Mid-Atlantic Fishery Management Council
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P. Weston Townsend, Chairman | Michael P. Luisi, Vice Chairman
Christopher M. Moore, Ph.D., Executive Director

MEMORANDUM

Date: September 18, 2023

To: Council

From: Hannah Hart, Staff

Subject: Northeast Fishery Science Center Federal Survey: Survey Performance, Issues, and Planning for the Future

The Council will receive a presentation from the Northeast Fishery Science Center (NEFSC) on the federal bottom trawl survey and Atlantic Sea Scallop survey on Wednesday, October 4, 2023, from 9:00 a.m. to 10:00 a.m. This presentation will include an overview of each survey, as well as a review of past survey performance, recent issues, and future planning for each survey. Materials listed below are provided for the Council's consideration of this agenda item.

1) 2023 Northeast Spring Bottom Trawl Survey Summary

2) 2023 Spring Resource Survey Report: Bottom Trawl Survey

3) NOAA Press Release – 2023 Northeast Atlantic Sea Scallop Survey Canceled

#13c

2023 Northeast Spring Bottom Trawl Survey Summary

Shortened cruise covers Georges Bank stations.

The 2023 spring multispecies bottom trawl survey began on May 8 and completed operations on May 24 aboard the NOAA Ship *Henry B. Bigelow*.

The survey was originally scheduled for March 15 through May 26. Sailing was delayed by issues encountered during the ship's regular repair and maintenance period, reducing sea days by about 75 percent. Once at sea, operations were further reduced to from 24 to 12 hours per day owing to a shortage of experienced ship's crew.

The survey usually operates on the Northwest Atlantic continental shelf, sampling at stations from Cape Lookout, North Carolina to Canada's Scotian Shelf. To maximize use of available sea time in 2023, we focused on Georges Bank. We collected data critical to assessments for transboundary stocks. These assessments are conducted jointly with the Department of Fisheries and Oceans, Canada.

The Georges Bank stations accounted for 70 of the 377 planned trawl stations that would usually be sampled across the survey area (18.5 percent completion). Vertical temperature, depth, and salinity profiles were collected at all trawl stations. Plankton were also sampled at a subset of stations, with 29 bongo samples taken of the 116 planned for the full survey (25 percent completion).

The 70 trawl stations were sampled during daytime only, from 6 a.m. to 6 p.m. Combining these data with previous years' data collected during day and night will require additional evaluation.

NOAA Fisheries will work with the Office of Marine and Aircraft Operation to understand how the ship's maintenance and staffing issues resulted in forgoing the majority of the survey. The *Bigelow* is operated and maintained by OMAO. This evaluation will be critical to ensuring success for the upcoming autumn bottom trawl survey.

Further, NOAA Fisheries is considering options for ensuring continuity of the data collected during our trust resource surveys, as well as adapting our data collection within future wind energy development areas. This includes:

- Creating contingency plans for surveying when the *Bigelow* is not available
- Implementing additional data acquisition approaches, e.g., use of advanced technologies such as uncrewed systems

The Northeast Fisheries Science Center's bottom trawl surveys are the longest running of their kind in the world. They provide nearly 60 years of standardized data collected during a time of significant change in the ocean around us.

Data collected include fish age, length, weight, sex, maturity and food habits. All are critical data used in regional fish stock assessments. These assessments help inform fishery management decisions by the New England and Mid-Atlantic Fishery Management Councils, as well as the Atlantic States Marine Fisheries Commission.

Bottom Trawl Stations on Georges Bank

Percentage of Completed 2023 Spring Bottom Trawl and CTD Stations

Percentage of Completed 2023 Spring Bottom Trawl Plankton Stations

More Information

- 2022 Spring Bottom Trawl Summary

- Ecosystem Survey Branch
- Research Surveys
- Fishery Independent Survey System

Last updated by
Northeast Fisheries Science Center
on 06/09/2023

Resource Survey Report

2023 Spring Resource Survey Report

Bottom Trawl Survey

Georges Bank
09 May - 23 May 2023
NOAA Ship Henry B. Bigelow (FSV 225)

Submitted to: NOAA, NEFSC

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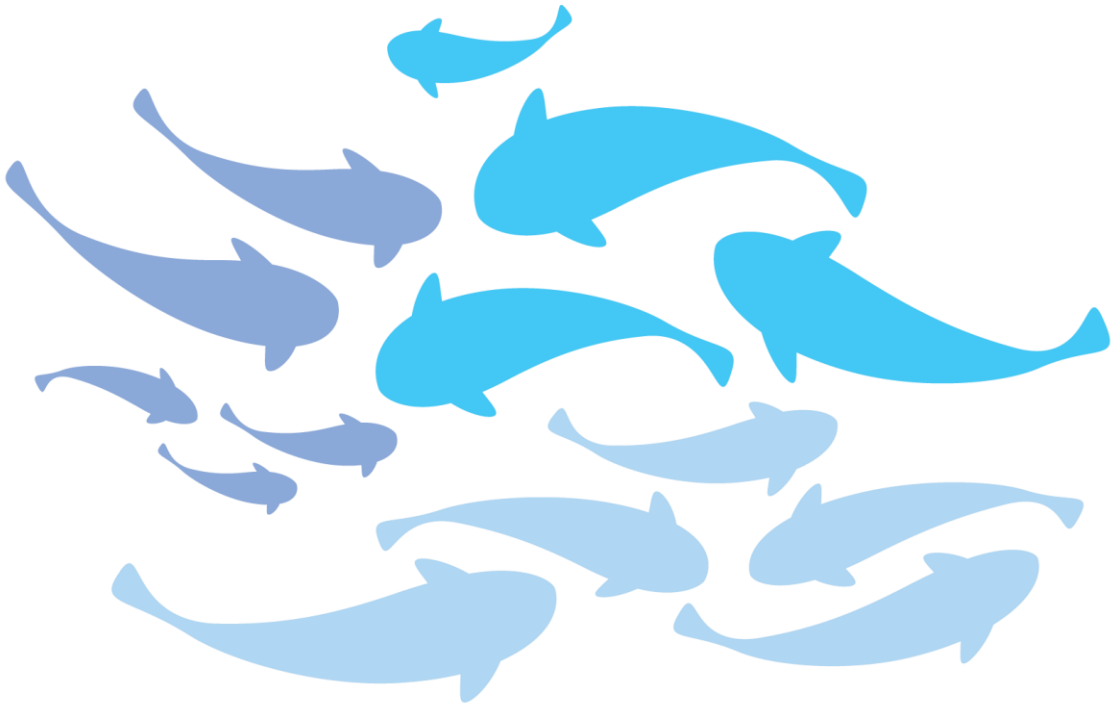
Date: 2023

2023 Spring Resource Survey Report



Bottom Trawl Survey

Georges Bank
09 May - 23 May 2023
NOAA Ship Henry B. Bigelow (FSV 225)

NOAA Fisheries
Northeast Fisheries Science Center
Woods Hole, MA 02543

Significant Changes to the NEFSC Multispecies Bottom Trawl Survey

Significant changes in survey methodology were implemented, beginning with the 2009 spring multispecies Bottom Trawl Survey, which have significant implications for the use of these data. Prior to 2009, multispecies bottom trawl surveys were conducted on the NOAA ship *Albatross IV*. In 2009, the survey was conducted on the NOAA Ship Henry B. Bigelow, which is equipped with an autotrawl winch system that equalizes port and starboard warp tensions throughout the duration of survey tows.

The survey bottom trawl sampling gear was also changed. Prior to 2009, the survey was conducted with a standardized Yankee 36 bottom trawl and 450kg Euronet, polyvalent trawl doors. Beginning in 2009, the trawl is conducted using a standardized 400 x 12cm, 4-seam bottom trawl and 2.2m2, 550kg, Poly-Ice oval trawl doors. The survey bottom trawl gear was designed and tested in collaboration between the NEFSC and regional fishing industry, fishery managers and academic stakeholders through the mid-Atlantic and New England Trawl Advisory Panel.

The standard survey towing speed was decreased from 3.8kn to 3.0kn, speed measured over ground, beginning in 2009. This towing speed was selected after extensive towing speed and warp to depth ratio trials conducted on the NOAA Ship Henry B. Bigelow. The standard tow duration was also changed from 30 minutes (timed from winch lock to winch reengage) to 20 minutes of actual time on-bottom (measured in real-time by acoustic trawl mensuration equipment). The decrease of both the towing speed and duration resulted in a decrease of average tow distance from 1.9nm to 1.0nm.

Station allocation also change significantly due to an increase of available vessel time from 48 to 60 sea days and a reduction in inshore sampling by the NOAA Ship Henry B. Bigelow. As a result, station density was increased in offshore strata. Inshore areas of the mid-Atlantic will continue to be sampled by the Northeast Area Monitoring and Assessment Program (NEAMAP) Southern New England/Mid-Atlantic Near Shore Trawl Survey.

In 2008 the NEFSC conducted an extensive study to estimate the relative catchability of the NOAA Ship Albatross IV, sampling with the standard Yankee 36 survey bottom trawl following historical protocols, and the NOAA Ship Henry B. Bigelow, sampling with the standard 400 x 12cm, 4-seam survey bottom trawl following revised protocols. Results of this study were peer-reviewed in August 2009 and can be found in the NEFSC reference document 10-05: Estimation of Albatross IV to Henry B. Bigelow Calibration Factors.

RESOURCE SURVEY REPORT

NOAA Fisheries
Northeast Fisheries Science Center

Spring Multispecies Bottom Trawl Survey
Georges Bank
09 May - 23 May 2023

Catch Summary

The NOAA Ship *Henry B. Bigelow* was delayed two months coming out of the shipyard repair period resulting in significant loss of sea days and survey area coverage. In addition, NOAA's Office of Marine and Aviation Operations was unable to properly staff the vessel to support full 24 hour operations, further limiting potential survey area coverage. The remaining sea days were conducted with only 12 hours per day of operation time available during the hours of 6am-6pm. The Northeast Fisheries Science Center prioritized sampling on Georges Bank with the limited sea time available. 70 of 377 planned stations were completed this season.

This long-running, fishery-independent, bottom trawl survey monitors fishery abundance and distribution of the Northwest Atlantic continental shelf from Cape Lookout, NC to the Scotian Shelf. Data collected include fish age, length, weight, sex, maturity and food habits information which are critical inputs to regional fish stock assessments helping to inform fishery management decisions by the New England and Mid-Atlantic Fishery Management Councils as well as Atlantic States Marine Fisheries Commission.

