Western and Central Pacific Fisheries Commission

**SCIENTIFIC COMMITTEE**
**TWENTY-FIRST REGULAR SESSION**

Nuku'alofa, Tonga
13 – 21 August 2025

# ANNUAL REPORT TO THE COMMISSION
# PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS

**WCPFC-SC21-AR/CCM-27**
**7 July 2025**

**UNITED STATES OF AMERICA**

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# SCIENTIFIC COMMITTEE TWENTY-FIRST REGULAR SESSION, 13–21 August 2025

# ANNUAL REPORT TO THE COMMISSION

## PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

**WCPFC-SC20-AR/CCM-27**

**UNITED STATES OF AMERICA**

# 2025 Annual Report to the
# Western and Central Pacific Fisheries Commission

## PART I. INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

## United States of America

## National Oceanic and Atmospheric Administration
## National Marine Fisheries Service

**Data Included Through December 2024**

| | |
|---|---|
| Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 30 April 2023 | **YES** |
| If no, please indicate the reason(s) and intended actions: | |

## 1. Abstract

In the Western and Central Pacific Fisheries Commission (WCPFC) Convention Area, the United States (U.S.) and its territories have large-scale fisheries for highly migratory species (HMS) in the Pacific Ocean that includes the purse-seine fishery targeting skipjack tuna (*Katsuwonus pelamis*) and yellowfin tuna (*Thunnus albacares*); longline fisheries targeting bigeye tuna (*Thunnus obesus*), swordfish (*Xiphias gladius*), or albacore (*Thunnus alalunga*); and a troll fishery targeting albacore. Small-scale fisheries include troll fisheries targeting skipjack and yellowfin tuna and other pelagic species, handline fisheries targeting yellowfin and bigeye tuna, as well as other miscellaneous-gear fisheries. In these large- and small-scale fisheries, a variety of other pelagic species are captured incidentally or targeted, including other tunas and billfishes, mahimahi (*Coryphaena hippurus*), wahoo (*Acanthocybium solandri*), moonfish (*Lampris* spp.), escolar (*Lepidocybium flavobrunneum*), and pomfrets (Bramidae).

The large-scale fisheries operate in the high seas and within the U.S. exclusive economic zone (EEZ). Under the South Pacific Tuna Treaty (SPTT), U.S. purse-seine vessels are allowed to fish in the EEZs of the Pacific island countries party to the treaty. The small-scale fisheries operate in nearshore waters off Hawaii and the U.S. territories of American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI).

This report presents estimates of annual catches of tuna, billfish, and other highly migratory

species (HMS), and vessel participation from 2020–2024 for fisheries of the U.S. and its territories operating in the WCPFC Convention Area. Statistics for 2024 are provisional. Statistics for 2023 have been updated from those reported provisionally in the submission for 2019–2023. In this report, summarized catch data includes American Samoa-based vessels for 2020–2023 but excludes these data for 2024 as they are summarized in a report submitted by American Samoa. In this report, the 2024 catch in the WCPFC Convention Area excludes 1) U.S. purse-seine high seas catch for vessels based in American Samoa, 2) U.S. longline catch (all) by American Samoa-based vessels, 3) U.S. longline high seas catch by American Samoa-Hawaii dual-permitted vessels, and 4) U.S. troll catch by American Samoa-based vessels. However, the 2025 annual data submission includes American Samoa-based catch data for the entire 5-year period (2020–2024).

For the U.S. and its territorial fishing fleets, the species composition of total HMS catch in the WCPFC Convention Area is dominated by the catch by the purse-seine fishery (excludes catch in high seas by American Samoa-based purse seine vessels), which comprised 69% (30,833 t) of the total fisheries catch (44,607 t) in 2024. The large majority (84%) of the purse-seine catch was skipjack with 25,894 t with 13% (3,986 t) bigeye tuna and 3% (950 t) yellowfin tuna (Table 1a-e). Although the largest U.S. fisheries catch in the WCPFC Convention Area was from the purse-seine fishery from 2020–2024, this catch was significantly lower in the last 4 years (2021–2024) compared to the total annual catch in 2020 (137,406 t in 2020; Table 1a-e) due to a decrease in vessel participation.

The U.S. longline fishery that operates out of the states of Hawaii and California had the second largest catch of HMS in the WCPFC Convention Area with 28% (12,324 t) of total catch in 2024. For 2024, longline catch is reported for the deep-set and shallow-set longline fisheries and does not include catch from the American Samoa longline fishery in the South Pacific Ocean (SPO) or from vessels dual-permitted (American Samoa and Hawaii) fishing in the high seas of the North Pacific Ocean (NPO). For 2020–2023, reported longline catch includes all catch by the U.S. and its territories, including American Samoa and bigeye tuna catch attributed to CNMI. The 2024 annual longline catch for Hawaii- and California-permitted fisheries (12,324 t) for all retained species was greater than the annual average (9,609 t) for the 5-year period (Table 1f).

In 2024, the U.S. longline fisheries catch composition was dominated by species targeted in the deep-set (bigeye tuna) and shallow-set (swordfish) longline fisheries with 43% (5,317 t) bigeye tuna and 7% (821 t) swordfish and by the secondary catch of yellowfin tuna with 30% (3,704 t) of total catch (Table 1a-e; Table 1f). The 2024 bigeye tuna, swordfish, and yellowfin tuna catch were all above the 5-year averages (bigeye tuna = 4,716 t; swordfish = 810 t; and yellowfin tuna = 2,246 t).

A total of 1,818 U.S.-flagged vessels operated in the WCPFC in 2024 with the small-scale tropical troll and handline fisheries having the largest number of vessels (1,566 vessels);

however, this fishery contributed only 2% of the total HMS catch. The troll and handline fisheries consists of fishers targeting HMS in Hawaii and the territories and includes people that fish recreationally, for subsistence, or commercially, selling all or a portion of their catch. In contrast, the large-scale purse-seine fleet that provides the majority of U.S. HMS catch had only 12 vessels operating in 2024, which is close to half of the number of vessels that operated in 2020 (23 vessels). The longline fishery operated 144 vessels to bring in the second largest amount of HMS catch and the SPO albacore troll fishery operated 4 vessels in 2024.

## 2. Tabular Annual Fisheries Information

The purse-seine fishery remains the largest U.S. fishery in terms of total retained catch. It accounted for 69% of the total catch of HMS by the U.S. and its territories in the WCPFC Convention Area in 2024. The U.S. longline fishery accounted for 28% of total catch with the small boat fisheries and albacore troll fisheries accounting for the remaining 3% of total catch. Fisheries of the U.S. and its territories had an estimated catch of 44,607 t of tunas, billfishes, and other HMS in 2024 (Table 1a), which is below the 5-year average for 2020–2024 (83,902 t), which may be partially driven by declines in skipjack catch by the purse-seine fishery with less vessel participation in the last three years (Table 1a-e, Table 2a). The 2024 catch consisted primarily of tuna with 59% skipjack tuna, 21% bigeye tuna, 11% yellowfin tuna, and 1% albacore with the remaining 8% of total catch composed of billfish, sharks, and other pelagic fish. Further discussion of the tabular fisheries information is provided in the following section Flag State Reporting.

