Northeast Fisheries Science Center Reference Document 24-05

Estimates of cetacean and pinniped bycatch in the Northeast and Mid-Atlantic bottom trawl fisheries, 2022

January 2024

Northeast Fisheries Science Center Reference Document 24-05

Estimates of cetacean and pinniped bycatch in the Northeast and Mid-Atlantic bottom trawl fisheries, 2022

Kristin Precoda[1] and Marjorie Lyssikatos[2]

[1]Integrated Statistics, 16 Sumner Street, Woods Hole, MA 02543
[2]NOAA Fisheries, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543

US DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts

January 2024

Northeast Fisheries Science Center (NEFSC)
Reference Documents

This series is a secondary scientific series designed to assure the long-term documentation of and to enable the timely transmission of research results by Center and/or non-Center researchers, where such results bear upon the research mission of the Center (see the outside back cover for the mission statement). These documents receive internal scientific review, and most receive copy editing. The National Marine Fisheries Service does not endorse any proprietary material, process, or product mentioned in these documents.

Editorial Treatment: In the interest of expedited publication, this report has undergone a truncated version of the NEFSC Editorial Office's typical technical and copy editing procedure. Aside from the front and back matter included in this document, all writing and editing have been performed by the authors included on the title page.

If you do not have internet access, you may obtain a paper copy of a document by contacting the senior Center author of the desired document. Refer to the title page of the document for the senior Center author's name and mailing address. If there is no Center author, or if there is corporate authorship, contact the Center's Woods Hole Laboratory Library (166 Water St., Woods Hole, MA 02543-1026).

Information Quality Act Compliance: In accordance with section 515 of Public Law 106-554, the NEFSC completed both technical and policy reviews for this report. These pre-dissemination reviews are on file at the NEFSC Editorial Office.

This document may be cited as:

Precoda K and Lyssikatos M. 2024. Estimates of cetacean and pinniped bycatch in the Northeast and Mid-Atlantic bottom trawl fisheries, 2022. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 24-05; 14 p.

Table of Contents

SUMMARY

This report provides estimated bycatch of 8 species of small cetaceans and pinnipeds bycaught in the Northeast bottom trawl (NEBT) and Mid-Atlantic bottom trawl (MABT) fisheries in 2022.

The data presented here are an update from Lyssikatos et al. (2020, 2021), Lyssikatos and Chavez-Rosales (2022), and Chavez-Rosales et al. (2018), which cover the fishing operations from 2012-2019. The bycatch estimation methodology is similar to that used since 2008 (Lyssikatos 2015; Chavez-Rosales et al. 2017). For details on the bycatch estimation methodology, please refer to Chavez-Rosales et al. (2018). The marine mammal species observed bycaught in 2022 are white-sided dolphin (*Lagenorhynchus acutus*), common dolphin (*Delphinus delphis delphis*), bottlenose dolphin (*Tursiops truncatus*), Risso's dolphin (*Grampus griseus*), harbor porpoise (*Phocoena phocoena phocoena*), long-finned pilot whale (*Globicephala melas*), harbor seal (*Phoca vitulina vitulina*), and gray seal (*Halichoerus grypus atlantica*). The aim of this report is to document bycatch estimates for 2022 to support the U.S. Atlantic and Gulf of Mexico 2024 marine mammal stock assessment reports. Individual marine mammal stock assessment reports for the Northwest Atlantic are available online (Marine…updated 2024).

The 2022 NEBT estimates are based on observed bycatch (mortalities and injured animals) consisting of 3 white-sided dolphins, 6 common dolphins, 2 bottlenose dolphins, 1 harbor porpoise, 2 harbor seals, 7 gray seals, and 3 long-finned pilot whales. MABT estimates are based on observed bycatch (mortalities and injured animals) consisting of 29 common dolphins, 1 bottlenose dolphin, 4 Risso's dolphins, and 6 gray seals. Refer to Josephson and Lyssikatos (2023) for details on injury determinations attributed to interactions with bottom trawl gear. The final 2022 serious injury determinations will be published at a later date; serious injury determinations for 2022 that are used in this report are preliminary. The proportions of observed bycatch of each species that was seriously injured or dead are used to apportion the total estimated bycatch to serious injuries and mortalities. The locations of observed tows and incidental takes are shown in Figure 1. Incidental takes of unknown species were excluded from the bycatch estimation; this included 1 unidentified seal and 2 unidentified whales in the Northeast region, and 1 unidentified seal and 1 unidentified dolphin in the Mid-Atlantic region.

Observer coverage in 2022, defined as the percentage of vessel trip report (VTR) trips on which an observer was on board a fishing vessel, was 27.8% in the NEBT fishery (Table 1) and 8.1% in the MABT fishery (Table 2). Mean annual bycatch estimates from the NEBT fishery were 5 (coefficient of variation [CV] = 0.32) bottlenose dolphins, 17 (CV = 0.30) common dolphins, 25 (CV = 0.22) gray seals, 3 (CV = 0.56) harbor porpoises, 7 (CV = 0.39) harbor seals, 10 (CV = 0.55) long-finned pilot whales, and 13 (CV = 0.40) white-sided dolphins (Table 3).