Attached are station and catch summaries and a series of geographical plots of commercially and recreationally important species caught during the Northeast Fisheries Science Center's (NEFSC) 2023 spring multispecies bottom trawl survey aboard the NOAA Ship *Henry B. Bigelow*. Details regarding NEFSC bottom trawl survey standard operating procedures can be found in the NEFSC reference document 14-06: NEFSC Bottom Trawl Survey Protocols for the NOAA Ship Henry B. Bigelow.

For further information, contact:

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To view this report, go to the Ecosystems Surveys Branch website and choose:

- Resource Survey Reports
- Bottom Trawl Survey (BTS) RSRs
- Year of interest

To access these data, visit the NOAA Fisheries InPort System Data Management Platform.

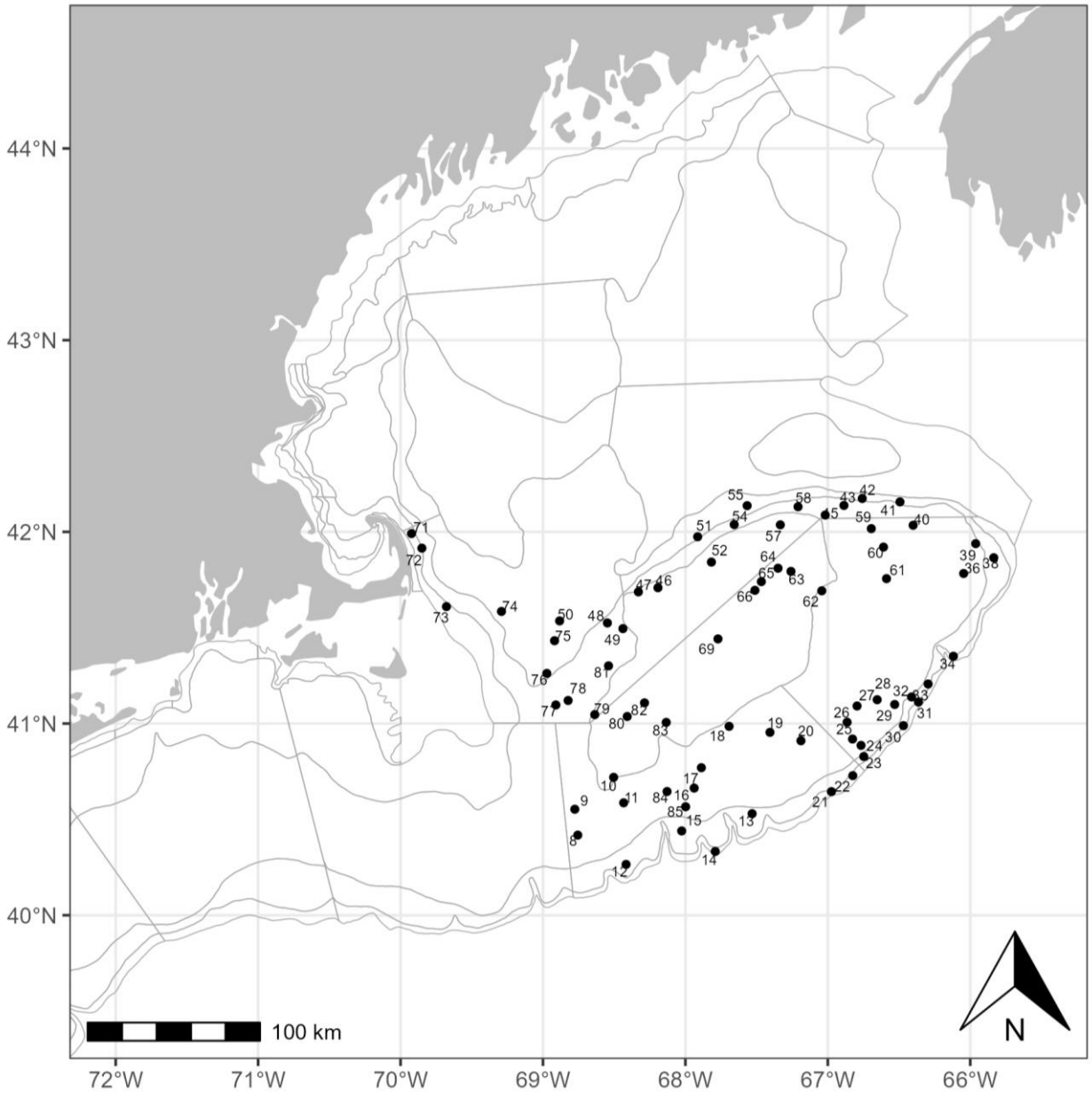

Figure 1: *Representative trawl hauls made from NOAA Ship Henry B. Bigelow during the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

Table 1. Station report of valid hauls from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023 - May 23, 2023.

Station	Date	Time	Begin Longitude	Begin Latitude	End Longitude	End Latitude	Mean Depth	Tow Duration	Tow Distance (nm)
8	09-May-2023	05:13:49	-68.75567	40.41800	-68.73867	40.42783	85	20.03	0.977
9	09-May-2023	07:07:31	-68.77650	40.55283	-68.75883	40.56183	68	20.02	0.972
10	09-May-2023	10:06:39	-68.50383	40.71933	-68.48217	40.71967	60	20.01	0.989
11	09-May-2023	12:32:04	-68.43367	40.58650	-68.43467	40.56933	83	20.45	1.030
12	09-May-2023	15:09:05	-68.41650	40.26517	-68.40133	40.27700	150	20.17	0.994
13	10-May-2023	04:50:48	-67.53150	40.52983	-67.51250	40.53717	124	20.13	0.974
14	10-May-2023	08:12:24	-67.79033	40.33300	-67.76983	40.33617	246	20.06	0.960
15	10-May-2023	11:04:08	-68.02600	40.43983	-68.00617	40.44900	142	20.95	1.062
16	10-May-2023	13:19:21	-67.93850	40.66333	-67.94300	40.64733	87	20.17	0.981
17	10-May-2023	15:01:15	-67.88783	40.76967	-67.90400	40.75900	72	20.00	0.976
18	11-May-2023	04:51:12	-67.69317	40.98550	-67.71517	40.98467	63	20.12	1.001
19	11-May-2023	07:34:12	-67.40617	40.95417	-67.42667	40.95933	75	20.00	0.982
20	11-May-2023	09:53:39	-67.18867	40.91033	-67.20950	40.91600	85	20.01	1.007
21	11-May-2023	14:37:13	-66.97467	40.64483	-66.99283	40.63617	196	20.01	0.979
22	12-May-2023	04:51:13	-66.82483	40.72817	-66.83883	40.71583	210	20.03	0.977
23	12-May-2023	06:59:15	-66.74733	40.82800	-66.73400	40.83967	122	20.00	0.926
24	12-May-2023	08:27:04	-66.76683	40.88600	-66.75200	40.89600	98	20.05	0.903
25	12-May-2023	09:59:01	-66.82650	40.91917	-66.80933	40.92750	92	20.02	0.927
26	12-May-2023	11:50:53	-66.86467	41.00683	-66.84583	41.01500	74	19.98	0.986
27	12-May-2023	13:20:50	-66.79467	41.09167	-66.77950	41.10333	73	20.06	0.981
28	12-May-2023	14:51:26	-66.65350	41.12433	-66.63817	41.13600	88	20.00	0.986

Table 1. Station report of valid hauls from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023 - May 23, 2023.

Station	Date	Time	Begin Longitude	Begin Latitude	End Longitude	End Latitude	Mean Depth	Tow Duration	Tow Distance (nm)
29	13-May-2023	04:48:35	-66.53050	41.09950	-66.54517	41.08750	94	20.01	0.980
30	13-May-2023	07:10:39	-66.46900	40.98900	-66.48217	40.97617	225	20.24	0.975
31	13-May-2023	09:50:35	-66.36367	41.11233	-66.37567	41.09967	208	20.03	0.934
32	13-May-2023	11:53:55	-66.41183	41.13867	-66.42783	41.12733	116	20.05	0.994
33	13-May-2023	14:27:24	-66.29567	41.20617	-66.30900	41.19367	138	20.03	0.963
34	14-May-2023	04:58:19	-66.11833	41.35117	-66.09983	41.35850	218	20.01	0.945
36	14-May-2023	08:59:27	-66.04650	41.78283	-66.04317	41.76533	97	19.98	1.060
38	14-May-2023	13:41:39	-65.83500	41.86500	-65.83317	41.88133	135	20.02	0.983
39	14-May-2023	15:26:31	-65.96167	41.93850	-65.96000	41.92350	103	20.02	0.903
40	15-May-2023	04:50:14	-66.40100	42.03433	-66.39633	42.02017	86	20.17	0.875
41	15-May-2023	07:07:48	-66.49350	42.15617	-66.51250	42.15983	149	20.03	0.876
42	15-May-2023	09:29:34	-66.75833	42.17400	-66.77867	42.17450	179	19.98	0.908
43	15-May-2023	12:02:24	-66.88683	42.13783	-66.90883	42.13850	78	20.00	0.983
45	15-May-2023	14:07:37	-67.01800	42.08767	-66.99650	42.08667	62	20.01	0.962
46	16-May-2023	04:46:30	-68.19267	41.70850	-68.21017	41.70100	24	20.02	0.906
47	16-May-2023	06:57:56	-68.33017	41.68683	-68.34500	41.67683	59	20.09	0.897
48	16-May-2023	09:27:24	-68.54767	41.52483	-68.56600	41.51567	102	19.99	0.992
49	16-May-2023	11:20:35	-68.43883	41.49517	-68.45383	41.48233	78	19.98	1.025
50	16-May-2023	14:53:27	-68.88317	41.53550	-68.89950	41.52533	156	20.18	0.956
51	17-May-2023	10:54:17	-67.91383	41.97450	-67.92417	41.98850	180	19.98	0.959
52	17-May-2023	13:40:48	-67.81733	41.84233	-67.81967	41.85767	38	20.01	0.926

Table 1. Station report of valid hauls from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023 - May 23, 2023.