**Table 1a. Annual catch estimates (metric tons) by gear and primary species by U.S. or its territories (Guam and CNMI) WCPFC Convention Area for 2024.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| Species and FAO Code | Purse Seine[1] | Longline[2] | Albacore Troll | Tropical Troll[3] | Handline | Total |
|---|---|---|---|---|---|---|
| Albacore (ALB), North Pacific | - | 194 | - | 2 | 29 | 225 |
| Albacore (ALB), South Pacific | 0 | - | 164 | 0 | - | 164 |
| Bigeye tuna (BET) | 3986 | 5317 | - | 6 | 76 | 9385 |
| Pacific bluefin tuna (PBF) | 0 | 2 | - | 0 | - | 2 |
| Skipjack tuna (SKJ) | 25894 | 128 | - | 315 | 4 | 26341 |
| Yellowfin tuna (YFT) | 950 | 3704 | - | 187 | | 4841 |
| Other tuna (TUN KAW FRI) | 0 | 0 | - | 3 | 186 | 189 |
| TOTAL TUNAS | 30829 | 9346 | 164 | 514 | 295 | 41148 |
| Black marlin (BLM) | 2 | 1 | - | 2 | - | 5 |
| Blue marlin (BUM) | 1 | 655 | - | 132 | 4 | 792 |
| Sailfish (SFA) | 0 | 11 | - | 1 | 0 | 12 |
| Spearfish (SSP) | 0 | 155 | - | 9 | 0 | 164 |
| Striped marlin (MLS), North Pacific | - | 554 | - | 16 | 0 | 570 |
| Striped marlin (MLS), South Pacific | 0 | - | - | 0 | - | 0 |
| Other marlins (BIL) | 0 | 11 | - | 0 | - | 11 |
| Swordfish (SWO), North Pacific | - | 821 | - | 0 | 1 | 822 |
| Swordfish (SWO), South Pacific | 0 | - | - | 0 | - | 0 |
| TOTAL BILLFISHES | 3 | 2209 | - | 161 | 5 | 2378 |
| Blue shark (BSH) | 0 | 0 | - | 0 | - | 0 |
| Mako shark (MAK) | 0 | 1 | - | 0 | - | 1 |
| Thresher sharks (THR) | 0 | 0 | - | 0 | - | 0 |
| Other sharks (SKH OCS FAL SPN TIG CCL) | 0 | 0 | - | 0 | - | 0 |
| TOTAL SHARKS | 0 | 1 | - | 0 | - | 1 |
| Mahimahi (DOL) | 1 | 127 | - | 186 | 4 | 318 |
| Moonfish (LAP) | 0 | 72 | - | 0 | - | 72 |
| Oilfish (GEP) | 0 | 38 | - | 0 | 0 | 38 |
| Pomfrets (BRZ) | 0 | 125 | - | 0 | 1 | 126 |
| Wahoo (WAH) | 0 | 406 | - | 110 | 6 | 522 |
| Other fish (PEL PLS MOP TRX GBA ALX GES RRU DOT) | 0 | 1 | - | 4 | 0 | 5 |
| TOTAL OTHER | 1 | 769 | - | 300 | 11 | 1081 |
| TOTAL | 30833 | 12324 | 164 | 975 | 311 | 44607 |

[1] Excludes catch in the high seas by American Samoa-based vessels.
[2] Excludes catch made by American Samoa-based vessels and catch in the high seas by Hawaii dual-permitted vessels with an American Samoa permit.
[3] Excludes catch by American Samoa-based vessels.

**Table 1b. Annual catch estimates (metric tons) by gear and primary species by U.S. or its territories (American Samoa, Guam, and CNMI) WCPFC Convention Area for 2023.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| Species and FAO Code | Purse Seine | Longline | Albacore Troll | Tropical Troll | Handline | Total |
|---|---|---|---|---|---|---|
| Albacore (ALB), North Pacific | - | 264 | - | 0 | 5 | 269 |
| Albacore (ALB), South Pacific | 0 | 881 | 328 | 0 | - | 1209 |
| Bigeye tuna (BET) | 7826 | 5167 | - | 5 | 132 | 13130 |
| Pacific bluefin tuna (PBF) | 0 | 1 | - | 0 | - | 1 |
| Skipjack tuna (SKJ) | 57745 | 106 | - | 368 | 8 | 58226 |
| Yellowfin tuna (YFT) | 8373 | 2761 | - | 312 | 250 | 11695 |
| Other tuna (TUN KAW FRI) | 0 | 0 | - | 3 | 1 | 3 |
| TOTAL TUNAS | 73943 | 9180 | 328 | 687 | 395 | 84533 |
| Black marlin (BLM) | 0 | 1 | - | 1 | - | 3 |
| Blue marlin (BUM) | 3 | 403 | - | 94 | 3 | 502 |
| Sailfish (SFA) | 0 | 13 | - | 2 | - | 15 |
| Spearfish (SSP) | 0 | 173 | - | 6 | 0 | 179 |
| Striped marlin (MLS), North Pacific | - | 206 | - | 6 | 0 | 212 |
| Striped marlin (MLS), South Pacific | 0 | 2 | - | 0 | - | 2 |
| Other marlins (BIL) | 0 | 4 | - | 0 | - | 4 |
| Swordfish (SWO), North Pacific | - | 1088 | - | 0 | 1 | 1089 |
| Swordfish (SWO), South Pacific | 0 | 3 | - | 0 | - | 3 |
| TOTAL BILLFISHES | 3 | 1893 | - | 110 | 4 | 2010 |
| Blue shark (BSH) | 0 | 0 | - | 0 | - | 0 |
| Mako shark (MAK) | 0 | 0 | - | 0 | - | 0 |
| Thresher sharks (THR) | 0 | 1 | - | 0 | - | 1 |
| Other sharks (SKH OCS FAL SPN TIG CCL) | 0 | 0 | - | 0 | - | 0 |
| TOTAL SHARKS | 0 | 2 | - | 0 | - | 2 |
| Mahimahi (DOL) | 1 | 184 | - | 197 | 13 | 394 |
| Moonfish (LAP) | 0 | 92 | - | 0 | - | 92 |
| Oilfish (GEP) | 0 | 44 | - | 0 | - | 44 |
| Pomfrets (BRZ) | 0 | 127 | - | 0 | 1 | 128 |
| Wahoo (WAH) | 1 | 277 | - | 109 | 4 | 391 |
| Other fish (PEL PLS MOP TRX GBA ALX GES RRU DOT) | 1 | 1 | - | 8 | 0 | 10 |
| TOTAL OTHER | 3 | 725 | - | 314 | 18 | 1059 |
| TOTAL | 73948 | 11800 | 328 | 1111 | 418 | 87604 |

**Table 1c. Annual catch estimates (metric tons) by gear and primary species by U.S. or its territories (American Samoa, Guam, and CNMI) WCPFC Convention Area for 2022.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| Species and FAO Code | Purse Seine | Longline | Albacore Troll | Tropical Troll | Handline | Total |
|---|---|---|---|---|---|---|
| Albacore (ALB), North Pacific | - | 129 | - | 1 | 5 | 135 |
| Albacore (ALB), South Pacific | 0 | 1139 | 1400 | 0 | - | 2539 |
| Bigeye tuna (BET) | 8457 | 5352 | - | 13 | 239 | 14060 |
| Pacific bluefin tuna (PBF) | 0 | 1 | - | 0 | - | 1 |
| Skipjack tuna (SKJ) | 42823 | 140 | - | 354 | 5 | 43322 |
| Yellowfin tuna (YFT) | 4449 | 2310 | - | 370 | 429 | 7559 |
| Other tuna (TUN KAW FRI) | 0 | 0 | - | 2 | 1 | 3 |
| TOTAL TUNAS | 55729 | 9071 | 1400 | 740 | 679 | 67619 |
| Black marlin (BLM) | 0 | 0 | - | 1 | - | 2 |
| Blue marlin (BUM) | 3 | 520 | - | 117 | 3 | 643 |
| Sailfish (SFA) | 0 | 12 | - | 3 | - | 15 |
| Spearfish (SSP) | 0 | 121 | - | 4 | 0 | 125 |
| Striped marlin (MLS), North Pacific | - | 288 | - | 9 | - | 297 |
| Striped marlin (MLS), South Pacific | 0 | 2 | - | 0 | - | 2 |
| Other marlins (BIL) | 0 | 0 | - | 0 | - | 0 |
| Swordfish (SWO), North Pacific | - | 1081 | - | 0 | 1 | 1082 |
| Swordfish (SWO), South Pacific | 0 | 3 | - | 0 | - | 3 |
| TOTAL BILLFISHES | 3 | 2028 | - | 135 | 4 | 2170 |
| Blue shark (BSH) | 0 | 0 | - | 0 | - | 0 |
| Mako shark (MAK) | 0 | 1 | - | 0 | - | 1 |
| Thresher sharks (THR) | 0 | 2 | - | 0 | - | 2 |
| Other sharks (SKH OCS FAL SPN TIG CCL) | 0 | 0 | - | 0 | - | 0 |
| TOTAL SHARKS | 0 | 3 | - | 0 | - | 3 |
| Mahimahi (DOL) | 1 | 149 | - | 232 | 9 | 392 |
| Moonfish (LAP) | 0 | 94 | - | 0 | - | 94 |
| Oilfish (GEP) | 0 | 64 | - | 0 | 0 | 64 |
| Pomfrets (BRZ) | 0 | 155 | - | 1 | 2 | 158 |
| Wahoo (WAH) | 2 | 231 | - | 85 | 2 | 321 |
| Other fish (PEL PLS MOP TRX GBA ALX GES RRU DOT) | 2 | 2 | - | 8 | 0 | 12 |
| TOTAL OTHER | 5 | 695 | - | 326 | 14 | 1040 |
| TOTAL | 55738 | 11797 | 1400 | 1200 | 697 | 70832 |

