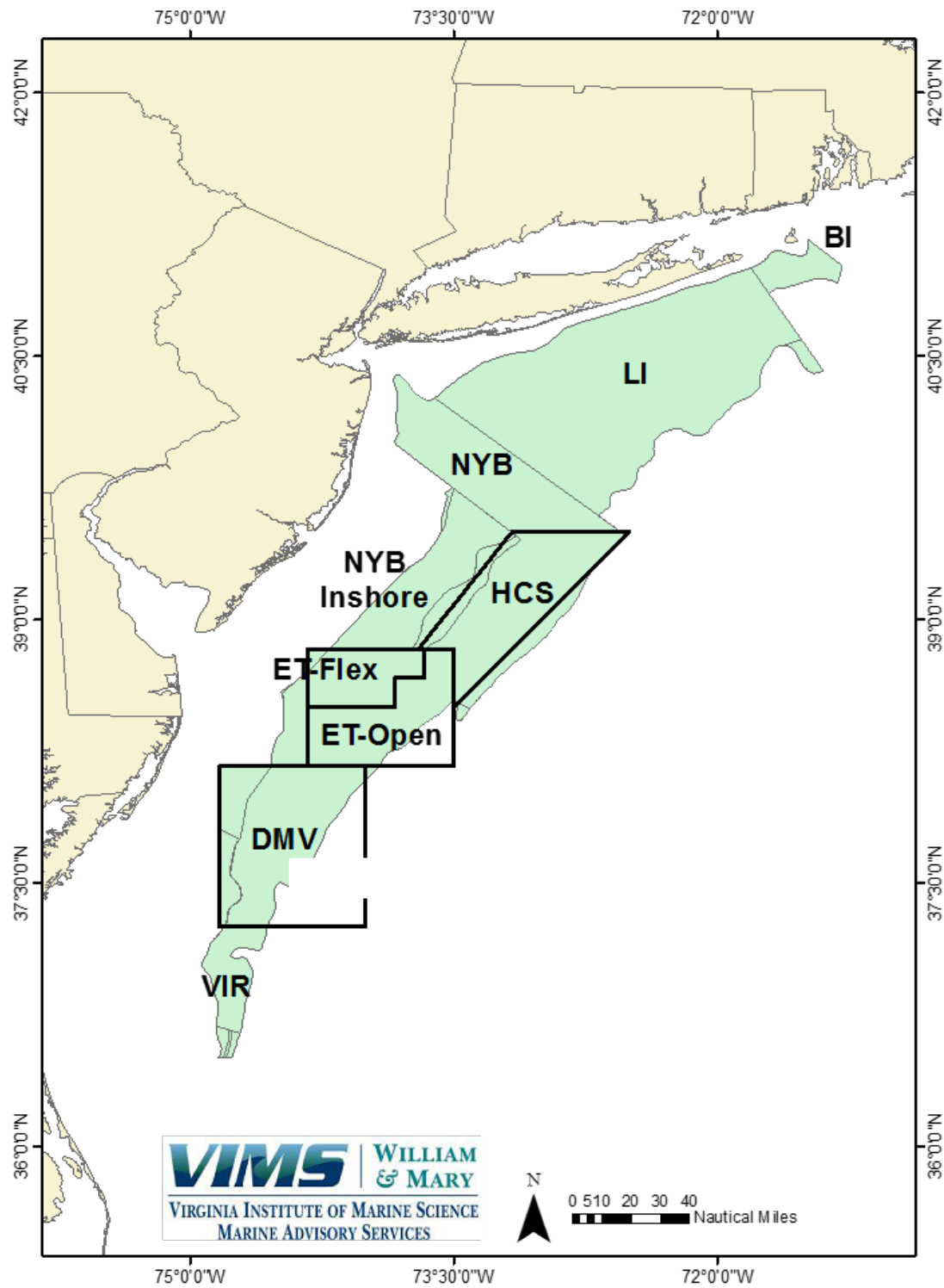


Figure 2. SAMS areas used to calculate biomass estimates for the VIMS/Industry cooperative survey of the Mid-Atlantic sea scallop resource during May 2017.

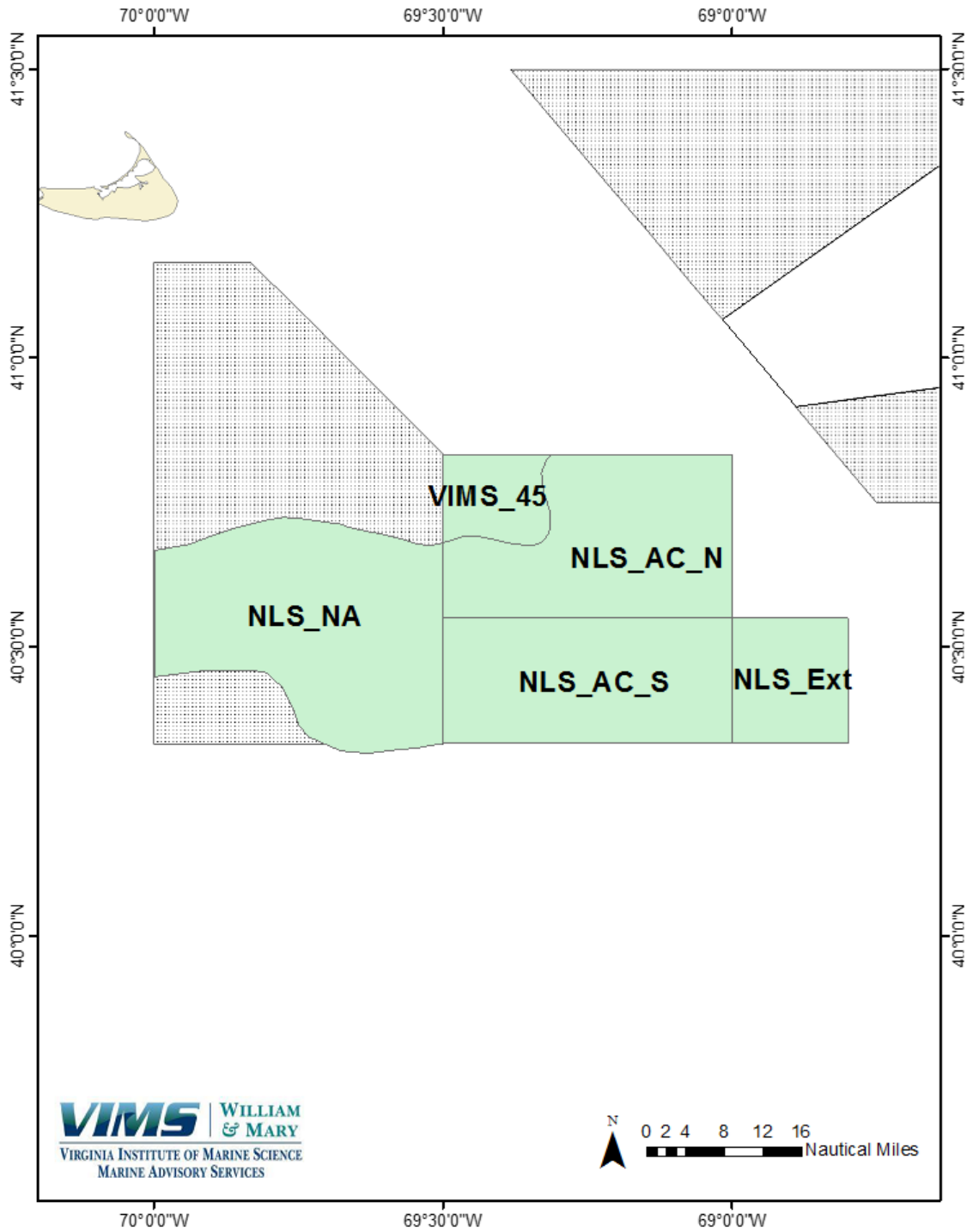


Figure 3. SAMS areas used to calculate biomass estimates for the VIMS/Industry cooperative survey of the Nantucket Lightship access area and surrounds resource during July 2017.