Station	Date	Time	Begin Longitude	Begin Latitude	End Longitude	End Latitude	Mean Depth	Tow Duration	Tow Distance (nm)
54	18-May-2023	06:51:36	-67.65750	42.03800	-67.67767	42.03267	92	20.04	0.957
55	18-May-2023	09:22:57	-67.56633	42.13667	-67.58417	42.14617	182	20.01	0.979
57	18-May-2023	12:56:40	-67.33350	42.03667	-67.32217	42.02367	52	17.59	0.930
58	18-May-2023	15:01:58	-67.20917	42.13100	-67.23067	42.13000	81	20.01	0.962
59	19-May-2023	02:45:31	-66.69467	42.01700	-66.69433	42.03250	71	20.05	0.930
60	19-May-2023	04:38:36	-66.60917	41.92050	-66.60483	41.93683	74	20.05	0.999
61	19-May-2023	06:55:33	-66.58783	41.75600	-66.56633	41.75600	74	20.00	0.965
62	19-May-2023	10:43:14	-67.04250	41.69250	-67.05917	41.68217	63	20.13	0.972
63	19-May-2023	14:07:23	-67.25867	41.79367	-67.27817	41.79917	53	20.00	0.935
64	19-May-2023	15:40:28	-67.34950	41.81033	-67.35717	41.82517	62	20.00	0.954
65	20-May-2023	02:46:10	-67.46667	41.74033	-67.47417	41.75483	47	20.17	0.933
66	20-May-2023	04:09:38	-67.51167	41.69500	-67.52367	41.70800	51	20.00	0.948
69	20-May-2023	11:12:48	-67.77133	41.44150	-67.79150	41.43550	40	20.10	0.979
71	21-May-2023	04:45:12	-69.92300	41.99100	-69.91067	41.97817	50	20.08	0.947
72	21-May-2023	06:44:20	-69.85033	41.91500	-69.84550	41.89917	65	20.06	0.974
73	21-May-2023	09:09:36	-69.67767	41.61017	-69.65983	41.59917	48	20.00	1.039
74	21-May-2023	12:39:23	-69.29150	41.58483	-69.28917	41.56833	139	20.02	0.995
75	21-May-2023	15:38:18	-68.91883	41.43217	-68.91533	41.41483	145	20.01	1.051
76	22-May-2023	04:48:22	-68.97300	41.26150	-68.96650	41.27683	138	20.01	0.965
77	22-May-2023	07:08:34	-68.90950	41.09700	-68.89717	41.11067	84	20.00	0.992
78	22-May-2023	08:31:19	-68.82350	41.12033	-68.81200	41.13533	77	19.98	1.040

Table 1. Station report of valid hauls from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023 - May 23, 2023.

Station	Date	Time	Begin Longitude	Begin Latitude	End Longitude	End Latitude	Mean Depth	Tow Duration	Tow Distance (nm)
79	22-May-2023	12:33:23	-68.63633	41.04667	-68.64617	41.03217	62	20.30	0.977
80	22-May-2023	14:37:57	-68.40833	41.03683	-68.42217	41.04900	47	20.00	0.963
81	23-May-2023	04:44:01	-68.53967	41.30100	-68.52633	41.31417	64	20.01	0.993
82	23-May-2023	06:59:24	-68.28700	41.10800	-68.26700	41.11350	42	20.01	0.965
83	23-May-2023	09:16:26	-68.13450	41.00600	-68.11350	41.00967	46	19.97	0.979
84	23-May-2023	12:32:52	-68.12867	40.64550	-68.11750	40.65983	87	19.98	0.999
85	23-May-2023	14:48:30	-67.99850	40.56600	-67.99283	40.58133	96	20.01	0.955

Table 2: Catch summary (lbs.) of important species by haul from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

Station	Acadian Redfish	American Lobster	American Plaice	Atlantic Cod	Atlantic Herring	Atlantic Mackerel	Butterfish	Goosefish	Haddock	Longfin Squid	Northern Shortfin Squid	Pollock	Red Hake	Silver Hake	Spiny Dogfish	Summer Flounder	White Hake	Windowpane	Winter Flounder	Witch Flounder	Yellowtail Flounder	Other	Total
8	0.0	0.0	0.0	0.0	0.0	0.0	1.2	3.5	0.0	0.5	0.0	0.0	5.3	9.3	1,057.6	0.0	0.0	0.4	0.0	0.0	0.0	178.0	1,263.8
9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.1	0.1	0.0	4.0	9.2	260.9	9.7	0.0	0.0	0.0	0.0	0.0	215.3	509.4
10	0.0	0.0	0.0	0.0	0.0	14.7	6.0	0.0	0.0	1.5	0.0	0.0	0.0	0.4	604.6	0.0	0.0	0.3	0.0	0.0	0.0	131.2	768.7
11	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.8	0.0	0.0	1.1	0.0	5.0	8.0	31.8	1.6	0.0	0.0	0.0	0.0	0.0	114.7	178.2
12	0.0	0.0	0.0	0.0	0.0	0.0	17.6	3.0	0.0	95.6	5.3	0.0	0.3	2.8	4.6	30.5	0.0	0.0	0.0	0.0	0.0	43.6	215.3
13	0.0	0.0	0.0	0.0	0.0	0.0	285.3	5.3	0.0	12.8	0.3	0.0	0.0	33.9	0.0	17.1	0.0	0.0	0.0	0.0	0.0	47.4	415.1
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	4.6	0.0	45.0	0.0	39.7	0.0	7.7	0.0	0.0	1.1	0.0	60.4	174.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.3	0.0	29.4	3.4	0.0	0.5	3.0	3.0	35.6	0.0	0.0	0.0	0.0	0.0	97.0	210.2
16	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	6.5	0.6	0.0	32.5	37.0	503.6	11.2	0.0	0.0	0.0	0.0	0.0	485.7	1,093.7
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0	0.2	0.0	0.0	0.6	9.8	57.5	4.2	0.0	0.0	0.0	0.0	0.0	181.9	278.6
18	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	255.3	0.7	0.0	0.0	6.6	21.1	722.8	0.0	0.0	0.3	0.0	0.0	0.6	124.4	1,153.1
19	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0	6.9	32.0	0.0	0.0	0.5	2.2	0.0	0.0	0.0	111.3	172.8
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	65.8	31.4	0.0	2.4	0.0	0.0	0.0	0.0	0.0	169.9	290.6
21	0.0	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0	3.1	1.0	0.0	9.0	6.9	48.5	0.0	0.0	0.0	0.0	0.4	0.0	165.9	274.2
22	0.0	0.0	0.0	0.0	0.0	0.0	485.1	0.0	0.0	10.8	7.7	0.0	34.9	44.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8	640.2

Table 2: Catch summary (lbs.) of important species by haul from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

Station	Acadian Redfish	American Lobster	American Plaice	Atlantic Cod	Atlantic Herring	Atlantic Mackerel	Butterfish	Goosefish	Haddock	Longfin Squid	Northern Shortfin Squid	Pollock	Red Hake	Silver Hake	Spiny Dogfish	Summer Flounder	White Hake	Windowpane	Winter Flounder	Witch Flounder	Yellowtail Flounder	Other	Total
23	0.0	0.0	0.0	0.0	0.0	0.0	29.2	0.0	0.0	0.9	0.7	0.0	2.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.8	101.4
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.8	0.2	0.0	6.8	5.5	0.0	2.4	0.0	0.0	0.0	0.0	0.0	75.3	119.8
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.8	0.0	0.1	0.6	0.0	13.0	36.5	0.0	3.4	8.1	0.0	0.0	1.1	0.0	263.1	383.7
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.0	1.9	11.2	0.0	3.3	0.0	0.0	0.0	0.0	0.0	147.0	189.9
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.9	0.0	7.8	6.3	0.0	5.0	0.0	0.0	0.0	0.0	0.0	184.2	272.2
28	0.0	2.7	0.0	3.8	0.0	0.0	0.0	15.0	0.0	0.7	0.2	0.0	17.2	32.2	0.0	0.0	0.0	0.0	0.0	0.0	7.8	89.5	197.1
29	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.7	0.1	0.0	11.1	82.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	699.0	822.4
30	0.0	0.0	0.0	0.0	0.0	0.0	38.7	0.0	0.0	0.4	2.9	0.0	16.6	35.9	0.0	0.0	0.0	0.0	0.0	1.4	0.0	81.3	207.2
31	0.0	9.0	0.0	0.0	0.0	1.5	247.3	0.0	0.0	1.4	1.6	0.0	8.1	7.1	0.0	0.0	0.0	0.0	0.0	5.1	0.0	56.0	368.1
32	0.0	0.0	0.0	0.0	0.0	0.0	0.7	2.6	0.0	0.2	0.0	0.0	44.1	83.8	0.0	0.0	0.0	0.0	0.0	2.9	0.0	142.5	308.8
33	0.0	14.1	0.0	0.0	0.0	0.0	4.5	0.0	0.0	10.8	1.1	0.0	3.6	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	196.7	268.8
34	0.0	135.3	0.0	0.0	0.0	0.7	2.7	0.0	0.0	0.9	0.5	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.0	220.8
36	0.0	21.5	1.5	37.4	0.0	0.0	0.3	0.0	4.1	0.0	0.0	0.0	3.6	4.6	0.0	0.0	0.0	0.4	5.6	0.0	1.3	966.0	1,082.3
38	0.5	55.2	0.0	7.8	0.0	0.0	0.7	6.5	258.8	0.0	0.1	0.0	3.3	17.8	66.9	0.0	0.0	0.0	0.0	0.0	0.0	95.5	551.1
39	0.0	84.9	0.0	39.9	0.0	0.0	0.1	8.7	384.9	0.0	0.7	0.0	0.0	8.1	3.4	0.0	0.0	0.0	2.3	0.0	0.0	211.1	783.1

Table 2: Catch summary (lbs.) of important species by haul from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

