3.161) in IPHC Bulletin IPHC-2023-AM099-INF04. Area swept (ha) is computed for each haul as the linear distance towed, multiplied by the mean net width (Alverson and Pereyra, 1969; Lauth and Kotwicki, 2014). Halibut CPUE for each haul is calculated as the total halibut weight, estimated by the regression, divided by the area swept. Mean catch per unit effort (CPUE) is calculated in kilograms per hectare (100 hectares (ha) = 1 km2) for each stratum (Alverson and Pereyra, 1969; Lauth and Kotwicki, 2014). A biomass estimate is calculated for each stratum by multiplying the stratum mean CPUE by the stratum area. Stratum estimates are then summed to create a biomass estimate for the total survey area (see Markowitz et al. 2023, for example).

Methods and analyses used to establish the NMFS EBS estimate of halibut abundance are described in Section 1.6.1 of the Final Environmental Impact Statement prepared for Amendment 1231.

The 2023 Eastern Bering Sea shelf trawl survey index estimate of halibut abundance is 170,238 mt and is above the threshold level of 150,000 mt in the high abundance state.

Although survey gear, methodology, and coverage has been standardized for the EBS survey since 1987, there have been two recent updates to data calculations that will influence the 2023 and future biomass calculations relative to previous iterations. In 2022, stratum area calculations were adjusted to reflect fine-tuning of spatial shapefiles, which resulted in a slight increase in the calculated area for the overall survey (492,897 km^2 to 492,989 km^2), and a 0.01% increase in overall biomass estimates for the time series. In 2023, length-weight parameters used in the regression for halibut weight calculations were updated to reflect new guidance from the IPHC (see above). While we are making no attempt to recalculate historical biomass estimates at this time, we estimate that the new parameters have increased the 2023 biomass estimate approximately 3%. The updated stratum areas and length-weight parameters will be used in future years as well, and until further notice.

cc: David Witherell, Executive Director
Bill Tweit, Interim-Chair

1 https://www.fisheries.noaa.gov/resource/document/final-environmental-impact-statement-bering-sea-and-aleutian-islands-bsai-halibut