**Table 1d. Annual catch estimates (metric tons) by gear and primary species by U.S. or its territories (American Samoa, Guam, and CNMI) WCPFC Convention Area for 2021.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| Species and FAO Code | Purse Seine | Longline | Albacore Troll | Tropical Troll | Handline | Total |
|---|---|---|---|---|---|---|
| Albacore (ALB), North Pacific | - | 135 | - | 1 | 5 | 141 |
| Albacore (ALB), South Pacific | 0 | 832 | 654 | 0 | - | 1486 |
| Bigeye tuna (BET) | 6145 | 5683 | - | 13 | 123 | 11964 |
| Pacific bluefin tuna (PBF) | 0 | 1 | - | 0 | - | 1 |
| Skipjack tuna (SKJ) | 39507 | 198 | - | 520 | 4 | 40229 |
| Yellowfin tuna (YFT) | 4820 | 2509 | - | 388 | 277 | 7994 |
| Other tuna (TUN KAW FRI) | 0 | 0 | - | 3 | 1 | 4 |
| TOTAL TUNAS | 50472 | 9359 | 654 | 924 | 409 | 61819 |
| Black marlin (BLM) | 1 | 0 | - | 1 | - | 2 |
| Blue marlin (BUM) | 2 | 456 | - | 128 | 3 | 588 |
| Sailfish (SFA) | 0 | 14 | - | 1 | - | 15 |
| Spearfish (SSP) | 0 | 121 | - | 5 | - | 127 |
| Striped marlin (MLS), North Pacific | - | 255 | - | 8 | - | 263 |
| Striped marlin (MLS), South Pacific | 0 | 3 | - | 0 | - | 3 |
| Other marlins (BIL) | 0 | 1 | - | 0 | - | 1 |
| Swordfish (SWO), North Pacific | - | 803 | - | 0 | 1 | 805 |
| Swordfish (SWO), South Pacific | 0 | 3 | - | 0 | - | 3 |
| TOTAL BILLFISHES | 3 | 1657 | - | 144 | 4 | 1807 |
| Blue shark (BSH) | 0 | 0 | - | 0 | - | 0 |
| Mako shark (MAK) | 0 | 1 | - | 0 | - | 1 |
| Thresher sharks (THR) | 0 | 1 | - | 0 | - | 1 |
| Other sharks (SKH OCS FAL SPN TIG CCL) | 0 | 0 | - | 0 | - | 0 |
| TOTAL SHARKS | 0 | 2 | - | 0 | - | 2 |
| Mahimahi (DOL) | 2 | 128 | - | 194 | 7 | 330 |
| Moonfish (LAP) | 0 | 138 | - | 0 | - | 138 |
| Oilfish (GEP) | 0 | 58 | - | 1 | 0 | 60 |
| Pomfrets (BRZ) | 0 | 150 | - | 1 | 2 | 153 |
| Wahoo (WAH) | 2 | 373 | - | 134 | 4 | 512 |
| Other fish (PEL PLS MOP TRX GBA ALX GES RRU DOT) | 1 | 3 | - | 11 | 0 | 15 |
| TOTAL OTHER | 5 | 849 | - | 341 | 13 | 1208 |
| TOTAL | 50479 | 11866 | 654 | 1409 | 427 | 64836 |

**Table 1e. Annual catch estimates (metric tons) by gear and primary species by U.S. or its territories (American Samoa, Guam, and CNMI) WCPFC Convention Area for 2020.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| Species and FAO Code | Purse Seine | Longline | Albacore Troll | Tropical Troll | Handline | Total |
|---|---|---|---|---|---|---|
| Albacore (ALB), North Pacific | - | 57 | 18 | 0 | 3 | 78 |
| Albacore (ALB), South Pacific | 0 | 551 | 1896 | 0 | - | 2447 |
| Bigeye tuna (BET) | 9487 | 6061 | - | 19 | 145 | 15712 |
| Pacific bluefin tuna (PBF) | 0 | 1 | - | 0 | - | 1 |
| Skipjack tuna (SKJ) | 116886 | 204 | - | 348 | 5 | 117443 |
| Yellowfin tuna (YFT) | 11015 | 1585 | - | 333 | 243 | 13176 |
| Other tuna (TUN KAW FRI) | 0 | 0 | - | 1 | 1 | 2 |
| TOTAL TUNAS | 137388 | 8459 | 1914 | 701 | 397 | 148859 |
| Black marlin (BLM) | 1 | 0 | - | 1 | - | 3 |
| Blue marlin (BUM) | 9 | 591 | - | 111 | 3 | 714 |
| Sailfish (SFA) | 0 | 8 | - | 1 | - | 9 |
| Spearfish (SSP) | 0 | 106 | - | 3 | - | 109 |
| Striped marlin (MLS), North Pacific | - | 325 | - | 10 | - | 335 |
| Striped marlin (MLS), South Pacific | 1 | 2 | - | 0 | - | 2 |
| Other marlins (BIL) | 0 | 1 | - | 0 | - | 1 |
| Swordfish (SWO), North Pacific | - | 424 | - | 0 | 2 | 426 |
| Swordfish (SWO), South Pacific | 0 | 3 | - | 0 | - | 3 |
| TOTAL BILLFISHES | 11 | 1460 | - | 125 | 5 | 1601 |
| Blue shark (BSH) | 0 | 0 | - | 0 | - | 0 |
| Mako shark (MAK) | 0 | 2 | - | 0 | - | 2 |
| Thresher sharks (THR) | 0 | 1 | - | 0 | - | 1 |
| Other sharks (SKH OCS FAL SPN TIG CCL) | 0 | 0 | - | 0 | - | 0 |
| TOTAL SHARKS | 0 | 3 | - | 0 | - | 3 |
| Mahimahi (DOL) | 3 | 92 | - | 198 | 6 | 299 |
| Moonfish (LAP) | 0 | 242 | - | 0 | - | 242 |
| Oilfish (GEP) | 0 | 63 | - | 2 | - | 65 |
| Pomfrets (BRZ) | 0 | 181 | - | 0 | 1 | 182 |
| Wahoo (WAH) | 2 | 293 | - | 69 | 3 | 367 |
| Other fish (PEL PLS MOP TRX GBA ALX GES RRU DOT) | 1 | 2 | - | 12 | 1 | 15 |
| TOTAL OTHER | 7 | 872 | - | 281 | 11 | 1170 |
| TOTAL | 137406 | 10794 | 1914 | 1107 | 413 | 151633 |