Station	Acadian Redfish	American Lobster	American Plaice	Atlantic Cod	Atlantic Herring	Atlantic Mackerel	Butterfish	Goosefish	Haddock	Longfin Squid	Northern Shortfin Squid	Pollock	Red Hake	Silver Hake	Spiny Dogfish	Summer Flounder	White Hake	Windowpane	Winter Flounder	Witch Flounder	Yellowtail Flounder	Other	Total
40	0.0	8.5	0.0	49.1	12.1	83.7	0.2	0.0	656.4	0.2	0.0	0.0	0.0	9.8	0.0	0.0	0.0	0.0	6.3	0.0	0.0	310.6	1,176.9
41	0.0	43.5	0.0	31.6	17.5	0.6	0.0	42.9	9.5	0.2	0.2	268.6	87.4	108.4	3,147.7	0.0	2.6	0.0	0.0	0.9	0.0	398.9	4,201.5
42	0.0	25.8	0.0	11.4	0.0	5.5	0.0	95.4	2.5	0.0	0.1	3.2	71.3	146.7	184.8	0.0	0.8	0.0	0.0	6.6	0.0	131.9	728.0
43	0.0	10.1	0.0	164.0	0.0	0.0	0.0	0.0	575.9	0.0	0.0	0.0	0.0	0.3	75.0	0.0	0.0	0.0	0.0	0.0	0.0	523.6	1,391.9
45	0.0	4.2	0.0	11.7	1.3	101.9	0.0	0.0	619.8	0.0	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0	44.1	0.0	0.0	613.6	1,460.6
46	0.0	0.0	0.0	0.0	0.7	33.0	2.2	0.0	0.0	13.7	0.0	0.0	0.0	1.8	3.5	0.0	0.0	0.4	0.0	0.0	0.0	143.4	244.7
47	0.0	1.9	0.6	0.0	1.8	0.0	1.0	0.0	1.6	0.2	0.0	0.0	4.4	227.9	6.1	0.0	0.0	0.0	3.9	0.0	0.0	94.6	391.0
48	0.0	4.5	5.6	0.0	19.8	3.1	0.7	4.0	41.6	0.0	0.0	0.0	37.9	67.0	134.8	0.0	0.0	0.0	0.0	0.4	0.0	101.7	469.1
49	0.0	0.0	2.2	0.0	7.2	0.0	0.5	5.6	4.3	0.0	0.0	0.6	12.2	210.3	97.0	0.0	0.0	0.0	1.1	0.0	0.0	99.5	489.5
50	43.9	74.4	1.0	37.1	1.9	0.6	0.0	3.7	20.4	0.0	0.0	0.0	242.5	393.0	319.1	0.0	0.0	0.0	1.6	1.3	0.0	84.1	1,274.6
51	1.0	3.2	4.3	0.0	1.8	1.2	1.7	28.6	1.1	0.0	0.0	0.0	214.8	414.0	2.5	0.0	0.0	0.0	0.0	5.2	0.0	71.6	802.0
52	0.0	22.8	0.0	0.0	0.0	0.0	0.0	0.0	141.2	14.2	0.0	0.0	1.9	26.7	0.0	0.0	0.0	0.0	16.0	0.0	0.0	320.2	595.0
54	0.0	3.7	8.4	0.0	35.4	0.5	0.2	0.0	60.1	0.8	0.0	0.0	22.5	604.9	0.0	0.0	0.0	0.0	0.0	3.1	0.0	532.6	1,326.2
55	22.2	41.8	0.9	0.0	0.8	0.0	0.2	71.8	30.3	0.1	0.0	73.3	106.9	1,548.9	0.0	0.0	52.0	0.0	0.0	3.1	0.0	46.8	2,054.1
57	0.0	2.7	0.0	132.7	0.0	2.6	0.0	14.5	1,532.5	1.0	0.0	0.0	0.0	8.6	7.8	0.0	0.0	0.7	85.0	0.0	0.0	1,002.6	2,847.7

Table 2: Catch summary (lbs.) of important species by haul from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

Station	Acadian Redfish	American Lobster	American Plaice	Atlantic Cod	Atlantic Herring	Atlantic Mackerel	Butterfish	Goosefish	Haddock	Longfin Squid	Northern Shortfin Squid	Pollock	Red Hake	Silver Hake	Spiny Dogfish	Summer Flounder	White Hake	Windowpane	Winter Flounder	Witch Flounder	Yellowtail Flounder	Other	Total
58	0.0	10.1	0.0	24.7	1.2	0.0	0.0	16.6	102.8	1.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	0.0	23.1	0.0	0.0	337.1	578.9
59	0.0	1.8	0.0	47.8	10.4	2.6	2.1	0.0	284.6	0.4	0.1	0.0	0.0	77.7	4.0	0.0	0.0	0.0	15.9	0.0	0.4	373.2	880.0
60	0.0	1.8	0.0	133.9	3.3	2.5	2.2	0.0	1,938.6	0.4	0.1	0.0	0.8	38.8	0.0	0.0	1.2	0.0	130.5	0.0	0.0	170.3	2,484.4
61	0.0	9.7	0.5	3.9	0.0	0.0	1.0	0.0	1.4	0.0	0.0	0.0	1.8	3.0	9.3	0.0	0.0	0.4	0.0	0.0	0.0	85.8	177.8
62	0.0	0.0	1.1	0.0	0.3	55.9	0.8	0.0	0.0	0.4	0.1	0.0	0.0	1.9	0.0	0.0	0.0	0.0	1.0	0.0	0.0	123.8	247.3
63	0.0	1.2	0.0	73.5	0.0	0.0	0.0	0.0	230.1	4.0	0.0	0.0	0.9	2.0	4.3	0.0	0.0	0.0	13.4	0.0	0.0	174.8	567.2
64	0.0	8.1	0.0	0.0	0.0	0.0	0.1	0.0	548.2	11.6	0.0	0.0	6.0	20.1	0.0	0.0	1.6	0.0	168.2	0.0	0.0	317.0	1,144.9
65	0.0	0.0	0.0	0.0	1.3	0.0	0.2	0.0	3.1	0.9	0.0	0.0	0.0	32.2	7.7	0.0	0.0	16.5	0.1	0.0	0.0	297.9	424.9
66	0.0	1.3	0.0	0.0	1.1	0.0	2.8	0.0	0.0	9.5	0.0	0.0	5.1	40.2	4.7	0.0	0.0	3.7	9.5	0.0	0.0	781.4	925.3
69	0.0	0.0	0.0	0.0	0.3	0.5	0.8	0.0	0.0	13.4	0.0	0.0	0.0	10.8	11.3	0.0	0.0	0.0	0.0	0.0	0.0	225.7	331.8
71	0.0	1.4	0.0	0.6	7.9	1.3	0.0	1.0	0.0	0.2	0.0	0.0	1.4	186.9	0.0	0.0	0.2	0.0	7.9	0.0	22.6	143.7	446.1
72	0.3	19.4	0.0	0.7	18.7	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	149.4	0.0	0.0	0.2	0.0	1.5	0.0	6.3	132.4	402.3
73	0.0	0.0	0.0	0.0	485.3	26.8	0.1	0.0	0.0	0.4	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	91.1	684.4
74	57.8	27.7	2.1	65.9	0.0	0.0	0.0	22.2	202.0	0.0	0.0	0.0	1,732.3	324.9	7.8	0.0	1.2	0.0	0.0	3.6	2.1	196.9	2,720.5
75	36.0	12.6	3.7	25.0	2.2	0.2	0.3	8.3	95.4	0.0	0.0	0.0	445.6	491.6	95.1	0.0	0.0	0.0	0.0	0.5	0.0	82.1	1,373.6

Table 2: Catch summary (lbs.) of important species by haul from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

Station	Acadian Redfish	American Lobster	American Plaice	Atlantic Cod	Atlantic Herring	Atlantic Mackerel	Butterfish	Goosefish	Haddock	Longfin Squid	Northern Shortfin Squid	Pollock	Red Hake	Silver Hake	Spiny Dogfish	Summer Flounder	White Hake	Windowpane	Winter Flounder	Witch Flounder	Yellowtail Flounder	Other	Total
76	5.4	23.6	0.2	2.6	48.1	0.7	0.5	11.8	81.9	0.1	0.0	0.0	78.0	210.2	7.0	0.0	0.0	0.0	0.0	0.0	0.0	90.2	636.3
77	0.0	5.8	0.0	0.0	2.6	0.0	1.5	0.0	2.7	0.2	0.0	0.0	18.9	143.0	64.9	0.0	0.5	0.0	0.0	0.0	4.8	102.4	424.3
78	0.0	13.4	0.0	6.9	1.1	0.0	9.7	17.0	1.0	1.4	0.0	0.0	69.9	122.8	110.1	0.7	0.0	0.0	0.0	0.0	1.9	176.9	610.8
79	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	6.2	0.2	0.0	3.4	8.0	515.2	0.9	0.0	0.0	0.0	0.0	0.0	228.6	844.0
80	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0	4.6	0.5	0.0	1.5	13.2	57.4	0.0	0.0	3.4	0.0	0.0	0.0	40.7	209.2
81	0.0	5.4	0.0	2.5	0.5	0.0	20.3	0.0	0.0	4.4	0.0	0.0	28.4	155.7	300.3	0.0	0.0	0.0	2.7	0.0	0.0	123.8	725.0
82	0.0	0.0	0.0	0.0	0.0	1.3	1.6	0.0	0.0	2.9	0.0	0.0	0.7	3.4	29.5	0.8	0.0	1.4	4.1	0.0	0.0	54.9	182.6
83	0.0	0.0	0.0	0.0	0.0	0.0	4.6	0.0	0.0	5.0	3.3	0.0	0.0	9.2	43.6	4.2	0.0	0.0	0.0	0.0	0.0	327.1	480.0
84	0.0	0.0	0.0	0.0	0.0	0.0	2.9	9.2	0.0	1.6	2.3	0.0	11.4	33.0	48.0	2.5	0.0	0.0	0.0	0.3	0.0	162.1	357.3
85	0.0	0.0	0.0	0.0	0.0	0.0	58.1	7.1	0.0	12.9	0.1	0.0	4.0	60.6	572.5	0.0	0.0	0.0	0.0	0.0	0.0	168.1	968.4