Mean annual bycatch estimates from the MABT fishery were 11 (CV = 0.87) bottlenose dolphins, 293 (CV = 0.27) common dolphins, 64 (CV = 0.37) gray seals, and 45 (CV = 0.63) Risso's dolphins (Table 4). Total bycatch estimates, mean annual bycatch estimates over 5 years, and the associated CVs are shown for each species in Table 5. Bycatch estimates for 2022 are shown graphically in Figure 2 and Figure 3.

METHODS

The bycatch is estimated largely as described in Chavez-Rosales et al. (2018), with minor differences as described below to clean up coding errors and comply with new guidelines in Bettridge (2023).

The bycatch rate, rather than the bycatch estimate, is bootstrapped, resulting in slightly lower CVs than in the past.

The finite population correction is calculated based on the population of trips, rather than based on the number of days fished, and is applied when observer coverage exceeded 10% of trips with effort reported (rather than 10% of days fished) in a stratum.

The bycatch estimates are calculated by adding the observed bycatch to the product of the estimated bycatch rate per day fished and the total unobserved days fished (rather than setting the bycatch estimate equal to the product of the estimated bycatch rate per day fished and the total days fished).

Rounding was performed subsequent to calculations and prior to display in tables and text, and the upper and lower confidence interval bounds were rounded to the next higher and next lower integer, respectively.

The CVs for the 5-year mean annual estimates in Tables 5B and 5C are calculated as suggested in Method 1 of Bettridge (2023, p. 34). Specifically, the variance of the mean annual estimate is calculated by summing the variances for years that have a non-zero variance and dividing by the square of the number of years with a non-zero variance. The square root of that variance is then divided by the mean annual estimate to obtain the CV of the mean annual estimate.

In addition to the bycatch estimation differences above, the calculation of the CV for the mean annual bycatch estimate over the 5-year period from 2018-2022, which makes use of the annual bycatch estimates and their CVs over that period, deserves comment. In 2020, observer coverage was low (Precoda and Lyssikatos 2023), and as a result, the bycatch estimates reported for 2020 used the average bycatch from 2017-2019. Consequently, the information on which the 2018 and 2019 CVs are based is also included in the calculation of the CVs associated with the 2020 estimates. Treating the 2020 CV as if it were independent results in some underestimation of the CV of the 5-year (2018-2022) mean annual bycatch estimate.

TABLES

Table 1. Summaries of 2022 observer and vessel trip report (VTR) data: observed tows, observed trips, commercial trips from VTRs, observed days fished, VTR days fished, and observer coverage by season and ecological production unit (EPU: GB=Georges Bank, GOM=Gulf of Maine) for the Northeast bottom trawl fishery (Figure 1).

Season	EPU	Observed Tows	Observed Trips[a]	VTR Trips	Observed Days Fished	VTR Days Fished	Observer Coverage (trips)	Observer Coverage (days fished)
Jan-Apr	GB	275	44	163	45.04	315.31	27.0%	14.3%
Jan-Apr	GOM	2,928	298	1,331	530.73	1,804.01	22.4%	29.4%
Jan-Apr	Subtotal	3,203	308	1,494	575.77	2,119.32	20.6%	27.2%
May-Aug	GB	1,320	91	280	162.70	558.99	32.5%	29.1%
May-Aug	GOM	3,455	446	1,204	509.52	1,100.60	37.0%	46.3%
May-Aug	Subtotal	4,775	459	1,484	672.22	1,659.59	30.9%	40.5%
Sep-Dec	GB	494	53	138	76.10	262.25	38.4%	29.0%
Sep-Dec	GOM	4,165	367	927	714.53	1,141.54	39.6%	62.6%
Sep-Dec	Subtotal	4,659	369	1,065	790.63	1,403.80	34.6%	56.3%
Total	Total	12,637	1,123	4,043	2,038.62	5,182.71	27.8%	39.3%

[a]The subtotal and total rows may be smaller than the sum of the observed trips across all strata. This is because an observed trip may include tows in different strata, while totals include only unique trips.

Table 2. Summaries of 2022 observer and vessel trip report (VTR) data: observed tows, observed trips, commercial trips from VTRs, observed days fished, VTR days fished, and observer coverage by season and ecological production unit (EPU: MAB=Mid-Atlantic Bight) for the Mid-Atlantic bottom trawl fishery (Figure 1).

Season	EPU	Observed Tows	Observed Trips[a]	VTR Trips	Observed Days Fished	VTR Days Fished	Observer Coverage (trips)	Observer Coverage (days fished)
Jan-Apr	MAB	1,065	118	1,832	130.00	1,581.48	6.4%	8.2%
May-Aug	MAB	1,984	335	3,867	217.08	2,290.98	8.7%	9.5%
Sep-Dec	MAB	2,167	288	3,448	272.12	2,169.51	8.4%	12.5%
Total		5,216	740	9,147	619.20	6,041.97	8.1%	10.2%

[a]The subtotal and total rows may be smaller than the sum of the observed trips across all strata. This is because an observed trip may include tows in different strata, while totals include only unique trips.

