The Commonwealth of Massachusetts
Division of Marine Fisheries

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MAURA T. HEALEY, Governor | KIMBERLEY DRISCOLL, Lt. Governor | REBECCA L. TEPPER, Secretary | RONALD S. AMIDON, Commissioner | DANIEL J. MCKIERNAN, Director

March 7, 2023

Fixed Gear Fishermen of Massachusetts,

MarineFisheries will be conducting its annual spring trawl survey throughout state coastal waters beginning May 8, 2023. Surveys have been conducted each May and September since 1978 to provide a consistent sampling of benthic fishes and mobile invertebrates. Survey data is used to monitor the condition of various marine stocks. The data is also used to inform the environmental review process, which advises on ways to minimize construction impacts on fisheries resources. Maintaining access to the planned sampling sites is critical to the integrity of the survey.

Please review either the live map on our website or the attached tables and maps of station locations. The live map displays all remaining tow locations, the map can be found on our website (https://www.mass.gov/service-details/review-trawl-survey-updates). The live map has a feature which allows you to display your current location. Within see the map in full screen on the upper lefthand side of the map page select the "scope icon" button just below the home button. With the location feature toggled on, your device will display your live location on the map in relation to tow circles and historical tows. This feature can be used to assure gear is not in conflict with planned tows. **We kindly ask for your cooperation and insist that all fixed gear be kept clear of the shaded station tow circles by the dates listed in the table.** The coordinates of each selected point are provided in the attached table. The live map and attached figures show the station with a 1.5 n. mi. diameter circle around the selected point. All station circles are trimmed to the appropriate stratum which represents actual station outline. A list of station location information can also be accessed on our website (https://www.mass.gov/service-details/review-trawl-survey-updates). We will make every attempt to complete stations as timely as possible to minimize inconvenience to fixed gear fishermen. Completed stations will be updated and announced daily to notify fishermen that gear can be returned to the area. *MarineFisheries* is prepared to attach restrictions to permit renewals (under 322 CMR 7.01 (7)), mandating that fixed gear is not set on designated trawl survey sites between the announced date and notification of station completion. It remains our hope that this action will be unnecessary.

Each day the MLA will be notified of survey progress and all completed stations will be removed from the live map. The Massachusetts Lobstermen's Association will also post survey information on their webpage (http://www.lobstermen.com), as well as on Facebook (username: lobstermensassoc) and Twitter (handle: @masslobstermens).

In the event of a delay due to weather, the schedule will be resumed as soon as working conditions permit. Fishermen can contact the R/V *Gloria Michelle* on VHF channels 13 or 16 to determine the updated daily schedule.

Personnel aboard the NOAA R/V *Gloria Michelle*, a 65' western rigged steel stern trawler with a blue hull and white deckhouse, will carefully check each site for marked gear by cruising along a selected tow path before the net is set. Twenty-minute tows undertaken at 2.5 knots cover approximately 0.8 nautical miles. We encourage communicating helpful information to the R/V officers (via channels 13 or 16).

Your cooperation is greatly appreciated and is vital to the effective monitoring of marine resources in the Commonwealth. If you have any questions about the survey, please contact me (steve.wilcox@mass.gov (508) 742-9731). If you have any questions about the *MarineFisheries* website, or Facebook, please contact Story Reed (story.reed@mass.gov 617- 626-1524).

Sincerely,

Steven Wilcox
Senior Marine Fisheries Biologist

Cc. Dan McKiernan, Director

Massachusetts Division of Marine Fisheries
May 2023 Spring Trawl Survey Station Locations
Massachusetts Bay to New Hampshire