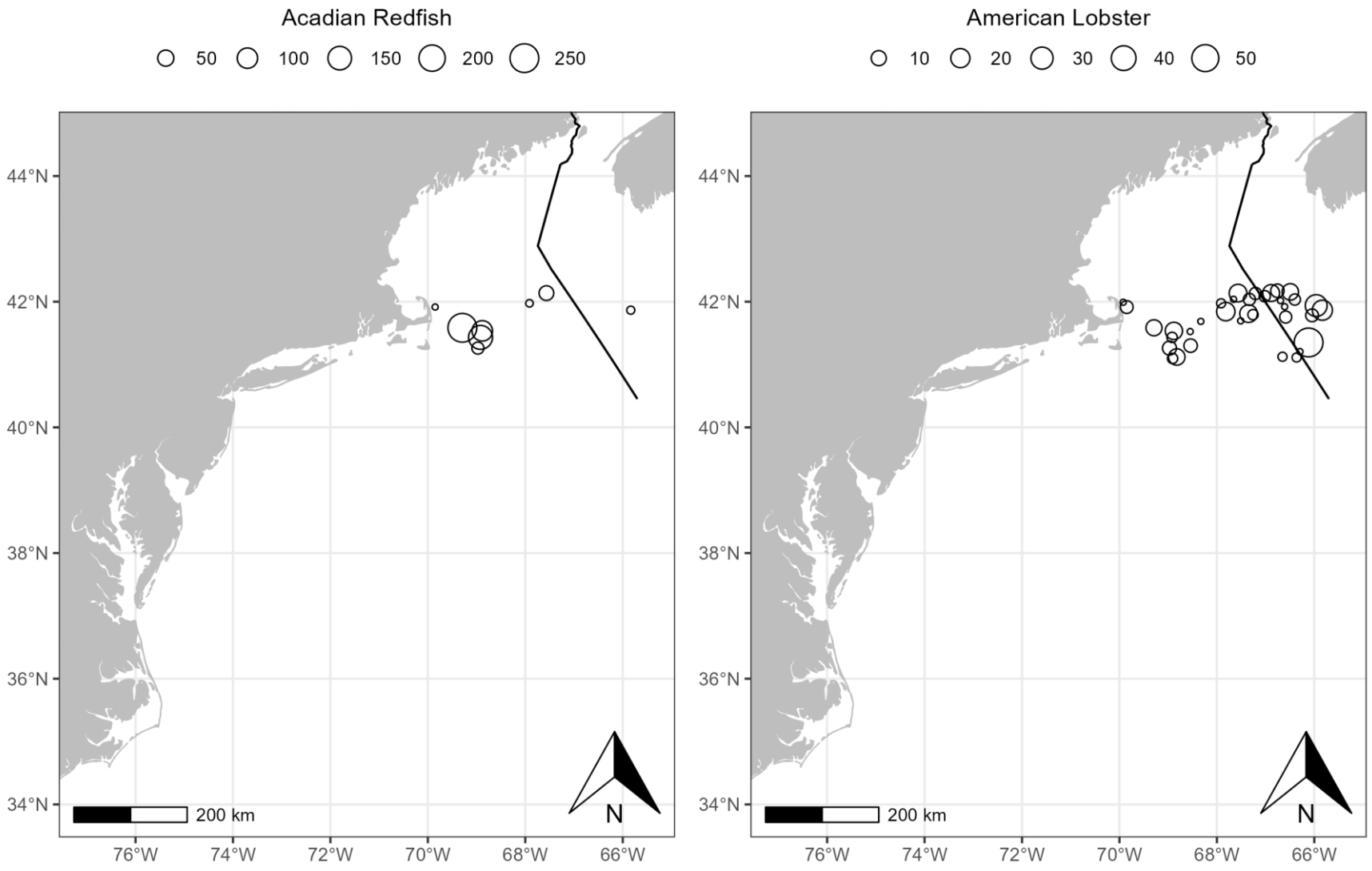

Figure 2: *Total number of Acadian redfish (left) and American lobster (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

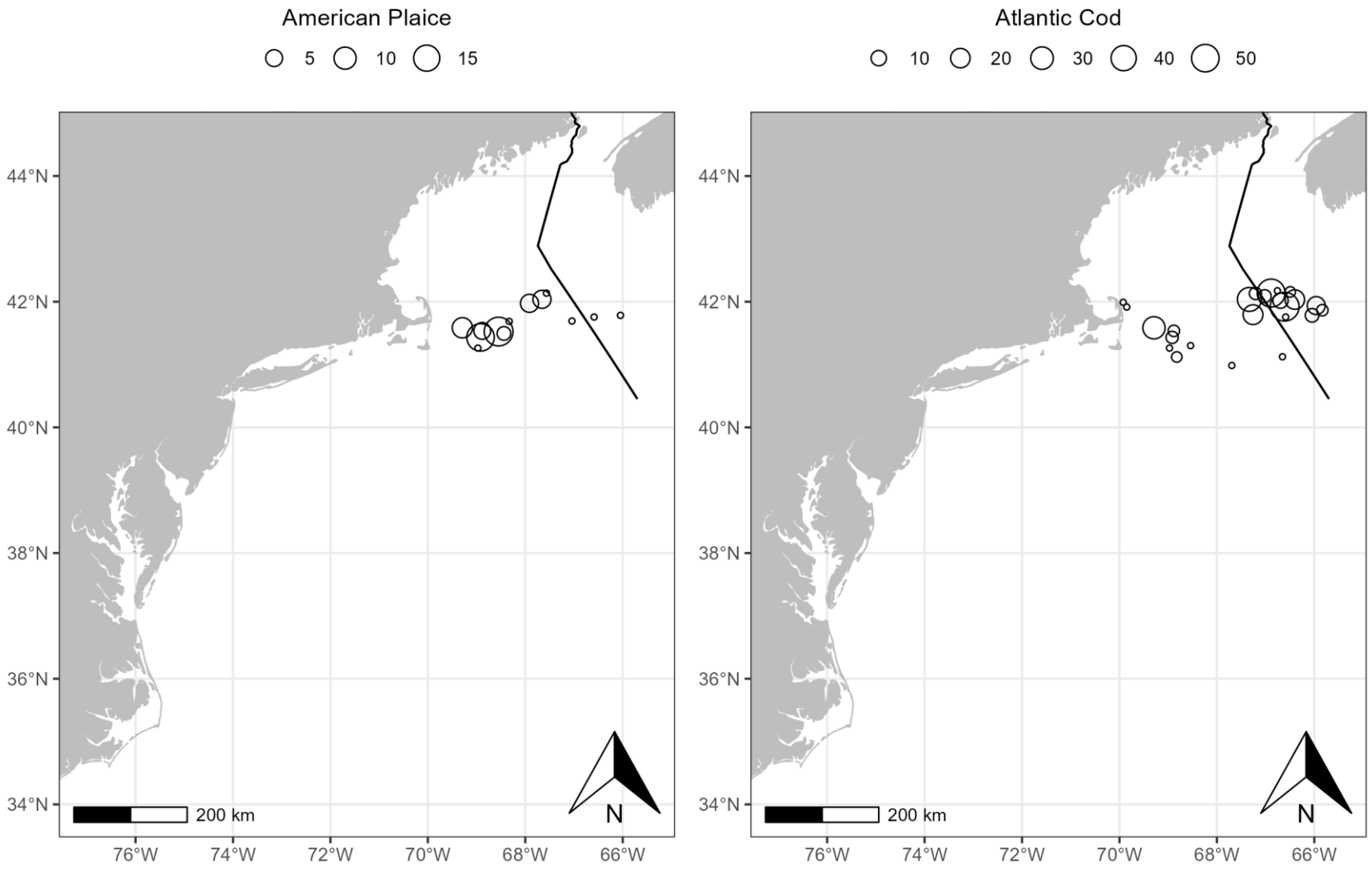

Figure 3: *Total number of American plaice (left) and Atlantic cod (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

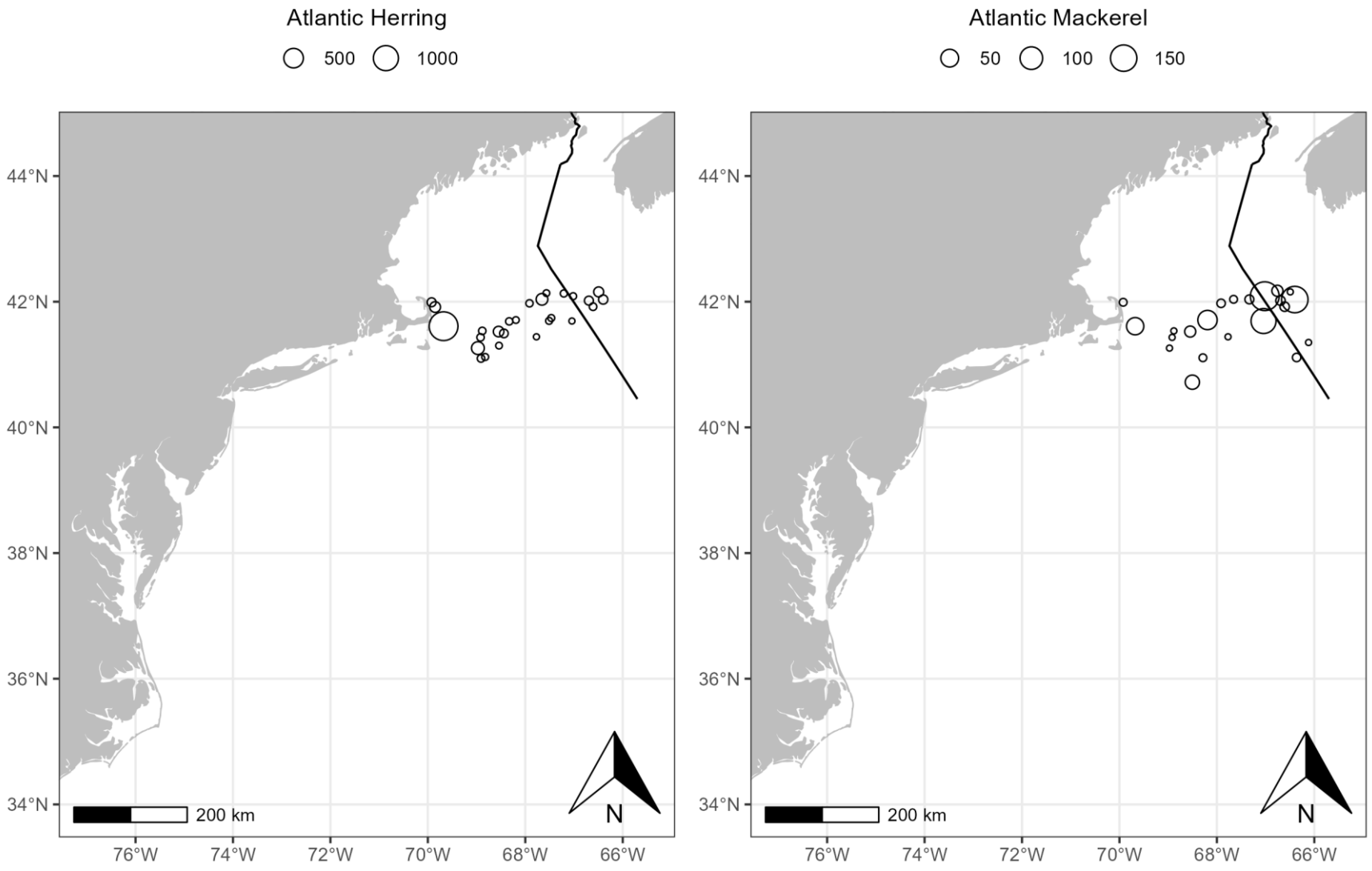

Figure 4: *Total number of Atlantic herring (left) and Atlantic mackerel (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