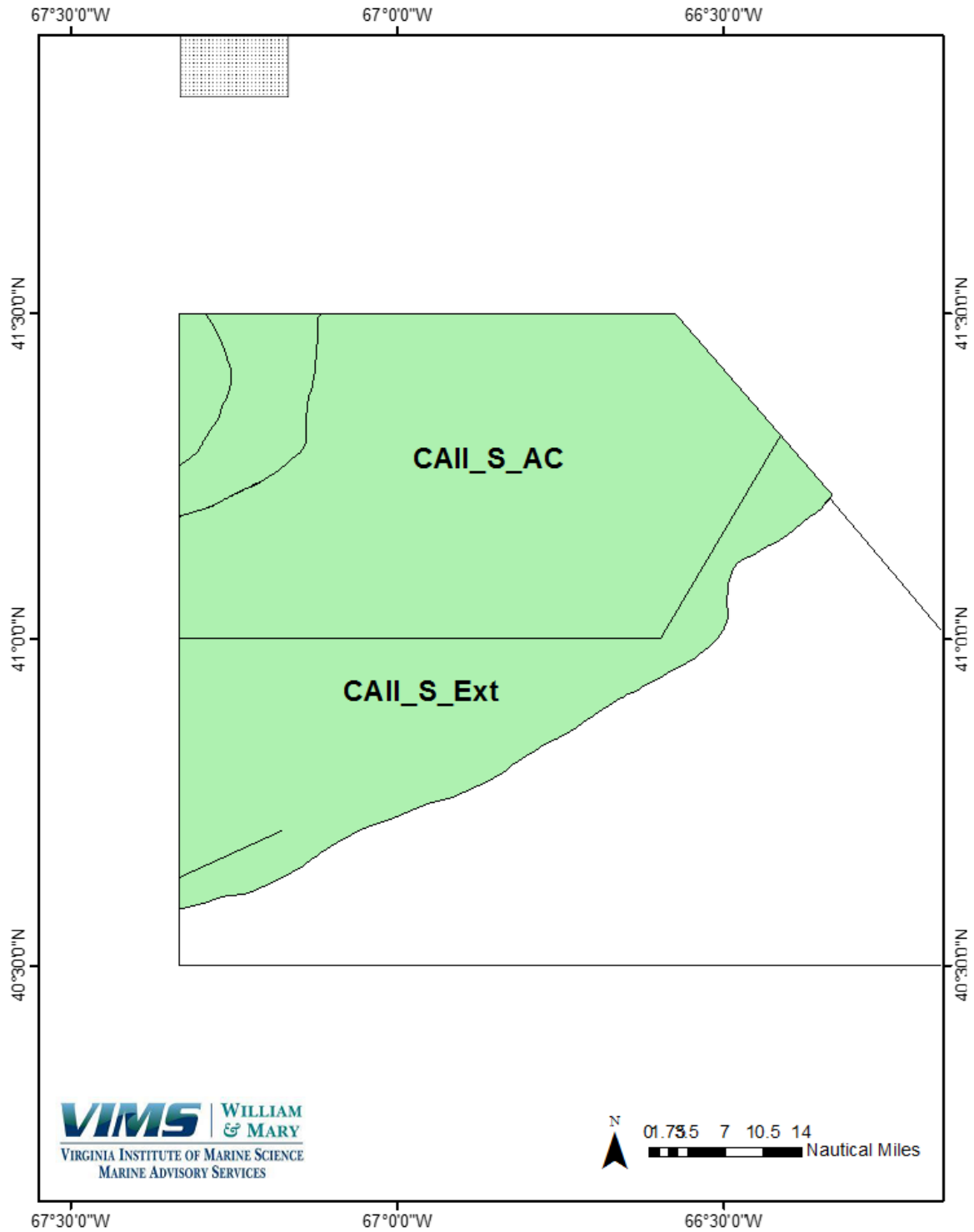


Figure 4. SAMS areas used to calculate biomass estimates for the VIMS/Industry cooperative survey of the Closed Area II access area and southern Extension closure during June 2017.

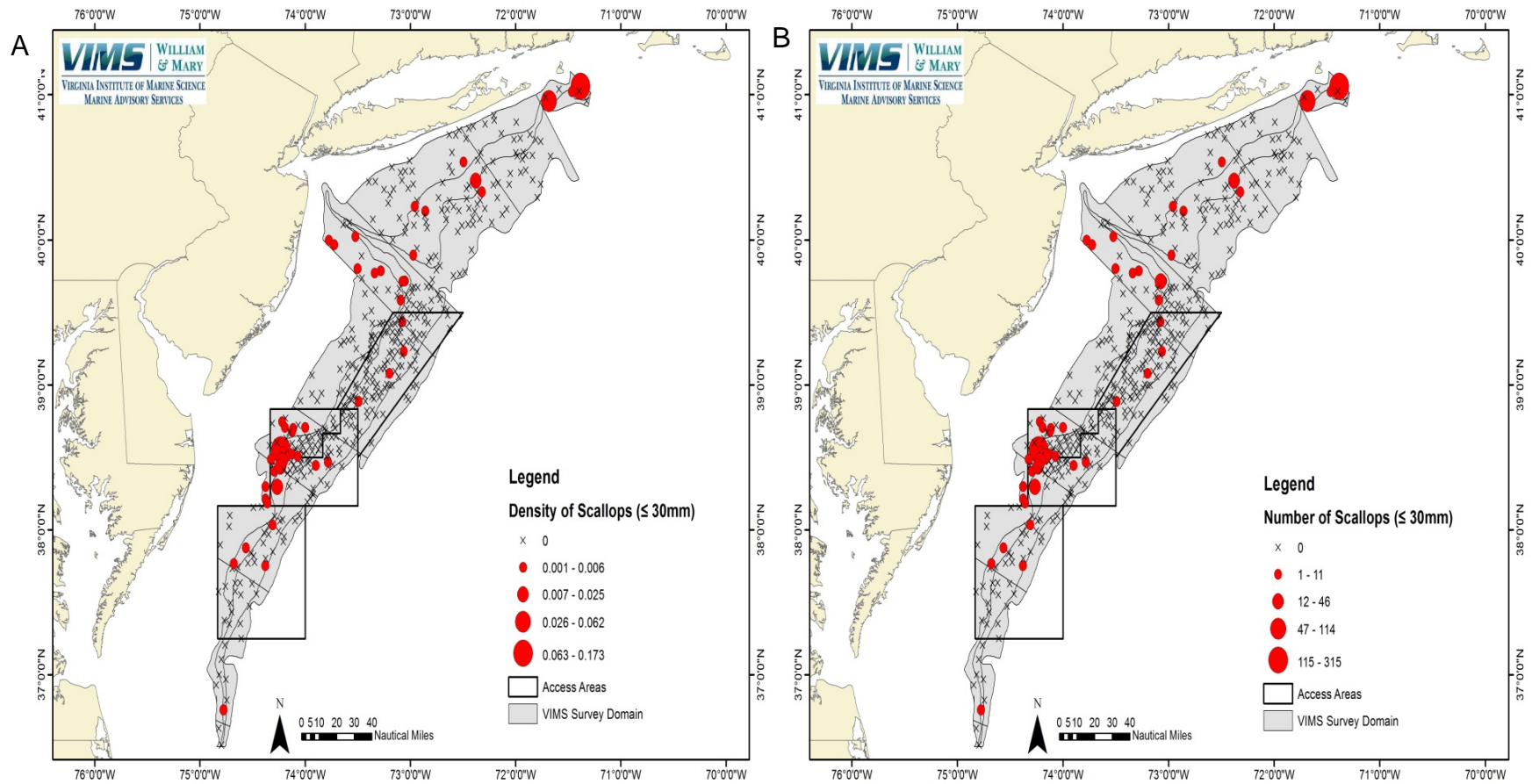


Figure 5. Density (A) and number (B) of scallops 0-30mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Mid-Atlantic sea scallop resource during May 2017.