Area Description	Depth	Relocate gear before date	Lat DD MM.mmm	Long DD MM.mmm	Lat DD.dddd	Long DD.dddd	Sta. ID#
Cape Ann and North	0-30'	5/13/2023	42° 43.549	-070° 46.216	42.7258	-70.7703	31-1
	0-30'	5/12/2023	42° 47.682	-070° 48.062	42.7947	-70.8010	31-2
	31'-60'	5/13/2023	42° 45.630	-070° 46.677	42.7605	-70.7779	32-1
	31'-60'	5/12/2023	42° 41.021	-070° 40.691	42.6837	-70.6782	32-2
	61'-90'	5/13/2023	42° 45.426	-070° 44.541	42.7571	-70.7423	33-1
	61'-90'	5/13/2023	42° 46.085	-070° 46.074	42.7681	-70.7679	33-2
	61'-90'	5/13/2023	42° 49.498	-070° 46.433	42.8250	-70.7739	33-3
	91'-120'	5/12/2023	42° 42.044	-070° 37.129	42.7007	-70.6188	34-1
	91'-120'	5/13/2023	42° 50.534	-070° 45.244	42.8422	-70.7541	34-2
	91'-120'	5/12/2023	42° 42.663	-070° 39.744	42.7111	-70.6624	34-3
	121'-180'	5/12/2023	42° 35.281	-070° 35.130	42.5880	-70.5855	35-1
	121'-180'	5/12/2023	42° 41.723	-070° 34.273	42.6954	-70.5712	35-2
	121'-180'	5/12/2023	42° 36.305	-070° 34.486	42.6051	-70.5748	35-3
	181'+	5/12/2023	42° 36.519	-070° 32.548	42.6087	-70.5425	36-1
	181'+	5/12/2023	42° 42.944	-070° 34.607	42.7157	-70.5768	36-2
Massachusetts Bay	0-30'	5/11/2023	42° 24.583	-070° 57.554	42.4097	-70.9592	31-4
	0-30'	5/11/2023	42° 26.683	-070° 55.213	42.4447	-70.9202	31-5
	31'-60'	5/10/2023	42° 13.890	-070° 44.332	42.2315	-70.7389	32-4
	31'-60'	5/10/2023	42° 17.905	-070° 50.978	42.2984	-70.8496	32-5
	31'-60'	5/10/2023	42° 17.044	-070° 48.249	42.2841	-70.8042	32-6
	61'-90'	5/10/2023	42° 18.503	-070° 48.475	42.3084	-70.8079	33-5
	61'-90'	5/10/2023	42° 24.598	-070° 53.744	42.4100	-70.8957	33-6
	61'-90'	5/11/2023	42° 23.472	-070° 54.112	42.3912	-70.9019	33-7
	91'-120'	5/10/2023	42° 18.771	-070° 43.508	42.3128	-70.7251	34-5
	91'-120'	5/11/2023	42° 26.780	-070° 50.208	42.4463	-70.8368	34-6
	91'-120'	5/11/2023	42° 23.280	-070° 48.802	42.3880	-70.8134	34-7
	121'-180'	5/11/2023	42° 34.450	-070° 38.371	42.5742	-70.6395	35-5
	121'-180'	5/11/2023	42° 27.689	-070° 43.330	42.4615	-70.7222	35-6
	121'-180'	5/10/2023	42° 19.387	-070° 42.290	42.3231	-70.7048	35-7
	181'+	5/11/2023	42° 30.176	-070° 39.062	42.5029	-70.6510	36-4
	181'+	5/11/2023	42° 28.066	-070° 38.273	42.4678	-70.6379	36-5

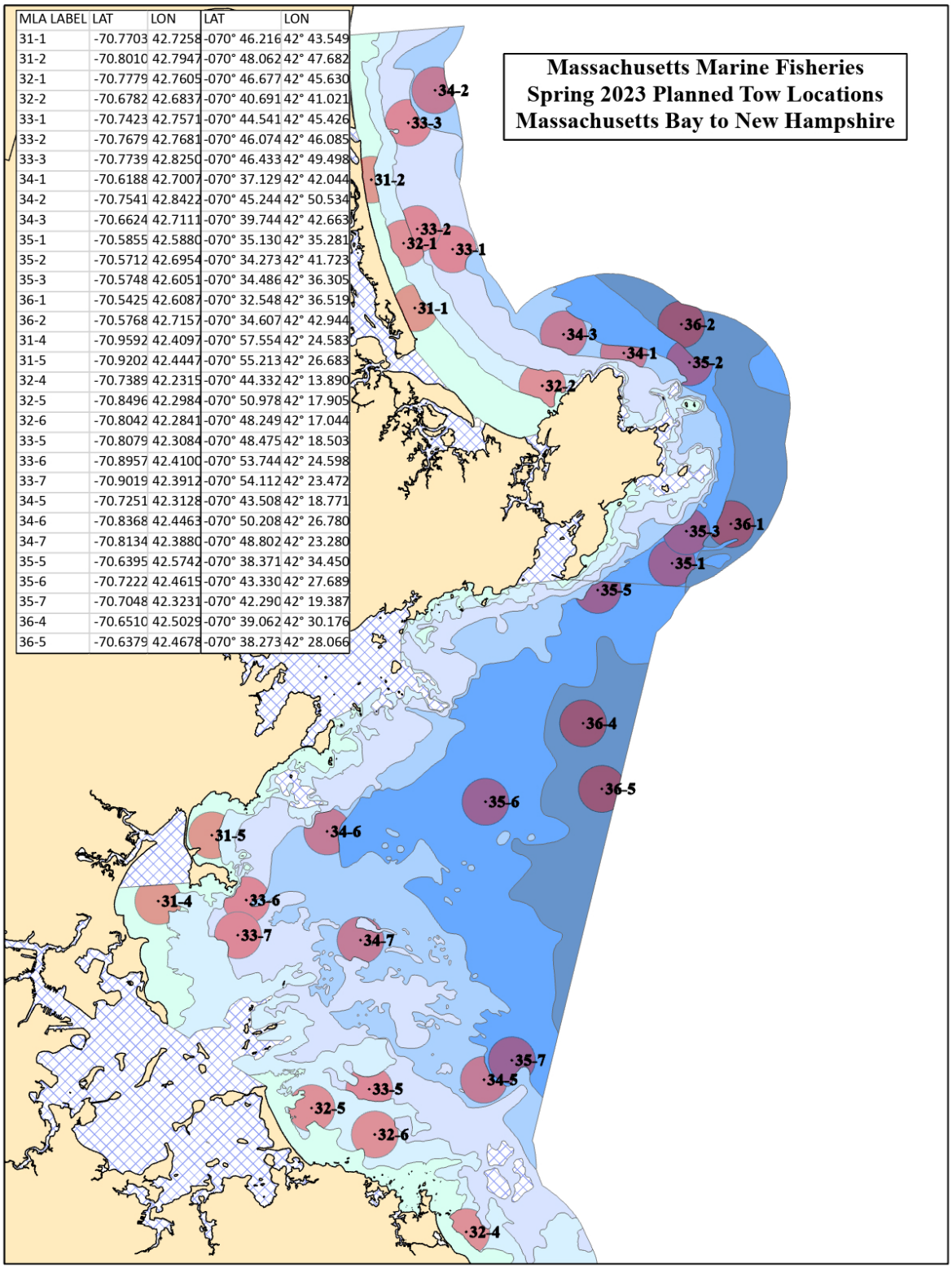
Massachusetts Division of Marine Fisheries
May 2023 Spring Trawl Survey Station Locations
Cape Cod Bay and East of Cape Cod.