**Table 1f. Annual longline catch estimates (metric tons) by primary species by U.S. or its territories (American Samoa, AS, and CNMI) WCPFC Convention Area in North Pacific (NPO) and South Pacific (SPO) Ocean for 2020–2024.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| | U.S. (NPO) | | | | | CNMI (NPO) | | | | | AS (NPO) | | | | | AS (SPO) | | | | | Total | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | 2023 | 2022 | 2021 | 2020 | 2024 | 2023 | 2022 | 2021 | 2020 | 2024[4] | 2023 | 2022 | 2021 | 2020 | 2024[4] | 2023 | 2022 | 2021 | 2020 | 2024 | 2023 | 2022 | 2021 | 2020 |
| **VESSELS** | 144 | 145 | 142 | 137 | 135 | 0 | 135 | 120 | 131 | 119 | | 19 | 133 | 24 | 122 | | 10 | 11 | 12 | 11 | 144 | 155 | 153 | 150 | 146 |
| **Albacore, NPO** | 194 | 238 | 108 | 105 | 48 | 0 | 0 | 0 | 0 | 0 | | 26 | 22 | 30 | 8 | | - | - | - | - | 194 | 264 | 129 | 135 | 57 |
| **Albacore, SPO** | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | | 868 | 1139 | 832 | 551 | 0 | 881 | 1139 | 832 | 551 |
| **Bigeye tuna** | 5317 | 3554 | 3234 | 3748 | 3548 | 0 | 1205 | 549 | 1500 | 926 | | 371 | 1547 | 405 | 1563 | | 37 | 22 | 30 | 24 | 5317 | 5167 | 5352 | 5683 | 6061 |
| **Pacific bluefin tuna** | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 |
| **Skipjack tuna** | 128 | 52 | 85 | 130 | 124 | 0 | 0 | 0 | 0 | 0 | | 5 | 10 | 15 | 16 | | 48 | 45 | 53 | 65 | 128 | 106 | 140 | 198 | 204 |
| **Yellowfin tuna** | 3704 | 2329 | 1972 | 2022 | 1201 | 0 | 0 | 0 | 0 | 0 | | 211 | 184 | 274 | 160 | | 221 | 155 | 213 | 224 | 3704 | 2761 | 2310 | 2509 | 1585 |
| **Other tuna** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL TUNAS** | 9346 | 6174 | 5399 | 6006 | 4922 | 0 | 1205 | 549 | 1500 | 926 | | 613 | 1763 | 725 | 1747 | | 1187 | 1360 | 1128 | 864 | 9346 | 9180 | 9071 | 9359 | 8459 |
| **Black marlin** | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| **Blue marlin** | 655 | 333 | 405 | 386 | 512 | 0 | 0 | 0 | 0 | 0 | | 30 | 62 | 35 | 51 | | 39 | 53 | 34 | 28 | 655 | 403 | 520 | 456 | 591 |
| **Sailfish** | 11 | 10 | 10 | 12 | 6 | 0 | 0 | 0 | 0 | 0 | | 1 | 1 | 1 | 2 | | 1 | 1 | 1 | 1 | 11 | 13 | 12 | 14 | 8 |
| **Spearfish** | 155 | 162 | 112 | 110 | 95 | 0 | 0 | 0 | 0 | 0 | | 11 | 8 | 10 | 11 | | 1 | 1 | 1 | 0 | 155 | 173 | 121 | 121 | 106 |
| **Striped Marlin, NPO** | 554 | 191 | 261 | 222 | 272 | 0 | 0 | 0 | 0 | 0 | | 15 | 28 | 33 | 53 | | - | - | - | - | 554 | 206 | 288 | 255 | 325 |
| **Striped Marlin, SPO** | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | | 2 | 2 | 3 | 2 | 0 | 2 | 2 | 3 | 2 |
| **Other marlins** | 11 | 4 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 11 | 4 | 0 | 1 | 1 |
| **Swordfish, NPO** | 821 | 1066 | 1046 | 749 | 368 | 0 | 0 | 0 | 0 | 0 | | 22 | 35 | 54 | 56 | | - | - | - | - | 821 | 1088 | 1081 | 803 | 424 |
| **Swordfish, SPO** | - | - | - | - | - | - | - | - | - | - | | - | - | - | - | | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 |
| **TOTAL BILLFISH** | 2209 | 1767 | 1835 | 1481 | 1254 | 0 | 0 | 0 | 0 | 0 | | 80 | 133 | 133 | 172 | | 46 | 60 | 42 | 33 | 2209 | 1893 | 2028 | 1657 | 1460 |
| **Blue shark** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Mako shark** | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 |
| **Thresher** | 0 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 1 |
| **Sharks nei** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Oceanic whitetip** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Silky shark** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Hammerhead** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Tiger shark** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Blacktip shark** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **TOTAL SHARKS** | 1 | 2 | 3 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 2 | 3 |
| **Mahimahi** | 127 | 164 | 130 | 109 | 76 | 0 | 0 | 0 | 0 | 0 | | 19 | 14 | 18 | 11 | | 1 | 6 | 1 | 5 | 127 | 184 | 149 | 128 | 92 |
| **Moonfish** | 72 | 79 | 82 | 111 | 201 | 0 | 0 | 0 | 0 | 0 | | 13 | 12 | 26 | 40 | | 0 | 1 | 1 | 1 | 72 | 92 | 94 | 138 | 242 |
| **Oilfish** | 38 | 39 | 57 | 52 | 55 | 0 | 0 | 0 | 0 | 0 | | 5 | 7 | 6 | 8 | | 0 | 0 | 0 | 0 | 38 | 44 | 64 | 58 | 63 |
| **Pomfret** | 125 | 118 | 138 | 132 | 157 | 0 | 0 | 0 | 0 | 0 | | 9 | 17 | 18 | 23 | | 0 | 0 | 0 | 0 | 125 | 127 | 155 | 150 | 181 |
| **Wahoo** | 406 | 240 | 195 | 316 | 240 | 0 | 0 | 0 | 0 | 0 | | 25 | 25 | 41 | 35 | | 12 | 12 | 16 | 17 | 406 | 277 | 231 | 373 | 293 |
| **Other fish** | 1 | 1 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | 1 | 0 | 1 | 0 | 1 | 1 | 2 | 3 | 2 |
| **TOTAL OTHER** | 769 | 641 | 602 | 721 | 730 | 0 | 0 | 0 | 0 | 0 | | 70 | 74 | 109 | 118 | | 14 | 19 | 19 | 23 | 769 | 725 | 695 | 849 | 872 |
| **TOTAL** | 12324 | 8584 | 7838 | 8210 | 6909 | 0 | 1205 | 549 | 1500 | 926 | N.I. | 763 | 1970 | 968 | 2038 | N. | 1248 | 1439 | 1189 | 921 | 12324 | 11800 | 11797 | 11866 | 10794 |

[4] In 2024, catch is not included (N.I.) for 1) AS-based vessels in SPO or 2) in the high seas by Hawaii-based longline vessels in NPO dual-permitted with a Hawaii-AS permit.

**Table 1g. Annual troll catch estimates (metric tons) by primary species by U.S. or its territories (Guam, American Samoa, AS, and CNMI) WCPFC Convention Area for 2020–2024.** (Totals may not match sums of values due to rounding. A zero represents no catch or <0.5 t catch and a "-" indicates a species is not reported for a particular fishery.)

