

## Appendix 3E: Sablefish in Eastern Bering Sea Trawl Fisheries

Kevin A. Siwicke and Katy B. Echave

Since 2020, sablefish catch in the pelagic and non-pelagic trawl fisheries occurring in the Eastern Bering Sea (EBS) provided by fisheries observers has been tracked in an appendix to the sablefish SAFE (Goethel et al. 2023, Appendix 3D). Complete information from the previous year (2023) and available data from the current year (2024) are presented and briefly examined in this appendix. Sablefish catch by weight reached a recent maximum in the non-pelagic EBS trawl fisheries in 2023, and sablefish catch remains high in 2024 (Table 3E.1). Though sablefish catch in the 2023 pelagic trawl fisheries increased relative to 2022, these levels were an order of magnitude less than the recent maximum in 2020 and remain low in 2024 (Table 3E.1). There was evidence of small sablefish (i.e., age-1 which are < 40 cm) from the lengths collected in the 2023 pelagic trawl fisheries (Figure 3E.1), indicating that the 2022 year class may be strong. Historically, age-1 sablefish rarely appear in the length data from the non-pelagic trawl fishery, and there does not appear to be any sign of a large 2023 year class in any of the length data for 2024 (Figures 3E.1 and 3E.2). Catch data also shows evidence of abundant small sablefish (< 0.5 kg mean weight) in 2023 and almost no small sablefish in trawl fisheries during 2024 (Table 3E.2). The age-1 signal is most obvious in catch data from the 0 to 100 m depth range where it historically appears during the first 100 days of the year (Figures 3E.3 and 3E.4), so we do not expect to see any sign of small sablefish appearing during the remainder of 2024. The spatial extent of sablefish catch in 2023 was along the entire shelf break for the non-pelagic EBS trawl fishery, and extended on the southeastern EBS shelf in pelagic trawl fisheries (Figure 3E.5). Sablefish catch was more concentrated near Unimak Pass and nearby areas in both the non-pelagic and pelagic trawl fishery in 2024 (Figure 3E.5). When small sablefish are present, they are generally encountered north of Unimak Island (Figure 3E.6). The annual number of trawl hauls (combined pelagic and non-pelagic) from 0 to 100 m with a mean sablefish weight < 0.5 kg may provide a coarse qualitative index of recruitment, as large 2014, 2016, and 2019 year classes were evident in the subsequent year (Figure 3E.7). We will have a better understanding of 2024 sablefish trawl catch once we have a complete dataset, as we expect more lengths to be taken from the pelagic trawl fishery and for the majority of those taken later in the year to be larger sablefish (Figure 3E.1).

### Literature Cited

Goethel, D. R., Cheng, M. L. H., Echave, K. B., Marsh, C., Rodgveller, C. J., Shotwell, K., and Siwicke, K. 2023. Assessment of the sablefish stock in Alaska. In Stock assessment and fishery evaluation report for the groundfish resources of the GOA and BS/AI. North Pacific Fishery Management Council.

## Tables

Table 3E.1. Sablefish catch (t) in the non-pelagic and pelagic trawl fisheries occurring in the Eastern Bering Sea. Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.

Year	Non-pelagic	Pelagic	Total
2010	29	< 1	30
2011	44	< 1	45
2012	92	< 1	92
2013	133	< 1	133
2014	34	0	34
2015	17	< 1	17
2016	238	20	258
2017	587	107	694
2018	624	424	1,047
2019	1,270	1,260	2,530
2020	1,062	2,570	3,632
2021	1,383	788	2,171
2022	2,089	157	2,246
2023	2,303	281	2,584
2024*	1,649	14	1,663