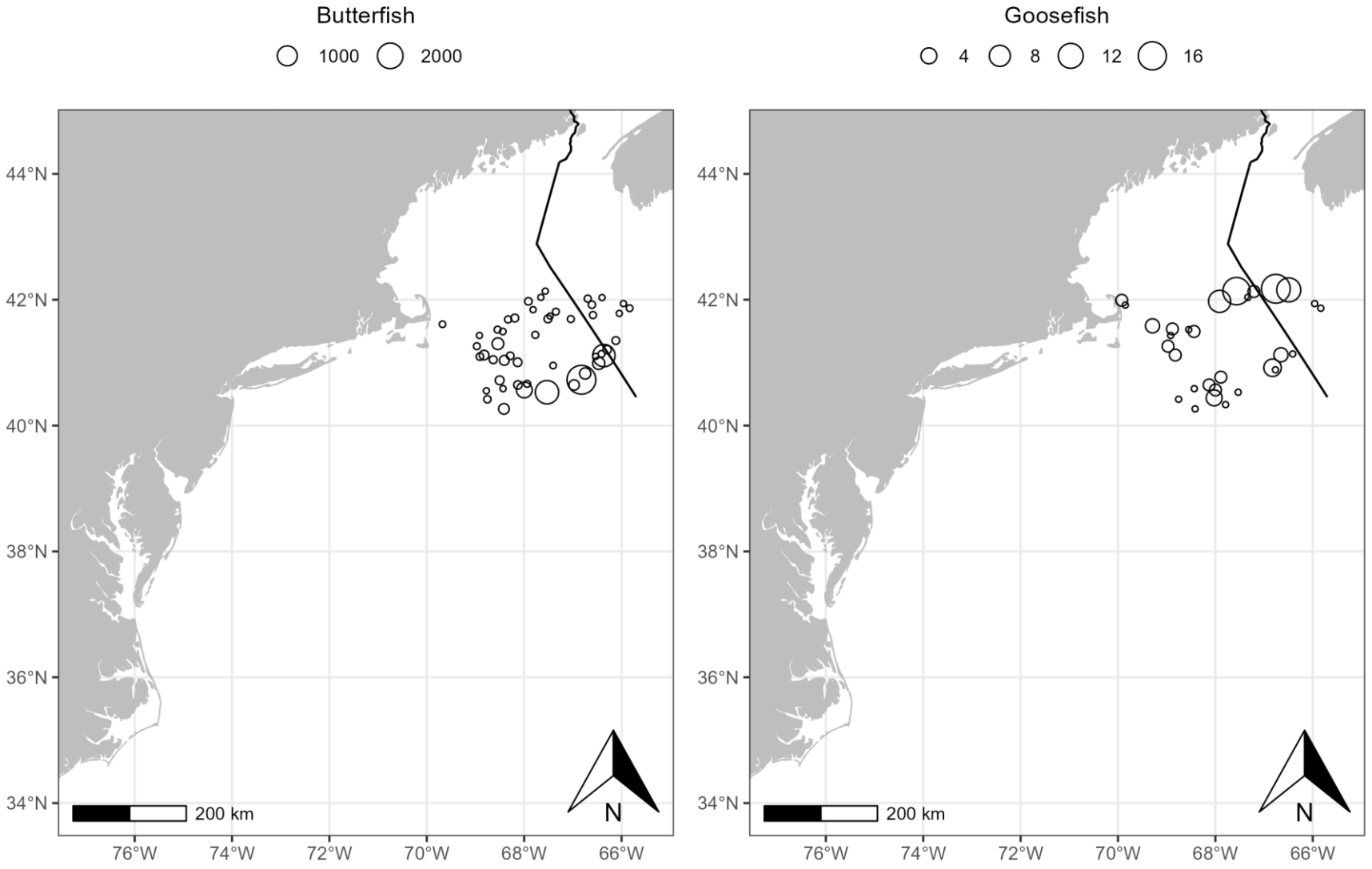

Figure 5: *Total number of Butterfish (left) and Goosefish (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

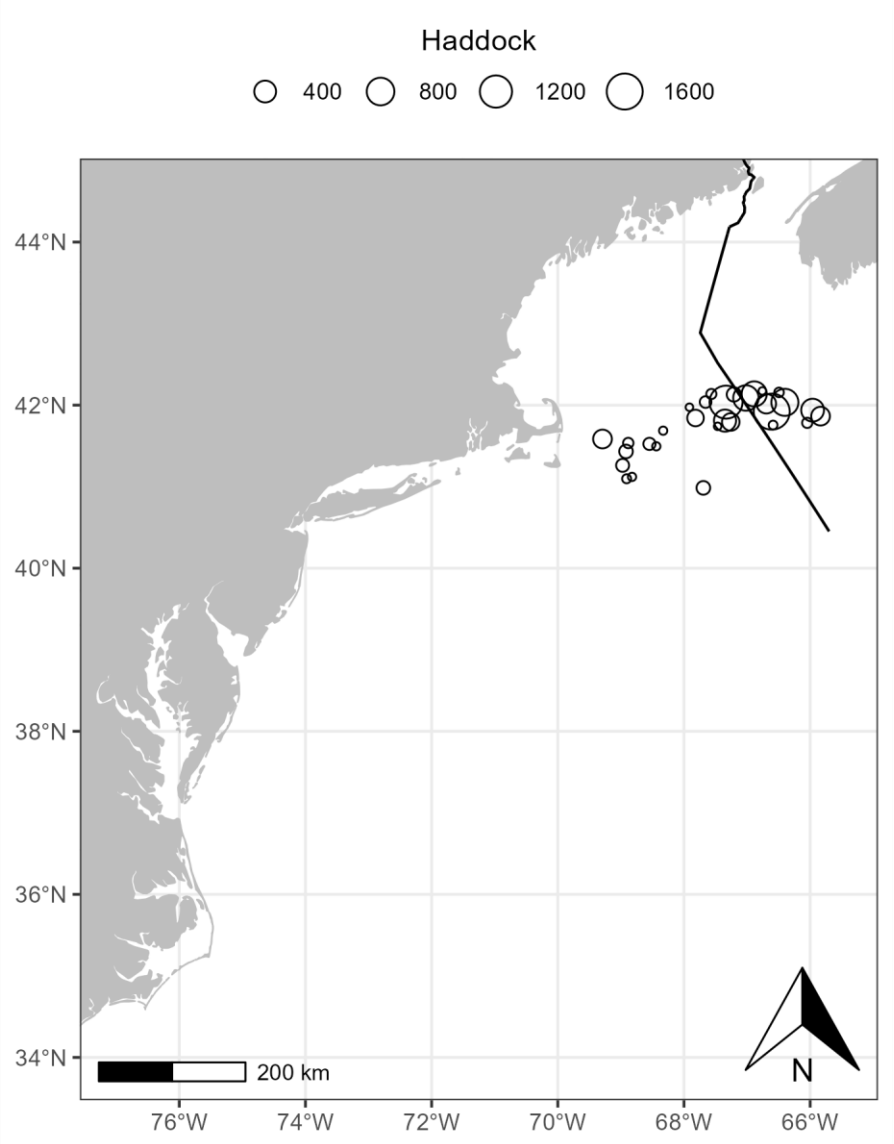

Figure 6: *Total number of haddock per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

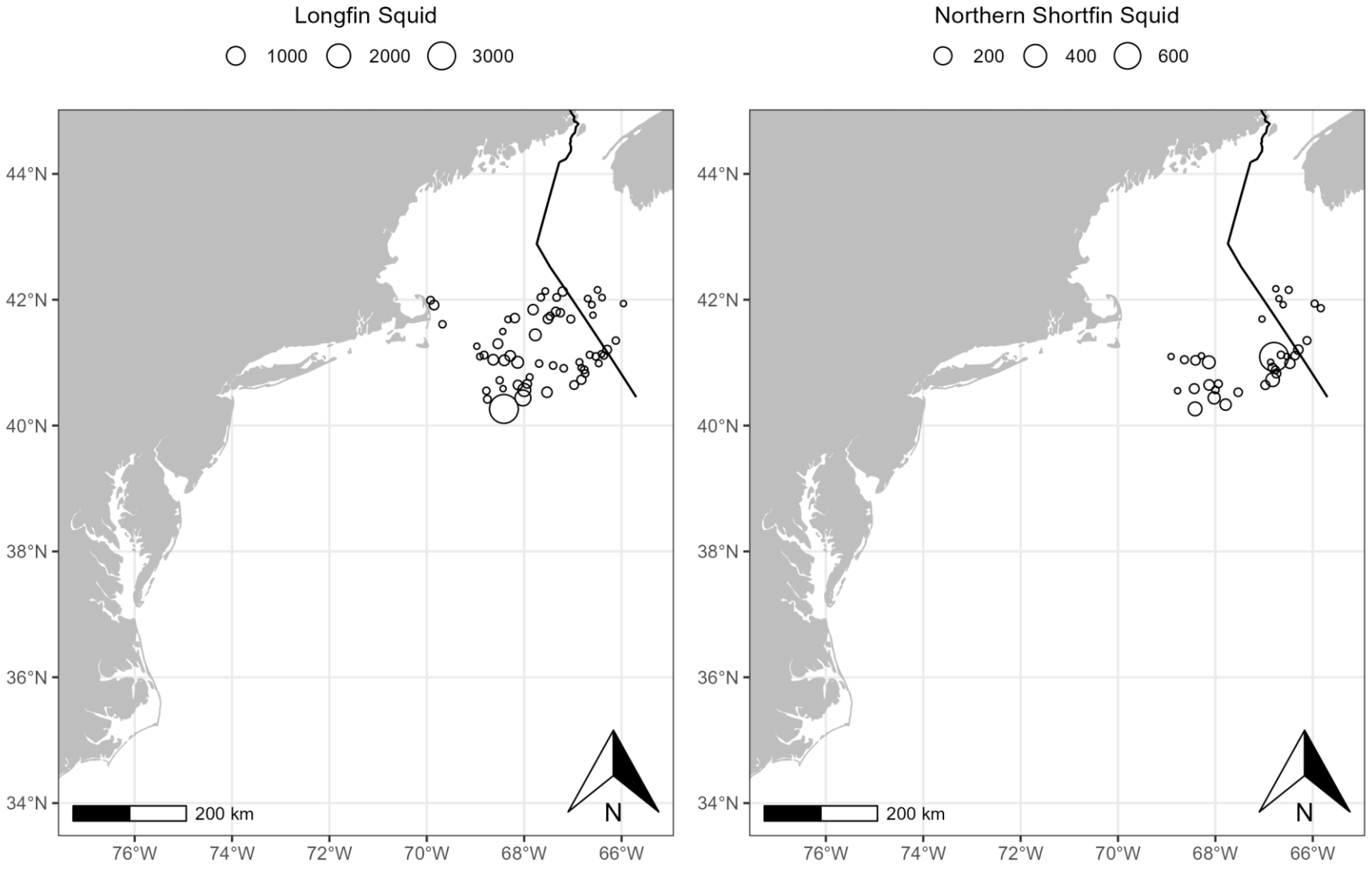

Figure 7: *Total number of longfin squid (left) and shortfin squid (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