Table 3. For the 2022 Northeast bottom trawl fishery, the observed number of bycatch, estimated bycatch rate per day fished, estimated bycatch, and coefficient of variation (CV) and 95% confidence interval (CI) of the bycatch estimates of bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis delphis*), gray seal (*Halichoerus grypus atlantica*), harbor porpoise (*Phocoena phocoena phocoena*), harbor seal (*Phoca vitulina vitulina*), long-finned pilot whale (*Globicephala melas*), and white-sided dolphin (*Lagenorhynchus acutus*) by season and ecological production unit (EPU: GB=Georges Bank, GOM=Gulf of Maine).

Species	Season	EPU	Observed Bycatch	Bycatch Rate	Estimated Bycatch	CV	95% CI
bottlenose dolphin	Sep-Dec	GB	1	0.013	3.45	0.46	1-16
bottlenose dolphin	Sep-Dec	GOM	1	0.001	1.60	0.22	1-4
bottlenose dolphin	Sep-Dec	Total	2	0.005	5.04	0.32	2-17
common dolphin	Jan-Apr	GOM	4	0.008	13.60	0.43	4-45
common dolphin	May-Aug	GOM	1	0.002	2.16	0.34	1-8
common dolphin	Sep-Dec	GOM	1	0.001	1.60	0.23	1-5
common dolphin	Total	GOM	6	0.005	17.35	0.30	8-47
gray seal	Jan-Apr	GB	1	0.022	7.00	0.63	1-31
gray seal	May-Aug	GB	3	0.018	10.31	0.26	5-22
gray seal	Jan-Apr	GOM	1	0.002	3.40	0.55	1-15
gray seal	May-Aug	GOM	2	0.004	4.32	0.24	2-11
gray seal	Total	Total	7	0.007	25.03	0.22	14-49
harbor porpoise	Jan-Apr	GOM	1	0.002	3.40	0.56	1-14
harbor seal	Jan-Apr	GOM	2	0.004	6.80	0.39	2-19
long-finned pilot whale	Jan-Apr	GOM	3	0.006	10.20	0.55	3-49
white-sided dolphin	Jan-Apr	GB	1	0.022	7.00	0.68	1-36
white-sided dolphin	Jan-Apr	GOM	1	0.002	3.40	0.54	1-14

Species	Season	EPU	Observed Bycatch	Bycatch Rate	Estimated Bycatch	CV	95% CI
white-sided dolphin	May-Aug	GOM	1	0.002	2.16	0.33	1-7
white-sided dolphin	Total	Total	3	0.004	12.56	0.40	4-44

Table 4. For the 2022 Mid-Atlantic bottom trawl fishery, the observed number of bycatch, estimated bycatch rate per day fished, estimated bycatch, coefficient of variation (CV), and 95% confidence interval (CI) of bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis delphis*), gray seal (*Halichoerus grypus atlantica*), and Risso's dolphin (*Grampus griseus*) bycatch by season and ecological production unit (EPU: MAB=Mid-Atlantic Bight).

Species	Season	EPU	Observed Bycatch	Bycatch Rate	Estimated Bycatch	CV	95% CI
bottlenose dolphin	May-Aug	MAB	1	0.005	10.55	0.87	1-49
common dolphin	Jan-Apr	MAB	13	0.100	158.15	0.40	71-356
common dolphin	May-Aug	MAB	3	0.014	31.66	0.69	3-115
common dolphin	Sep-Dec	MAB	13	0.048	103.64	0.42	41-231
common dolphin	Total	MAB	29	0.049	293.45	0.27	170-501
gray seal	Jan-Apr	MAB	2	0.015	24.33	0.65	2-79
gray seal	May-Aug	MAB	3	0.014	31.66	0.51	12-85
gray seal	Sep-Dec	MAB	1	0.004	7.97	0.88	1-41
gray seal	Total	MAB	6	0.011	63.96	0.37	29-131
Risso's dolphin	Jan-Apr	MAB	2	0.015	24.33	0.89	2-122
Risso's dolphin	May-Aug	MAB	2	0.009	21.11	0.89	2-108
Risso's dolphin	Total	MAB	4	0.012	45.44	0.63	4-152

Table 5. Summaries for the 5-year period of 2018-2022. (A) Observer coverage by fishery and year. (B, C) Observed and estimated serious injuries and mortalities of marine mammals in the (B) Northeast bottom trawl and (C) Mid-Atlantic bottom trawl fisheries. The "Combined Estimate" is Estimated Mortality + Estimated Serious Injury.

A. Observer coverage as percent of trips, by fishery and year

Fishery	Years	Data Type	Observer Coverage (trips)
Northeast bottom trawl	2018-2022	Obs. Data, Trip Logbook	12.14, 16.17, 8.20, 18.79, 27.78
Mid-Atlantic bottom trawl	2018-2022	Obs. Data, Trip Logbook	12.00, 11.61, 1.93, 4.48, 8.09

B. Observed and estimated serious injuries and mortalities of marine mammals in the Northeast bottom trawl fishery for 2018-2022. CV = coefficient of variation. The combined estimate may vary from the sum of the estimated serious injuries and estimated mortalities due to rounding.