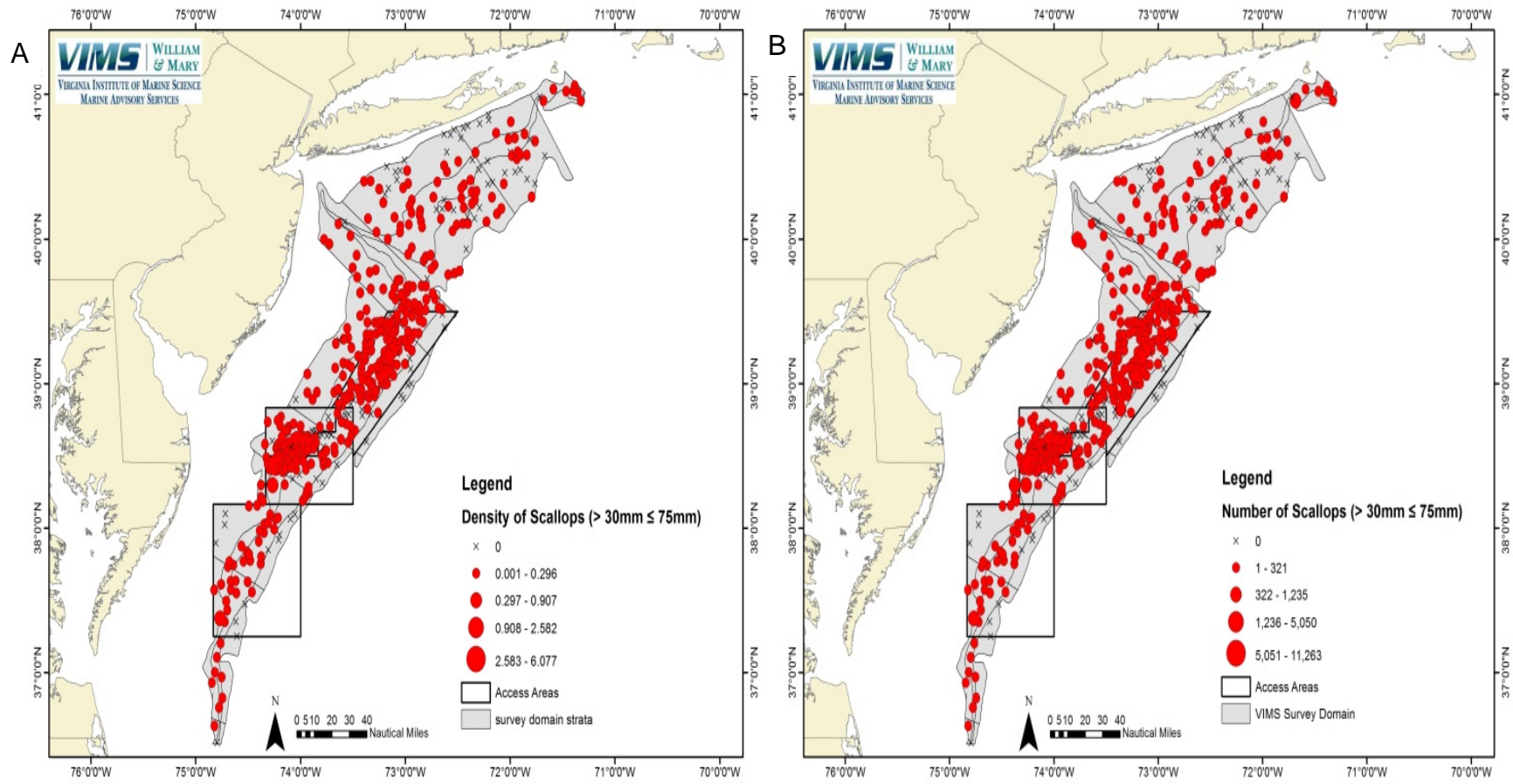


Figure 6. Density (A) and number (B) of scallops 31-75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Mid-Atlantic sea scallop resource during May 2017.

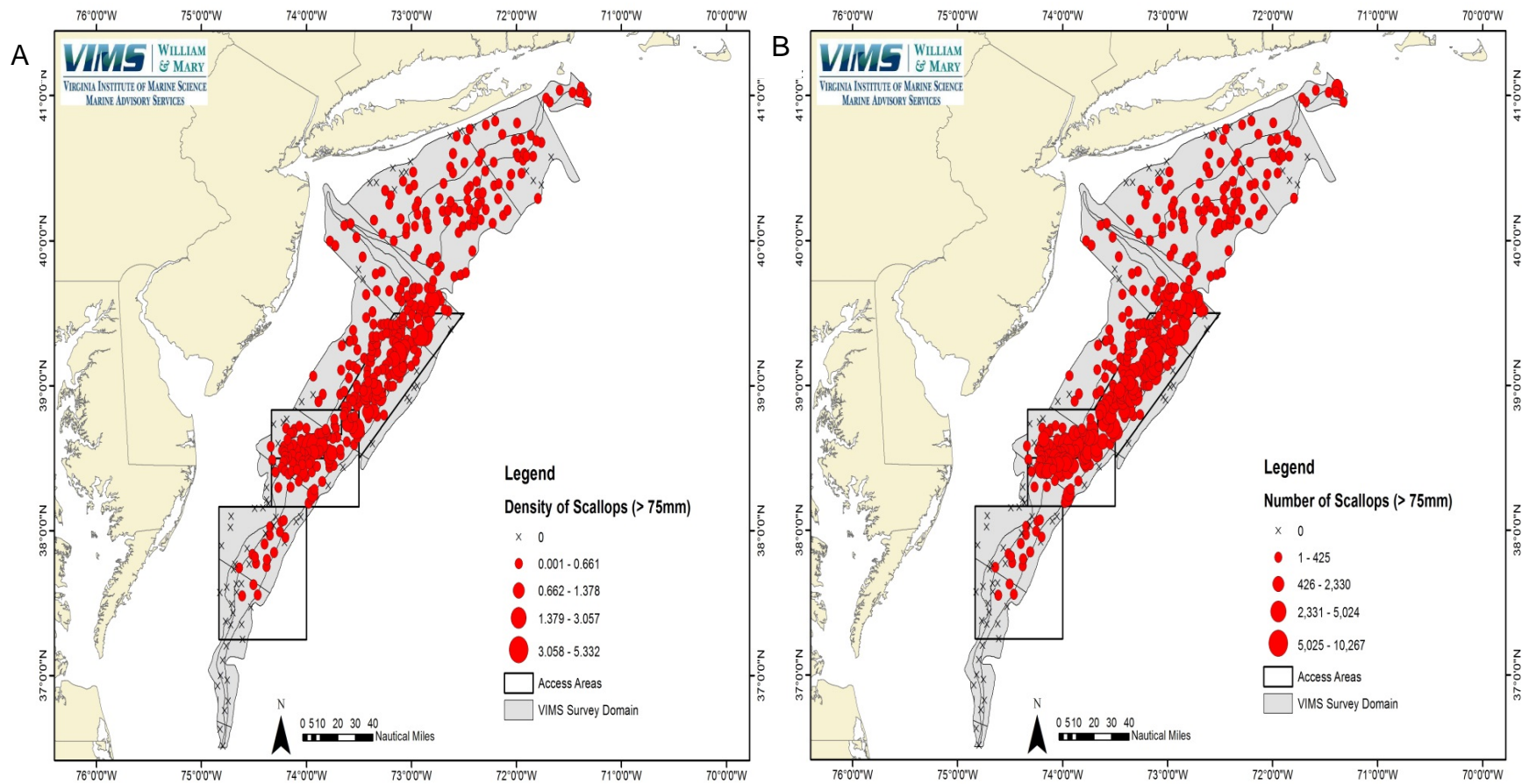


Figure 7. Density (A) and number (B) of scallops greater than 75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Mid-Atlantic sea scallop resource during May 2017.