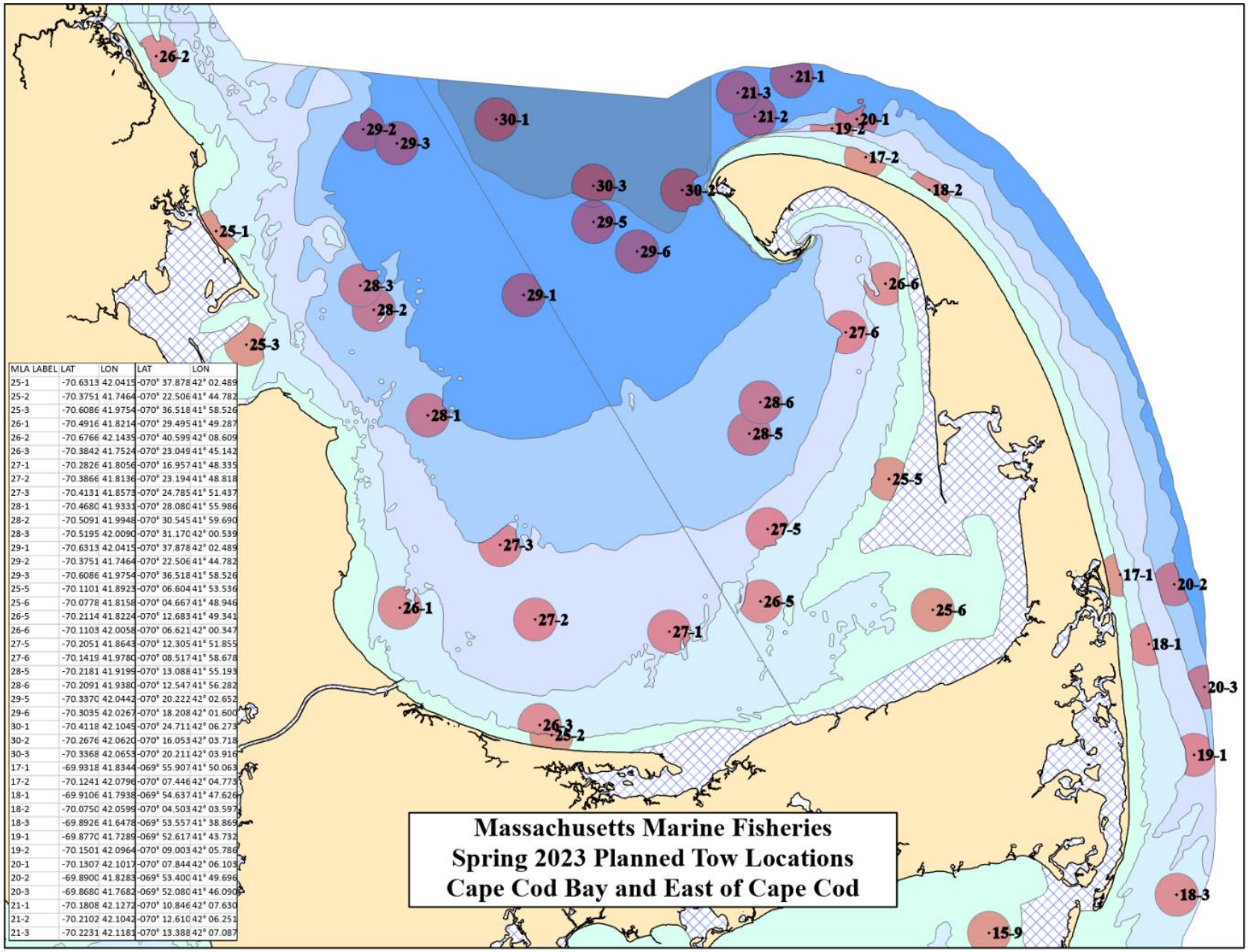
Area Description	Depth	Relocate gear before date	Lat DD MM.mmm	Long DD MM.mmm	Lat DD.dddd	Long DD.dddd	Sta. ID#
Western Cape Cod Bay	0-30'	5/8/2023	42° 02.489	-070° 37.878	42.0415	-70.6313	25-1
	0-30'	5/8/2023	41° 44.782	-070° 22.506	41.7464	-70.3751	25-2
	0-30'	5/8/2023	41° 58.526	-070° 36.518	41.9754	-70.6086	25-3
	31'-60'	5/8/2023	41° 49.287	-070° 29.495	41.8214	-70.4916	26-1
	31'-60'	5/10/2023	42° 08.609	-070° 40.599	42.1435	-70.6766	26-2
	31'-60'	5/8/2023	41° 45.142	-070° 23.049	41.7524	-70.3842	26-3
	61'-90'	5/8/2023	41° 48.335	-070° 16.957	41.8056	-70.2826	27-1
	61'-90'	5/8/2023	41° 48.818	-070° 23.194	41.8136	-70.3866	27-2
	61'-90'	5/8/2023	41° 51.437	-070° 24.785	41.8573	-70.4131	27-3
	91'-120'	5/8/2023	41° 55.986	-070° 28.080	41.9331	-70.4680	28-1
	91'-120'	5/8/2023	41° 59.690	-070° 30.545	41.9948	-70.5091	28-2
	91'-120'	5/8/2023	42° 00.539	-070° 31.170	42.0090	-70.5195	28-3
	91'-120'	5/8/2023	42° 00.137	-070° 23.536	42.0023	-70.3923	29-1
	121'-180'	5/10/2023	42° 05.985	-070° 30.951	42.0998	-70.5158	29-2
	121'-180'	5/10/2023	42° 05.484	-070° 29.376	42.0914	-70.4896	29-3
Eastern Cape Cod Bay	0-30'	5/8/2023	41° 53.536	-070° 06.604	41.8923	-70.1101	25-5
	0-30'	5/8/2023	41° 48.946	-070° 04.667	41.8158	-70.0778	25-6
	31'-60'	5/8/2023	41° 49.341	-070° 12.683	41.8224	-70.2114	26-5
	31'-60'	5/15/2023	42° 00.347	-070° 06.621	42.0058	-70.1103	26-6
	61'-90'	5/8/2023	41° 51.855	-070° 12.305	41.8643	-70.2051	27-5
	61'-90'	5/15/2023	41° 58.678	-070° 08.517	41.9780	-70.1419	27-6
	91'-120'	5/15/2023	41° 55.193	-070° 13.088	41.9199	-70.2181	28-5
	91'-120'	5/15/2023	41° 56.282	-070° 12.547	41.9380	-70.2091	28-6
	121'-180'	5/14/2023	42° 02.652	-070° 20.222	42.0442	-70.3370	29-5
	121'-180'	5/14/2023	42° 01.600	-070° 18.208	42.0267	-70.3035	29-6
	181'+	5/14/2023	42° 06.273	-070° 24.711	42.1045	-70.4118	30-1
	181'+	5/14/2023	42° 03.718	-070° 16.053	42.0620	-70.2676	30-2
	181'+	5/14/2023	42° 03.916	-070° 20.211	42.0653	-70.3368	30-3
East of Cape Cod	0-30'	5/16/2023	41° 50.063	-069° 55.907	41.8344	-69.9318	17-1
	0-30'	5/15/2023	42° 04.773	-070° 07.446	42.0796	-70.1241	17-2
	31'-60'	5/16/2023	41° 47.626	-069° 54.637	41.7938	-69.9106	18-1
	31'-60'	5/15/2023	42° 03.597	-070° 04.503	42.0599	-70.0750	18-2
	31'-60'	5/16/2023	41° 38.869	-069° 53.557	41.6478	-69.8926	18-3
	61'-90'	5/16/2023	41° 43.732	-069° 52.617	41.7289	-69.8770	19-1
	61'-90'	5/15/2023	42° 05.786	-070° 09.003	42.0964	-70.1501	19-2
	91'-120'	5/15/2023	42° 06.103	-070° 07.844	42.1017	-70.1307	20-1
	91'-120'	5/16/2023	41° 49.696	-069° 53.400	41.8283	-69.8900	20-2
	91'-120'	5/16/2023	41° 46.090	-069° 52.080	41.7682	-69.8680	20-3
	121'-180'	5/15/2023	42° 07.630	-070° 10.846	42.1272	-70.1808	21-1
	121'-180'	5/15/2023	42° 06.251	-070° 12.610	42.1042	-70.2102	21-2
	121'-180'	5/15/2023	42° 07.087	-070° 13.388	42.1181	-70.2231	21-3