Species	Observed Serious Injury	Observed Mortality	Estimated Serious Injury	Estimated Mortality	Combined Estimate	Estimated CV	Mean (CV) Combined Estimate
bottlenose dolphin (*Tursiops truncatus*)	0, 0, 0, 0, 0	0, 1, 0, 1, 2	0, 0, 0, 0, 0	0, 6, 2, 4, 5	0, 6, 2, 4, 5	0.00, 0.92, 0.92, 0.86, 0.32	3 (0.50)
common dolphin (*Delphinus delphis delphis*)	0, 0, 0, 1, 0	4, 2, 2, 8, 6	0, 0, 0, 5, 0	28, 10, 13, 38, 17	28, 10, 13, 43, 17	0.54, 0.62, 0.43, 0.42, 0.30	22 (0.23)
gray seal (*Halichoerus grypus atlantica*)	0, 0, 0, 0, 0	5, 6, 7, 2, 7	0, 0, 0, 0, 0	32, 30, 26, 7, 25	32, 30, 26, 7, 25	0.42, 0.37, 0.26, 0.60, 0.22	24 (0.17)
harbor porpoise (*Phocoena phocoena phocoena*)	0, 0, 0, 0, 1	0, 2, 0, 1, 0	0, 0, 0, 0, 3	0, 11, 4, 5, 0	0, 11, 4, 5, 3	0.00, 0.63, 0.63, 0.92, 0.56	5 (0.48)
harbor seal (*Phoca vitulina vitulina*)	0, 0, 0, 0, 0	0, 1, 1, 0, 2	0, 0, 0, 0, 0	0, 5, 5, 0, 7	0, 5, 5, 0, 7	0.00, 0.88, 0.68, 0.00, 0.39	3 (0.62)
harp seal (*Pagophilus groenlandicus*)	0, 0, 0, 0, 0	0, 1, 0, 0, 0	0, 0, 0, 0, 0	0, 5, 2, 0, 0	0, 5, 2, 0, 0	0.00, 0.89, 0.89, 0.00, 0.00	1 (1.76)
long-finned pilot whale (*Globicephala melas*)	0, 0, 0, 0, 0	0, 1, 0, 2, 3	0, 0, 0, 0, 0	0, 5, 2, 8, 10	0, 5, 2, 8, 10	0.00, 0.88, 0.88, 0.62, 0.54	5 (0.44)
Risso's dolphin (*Grampus griseus*)	0, 0, 0, 0, 0	0, 0, 0, 1, 0	0, 0, 0, 0, 0	0, 0, 0, 4, 0	0, 0, 0, 4, 0	0.00, 0.00, 0.00, 0.88, 0.00	1 (4.40)

Species	Observed Serious Injury	Observed Mortality	Estimated Serious Injury	Estimated Mortality	Combined Estimate	Estimated CV	Mean (CV) Combined Estimate
white-sided dolphin (*Lagenorhynchus acutus*)	0, 0, 0, 1, 0	0, 14, 5, 2, 3	0, 0, 0, 5, 0	0, 79, 31, 10, 13	0, 79, 31, 15, 13	0.00, 0.28, 0.26, 0.52, 0.40	28 (0.23)

C. Observed and estimated serious injuries and mortalities of marine mammals in the Mid-Atlantic bottom trawl fishery for 2018-2022. CV = coefficient of variation. The combined estimate may vary from the sum of the estimated serious injuries and estimated mortalities due to rounding.

Species	Observed Serious Injury	Observed Mortality	Estimated Serious Injury	Estimated Mortality	Combined Estimate	Estimated CV	Mean (CV) Combined Estimate
bottlenose dolphin (*Tursiops truncatus*)	0, 0, 0, 0, 0	1, 0, 1, 2, 1	0, 0, 0, 0, 0	6, 0, 9, 38, 11	6, 0, 9, 38, 11	0.91, 0.00, 0.55, 1.03, 0.87	13 (0.79)
common dolphin (*Delphinus delphis delphis*)	1, 2, 0, 0, 1	34, 52, 54, 13, 28	5, 15, 7, 0, 10	200, 380, 327, 230, 283	205, 395, 333, 230, 293	0.21, 0.23, 0.14, 0.57, 0.27	291 (0.13)
gray seal (*Halichoerus grypus atlantica*)	1, 0, 0, 0, 0	5, 3, 1, 0, 6	9, 0, 0, 0, 0	47, 22, 35, 0, 64	56, 22, 35, 0, 64	0.58, 0.53, 0.35, 0.00, 0.37	35 (0.31)
harbor seal (*Phoca vitulina vitulina*)	0, 0, 0, 0, 0	1, 1, 1, 0, 0	0, 0, 0, 0, 0	6, 7, 4, 0, 0	6, 7, 4, 0, 0	0.94, 0.93, 0.67, 0.00, 0.00	3 (0.88)
Risso's dolphin (*Grampus griseus*)	0, 0, 0, 0, 0	0, 0, 2, 0, 4	0, 0, 4, 0, 0	0, 0, 14, 0, 45	0, 0, 18, 0, 45	0.00, 0.00, 0.51, 0.00, 0.63	13 (1.18)