| | Hawaii | | | | | Guam | | | | | CNMI | | | | | American Samoa | | | | | Total Tropical Troll | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2024 | 2023 | 2022 | 2021 | 2020 | 2024 | 2023 | 2022 | 2021 | 2020 | 2024 | 2023 | 2022 | 2021 | 2020 | 2024[5] | 2023 | 2022 | 2021 | 2020 | 2024 | 2023 | 2022 | 2021 | 2020 |
| VESSELS | 1042 | 1156 | 1171 | 1187 | 1126 | 447 | 466 | 449 | 546 | 459 | 77 | 77 | 95 | 85 | 76 | | 9 | 9 | 5 | 8 | 1566 | 1708 | 1724 | 1823 | 1669 |
| Albacore, NPO | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | | - | - | - | - | 2 | 0 | 1 | 1 | 0 |
| Albacore, SPO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bigeye tuna | 6 | 5 | 13 | 13 | 18 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | | 0 | 0 | 0 | 0 | 6 | 5 | 13 | 13 | 19 |
| Pacific bluefin tuna | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Skipjack tuna | 96 | 110 | 101 | 69 | 78 | 185 | 222 | 190 | 302 | 159 | 35 | 35 | 60 | 139 | 108 | | 2 | 4 | 10 | 3 | 315 | 368 | 354 | 520 | 348 |
| Yellowfin tuna | 157 | 259 | 348 | 332 | 294 | 22 | 44 | 15 | 42 | 26 | 9 | 9 | 6 | 12 | 11 | | 0 | 0 | 3 | 2 | 187 | 312 | 370 | 388 | 333 |
| Other tunas | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 3 | 1 |
| TOTAL TUNAS | 263 | 375 | 463 | 415 | 392 | 207 | 266 | 205 | 344 | 185 | 45 | 45 | 67 | 153 | 119 | | 2 | 4 | 12 | 5 | 514 | 687 | 740 | 924 | 701 |
| Black marlin | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | - | - | - | - | - | | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 1 |
| Blue marlin | 114 | 88 | 113 | 112 | 88 | 18 | 6 | 4 | 14 | 23 | 0 | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 0 | 132 | 94 | 117 | 128 | 111 |
| Sailfish | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 1 | 1 |
| Spearfish | 9 | 6 | 4 | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 9 | 6 | 4 | 5 | 3 |
| Striped marlin, NPO | 16 | 6 | 9 | 8 | 10 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | | - | - | - | - | 16 | 6 | 9 | 8 | 10 |
| Striped marlin, SPO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other billfish | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Swordfish, NPO | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | | - | - | - | - | 0 | 0 | 0 | 0 | 0 |
| Swordfish, SPO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL BILLFISHES | 141 | 102 | 129 | 128 | 102 | 19 | 7 | 4 | 14 | 23 | 0 | 0 | 2 | 1 | 0 | | 0 | 0 | 0 | 0 | 161 | 110 | 135 | 144 | 125 |
| Blue shark | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mako shark | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thresher sharks | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other sharks | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL SHARKS | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mahimahi | 104 | 168 | 162 | 166 | 138 | 77 | 24 | 43 | 14 | 45 | 5 | 5 | 26 | 14 | 14 | | 0 | 1 | 0 | 0 | 186 | 197 | 232 | 194 | 198 |
| Moonfish | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Oilfish | - | - | - | - | - | 0 | 0 | 0 | 1 | 2 | - | - | - | - | - | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| Pomfrets | - | - | - | - | - | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| Wahoo | 92 | 82 | 50 | 121 | 47 | 12 | 21 | 26 | 10 | 21 | 6 | 6 | 9 | 2 | 1 | | 0 | 0 | 0 | 0 | 110 | 109 | 85 | 134 | 69 |
| Other pelagics | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 5 | 5 | 8 | 1 | 1 | 3 | 6 | 4 | | 0 | 0 | 0 | 0 | 4 | 8 | 8 | 11 | 12 |
| TOTAL OTHER | 196 | 250 | 213 | 287 | 186 | 91 | 50 | 74 | 31 | 75 | 13 | 13 | 39 | 22 | 19 | | 0 | 1 | 1 | 1 | 300 | 314 | 325 | 341 | 281 |
| GEAR TOTAL | 600 | 727 | 805 | 830 | 680 | 317 | 324 | 283 | 389 | 283 | 57 | 57 | 108 | 176 | 138 | | 2 | 4 | 13 | 5 | 975 | 1111 | 1200 | 1409 | 1107 |

5 In 2024, troll catch is excluded for American Samoa-based vessels.

**Table 2a. Number of U.S. and territorial vessels operating in WCPFC Convention Area by gear type from 2020–2024.**

| | 2024 | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|
| **Purse seine** | **12** | **13** | **13** | **21** | **23** |
| Longline (North Pacific-based) | 144[6] | 145 | 142 | 137 | 135 |
| Longline (American Samoa-based) | N.I. | 10 | 11 | 12 | 11 |
| **Total U.S. longline [7]** | **144** | **155** | **153** | **150** | **146** |
| Albacore troll (North Pacific) | 0 | 0 | 0 | 0 | 3 |
| Albacore troll (South Pacific) | 4 | 10 | 18 | 21 | 18 |
| **Total albacore troll[8]** | **4** | **10** | **18** | **21** | **21** |
| Tropical troll | 1566 | 1708 | 1724 | 1823 | 1669 |
| Handline | 1657 | 376 | 435 | 389 | 398 |
| **Total tropical troll and handline[9]** | **1818** | **1807** | **1833** | **1921** | **1796** |
| **TOTAL** | **1978** | **1985** | **2017** | **2113** | **1983** |

[6] Excludes Hawaii-based longline dual-permitted vessels that only fished on the high seas.
[7] Longline vessels that made trips based out of Hawaii or California and American Samoa are only counted once in total U.S. longline.
[8] Albacore troll vessels that fished on both sides of the equator are only counted once in total albacore troll.
[9] Vessels that used both tropical troll and handline gear are only counted once in total tropical troll and handline.

**Table 2b. Number of vessels, by gear and size category (gross registered tonnage), active in the WCPFC Convention Area for 2020–2024.**

| Gear and year | Gross registered tonnage | | | | |
|---|---|---|---|---|---|
| **Purse seine** | | | | **1001–1500** | **1500+** |
| 2020 | | | | 6 | 17 |
| 2021 | | | | 5 | 13 |
| 2022 | | | | 4 | 9 |
| 2023 | | | | 4 | 9 |
| 2024 | | | | 4 | 8 |
| **Longline** | **0–50** | **51–200** | | | |
| 2020 | 6 | 140 | | | |
| 2021 | 4 | 146 | | | |
| 2022 | 3 | 150 | | | |
| 2023 | 3 | 152 | | | |
| 2024[10] | 2 | 142 | | | |
| **Albacore troll** | | **51–150** | **150+** | | |
| 2020 | | 9 | 9 | | |
| 2021 | | 12 | 9 | | |
| 2022 | | 9 | 10 | | |
| 2023 | | 5 | 6 | | |
| 2024 | | 1 | 3 | | |

[10] Excludes Hawaii-based longline dual-permitted vessels that only fished on the high seas and American-Samoa based longline vessels.

**Table 2c. Annual fishing effort reported in logbooks by gear in the WCPFC Convention Area for 2020–2024. Effort units vary by gear with days fished for purse seine and hooks set for longline.**

| | Purse Seine | | Longline |
|---|---|---|---|
| | WCPFC days fished | WCPFC-IATTC overlap area days fished | Hooks |
| **2020** | 3,678 | 21 | 66,046,455 |
| **2021** | 1,363 | 98 | 75,443,183 |
| **2022** | 1,337 | 29 | 75,785,600 |
| **2023** | 1,473 | 177 | 74,771,660 |
| **2024** | 459[11] | 295 | 57,511,510[12] |

[11] Excludes effort by American-Samoa based vessels in the high-seas.
[12] Excludes effort by 1) American Samoa-based vessels and 2) in the high seas by Hawaii-based vessels with Hawaii and American Samoa dual permits.