Massachusetts Division of Marine Fisheries
May 2023 Spring Trawl Survey Station Locations
South of Cape Cod

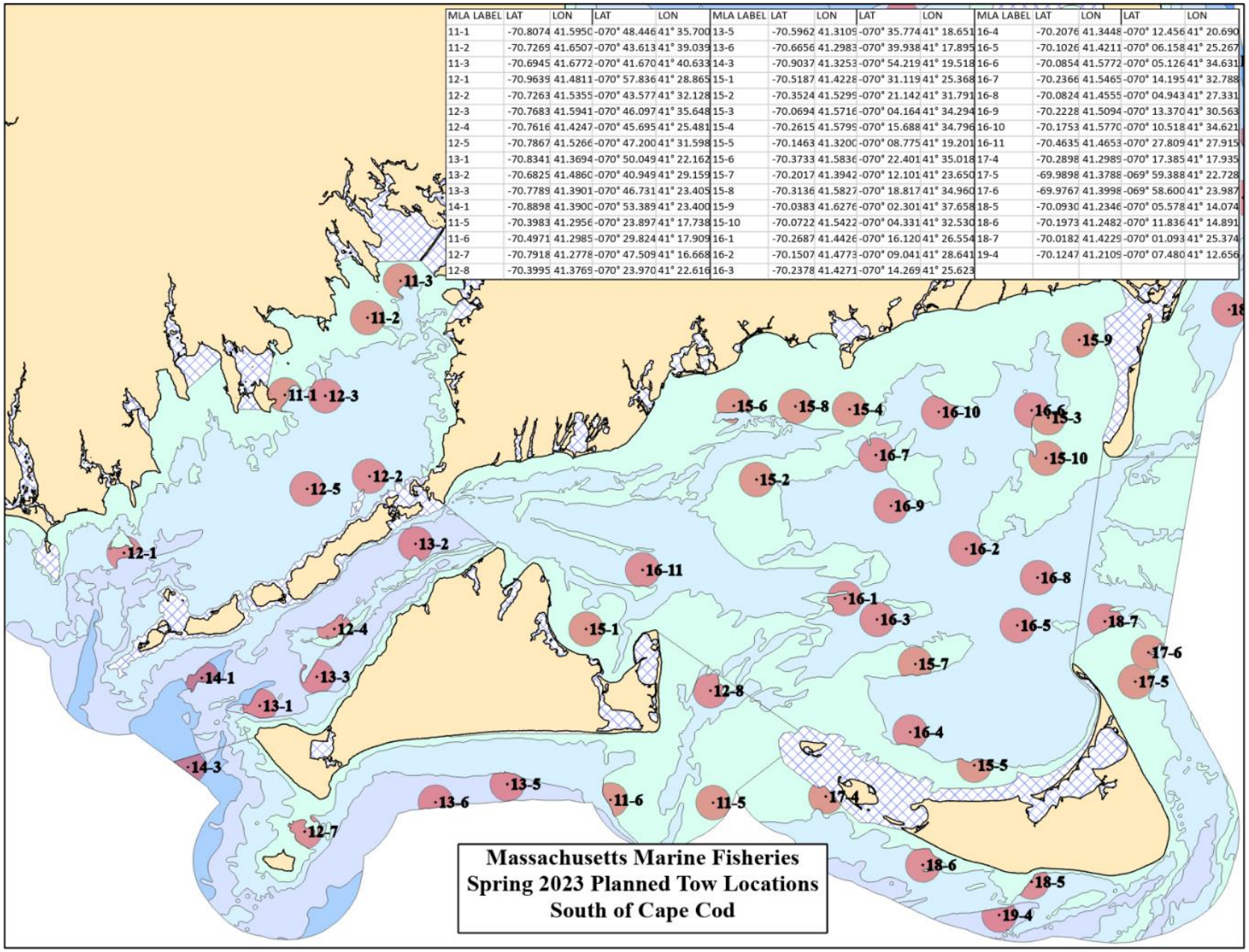
Area Description	Depth	Relocate gear before date	Lat DD MM.mmm	Long DD MM.mmm	Latitude DD.dddd	Longitude DD.dddd	Sta. ID#
Buzzards Bay and Vineyard Sound	0-30'	5/17/2023	41° 35.700	-070° 48.446	41.5950	-70.8074	11-1
	0-30'	5/17/2023	41° 39.039	-070° 43.613	41.6507	-70.7269	11-2
	0-30'	5/17/2023	41° 40.633	-070° 41.670	41.6772	-70.6945	11-3
	31'-60'	5/17/2023	41° 28.865	-070° 57.836	41.4811	-70.9639	12-1
	31'-60'	5/17/2023	41° 32.128	-070° 43.577	41.5355	-70.7263	12-2
	31'-60'	5/17/2023	41° 35.648	-070° 46.097	41.5941	-70.7683	12-3
	31'-60'	5/17/2023	41° 25.481	-070° 45.695	41.4247	-70.7616	12-4
	31'-60'	5/17/2023	41° 31.598	-070° 47.200	41.5266	-70.7867	12-5
	61'-90'	5/17/2023	41° 22.162	-070° 50.049	41.3694	-70.8341	13-1
	61'-90'	5/17/2023	41° 29.159	-070° 40.949	41.4860	-70.6825	13-2
	61'-90'	5/17/2023	41° 23.405	-070° 46.731	41.3901	-70.7789	13-3
	91'-120'	5/17/2023	41° 23.400	-070° 53.389	41.3900	-70.8898	14-1
Southwest of Gay Head and South of Martha's Vineyard	0-30'	5/17/2023	41° 17.738	-070° 23.897	41.2956	-70.3983	11-5
	0-30'	5/17/2023	41° 17.909	-070° 29.824	41.2985	-70.4971	11-6
	31'-60'	5/17/2023	41° 16.668	-070° 47.509	41.2778	-70.7918	12-7
	31'-60'	5/17/2023	41° 22.616	-070° 23.970	41.3769	-70.3995	12-8
	61'-90'	5/17/2023	41° 18.651	-070° 35.774	41.3109	-70.5962	13-5
	61'-90'	5/17/2023	41° 17.895	-070° 39.938	41.2983	-70.6656	13-6
	91'-120'	5/17/2023	41° 19.518	-070° 54.219	41.3253	-70.9037	14-3
Nantucket Sound	0-30'	5/17/2023	41° 25.368	-070° 31.119	41.4228	-70.5187	15-1
	0-30'	5/17/2023	41° 31.791	-070° 21.142	41.5299	-70.3524	15-2