FIGURES

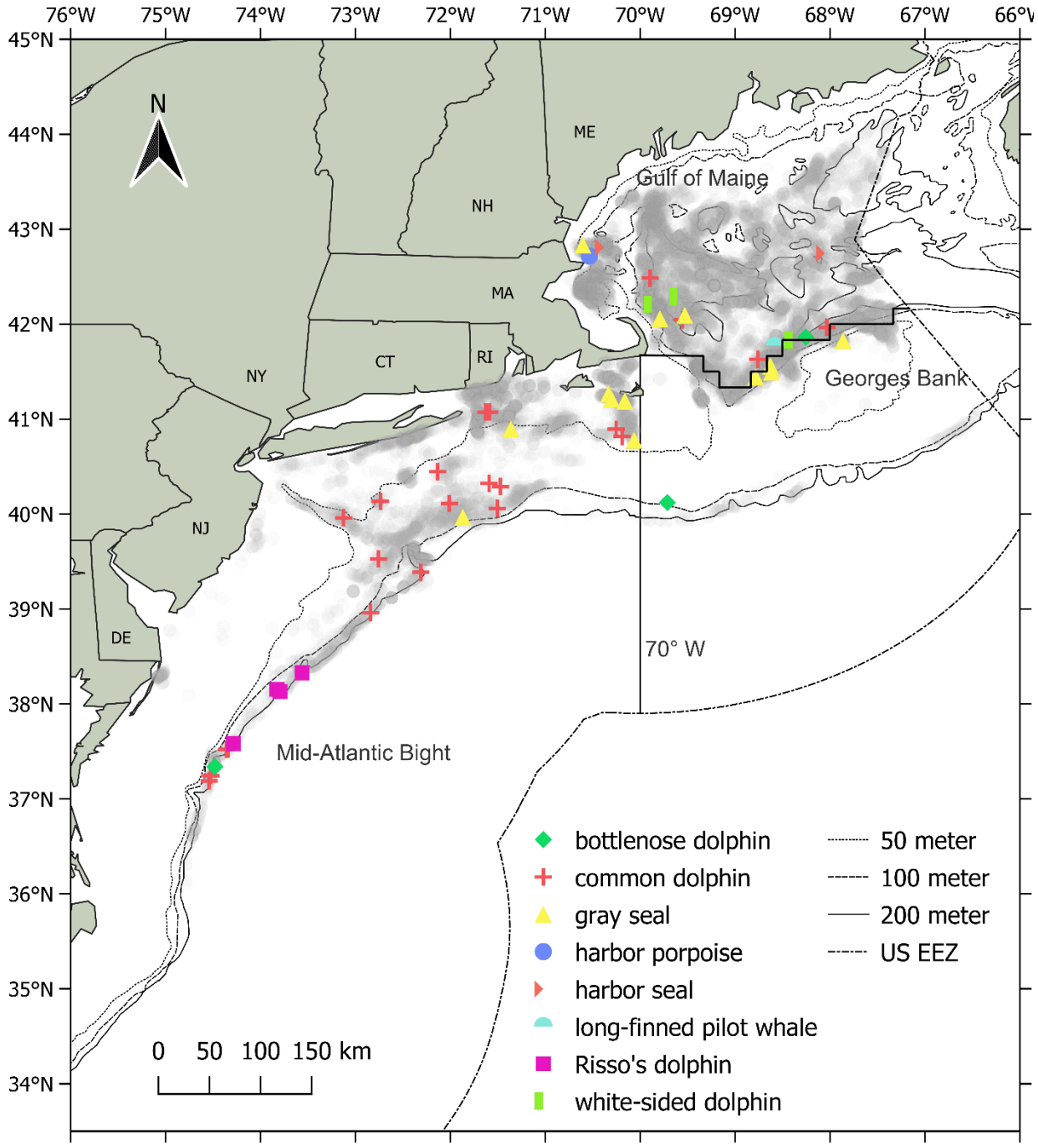


Figure 1. Locations of observed tows (gray circles) and incidental takes from observed commercial trips in the Northeast bottom trawl and Mid-Atlantic bottom trawl fisheries in 2022 for bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis delphis*), gray seal (*Halichoerus grypus atlantica*), harbor porpoise (*Phocoena phocoena phocoena*), harbor seal (*Phoca vitulina vitulina*), long-finned pilot whale (*Globicephala melas*), Risso's dolphin (*Grampus griseus*), and white-sided dolphin (*Lagenorhynchus acutus*).