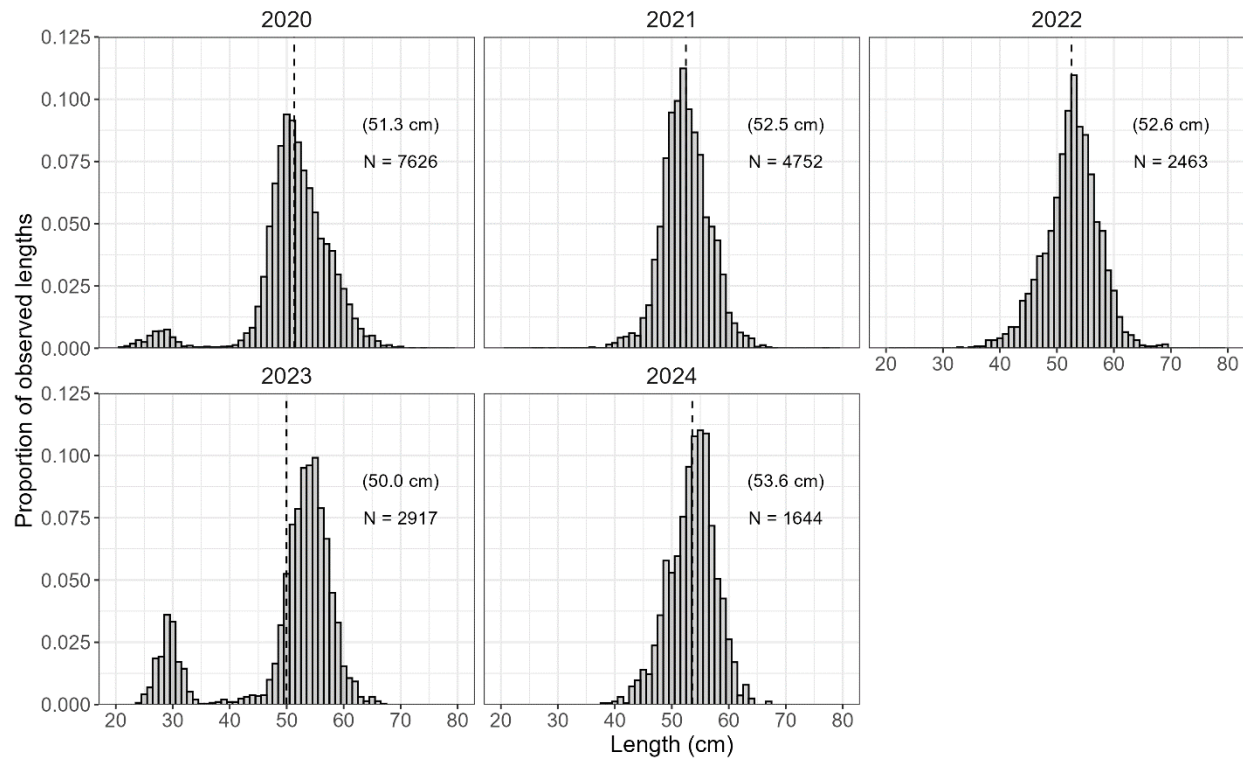
\*Catch data is not complete for 2024 and will be updated in 2025.

Table 3E.2. Number of observed hauls for the Eastern Bering Sea pelagic and non-pelagic trawl fisheries that included sablefish, and the number of hauls with average sablefish weight < 0.5 kg, which are assumed to be predominantly age-1 fish, by year. Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.