	0-30'	5/17/2023	41° 34.294	-070° 04.164	41.5716	-70.0694	15-3
	0-30'	5/17/2023	41° 34.796	-070° 15.688	41.5799	-70.2615	15-4
	0-30'	5/17/2023	41° 19.201	-070° 08.775	41.3200	-70.1463	15-5
	0-30'	5/17/2023	41° 35.018	-070° 22.401	41.5836	-70.3733	15-6
	0-30'	5/17/2023	41° 23.650	-070° 12.101	41.3942	-70.2017	15-7
	0-30'	5/17/2023	41° 34.960	-070° 18.817	41.5827	-70.3136	15-8
	0-30'	5/17/2023	41° 37.658	-070° 02.301	41.6276	-70.0383	15-9
	0-30'	5/17/2023	41° 32.530	-070° 04.331	41.5422	-70.0722	15-10
	31'-60'	5/17/2023	41° 26.554	-070° 16.120	41.4426	-70.2687	16-1
	31'-60'	5/17/2023	41° 28.641	-070° 09.041	41.4773	-70.1507	16-2
	31'-60'	5/17/2023	41° 25.623	-070° 14.269	41.4271	-70.2378	16-3
	31'-60'	5/17/2023	41° 20.690	-070° 12.456	41.3448	-70.2076	16-4
	31'-60'	5/17/2023	41° 25.267	-070° 06.158	41.4211	-70.1026	16-5
	31'-60'	5/17/2023	41° 34.631	-070° 05.126	41.5772	-70.0854	16-6
	31'-60'	5/17/2023	41° 32.788	-070° 14.195	41.5465	-70.2366	16-7
	31'-60'	5/17/2023	41° 27.331	-070° 04.943	41.4555	-70.0824	16-8
	31'-60'	5/17/2023	41° 30.563	-070° 13.370	41.5094	-70.2228	16-9
	31'-60'	5/17/2023	41° 34.621	-070° 10.518	41.5770	-70.1753	16-10
	31'-60'	5/17/2023	41° 27.915	-070° 27.809	41.4653	-70.4635	16-11
South and East of Nantucket	0-30'	5/17/2023	41° 17.935	-070° 17.385	41.2989	-70.2898	17-4
	0-30'	5/17/2023	41° 22.728	-069° 59.388	41.3788	-69.9898	17-5
	0-30'	5/17/2023	41° 23.987	-069° 58.600	41.3998	-69.9767	17-6
	31'-60'	5/17/2023	41° 14.074	-070° 05.578	41.2346	-70.0930	18-5
	31'-60'	5/17/2023	41° 14.891	-070° 11.836	41.2482	-70.1973	18-6
	31'-60'	5/17/2023	41° 25.374	-070° 01.093	41.4229	-70.0182	18-7
	61'-90'	5/17/2023	41° 12.656	-070° 07.480	41.2109	-70.1247	19-4