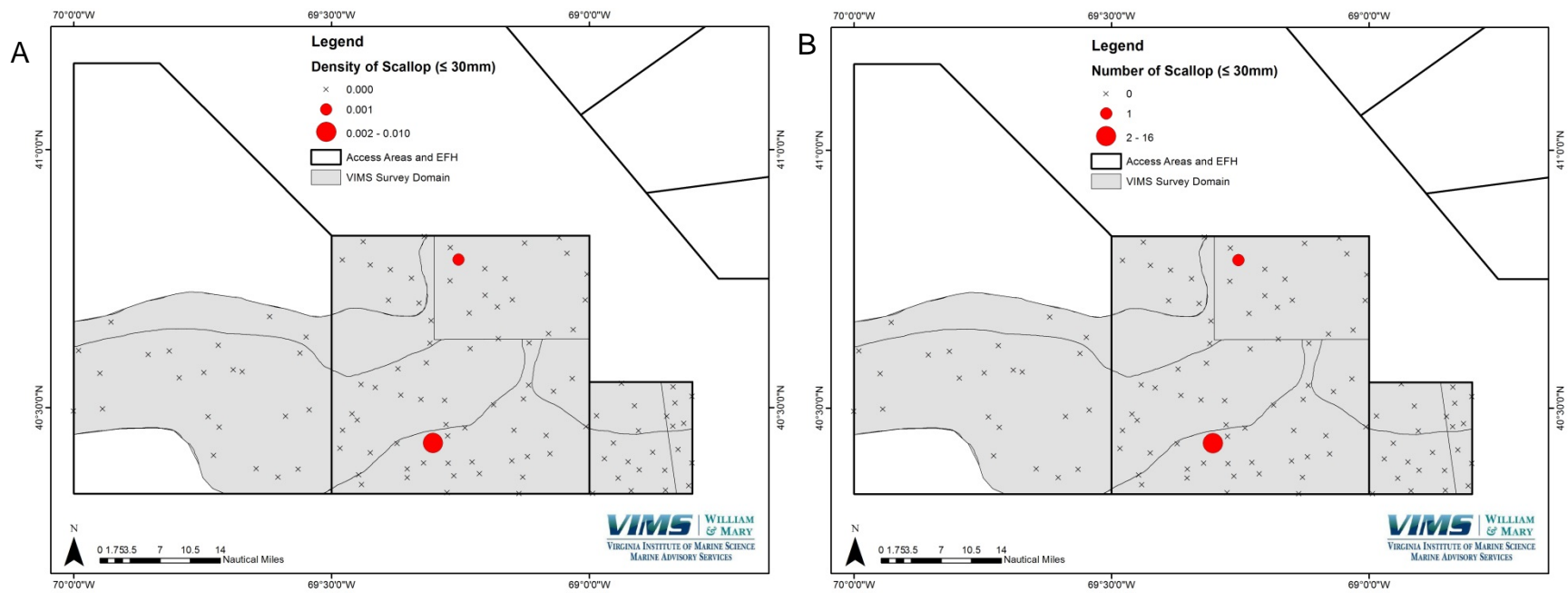


Figure 8. Density (A) and number (B) of scallops 0-30mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Nantucket Lightship Access Area and surrounds during July 2017.

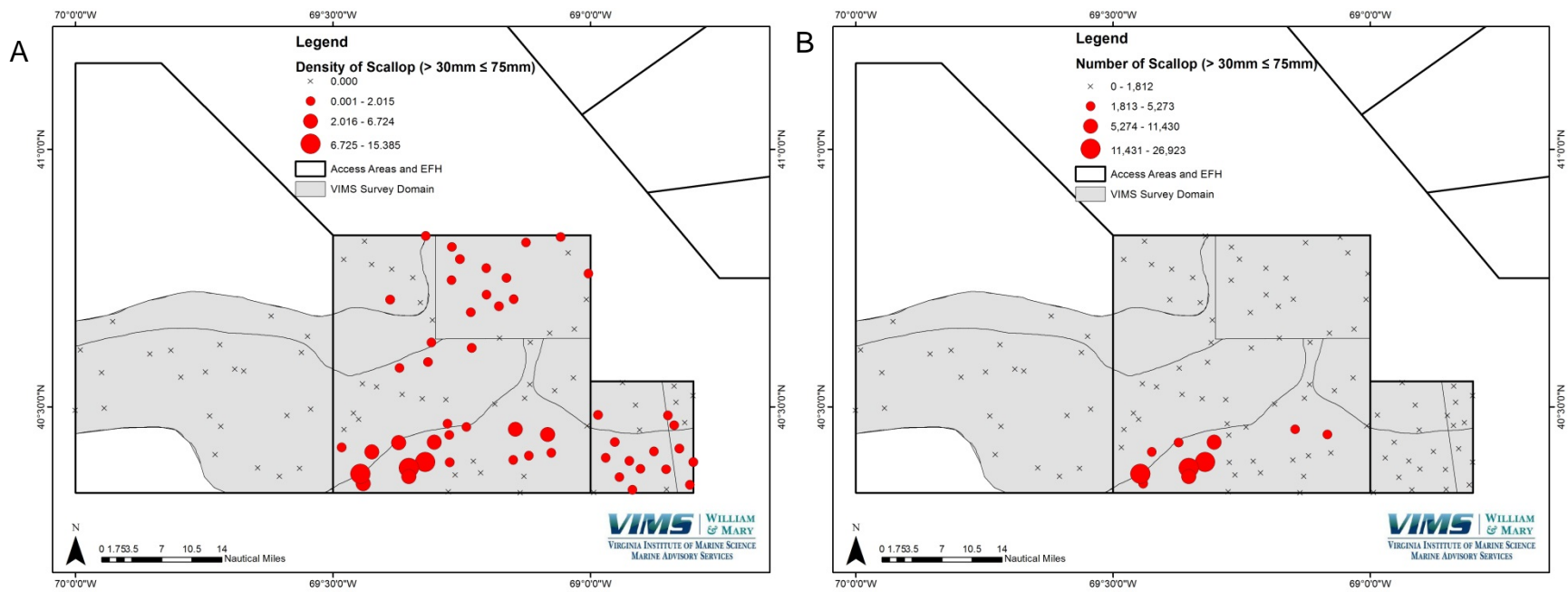


Figure 9. Density (A) and number (B) of scallops 31-75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Nantucket Lightship Access Area and surrounds during July 2017.