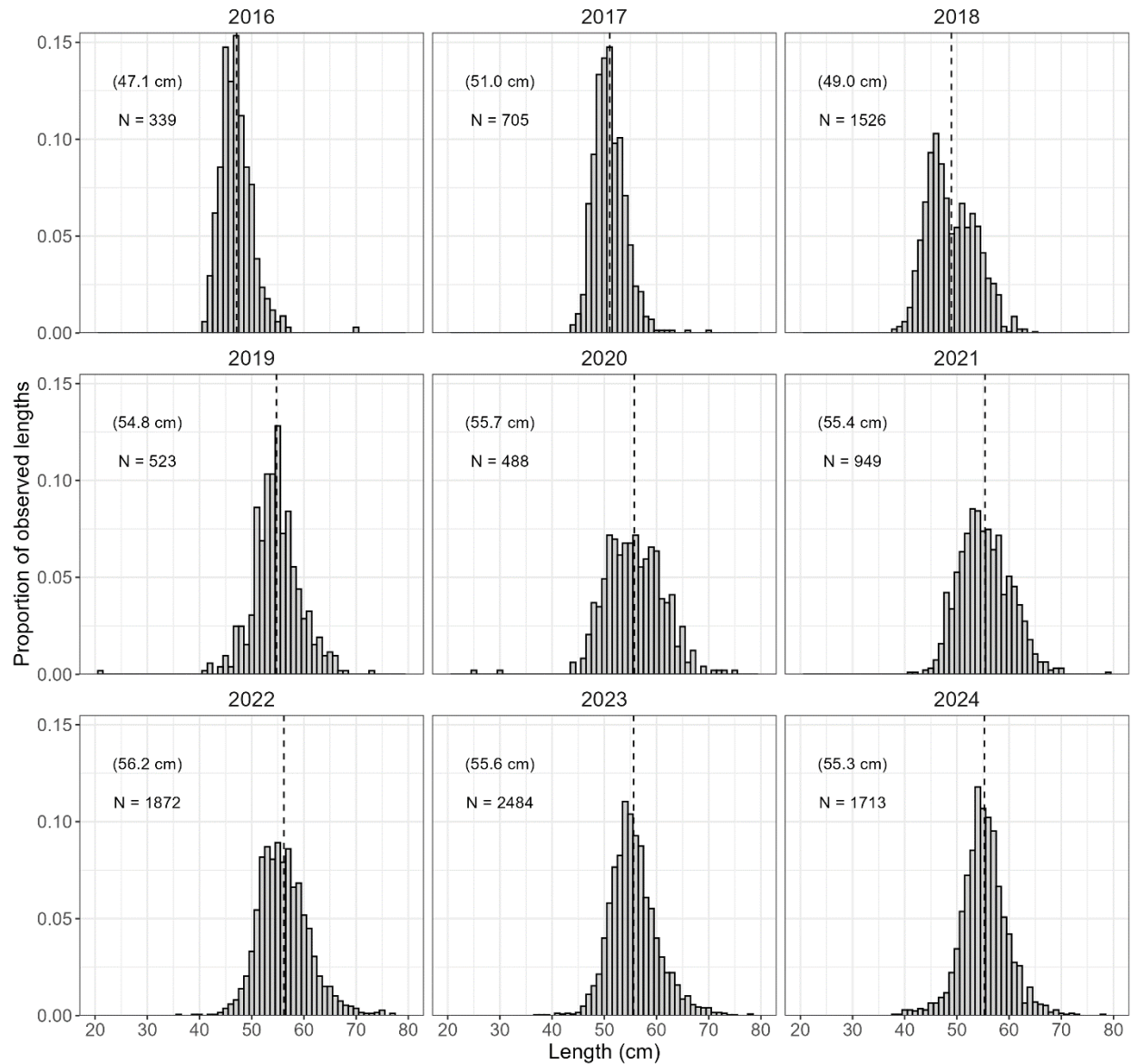
Year	Non-pelagic		Pelagic	
	Total hauls	Hauls < 0.5	Total hauls	Hauls < 0.5
2015	216	147	16	10
2016	455	4	337	3
2017	682	23	831	366
2018	574	1	900	11
2019	1,076	12	1,693	34
2020	920	50	2,037	208
2021	1,158	2	858	20
2022	1,319	0	282	1
2023	1,224	15	559	184
2024*	550	0	224	0

\*Catch data is not complete for 2024 and will be updated in 2025.

