

# **Estimation of Bycatch with Sea Turtles, Seabirds, Bony Fish, Sharks, and Rays in the American Samoa Permitted Longline Fishery for Years 2016–2019**

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The attached Excel workbook (pir.asll.1619.xlsx) includes annual bycatch estimates for years 2016, 2017, 2018, and 2019. The workbook includes a worksheet labeled “key” that provides definitions of the column headings and the items being estimated.

McCracken (2019) describes the sampling of the American Samoa longline fleet, estimators of bycatch, and the caveats of the sampling and estimators. The 2016–2019 bycatch estimates were derived using the synthetic combine ratio estimator. A comparison of the American Samoa Trip Log (Pacific Islands Regional Office 2020a) and American Samoa Longline Logbook Data Set (Pacific Islands Fisheries Science Center 2020) showed discrepancies between the two data sets. For example, trips would be recorded in one of the data sets but not in the other, or one trip in one data set would be represented by multiple trips in the other. For this reason, the auxiliary variables used in the past, number of sets and days at sea, were not considered as the population totals for these variables is uncertain. Hence, the ratio used represents the bycatch rate per trip in which the number of trips were based on the American Samoa Trip Log with the few trips in the American Samoa Longline Logbook Data Set that were not represented in the trip log added to this list. The observed and estimated numbers were derived using American Samoa Trip Log and Longline Logbook Data Set along with the Longline Observer Data System (Pacific Islands Regional Office 2020b).

## **References**

- Pacific Islands Fisheries Science Center. 2020. American Samoa Longline Logbook. <https://inport.nmfs.noaa.gov/inport/item/2721>.
- Pacific Islands Regional Office. 2020a. American Samoa Longline Trip Log. <https://inport.nmfs.noaa.gov/inport/item/16869>.
- Pacific Islands Regional Office. 2020b. Longline Observer Data System. <https://inport.nmfs.noaa.gov/inport/item/9027>.
- McCracken ML. 2019. American Samoa Longline Fishery Estimated Anticipated Take Levels for Endangered Species Act Listed Species. Pacific Islands Fisheries Science Center. PIFSC Data Report DR-19-028. <https://doi.org/10.25923/b8gs-j441>.