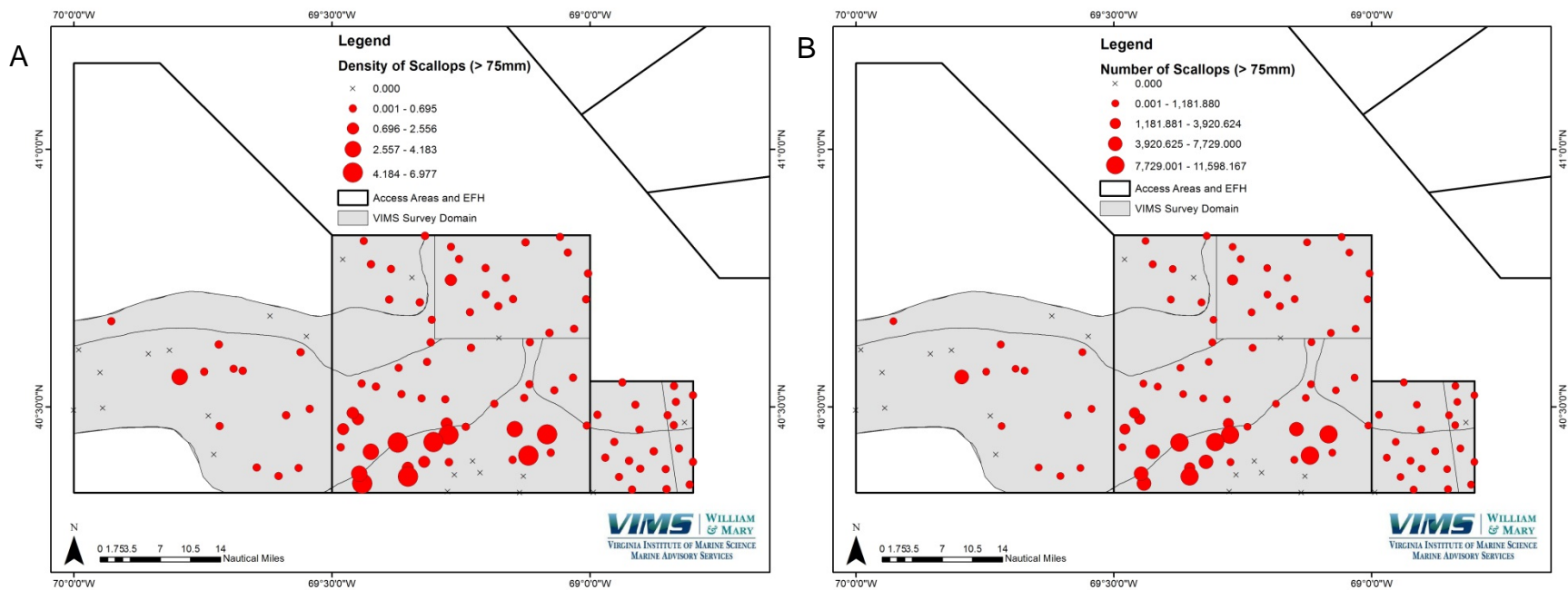


Figure 10. Density (A) and number (B) of scallops greater than 75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Nantucket Lightship Access Area and surrounds during July 2017.

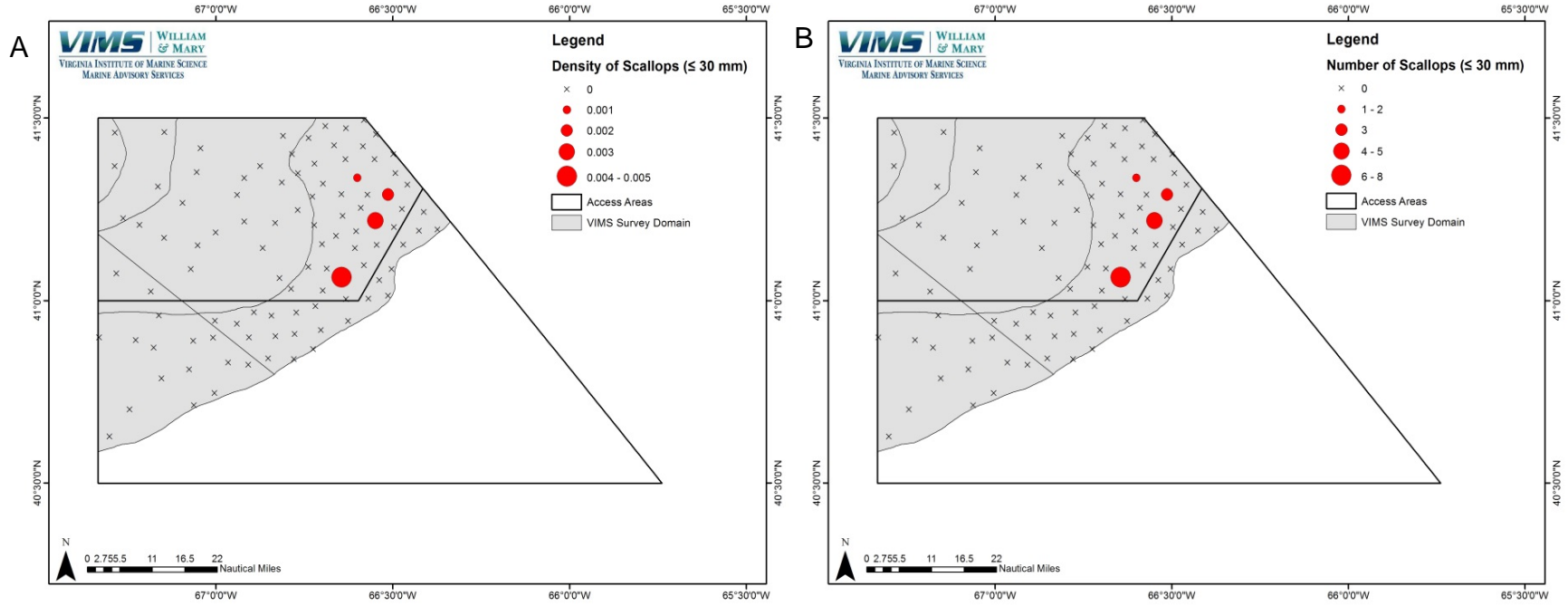


Figure 11. Density (A) and number (B) of scallops 0-30mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Closed Area II Access Area and southern Extension closure during June 2017.

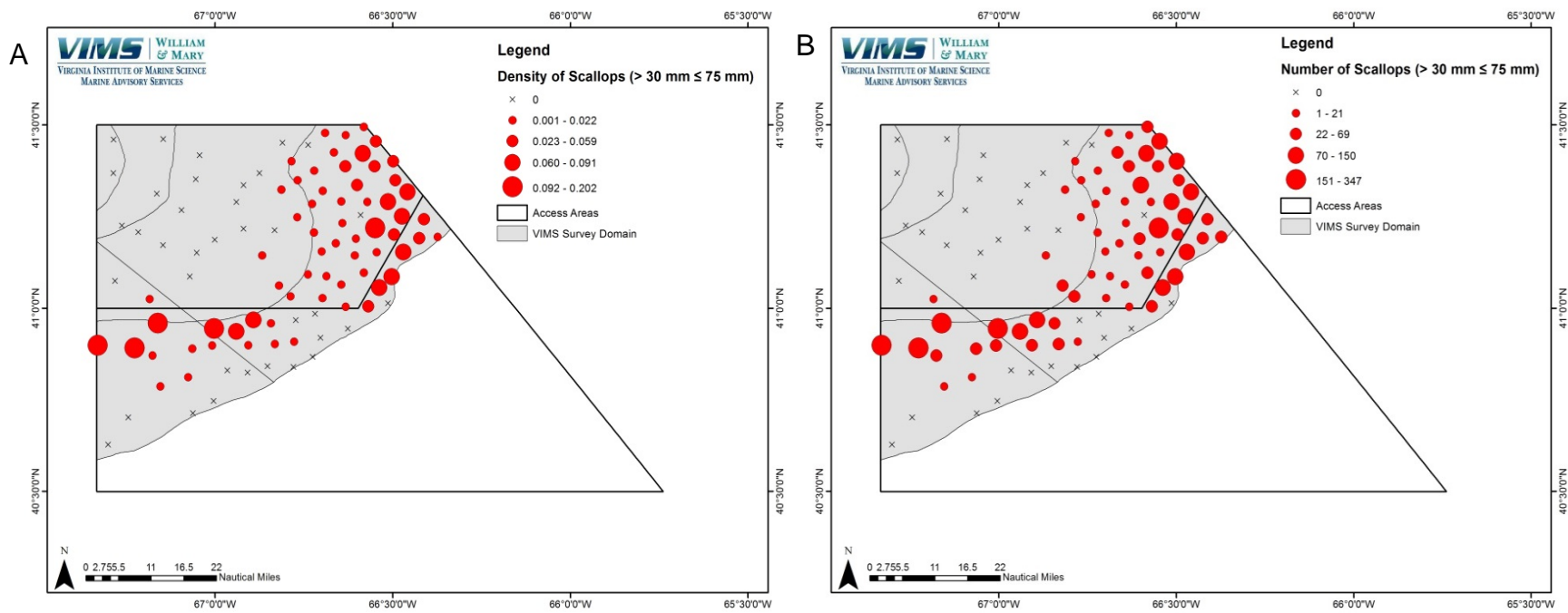


Figure 12. Density (A) and number (B) of scallops 31-75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Closed Area II Access Area and southern Extension closure during June 2017.