MLA LABEL	LAT	LON	LAT	LON
31-1	-70.7703	42.7258	-070° 46.216	42° 43.549
31-2	-70.8010	42.7947	-070° 48.062	42° 47.682
32-1	-70.7779	42.7605	-070° 46.677	42° 45.630
32-2	-70.6782	42.6837	-070° 40.691	42° 41.021
33-1	-70.7423	42.7571	-070° 44.541	42° 45.426
33-2	-70.7679	42.7681	-070° 46.074	42° 46.085
33-3	-70.7739	42.8250	-070° 46.433	42° 49.498
34-1	-70.6188	42.7007	-070° 37.129	42° 42.044
34-2	-70.7541	42.8422	-070° 45.244	42° 50.534
34-3	-70.6624	42.7111	-070° 39.744	42° 42.663
35-1	-70.5855	42.5880	-070° 35.130	42° 35.281
35-2	-70.5712	42.6954	-070° 34.273	42° 41.723
35-3	-70.5748	42.6051	-070° 34.486	42° 36.305
36-1	-70.5425	42.6087	-070° 32.548	42° 36.519
36-2	-70.5768	42.7157	-070° 34.607	42° 42.944
31-4	-70.9592	42.4097	-070° 57.554	42° 24.583
31-5	-70.9202	42.4447	-070° 55.213	42° 26.683
32-4	-70.7389	42.2315	-070° 44.332	42° 13.890
32-5	-70.8496	42.2984	-070° 50.978	42° 17.905
32-6	-70.8042	42.2841	-070° 48.249	42° 17.044
33-5	-70.8079	42.3084	-070° 48.475	42° 18.503
33-6	-70.8957	42.4100	-070° 53.744	42° 24.598
33-7	-70.9019	42.3912	-070° 54.112	42° 23.472
34-5	-70.7251	42.3128	-070° 43.508	42° 18.771
34-6	-70.8368	42.4463	-070° 50.208	42° 26.780
34-7	-70.8134	42.3880	-070° 48.802	42° 23.280
35-5	-70.6395	42.5742	-070° 38.371	42° 34.450
35-6	-70.7222	42.4615	-070° 43.330	42° 27.689
35-7	-70.7048	42.3231	-070° 42.290	42° 19.387
36-4	-70.6510	42.5029	-070° 39.062	42° 30.176
36-5	-70.6379	42.4678	-070° 38.273	42° 28.066