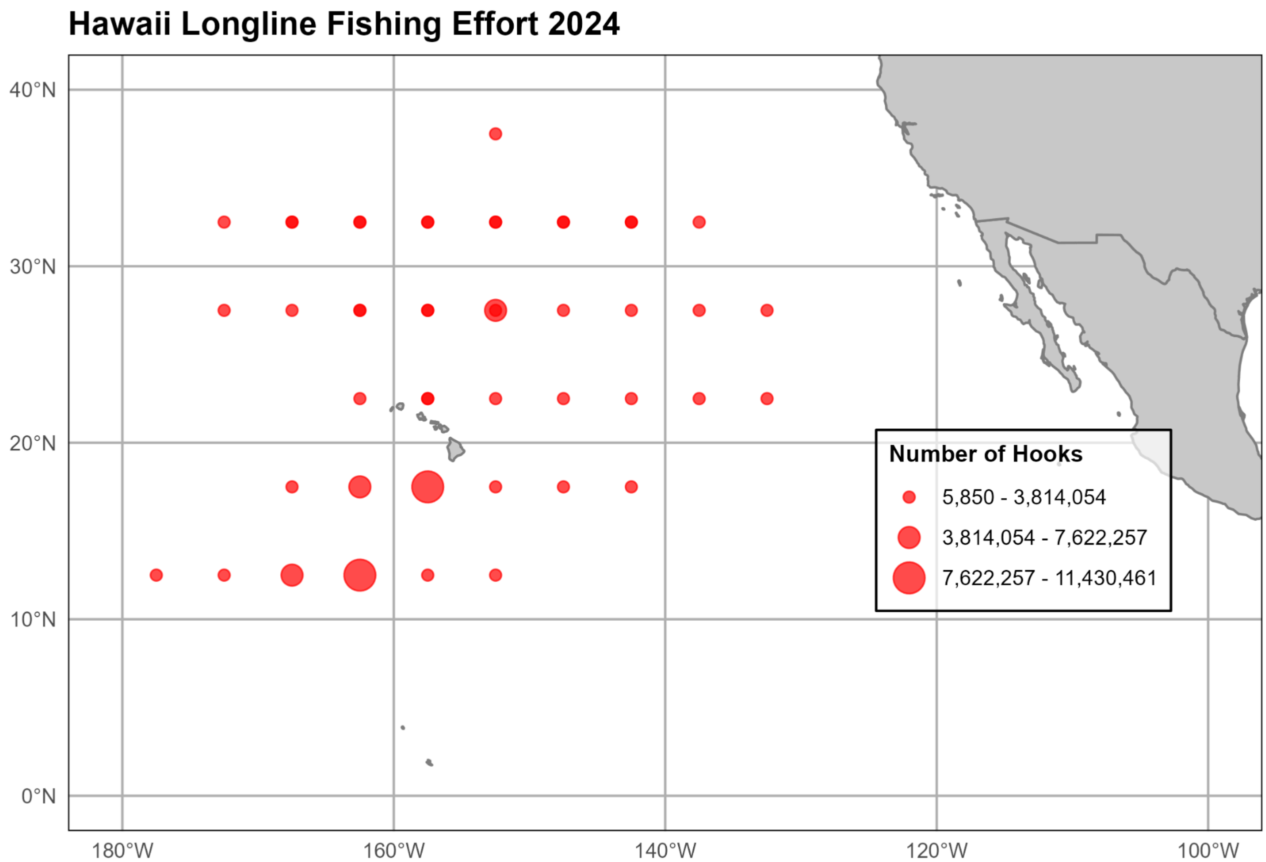


**Figure 2a. Spatial distribution of fishing effort (number of hooks) reported by U.S. Hawaii- and California-based longline vessels fishing in the Pacific Ocean in 2024.** **(**Effort in some areas is not shown to preserve data confidentiality.)

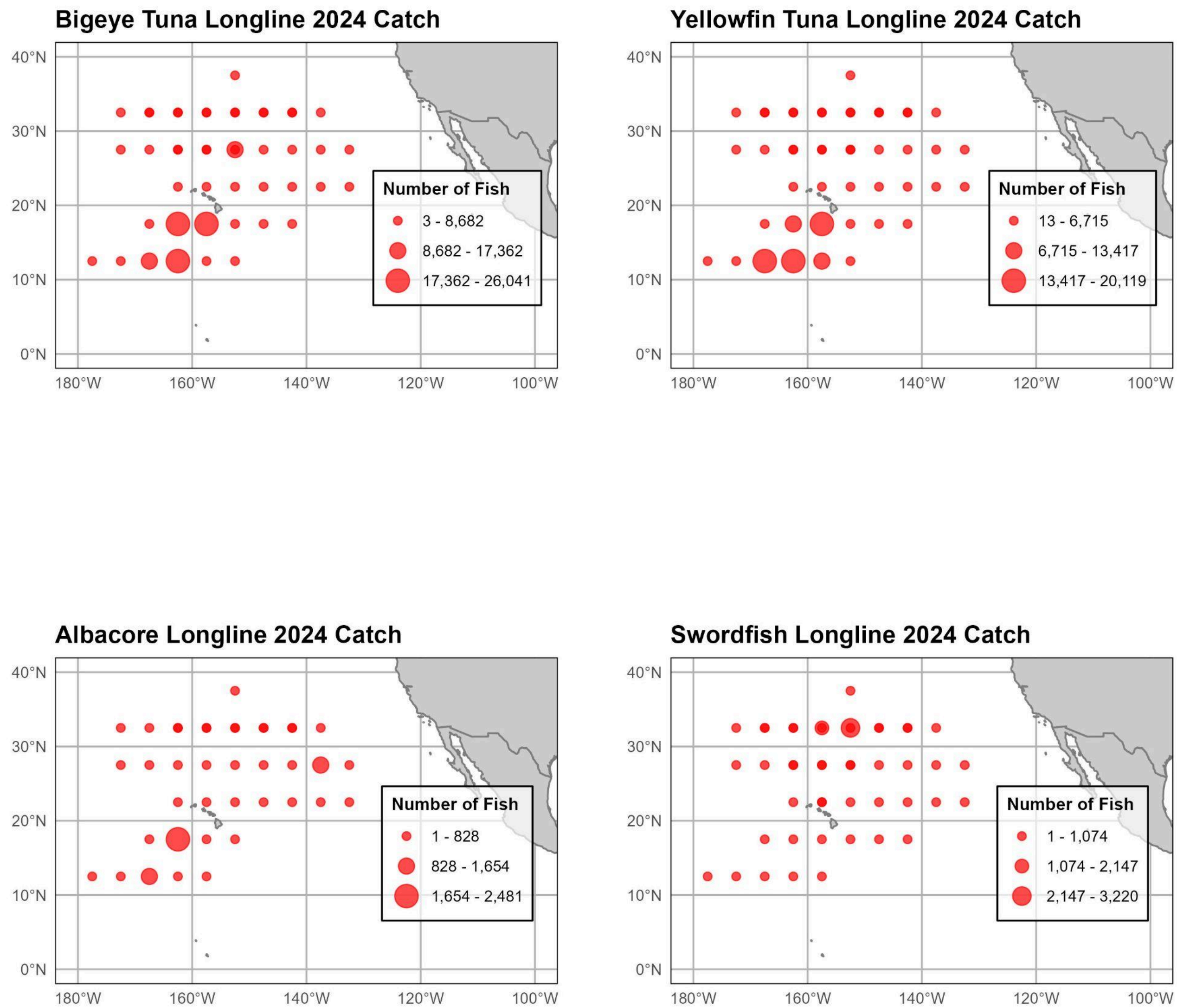


**Figure 2b. Spatial distribution of retained and released catch (number of fish) by U.S. Hawaii- and California-based longline vessels in 2024. Catches in some areas are not shown to preserve data confidentiality.**

## 3. Background

For 2024 data summaries, the American Samoa Government will be submitting a separate report, which includes catch data for American Samoa-based longline and purse seine vessels, as well as, for Hawaii-based vessels with dual permits for Hawaii and American Samoa. In 2023, the American Samoa Government enacted legislation authorizing the Department of Port Administration to issue landing licenses to purse-seine vessels with the purpose of maintaining a record of locally based vessels that regularly land tuna in American Samoa.

## 4. Flag State Reporting of National Fisheries

### Purse-seine Fishery

In 2024, 12 purse seine vessels fished in the WCPFC Convention Area. A total of 459 days of fishing occurred in the WCPFC Convention Area (excludes days fished in the high seas by American Samoa-based vessels) (Table 2c). The purse seine catch data are reported in Tables 1a–1e for 2020–2024.

The U.S. purse seine catch in the WCPFC Convention Area was 30,833 t in 2024, which is significantly less than total annual catch for 2020 (137,406 t; Table 1a-e). The 2024 catch was primarily composed of skipjack tuna (84%), with smaller catches of yellowfin (3%) and bigeye tuna (13%). The skipjack catch has fluctuated over the past five years ranging from 25,894 t in 2024 to 116,886 in 2020 (Table 1a-1e) with variable participation in the U.S. fleet with only 12 vessels operating in 2024 compared to 23 vessels in 2020 (Table 2a).

### U.S. Longline Fisheries

The U.S. longline fishery consists of mostly vessels that are based in Hawaii with a few vessels based out of California and American Samoa. Catch from American Samoa-based vessels is reported here for 2020–2023 and for 2024 in a report submitted by American Samoa. In 2024, there were a total of 144 longline vessels (Table 2a) with 2 vessels less than or equal to 50 gross registered tonnage (GRT) and 142 vessels greater than 50 GRT (Table 2b); these longline vessels set 57,511,510 hooks in 2024 (Table 2c).

Retained catches are assigned to the longline fisheries of the U.S., American Samoa, Guam or the CNMI based on the 1) port of landing, 2) location of catch, 3) the types of permit(s) registered to the vessel, and 4) if caught during a time period and from a vessel that was included in an arrangement[13] that allowed bigeye tuna catch to be assigned to a longline fishery from the U.S. territories of American Samoa, Guam, or CNMI. A few longline vessels operated with both Hawaii and American Samoa permits during 2020–2024. If longline catches from these vessels were outside of the U.S. EEZ in the NPO, the catches were attributed to American Samoa (even if landed in Hawaii) in accordance with federal fisheries regulations (50 *CFR* 300.224); from 2020–2023, this catch is reported here while in 2024 it is covered in a report submitted by American Samoa.