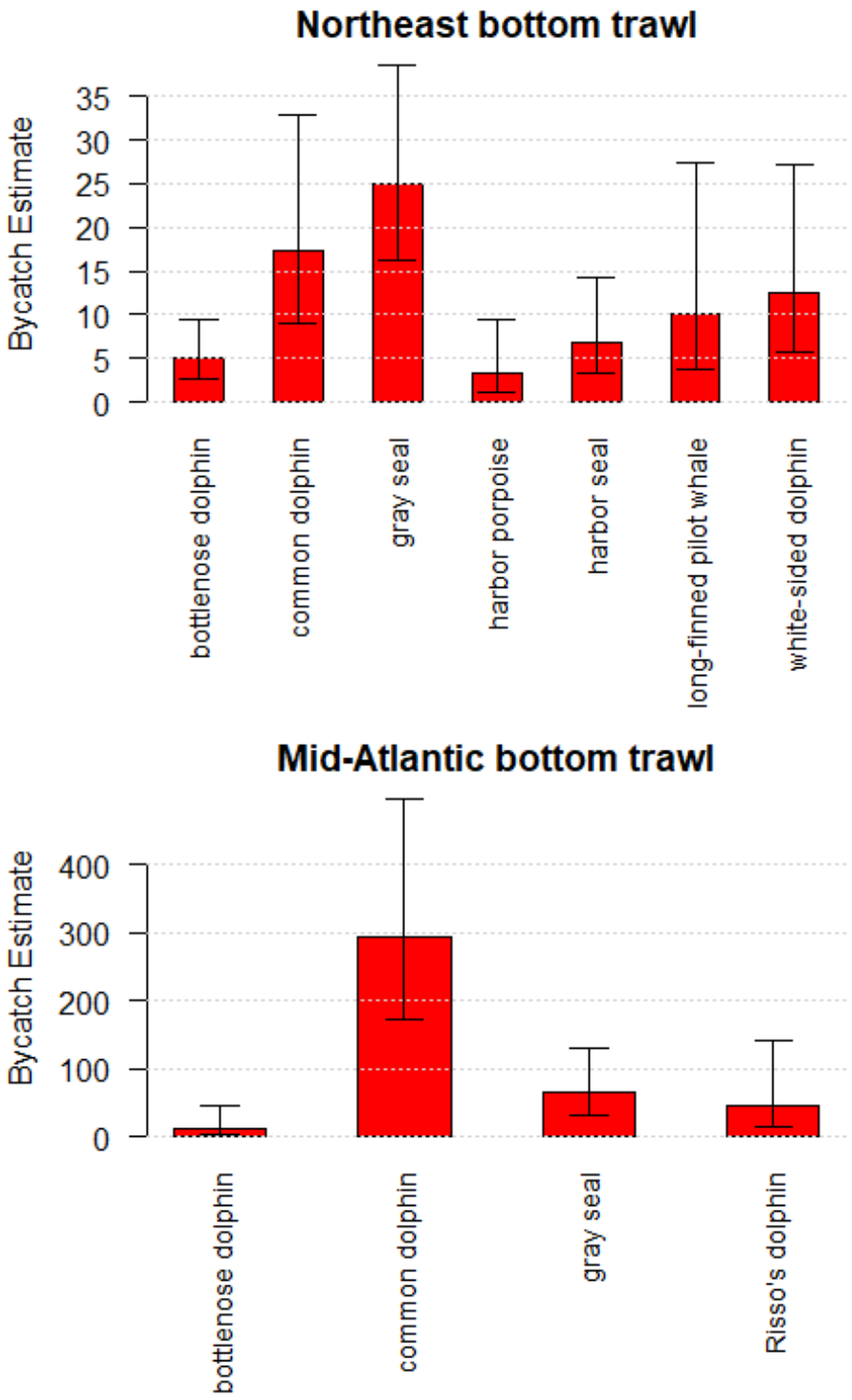
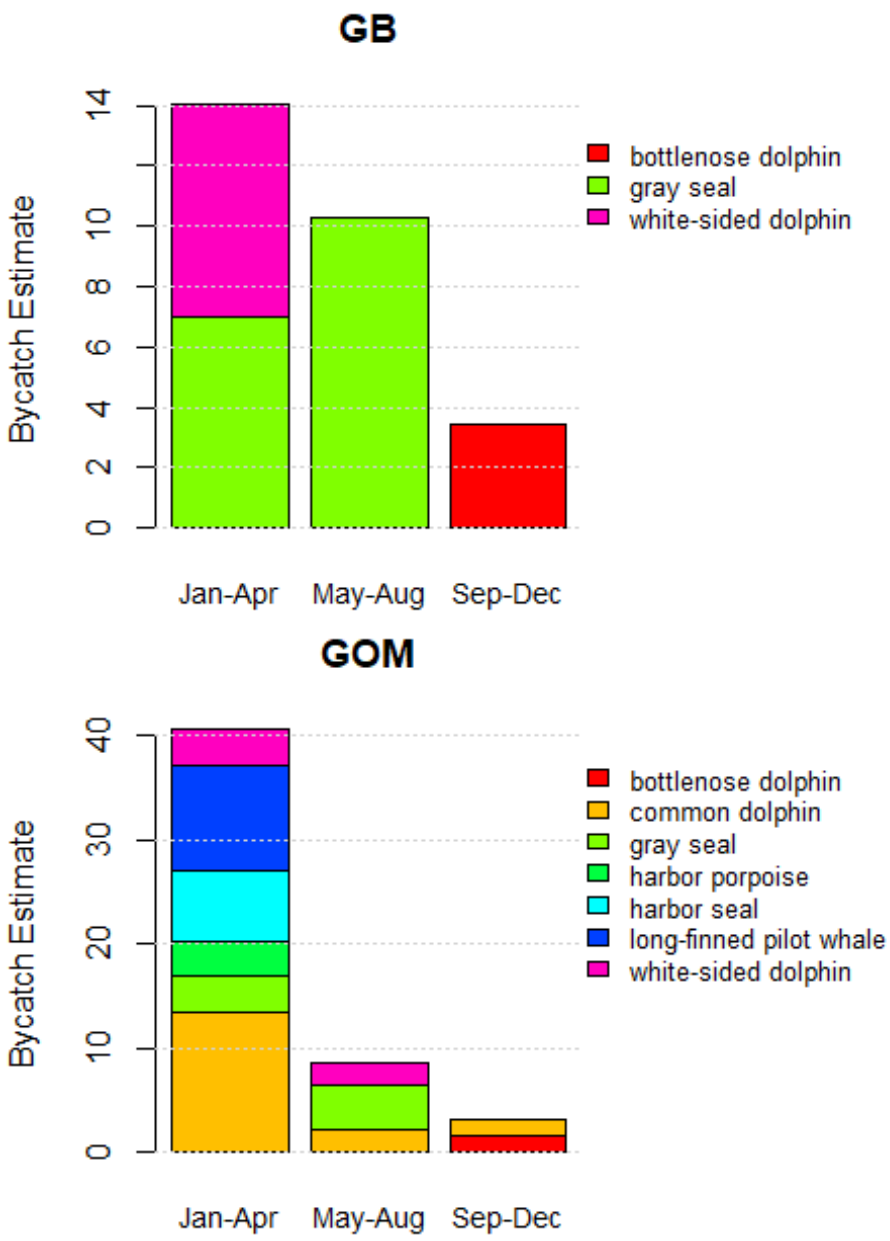