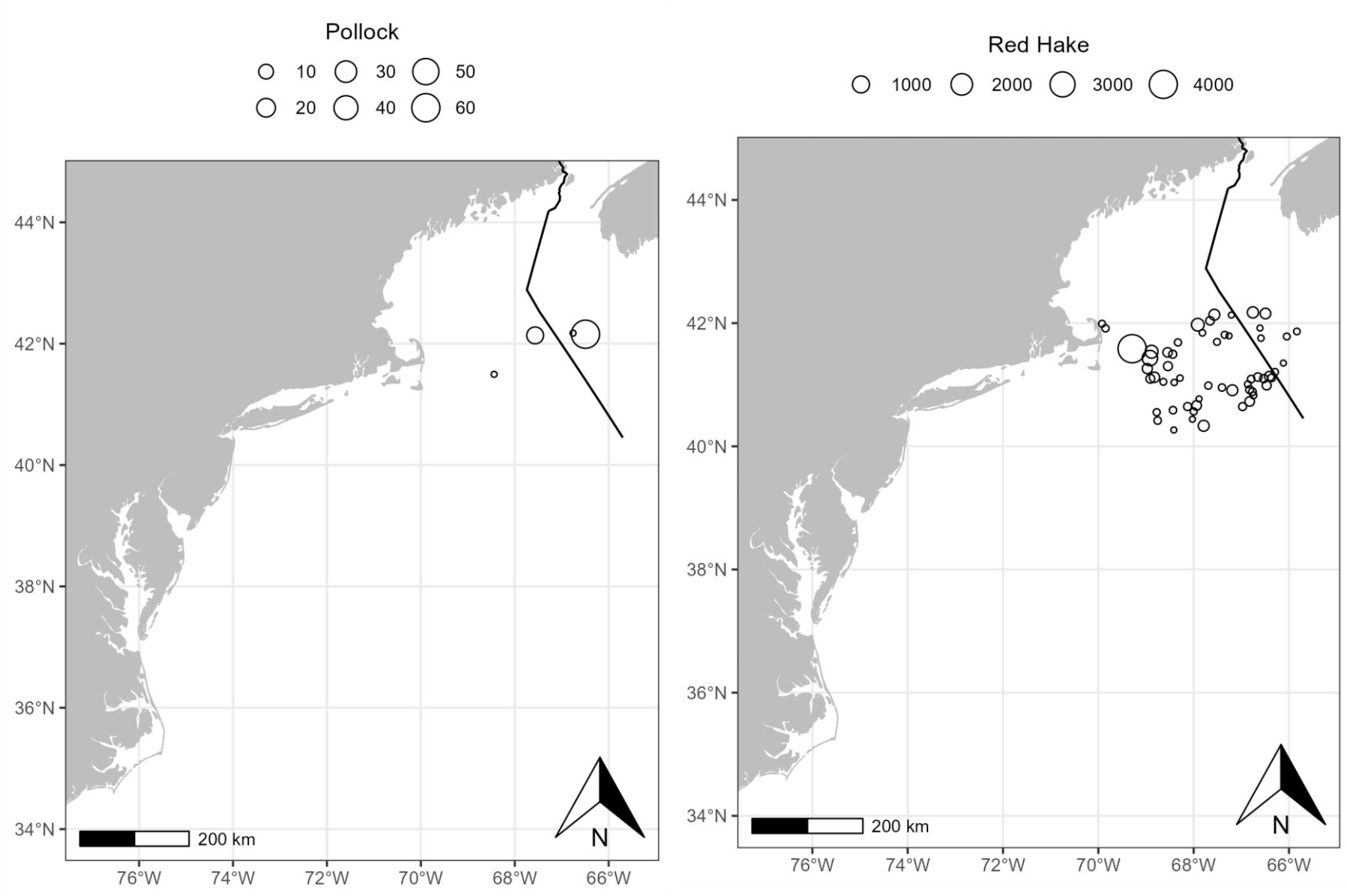

Figure 8: *Total number of pollock (left) and red hake (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

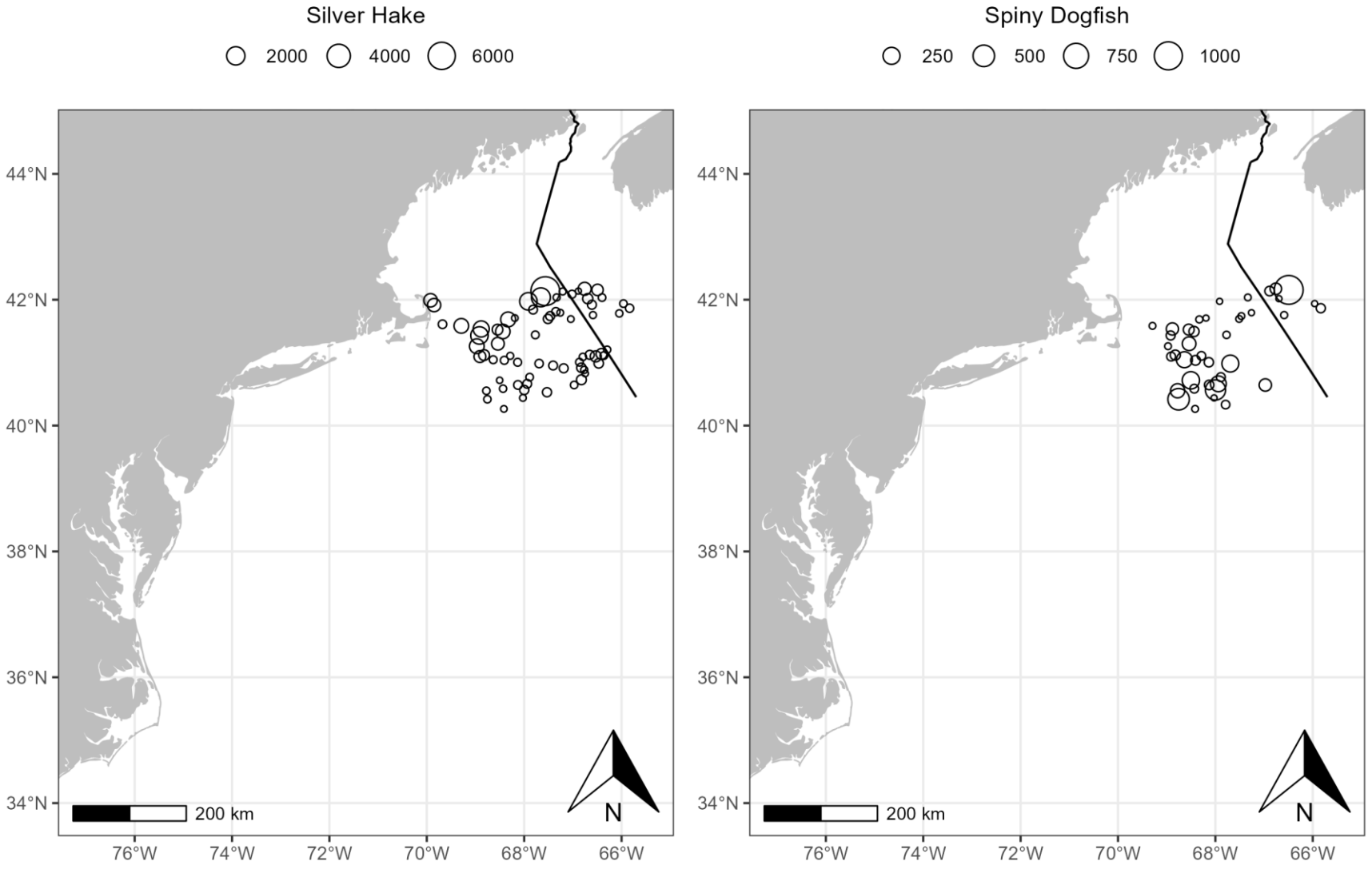

Figure 9: *Total number of silver hake (left) and spiny dogfish (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

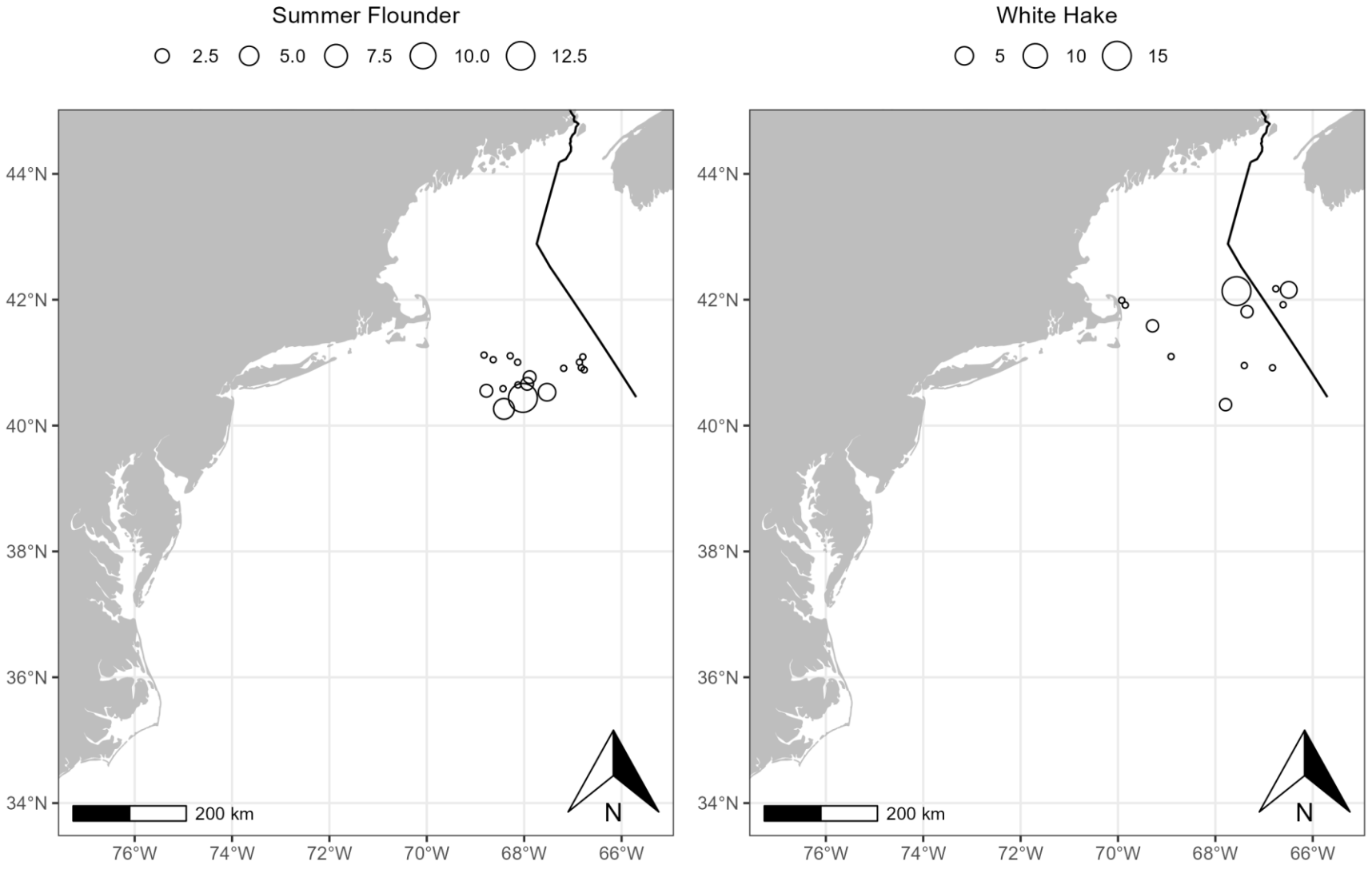

Figure 10: *Total number of summer flounder (left) and white hake (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