Since 2020, there were attribution agreements with CNMI for 2020–2023 and for American Samoa for 2020 and 2022. As of 2024, the Hawaii longline fishery no longer can attribute bigeye tuna catch to U.S. territories as revisions in CMM 2023-01 removed the authority to approve territorial allocations of bigeye tuna. However, U.S. catch limits of bigeye tuna were increased from 3,554 t to 6,554 t.

The U.S. longline fishery in the NPO within the WCPFC Convention Area operated between 10° N to 40° N latitude and from 125° W to 180° W in 2024 (Figure 2a). The U.S. longline fishery in the NPO targeted bigeye tuna and swordfish with catches also composed of yellowfin tuna (30% of retained catch in 2024) and other pelagic species (≤ 5% of retained catch for any particular species in 2024). The geographic distribution of bigeye tuna, yellowfin tuna, and swordfish catches in the NPO within the WCPFC Convention Area were similar; however, the areas with the highest concentrations of swordfish catch were further north compared to the areas with the highest concentrations of bigeye and yellowfin tuna catches (Figure 2b). The total annual longline catch for the U.S. and its territories of all retained species from 2020 to 2024 ranged from a low of 10,794 t in 2020 to a high of 12,324 t in 2024 (Table 1f).

Most of the U.S. longline fishery in the NPO targets tuna using deep-set longline gear; while the U.S. longline fishery that targets swordfish uses shallow-set gear. Swordfish landings in the NPO within the WCPFC Convention Area have varied from 2020 to 2024, ranging from 424 t in 2020 to 1,088 t in 2023. No swordfish were caught and no longline vessels targeted swordfish south of 20°S in the WCPFC Convention Area from 2020–2024.

**U.S. Albacore Troll Fisheries**

From 2020 to 2024, participation in the U.S. troll fisheries for albacore in the WCPFC Convention Area has ranged from 4 to 21 vessels. Four vessels participated in the South Pacific albacore troll fishery in 2024, which is below the 5-year average of 14 vessels (Table 2a). The catch in the South Pacific albacore troll fishery is composed almost exclusively of albacore with

[13] Agreements allowing bigeye tuna catch from the Hawaii-permitted longline vessels that fished in the high seas or the Hawaii EEZ to be attributed to U.S. territories of American Samoa, Guam, or CNM: 1) Consolidated and Further Continuing Appropriations Act, Sec. 113(a), 2012, Pub. L. 112-55, 125 Stat. 552 et seq., 2) of the Pelagics Fishery Ecosystem Plan, Amendment 7)

268 t of albacore caught in 2024, which is well below the 5-year average of 888 t. The South Pacific albacore troll fishery operates mostly between 30° S and 45° S latitude and 145° W and 175° W longitude. During the last 5 years, participation in the North Pacific albacore troll fishery in the WCPFC Convention Area only occurred in 2020 with 3 vessels (Table 2b).

## 5. Coastal State Reporting

In the WCPFC Convention Area, the U.S. and its territories have small-scale tropical troll and handline fisheries that operate mostly nearshore with 1,566 vessels operating in 2024. Although the number of vessels participating in small-scale fisheries is large, the catch only comprises about 3% of the total HMS catch in the WCPFC Convention Area for the U.S. and its territories. The total 2024 catch by tropical troll fisheries was 975 t (Table 1g) with an additional 311 t by the Hawaii handline fisheries. Tropical troll catch was composed primarily of yellowfin and skipjack tunas, mahimahi, wahoo, and blue marlin (Table 1g). Hawaii-based fishers account for the majority (67%) of the tropical troll vessels (1,042 vessels in 2024) and all of the handline vessels (330 vessels in 2024). The catch statistics for Hawaii troll and handline fisheries are derived from fisher catch reports, which are required for all fishing trips for fishers that are commercially permitted (including charter fishers) no matter if fish are being sold on a trip. However, if Hawaii troll or handline fishing trips are performed solely for subsistence, personal use, or recreational purposes and a fisher is not commercially permitted, then no catch reports are required. In 2024, 29% of the tropical troll fishing vessels operated out of Guam with only 5% from CNMI; 2024 American Samoa tropical troll fishery data are included in a report submitted by American Samoa fisheries. Fishing trips in the territories may include trips that are for commercial, recreational, or subsistence purposes with trips often including fish that are both sold and retained for personal use. Commercial fishing trips may also include charter fishing trips where fish are not sold but instead profit is derived from paid clients. Territorial fisheries catches are monitored by creel surveys (i.e. fisheries catch and effort data collected shoreside by technicians through fisher interviews).

## 6. Socioeconomic Factors

NMFS staff and colleagues conduct surveys and analyses to better understand the socioeconomic considerations of U.S. pelagic fisheries in the WCPFC Convention Area. Economic analyses are performed in American Samoa, CNMI, Guam, and Hawaii (Chan 2023; Chan 2024).

In addition, NMFS staff is working in collaboration with fishers to document their observations to incorporate local and traditional knowledge to science and management and to provide context to fishery-dependent data from American Samoa (Ayers et al. 2024a;); Guam and CNMI (Ayers et al. 2024b); and Hawaii (Ayers et al. 2024c). Information collected includes social, economic, biological, physical/oceanographic, and management observations.

## 7. Disposition of Catch

Purse-seine catch is stored onboard as a frozen whole product. Most of the purse-seine catch has historically been off-loaded to canneries in Pago Pago, American Samoa. Some vessels ship their catches from the ports of other Pacific Island countries to canneries in Southeast Asia and Latin America. Cannery products from American Samoa are typically destined for U.S. canned tuna markets. Catches of non-tuna species are consumed onboard the vessel or discarded at sea.

U.S. longline vessels fishing in the NPO store their catch on ice and deliver their fresh product to the market. Large tunas, marlins, and mahimahi are gilled and gutted before being stored on the vessel, swordfish are headed and gutted, and other species caught are stored whole. These products are primarily sold fresh locally in Hawaii to restaurants and retail markets, or air freighted to U.S. mainland destinations with a very small proportion of high quality bigeye tuna exported to Japan. The American Samoa-based longline albacore catch is gilled and gutted and delivered as a frozen product to the cannery in Pago Pago, American Samoa. Other associated catch is either marketed fresh (for vessels making day trips) or frozen (for vessels making extended trips).

Albacore troll catch is frozen for transportation back from the SPO to Canadian and U.S. west coast ports.

Most small-scale pelagic fisheries store their catch in ice; large tunas are gilled and gutted while other species are kept whole. The small-scale tropical troll fisheries chill their products with ice and sell it fresh, mainly to local markets.

## 8. Onshore Developments

No major developments have occurred in processing plants or support facilities for the U.S. fisheries.

## 9. Future Prospects of the Fisheries

Fuel costs and supplies associated with fishing operations have increased dramatically in the last year and may affect participation and trip distance from ports for all U.S. large-scale and small-scale fisheries. In addition, U.S. fleets face competition from less regulated foreign fleets that may have lower operational costs.

In 2025, it is expected that Hawaii-based longline fishers may explore fishing opportunities in the waters of the Pacific Islands Heritage Marine National Monument, which were reopened to fishing on April 17, 2025 by a presidential proclamation. The areas with fishing access include waters from 50 to 200 nautical miles offshore Wake, Jarvis, Howland, and Baker Islands, Johnston and Palmyra Atoll, and Kingman Reef.

The U.S. longline fishery in the NPO is expected to continue targeting bigeye tuna and swordfish, as well as catch other associated pelagic species in future years and deliver them fresh to both local and mainland markets. As of 2024, an increase in the annual catch limit of bigeye tuna from 3,554 t to 6,554 t in the WCPFC Convention Area (CMM 2023-01) will reduce constraints in potential growth of the deep-set fishery. However the Hawaii longline fishery will no longer be able to obtain additional quota from the U.S. territories as was done in previous years through an agreement[14].