MLA LABEL	LAT	LON	LAT	LON
25-1	-70.6313	42.0415	-070° 37.878	42° 02.489
25-2	-70.3751	41.7464	-070° 22.506	41° 44.782
25-3	-70.6086	41.9754	-070° 36.518	41° 58.526
26-1	-70.4916	41.8214	-070° 29.495	41° 49.287
26-2	-70.6766	42.1435	-070° 40.599	42° 08.609
26-3	-70.3842	41.7524	-070° 23.049	41° 45.142
27-1	-70.2826	41.8056	-070° 16.957	41° 48.335
27-2	-70.3866	41.8136	-070° 23.194	41° 48.818
27-3	-70.4131	41.8573	-070° 24.785	41° 51.437
28-1	-70.4680	41.9331	-070° 28.080	41° 55.986
28-2	-70.5091	41.9948	-070° 30.545	41° 59.690
28-3	-70.5195	42.0090	-070° 31.170	42° 00.539
29-1	-70.6313	42.0415	-070° 37.878	42° 02.489
29-2	-70.3751	41.7464	-070° 22.506	41° 44.782
29-3	-70.6086	41.9754	-070° 36.518	41° 58.526
25-5	-70.1101	41.8923	-070° 06.604	41° 53.536
25-6	-70.0778	41.8158	-070° 04.667	41° 48.946
26-5	-70.2114	41.8224	-070° 12.683	41° 49.341
26-6	-70.1103	42.0058	-070° 06.621	42° 00.347
27-5	-70.2051	41.8643	-070° 12.305	41° 51.855
27-6	-70.1419	41.9780	-070° 08.517	41° 58.678
28-5	-70.2181	41.9199	-070° 13.088	41° 55.193
28-6	-70.2091	41.9380	-070° 12.547	41° 56.282
29-5	-70.3370	42.0442	-070° 20.222	42° 02.652
29-6	-70.3035	42.0267	-070° 18.208	42° 01.600
30-1	-70.4118	42.1045	-070° 24.711	42° 06.273
30-2	-70.2676	42.0620	-070° 16.053	42° 03.718
30-3	-70.3368	42.0653	-070° 20.211	42° 03.916
17-1	-69.9318	41.8344	-069° 55.907	41° 50.063
17-2	-70.1241	42.0796	-070° 07.446	42° 04.773
18-1	-69.9106	41.7938	-069° 54.637	41° 47.626
18-2	-70.0750	42.0599	-070° 04.503	42° 03.597
18-3	-69.8926	41.6478	-069° 53.557	41° 38.869
19-1	-69.8770	41.7289	-069° 52.617	41° 43.732
19-2	-70.1501	42.0964	-070° 09.003	42° 05.786
20-1	-70.1307	42.1017	-070° 07.844	42° 06.103
20-2	-69.8900	41.8283	-069° 53.400	41° 49.696
20-3	-69.8680	41.7682	-069° 52.080	41° 46.090
21-1	-70.1808	42.1272	-070° 10.846	42° 07.630
21-2	-70.2102	42.1042	-070° 12.610	42° 06.251
21-3	-70.2231	42.1181	-070° 13.388	42° 07.087