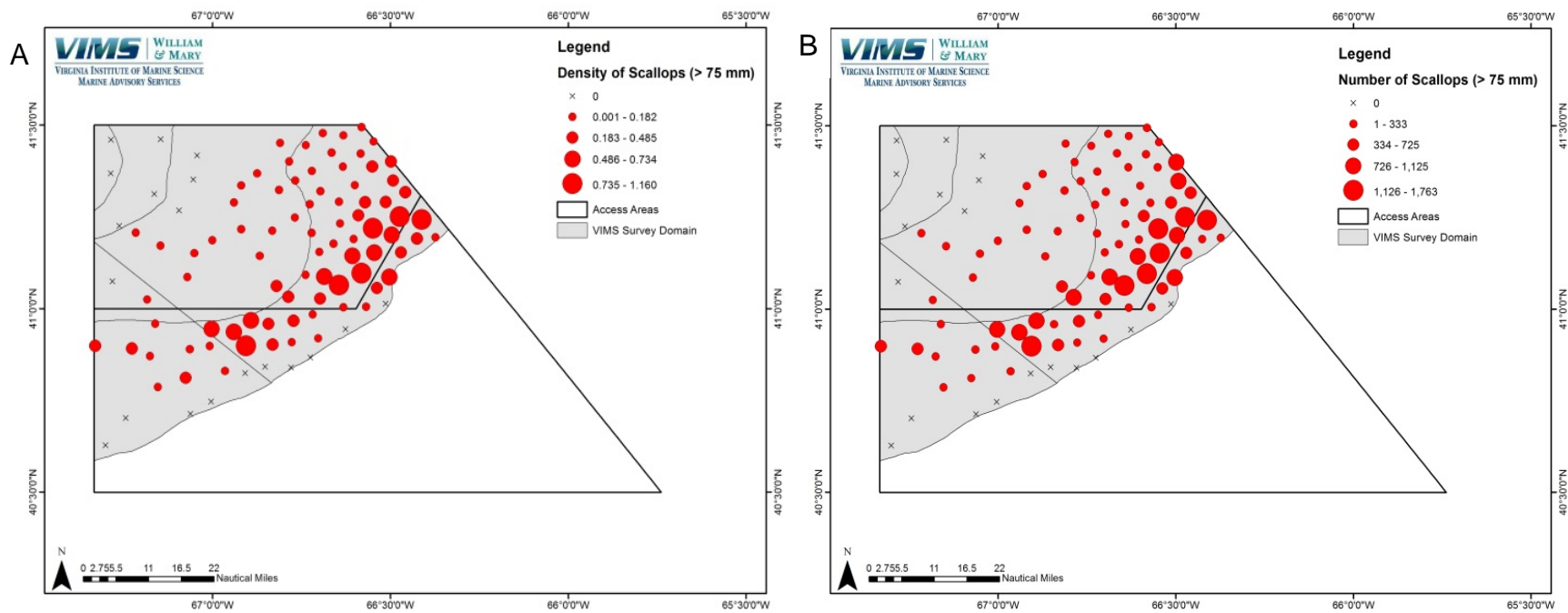


Figure 13. Density (A) and number (B) of scallops greater than 75mm per m² caught in the NMFS survey dredge during the VIMS/Industry cooperative survey of the Closed Area II Access Area and southern Extension closure during June 2017.

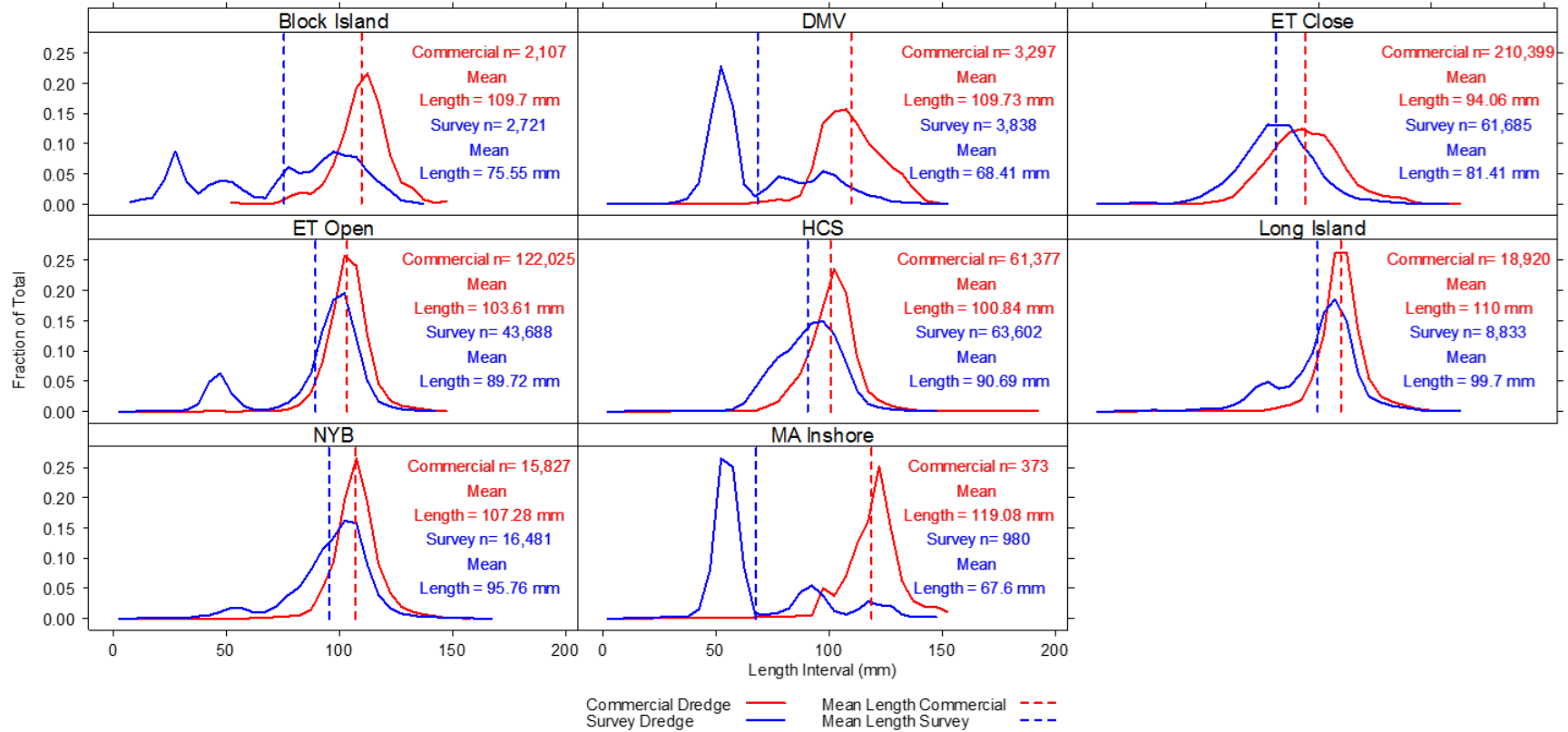


Figure 14. Length frequency of scallops captured in the survey and commercial dredges during the VIMS/Industry cooperative survey of the Mid-Atlantic sea scallop resource area for May-July 2017 by region. Number of scallops measured and mean length by gear are also included.