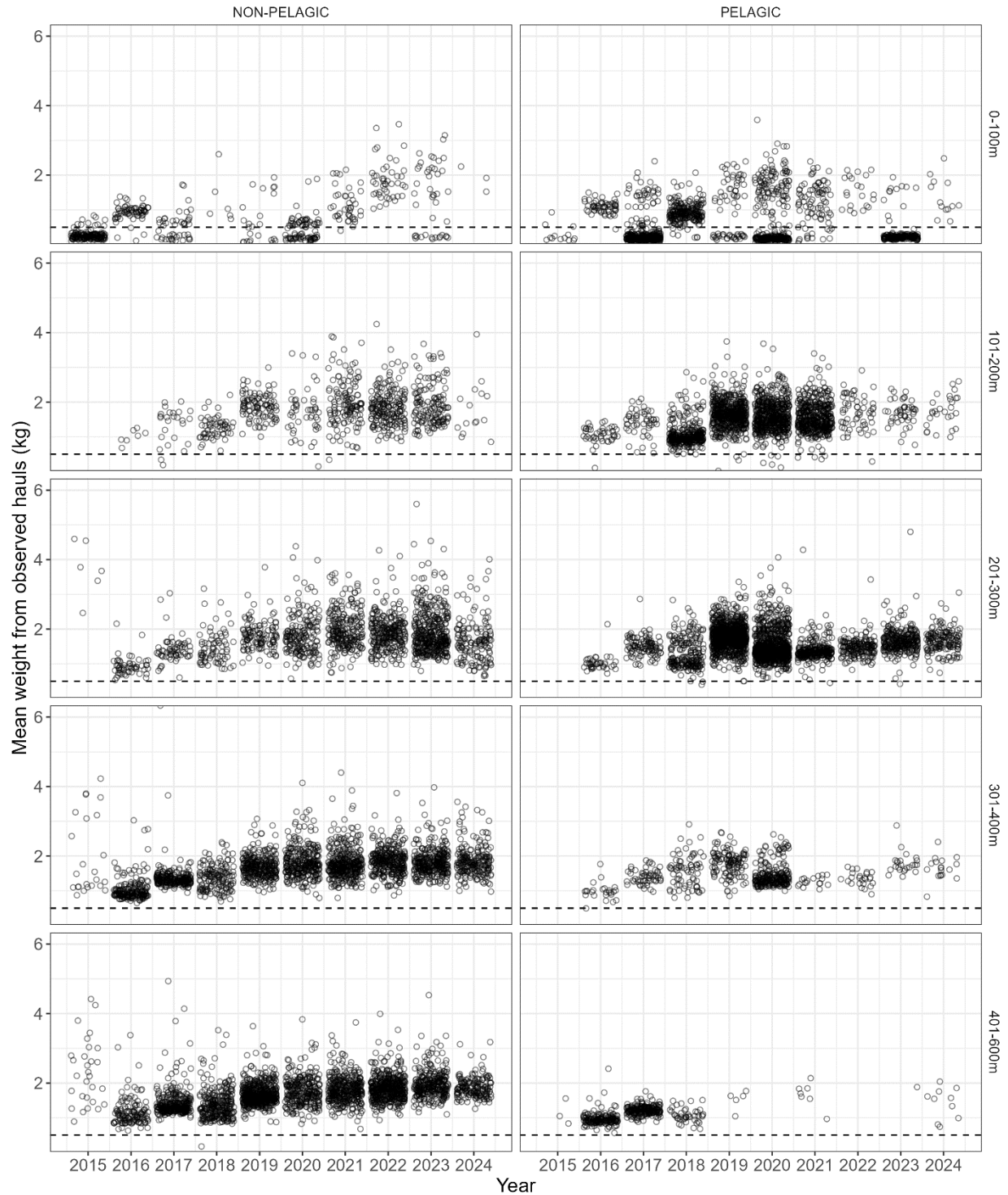
## Figures



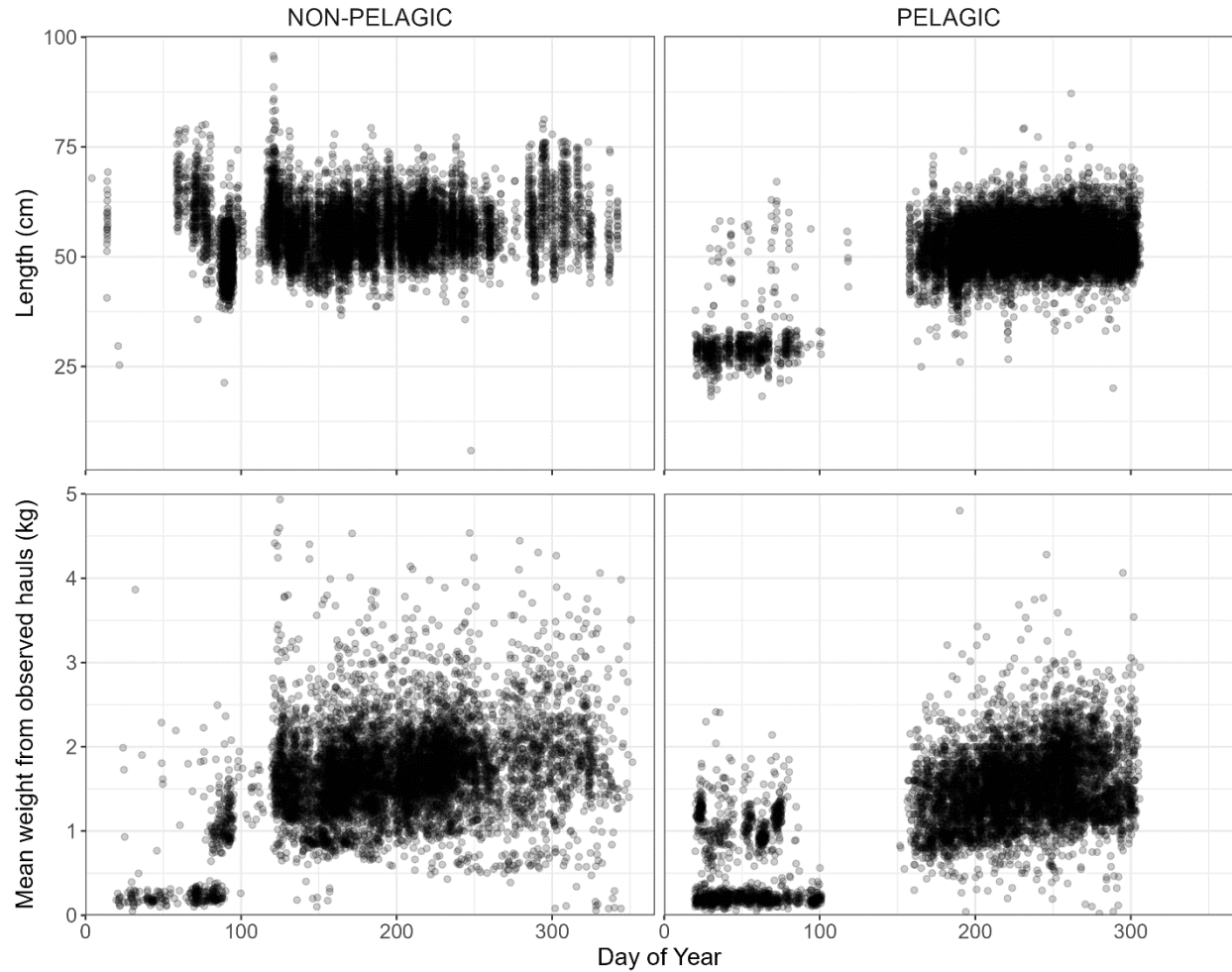
**Figure 3E.1.** Proportions of sablefish lengths measured by observers in Eastern Bering Sea pelagic trawl fisheries. The vertical dashed line indicates the mean length each year (value shown in parentheses, with sample size, N, below). Note that complete length data taken in 2024 will not be available until next year. Data provided by the NORPAC length database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.



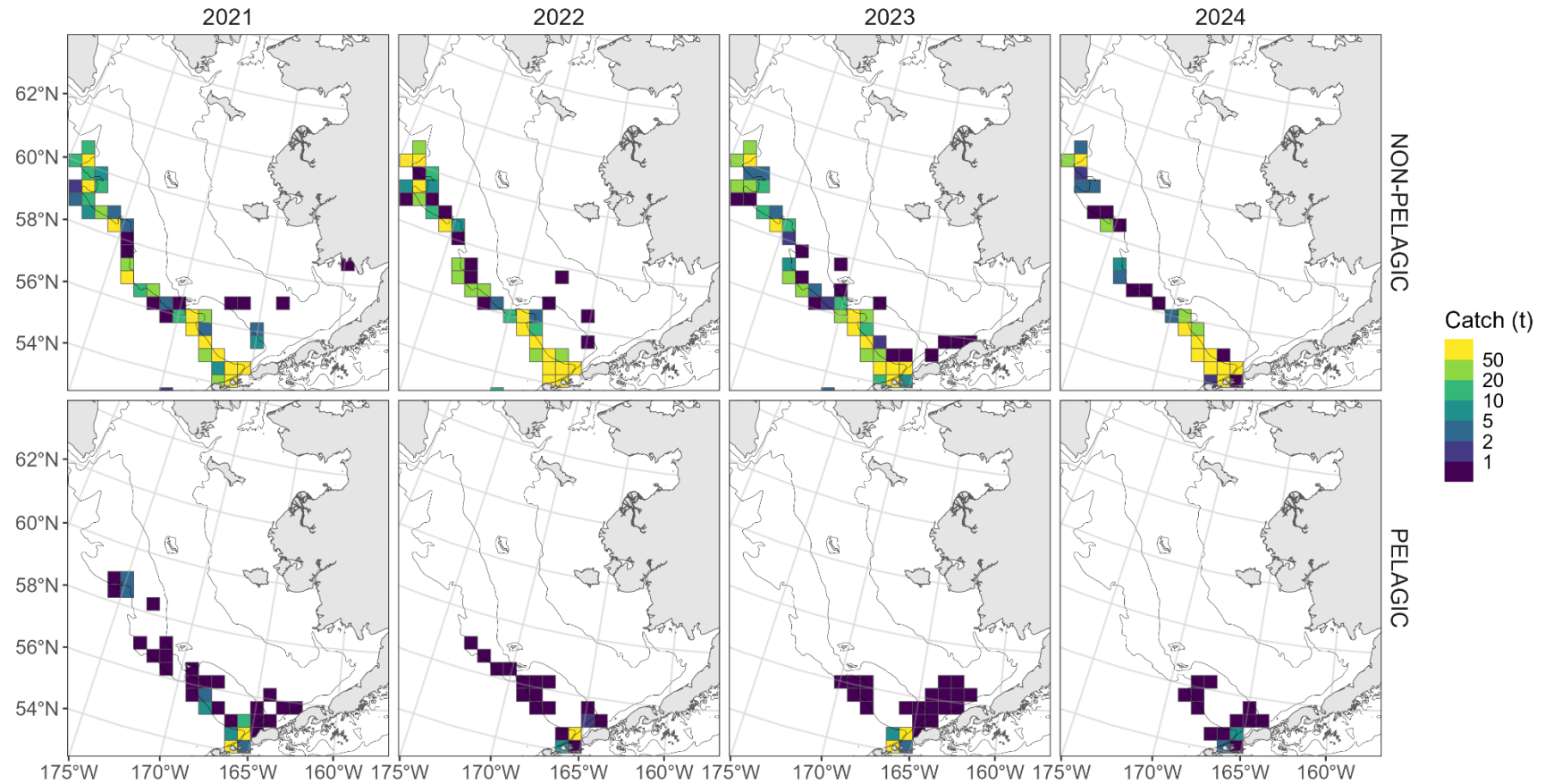
**Figure 3E.2.** Proportions of sablefish lengths measured by observers in Eastern Bering Sea non-pelagic trawl fisheries. The vertical dashed line indicates the mean length each year (value shown in parentheses, with sample size, N, below). Note that complete length data taken in 2024 will not be available until next year Data provided by the NORPAC length database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.