Massachusetts Marine Fisheries
Spring 2023 Planned Tow Locations
Cape Cod Bay and East of Cape Cod

MLA LABEL	LAT	LON	LAT	LON	MLA LABEL	LAT	LON	LAT	LON	MLA LABEL	LAT	LON	LAT	LON
11-1	-70.8074	41.5950	-070° 48.446	41° 35.700	13-5	-70.5962	41.3109	-070° 35.774	41° 18.651	16-4	-70.2076	41.3448	-070° 12.456	41° 20.690
11-2	-70.7269	41.6507	-070° 43.613	41° 39.039	13-6	-70.6656	41.2983	-070° 39.938	41° 17.895	16-5	-70.1026	41.4211	-070° 06.158	41° 25.267
11-3	-70.6945	41.6772	-070° 41.670	41° 40.633	14-3	-70.9037	41.3253	-070° 54.219	41° 19.518	16-6	-70.0854	41.5772	-070° 05.126	41° 34.631
12-1	-70.9639	41.4811	-070° 57.836	41° 28.865	15-1	-70.5187	41.4228	-070° 31.119	41° 25.368	16-7	-70.2366	41.5465	-070° 14.195	41° 32.788
12-2	-70.7263	41.5355	-070° 43.577	41° 32.128	15-2	-70.3524	41.5299	-070° 21.142	41° 31.791	16-8	-70.0824	41.4555	-070° 04.943	41° 27.331
12-3	-70.7683	41.5941	-070° 46.097	41° 35.648	15-3	-70.0694	41.5716	-070° 04.164	41° 34.294	16-9	-70.2228	41.5094	-070° 13.370	41° 30.563
12-4	-70.7616	41.4247	-070° 45.695	41° 25.481	15-4	-70.2615	41.5799	-070° 15.688	41° 34.796	16-10	-70.1753	41.5770	-070° 10.518	41° 34.621
12-5	-70.7867	41.5266	-070° 47.200	41° 31.598	15-5	-70.1463	41.3200	-070° 08.775	41° 19.201	16-11	-70.4635	41.4653	-070° 27.809	41° 27.915
13-1	-70.8341	41.3694	-070° 50.049	41° 22.162	15-6	-70.3733	41.5836	-070° 22.401	41° 35.018	17-4	-70.2898	41.2989	-070° 17.385	41° 17.935
13-2	-70.6825	41.4860	-070° 40.949	41° 29.159	15-7	-70.2017	41.3942	-070° 12.101	41° 23.650	17-5	-69.9898	41.3788	-069° 59.388	41° 22.728
13-3	-70.7789	41.3901	-070° 46.731	41° 23.405	15-8	-70.3136	41.5827	-070° 18.817	41° 34.960	17-6	-69.9767	41.3998	-069° 58.600	41° 23.987
14-1	-70.8898	41.3900	-070° 53.389	41° 23.400	15-9	-70.0383	41.6276	-070° 02.301	41° 37.658	18-5	-70.0930	41.2346	-070° 05.578	41° 14.074
11-5	-70.3983	41.2956	-070° 23.897	41° 17.738	15-10	-70.0722	41.5422	-070° 04.331	41° 32.530	18-6	-70.1973	41.2482	-070° 11.836	41° 14.891
11-6	-70.4971	41.2985	-070° 29.824	41° 17.909	16-1	-70.2687	41.4426	-070° 16.120	41° 26.554	18-7	-70.0182	41.4229	-070° 01.093	41° 25.374
12-7	-70.7918	41.2778	-070° 47.509	41° 16.668	16-2	-70.1507	41.4773	-070° 09.041	41° 28.641	19-4	-70.1247	41.2109	-070° 07.480	41° 12.656
12-8	-70.3995	41.3769	-070° 23.970	41° 22.616	16-3	-70.2378	41.4271	-070° 14.269	41° 25.623