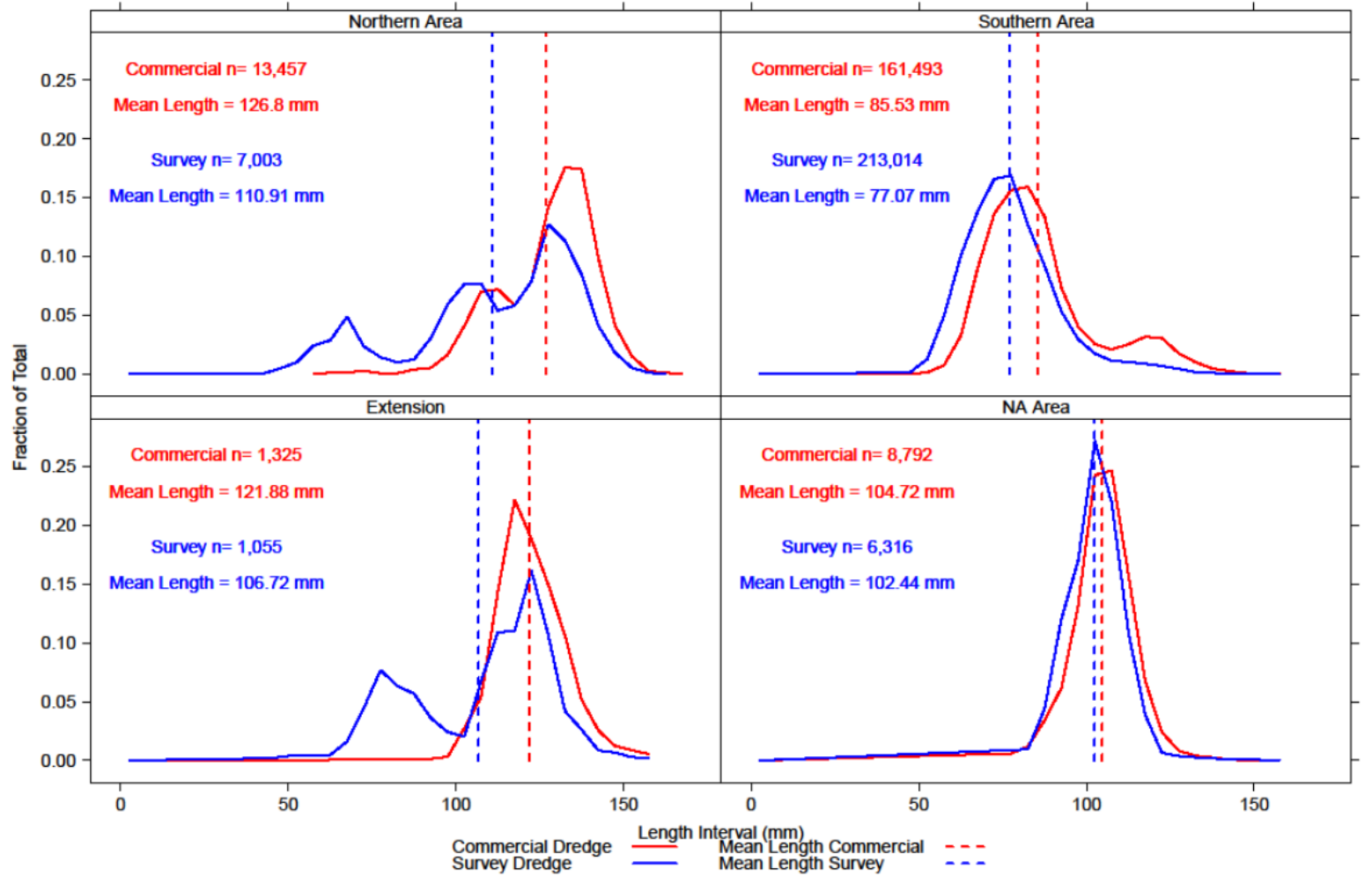


Figure 15. Length frequency of scallops captured in the survey and commercial dredges during the VIMS/Industry cooperative survey of the Nantucket Lightship Access Area and surrounds for May-July 2017 by region. Number of scallops measured and mean length by gear are also included.

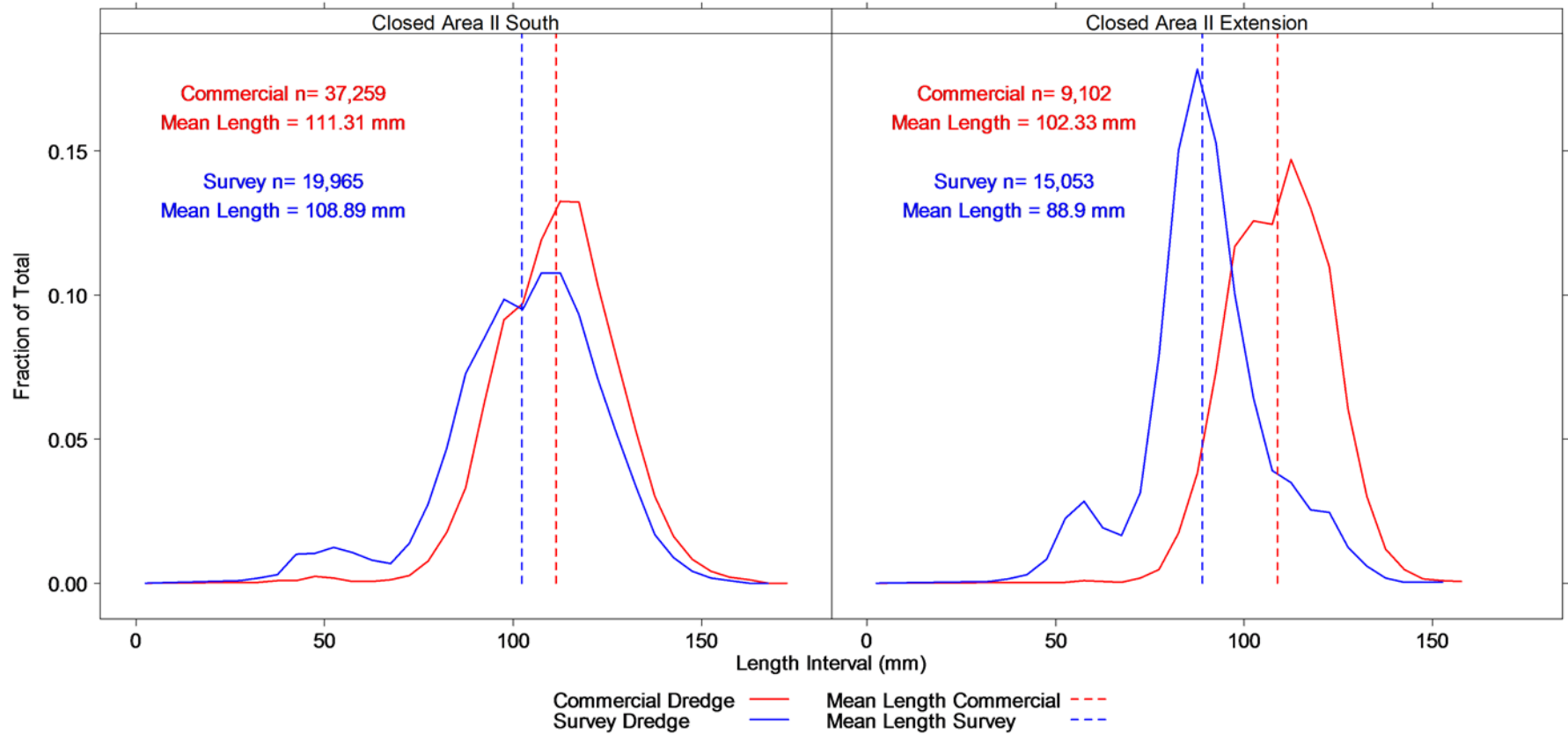


Figure 16. Length frequency of scallops captured in the survey and commercial dredges during the VIMS/Industry cooperative survey of the Closed Area II Access Area and southern Extension closure for May-July 2017 by region. Number of scallops measured and mean length by gear are also included.