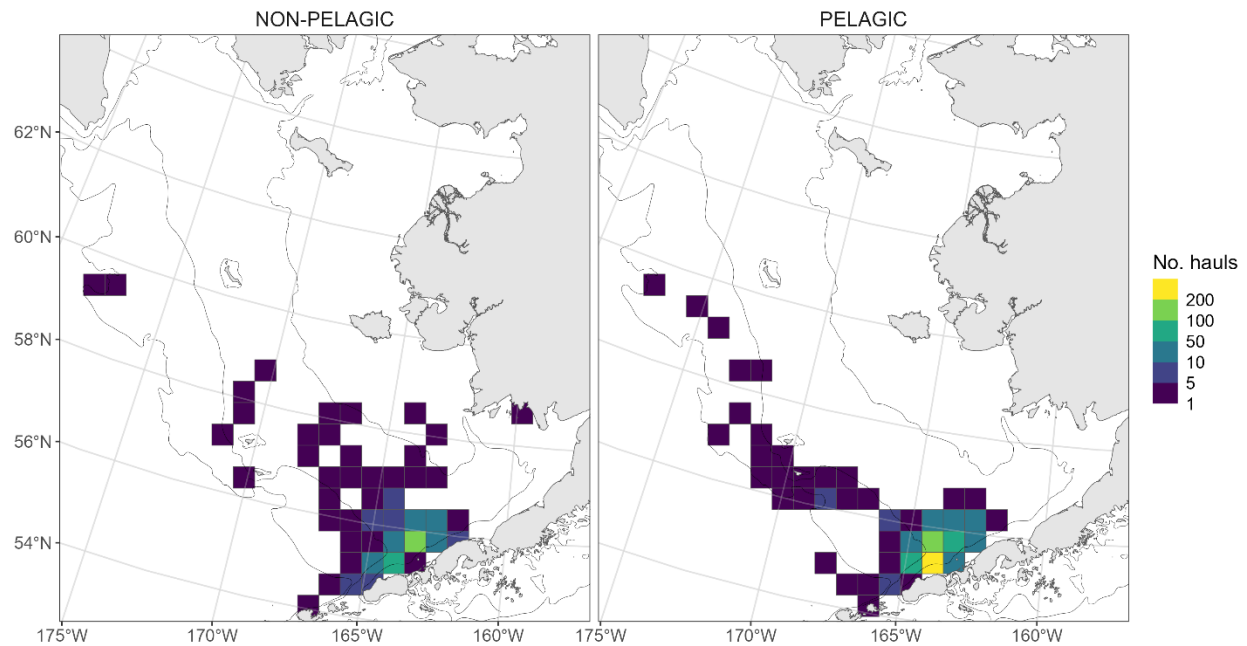
**Figure 3E.3.** Distributions of the mean weight of sablefish from observed hauls in the Eastern Bering Sea non-pelagic (left) and pelagic (right) trawl fisheries. Catches are binned by 100- or 200-m depth bins (increasing in depth from top to bottom panels). The horizontal dashed lines at 0.5 kg delineate likely age-1 sablefish dominating the catch when more of the distribution is below the line. Catch data from 2024 is incomplete. Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.