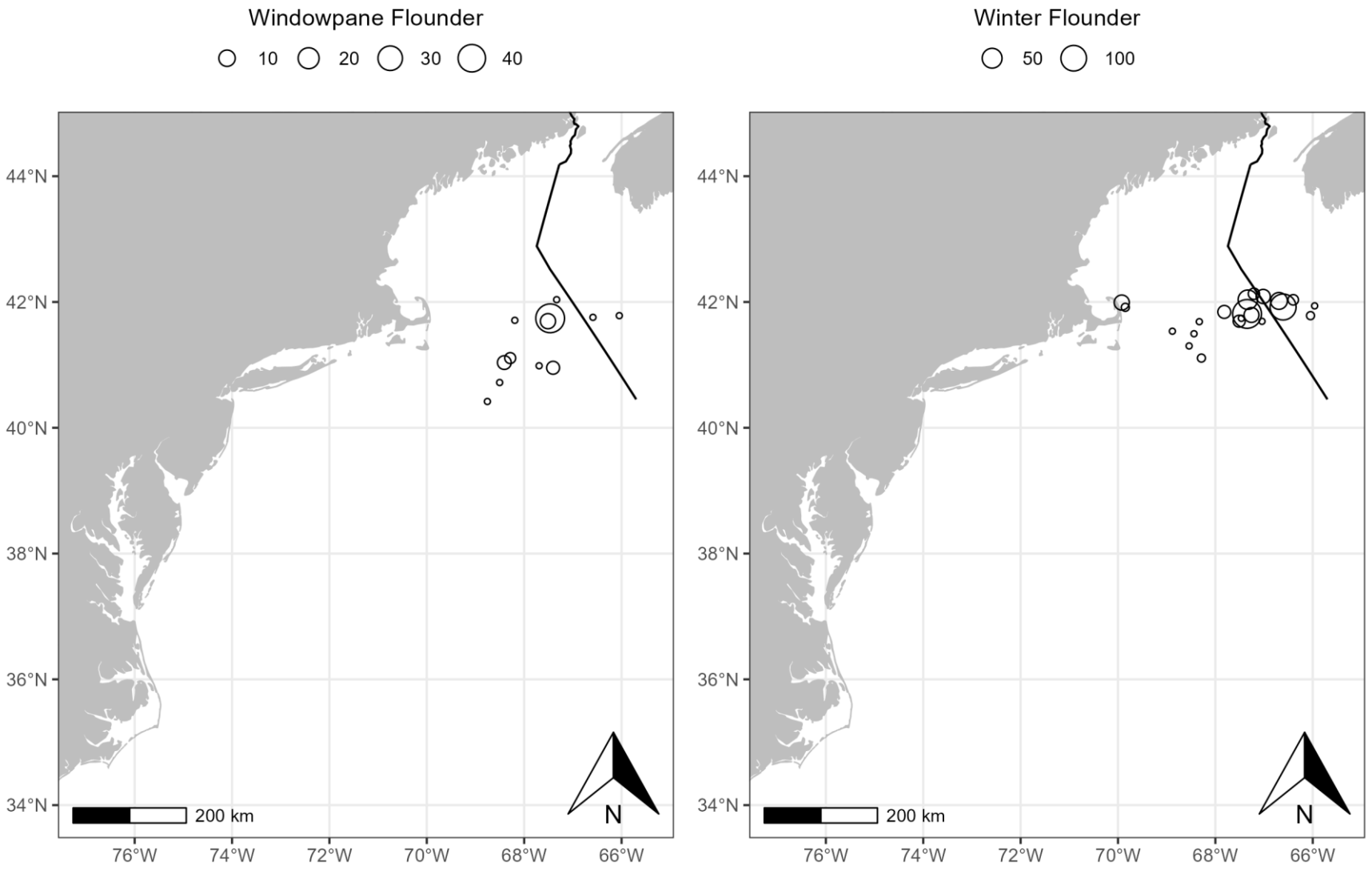

Figure 11: *Total number of windowpane flounder (left) and winter flounder (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.*

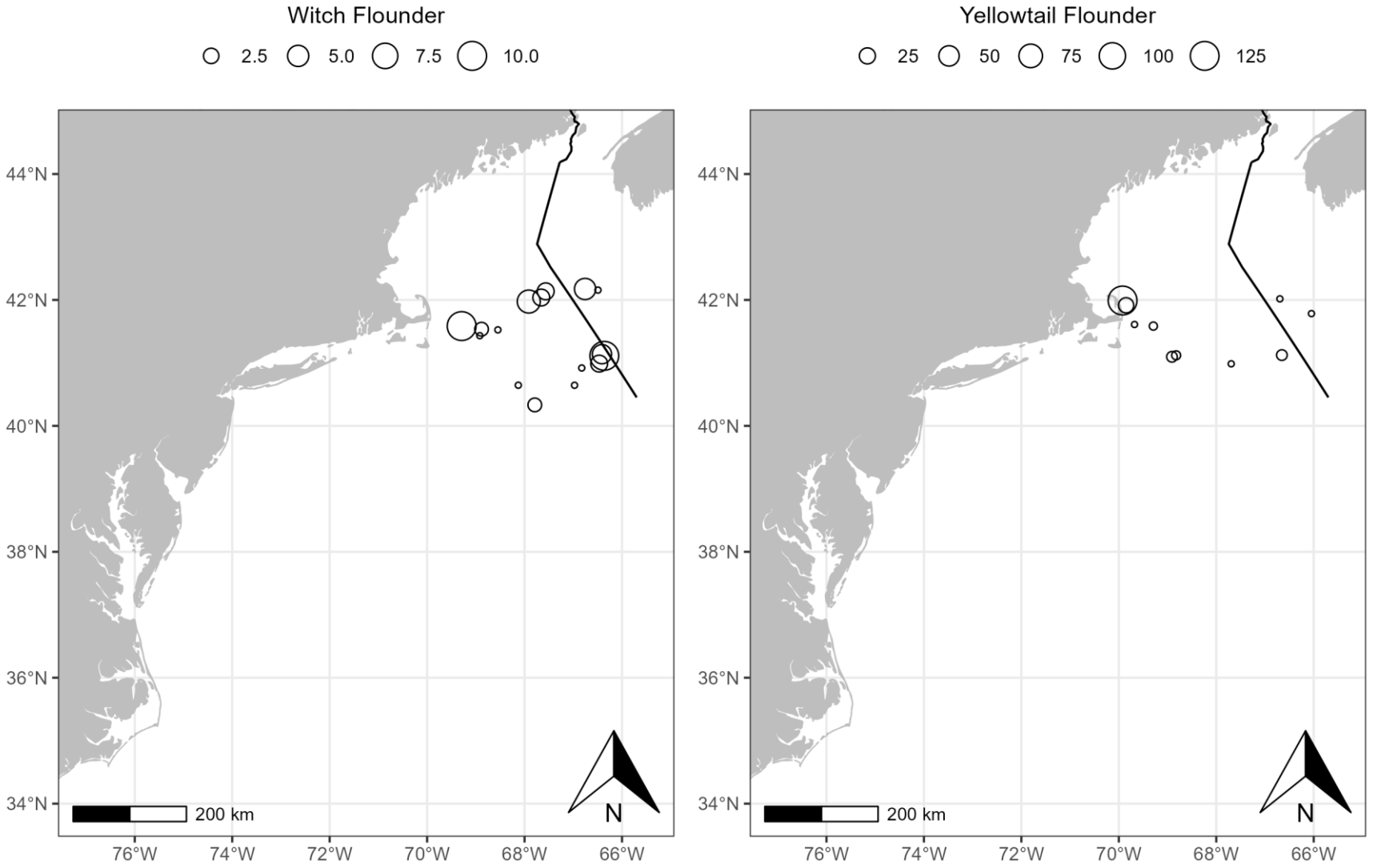

Figure 12: Total number of witch flounder (left) and yellowtail flounder (right) per tow from the Northeast Fisheries Science Center's Spring Bottom Trawl Survey, May 09, 2023-May 23, 2023.

#13b

2023 Northeast Atlantic Sea Scallop Survey Canceled

June 26, 2023

Contingency planning is underway for future surveys.

Atlantic sea scallops collected during the 2022 survey show the variety in coloration for this species. Credit: NOAA Fisheries/Christine Kircun

The 2023 Northeast Fisheries Science Center sea scallop survey has been canceled owing to mechanical difficulties with the survey vessel, the R/V *Hugh R. Sharp*. The *Sharp* is owned and operated by the University of Delaware, and has been chartered by NOAA Fisheries annually since 2008 for the sea scallop survey. The *Sharp* is part of the University-National Oceanographic Laboratory System federal research fleet.

The cruise was to occur May 13 to June 13. The *Sharp* encountered licensed engineering shortages and mechanical difficulties at the dock in its homeport of Lewes, Delaware before the cruise could leave. Repairs and sea trials were completed June 12. The cruise was rescheduled for 8 days, June 14 through 21, and the *Sharp* sailed on June 14 from Woods Hole, Massachusetts with the scientific crew. However, the ship encountered further mechanical failures at sea and returned to port on June 16, ending the NOAA cruise.

Data collected on sea scallop surveys are used to understand the distribution and abundance of this species. These data are key in developing quotas and area openings under the sea scallop fishery management plan.

Our sea scallop survey typically covers the Mid-Atlantic Bight and Georges Bank. It deploys a dredge to collect sea scallops and tows the HabCam. This instrument continuously photographs the ocean bottom habitat capturing images of sea scallops and other sealife.

To address data shortfalls, we are in contact with other groups who survey in the region through the Atlantic Sea Scallop Research Set-Aside Program. These groups have already conducted photographic and dredge surveys on parts of Georges Bank and in the Mid-Atlantic. They may be able to expand their survey plans to include additional dredge stations on Georges Bank and optical survey stations in the Mid-Atlantic.

We are working on contingencies for alternative survey platforms including use of the NOAA Ship *Bigelow* for sea scallop work. In July, we will be testing a new HabCam from the *Bigelow*, one that is an uncrewed underwater system, rather than one that is towed. We are also planning to test deploying the towed HamCam from the *Bigelow* on future cruises.

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