Figure 2. Bycatch estimates (with lognormal 95% confidence interval) by region and species, 2022.


GB
Bycatch Estimate
0
2
4
6
8
10
14
Jan-Apr
May-Aug
Sep-Dec
bottlenose dolphin
gray seal
white-sided dolphin
GOM
Bycatch Estimate
0
10
20
30
40
Jan-Apr
May-Aug
Sep-Dec
bottlenose dolphin
common dolphin
gray seal
harbor porpoise
harbor seal
long-finned pilot whale
white-sided dolphin

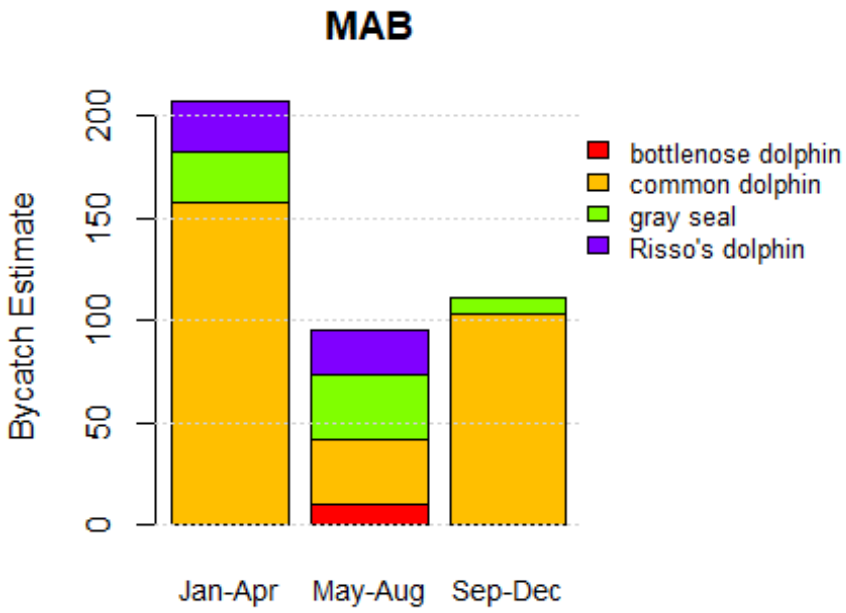


Figure 3. Bycatch estimates for 2022 by ecological production unit, season, and species. GB=Georges Bank, GOM=Gulf of Maine, MAB=Mid-Atlantic Bight.

REFERENCES CITED

Bettridge S. 2023. Guidelines for preparing stock assessment reports pursuant to the Marine Mammal Protection Act. Silver Spring (MD): Office of Protected Resources. NMFS Instruction 02-204-01. 7 Feb 2023. Available at: https://www.fisheries.noaa.gov/s3/2023-05/02-204-01-Final-GAMMS-IV-Revisions-clean-1-kdr.pdf

Chavez-Rosales S, Lyssikatos MC, Hatch J. 2017. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2011-2015. US Dept Commer Northeast Fish Sci Cent Ref Doc 17-16; 25 p. Available at: https://repository.library.noaa.gov/view/noaa/16100

Chavez-Rosales S, Lyssikatos MC, Hatch J. 2018. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2012-2016. US Dept Commer Northeast Fish Sci Cent Tech Memo 250; 29 p. Available at: https://repository.library.noaa.gov/view/noaa/22937