**Figure 3E.4.** Sablefish catch by lengths (top) and average weight (bottom) throughout the year from all available observer data in the Eastern Bering Sea between 2010 and 2024 for non-pelagic (left) and pelagic (right) trawl fisheries. Length and catch data provided by the NORPAC length and catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024.

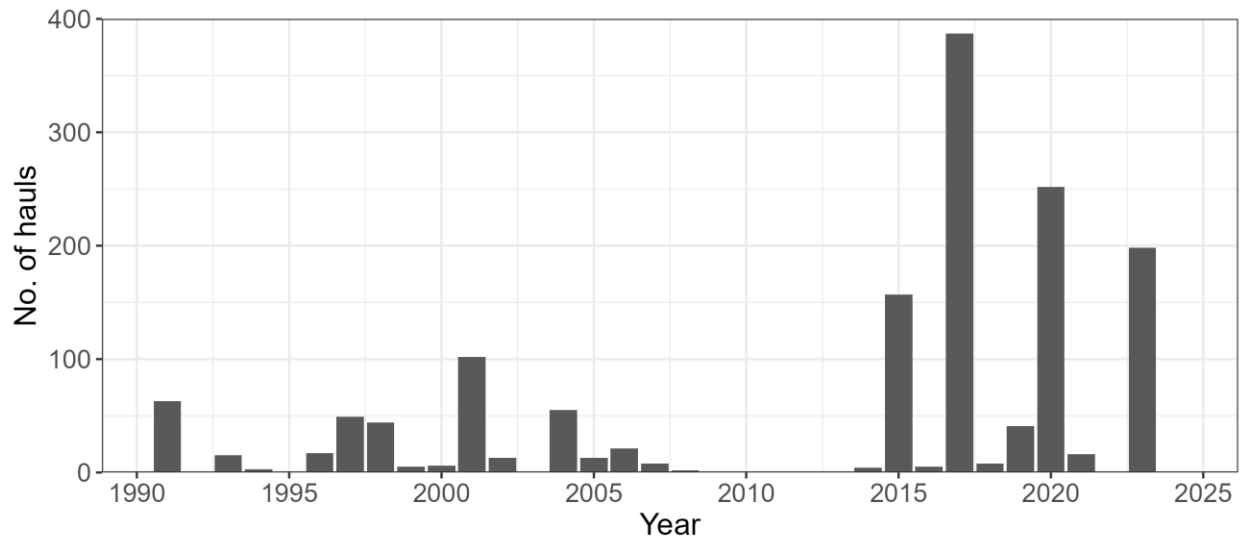


**Figure 3E.5.** Spatial distribution of observed sablefish catch (t) occurring in non-pelagic (top row) and pelagic (bottom row) trawl gear in the eastern Bering Sea from 2021 to 2024 (columns). Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024. Locations shown have been generalized to generic center locations of a 50 x 50 sq. km grid if there were 3 or more unique vessels, as per NOAA/NMFS regulations.



**Figure 3E.6.** The cumulative number of non-pelagic (left) and pelagic (right) trawl hauls with a mean sablefish weight < 0.5 kg since 1991. Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024. Locations shown have been generalized to generic center locations of a 50 x 50 sq. km grid if there were 3 or more unique vessels, as per NOAA/NMFS regulations.





**Figure 3E.7.** The annual sum of pelagic and non-pelagic trawl hauls fishing from 0 to 100 m where the mean weight of sablefish was < 0.5 kg (i.e., age-1). Data provided by the NORPAC catch database accessed via the Alaska Fishery Information Network (AKFIN) on October 28, 2024