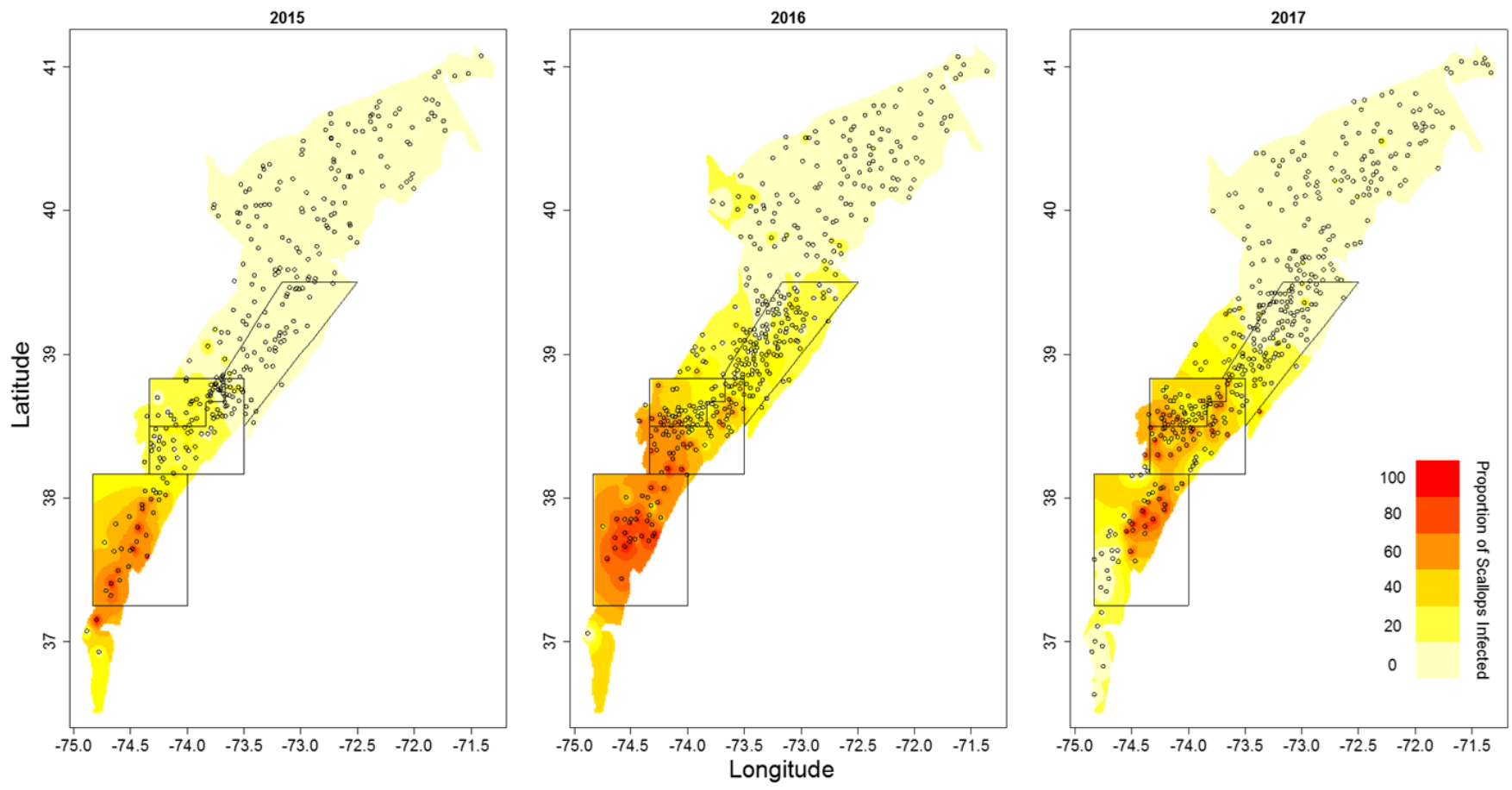


Figure 17. Spatial distribution of the prevalence of the parasite in sampled scallops by year for the MAB resource area. Circles indicate VIMS survey station locations.

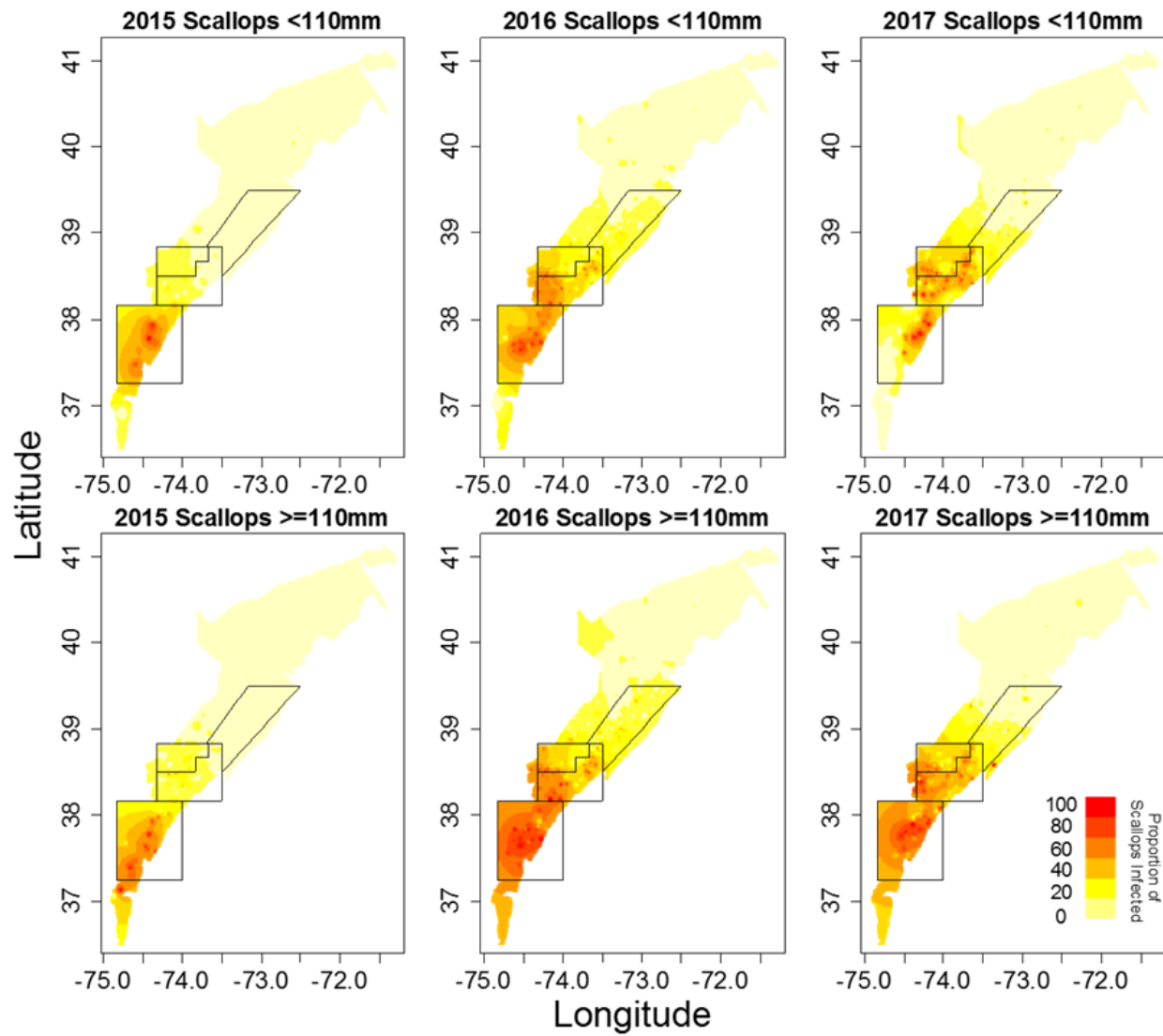


Figure 18. Spatial distribution of the prevalence of the parasite in sampled scallops by year and size class for the MAB resource area.