Commercial Discard estimates of blueline tilefish in the Mid-Atlantic Region

Blueline tilefish discards by gear type and associated uncertainty in the Mid-Atlantic region is estimated in the newly developed Catch Accounting and Monitoring System (CAMS). The blueline discards estimates tend to be low and relatively uncertain with high cv estimates (table 1). Most of the commercial discards seem to occur in the trawl fisheries in the Mid-Atlantic region. Below is an overview summary of the CAMS which is taken from the CAMS documentation. Full details of the CAMS estimation and matching process is given in the CAMS documentation (CAMS).

The Catch Accounting and Monitoring System (CAMS) is a joint venture between the Greater Atlantic Regional Fisheries Office (GARFO) and the Northeast Fisheries Science Center (NEFSC) to implement a shared data system to support quota monitoring, stock assessments, and other programs reliant on fisheries-dependent data. The goal of CAMS is to provide a single, comprehensive source for all US commercial catch in the Greater Atlantic region (landings and discards) for quota monitoring, stock assessment, protected resource estimation, ecosystem modeling, and other current and future needs of GARFO and the NEFSC in a fully documented relational database with appropriate user views and tables.

The CAMS system estimates discards for all managed species in the Greater Atlantic region on a trip by trip basis. The majority of estimated discards, for most species and subtrips, is estimated following the Standardized Bycatch Reporting Methodology (SBRM) originally described by Wigley et al. (2007) and modified by Nitschke et al. (2010) to support quota monitoring. The process involves using a ratio estimator (Cochran 1977) for trips carrying a human at-sea observer (i.e., “observed” trips) to estimate the rate (or ratio) of discarded weight for a given species per total kept weight of all species (i.e., a proxy for effort) for each subtrip of a trip. Unobserved trips are assumed to discard a given species at similar rates to observed trips, depending on a collection of stratification variables describing subtrip attributes (e.g., gear type, mesh, and statistical area fished) and potentially other relevant attributes such as regulation and fishing year.

References:

CAMS Documentation: https://www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/

Nitschke, P. 2010. Estimating in-season discards from the Northeast United States groundfish fishery: Discard Estimator Performance Simulation Study (Part I). Working Paper No. *In* Discard Estimation Methodology Review. Northeast Fisheries Science Center National Marine Fisheries Service, Woods Hole, MA. Available from https://www.researchgate.net/publication/268257483_Estimating_in-season_discards_from_the_Northeast_United_States_groundfish_fishery_Discard_Estimator_Performance_Simulation_Study_Part_I_Working_Paper_No.

Wigley, S.E., Rago, P.J., Sosebee, K.A., and Palka, D.L. 2007. The Analytic Component to the Standardized Bycatch Reporting Methodology Omnibus Amendment: Sampling Design and Estimation of Precision and Accuracy (2nd edition). U.S. Department of Commerce, Northeast Fisheries Science Center **Reference Document 07-09**. Available from https://repository.library.noaa.gov/view/noaa/5261.

Table 1. Blueline Tilefish estimated discards (lbs) and CVs by gear type from CAMS in the Mid-Atlantic region (Virginia to Massachusetts).

	gillnet		Longline		hook & line		fish pots		lobster pots		trawl		Total
Year	Lbs	CV	Lbs	CV	Lbs	CV	Lbs	CV	Lbs	CV	Lbs	CV	Discards
2017							36	2.96			92	1.33	128
2018	12	2.16	323	2.41			214	1.21	1,328	2.10	1,709	0.39	3,586
2019	53	1.00	4,002	0.89					4,761	1.11	3,783	0.38	12,599
2020			6,639	0.94							1,388	0.96	8,027
2021									98	2.55	3,519	0.69	3,617
2022									621	1.01	6,370	0.31	6,991
2023			8,445	0.67	2,992	1.02					10,216	0.27	21,653