Josephson E and Lyssikatos M. 2023. Serious injury determinations for small cetaceans and pinnipeds caught in commercial fisheries off the northeast U.S. Coast, 2017-2021. US Dept Commer Northeast Fish Sci Cent Ref Doc 23-11; 35 p. Available at: https://doi.org/10.25923/vm7y-4c42

Lyssikatos MC. 2015. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2008-2013. US Dept Commer Northeast Fish Sci Cent Ref Doc 15-19; 27 p. Available at: https://repository.library.noaa.gov/view/noaa/5041

Lyssikatos MC, Chavez-Rosales S, Hatch J. 2020. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2013-2017. US Dept Commer Northeast Fish Sci Cent Ref Doc 20-04; 12 p. Available at: https://repository.library.noaa.gov/view/noaa/24249

Lyssikatos MC, Chavez-Rosales S, Hatch J. 2021. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2014-2018. US Dept Commer Northeast Fish Sci Cent Ref Doc 21-02; 17 p. Available at: https://repository.library.noaa.gov/view/noaa/28319

Lyssikatos MC and Chavez-Rosales S. 2022. Estimates of cetacean and pinniped bycatch in Northeast and Mid-Atlantic bottom trawl fisheries, 2015-2019. US Dept Commer Northeast Fish Sci Cent Tech Memo 281; 16 p. Available at: https://repository.library.noaa.gov/view/noaa/39507

Marine mammal stock assessment reports by species/stock. Silver Spring (MD): NOAA Fisheries; [updated 2024 Jan 5]. https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock

Precoda K and Lyssikatos M. 2023. Summary of 2020 New England and Mid-Atlantic Gillnet and Bottom Trawl Observer Data. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 23-01; 16 p. Available at: https://repository.library.noaa.gov/view/noaa/49036

Procedures for Issuing Manuscripts
in the Northeast Fisheries Science Center Reference Document (CRD)
and the Technical Memorandum (TM) Series

The mission of NOAA's National Marine Fisheries Service (NMFS) is "stewardship of the nation's ocean resources and their habitat." As the research arm of the NMFS's Greater Atlantic Region, the Northeast Fisheries Science Center (NEFSC) supports the NMFS's mission by "conducting ecosystem-based research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources and to generate social and economic opportunities and benefits from their use." Results of NEFSC research are largely reported in primary scientific media (e.g., anonymously peer-reviewed scientific journals). However, to assist itself in providing data, information, and advice to its constituents, the NEFSC occasionally releases its results in its own series.

NOAA Technical Memorandum NMFS-NE – This series is issued irregularly. The series typically includes: data reports of long-term field or lab studies of important species or habitats; synthesis reports for important species or habitats; annual reports of overall assessment or monitoring programs; manuals describing program-wide surveying or experimental techniques; literature surveys of important species or habitat topics; proceedings and collected papers of scientific meetings; and indexed and/or annotated bibliographies. All issues receive internal scientific review, and most issues receive technical and copy editing.

Northeast Fisheries Science Center Reference Document – This series is issued irregularly. The series typically includes: data reports on field and lab studies; progress reports on experiments, monitoring, and assessments; background papers for, collected abstracts of, and/or summary reports of scientific meetings; and simple bibliographies. Issues receive internal scientific review, and most issues receive copy editing.

CLEARANCE

All manuscripts submitted for issuance as CRDs must have cleared the NEFSC's manuscript/abstract/webpage review process. If your manuscript includes material from another work which has been copyrighted, you will need to work with the NEFSC's Editorial Office to arrange for permission to use that material by securing release signatures on the "NEFSC Use-of-Copyrighted-Work Permission Form."

STYLE

The CRD series is obligated to conform to the style contained in the current edition of the United States Government Printing Office Style Manual; however, that style manual is silent on many aspects of scientific manuscripts. The CRD series relies more on the CSE Style Manual. Manuscripts should be prepared to conform to both of these style manuals.

The CRD series uses the Integrated Taxonomic Information System, the American Fisheries

Society's guides, and the Society for Marine Mammalogy's guide for verifying scientific species names.

For in-text citations, use the name-date system. A special effort should be made to ensure all necessary bibliographic information is included in the list of references cited. Personal communications must include the date, full name, and full mailing address of the contact.

PREPARATION

Once your document has cleared the review process, the Editorial Office will contact you with publication needs—for example, revised text (if necessary) and separate digital figures and tables if they are embedded in the document. Materials may be submitted to the Editorial Office as email attachments or intranet downloads. Text files should be in Microsoft Word, tables may be in Word or Excel, and graphics files may be in a variety of formats (JPG, GIF, Excel, PowerPoint, etc.).

PRODUCTION AND DISTRIBUTION

The Editorial Office will perform a copy edit of the document and may request further revisions. The Editorial Office will develop the inside and outside front covers, the inside and outside back covers, and the title and bibliographic control pages of the document.

Once the CRD is ready, the Editorial Office will contact you to review it and submit corrections or changes before the document is posted online. A number of organizations and individuals in the Northeast Region will be notified by e-mail of the availability of the document online.