Although the Hawaii deep-set fishery may not be as limited by their bigeye quota in the future, it is uncertain whether the fishery will grow or even decline. In 2024, the fishery continued a trend of higher yields but did not have higher revenues as the fishery faced severe economic impacts with high costs to operate and low prices for fish with competition from foreign imports, according to a press release on June 7, 2024 Western Pacific Regional Management Council.

It is possible that the Hawaii longline deep-set fishery may be limited in its geographic distribution if there is an area closure for the management of false killer whale (*Pseudorca crassidens*) populations. If a closure occurs, then the deep-set fishery may have to travel further and incur additional fuel costs to reach fishing grounds. As of February 23, 2024 an area closure would occur within the U.S. EEZ in an management area defined as the Southern Exclusion Zone[15] if a"trigger" of three false killer whales is incidentally caught by the Hawaii deep-set fishery within the U.S. Exclusive Economic Zone and the whales are given a determination of mortality or serious injury (https://www.federalregister.gov/documents/2024/02/23/2024-03664/pacific-island-pelagic-fisheries-false-killer-whale-take-reduction-plan-new-trigger-value-for). This "trigger" is published in accordance with the Marine Mammal Protection Act (MMPA) of 1972 and the False Killer Whale Take Reduction Plan and is defined in § 229.37(e)(2) as the larger of either of the values: (i) 2 observed M/SI of false killer whales within the EEZ around Hawaii, or (ii) the smallest number of observed false killer whale M/SI that, when extrapolated based on the percentage observer coverage in the deep-set longline fishery for that year, exceeds the Hawaii pelagic false killer whale stock's potential biological removal (PBR). In 2024, the observer coverage was reduced from 20% to 13.5% due to increased program costs and decreased available funding, and the PBR was estimated at 16 false killer whales. Thus the "trigger" was calculated at three false

[14] Agreements allowing bigeye tuna catch from the Hawaii-permitted longline vessels that fished in the high seas or the Hawaii EEZ to be attributed to U.S. territories of American Samoa, Guam, or CNM: 1) Consolidated and Further Continuing Appropriations Act, Sec. 113(a), 2012, Pub. L. 112-55, 125 Stat. 552 et seq., 2) of the Pelagics Fishery Ecosystem Plan, Amendment 7)

[15] The Southern Exclusion Zone false killer whale management area is defined by boundaries on the east at 154°30′ W longitude, on the west at 165° W longitude, north by the boundaries of the Main Hawaiian Islands Longline Fishing Prohibited Area and Papahānaumokuākea Marine National Monument, and on the south by the EEZ boundary an area within the main Hawaiian Islands EEZ.

killer whales. Additional changes are expected in the management of false killer whale populations around Hawaii in the near future. In March 2023, NMFS introduced a new False Killer Whale Management Area that included areas inside and outside the EEZ around Hawaii with a PBR calculated to be 33 pelagic false killer whales (Oleson et al. 2023). However, the False Killer Whale Management Area and associated PBR are not yet available for current management use.

It is expected that effort will remain high in the Hawaii shallow-set longline fishery that targets swordfish with market demand, despite rising operational costs. Effort in the shallow-set fishery decreased in 2024 but remained high compared to the lower effort observed in 2016 and 2018–2021. The shallow-set fishery overlaps spatially and temporally with seasonal abundance of sea turtles and thus has management regulations to ensure the conservation of sea turtles. However, it is not expected that interactions with sea turtles will result in any fishery closures unless effort increases greatly. Current management regulations do not include an annual interaction limit on loggerhead sea turtles, the species of sea turtle most commonly interacted with in the Hawaii shallow-set fishery. Instead, current regulations include annual limits on leatherback sea turtles (16 sea turtles) and trip interaction limits on loggerhead and leatherback sea turtles (two leatherback and five loggerhead sea turtles).

Participation and catch from the Hawaii small-scale troll and handline fisheries and the Guam and CNMI troll fisheries is expected to be fairly stable although these fisheries are challenged by uncertainty in the economy and fish market prices along with increasing fuel and supply costs. The main Hawaiian Island troll and handline fisheries are expected to continue to make single-day trips targeting tunas, billfish, and other pelagic fish, and deliver their catch fresh to local markets.

The future of albacore fishing fleets in the WCPFC area depends on finding a good balance between protecting the environment, having strong rules, understanding the market, and using new technology. To keep albacore numbers healthy and help the fleets stay profitable, continued teamwork and flexible planning will be needed.

## 10. Status of Fisheries Data Collection Systems

### Logsheet Data Collection and Verification

U.S. pelagic fisheries are monitored using fishery-dependent data collected from various sources: logbooks and fish catch reports submitted by fishers, at-sea observers, port samplers, market sales reports from fish dealers, and creel surveys (i.e. offshore fisheries catch and effort data collected shoreside by technicians through fisher interviews). The coverage rates for different data collection methods vary considerably.

The primary monitoring system for retained catches for the major U.S. fisheries (purse seine, longline, and albacore troll) in the WCPFC Convention Area is federally mandated logbooks that provide catches (in numbers of fish or weight), fishing effort, fishing location, and some details on fishing gear and operations. Purse-seine logbook and landings data have been submitted, as a requirement of the SPTT, since 1988 with coverage rates at 100%. Logbooks have been required to be submitted to NOAA fisheries by all Hawaii and American Samoa longline vessels since 1990 with logbook coverage generally at 100%. The Hawaii, California, and American Samoa-based longline fisheries are monitored using primarily electronic logbooks with some paper logs. Electronic reporting was first tested in the region in 2019 with full implementation mandated in 2021 for the Hawaii longline fleet. The use of electronic reporting throughout the U.S. and American Samoa longline fisheries assists in better real-time estimates of bigeye tuna catch. Currently the U.S. is also developing an electronic logbook to support data collection and monitoring for the albacore troll fisheries.

In Hawaii, fish sales records from the Hawaii Division of Aquatic Resources (DAR) Commercial Marine Dealer Report database supplement logbook data with sales records covering virtually 100% of the Hawaii-based longline landings. The Western Pacific Fisheries Information Network (WPacFIN) integrates Hawaii longline logbook catch data of numbers of fish caught by trip with the fish weight and sales data from the dealers' purchase reports. As a result, data on the weight and value of most catches on a trip level can be linked. This integration of data provides average fish weight data by gear type, time period, and species that are used to estimate total catch weights for the Hawaii fisheries.

Small-scale pelagic fisheries in Hawaii (i.e. tropical troll and handline) are monitored using the Hawaii DAR Commercial Fishermen's Catch Report data and Commercial Marine Dealer Report data. The tropical troll pelagic fisheries that are boat-based in American Samoa, Guam, and CNMI are monitored by creel surveys.

## Observer Programs

### Purse seine

Purse-seine vessels operating in the WCPFC Convention Area under the SPTT on Fisheries between the Governments of Certain Pacific Island States and the U.S. of America were monitored by observers provided by the Pacific Islands Forum Fisheries Agency (FFA) through 2022. Beginning in 2023, purse seine vessels were monitored by observers provided by the Parties to the Nauru Agreement (PNA). Monitoring includes both the collection of scientific data, as well as information on operator compliance with various Treaty-related and Pacific island country-mandated requirements (these data are not described in this report). NOAA Fisheries has a field station in Pago Pago, American Samoa, that facilitates the placement of PNA-deployed observers on purse seine vessels.

Since January 1, 2010, the observer coverage rate in the purse-seine fishery in the Convention Area has been 100%. However, the mandatory observer requirement was suspended during the COVID-19 pandemic and was reinstated January 1, 2023. Data previously collected by FFA-deployed and currently by PNA-deployed observers are provided directly to the WCPFC.

**Longline**

Under the Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region established under the Magnuson-Stevens Fishery Conservation and Management Act, observers monitor the U.S. and American Samoa longline fisheries under the NOAA Pacific Islands Regional Observer Program (PIROP). In 2024, there was 100% observer coverage for Hawaii-permitted shallow-set trips and 13% overall coverage for Hawaii-permitted deep-set trips. Observers were placed on 17% of deep-set trips based out of Hawaii or California that occurred in the high seas outside the U.S. EEZ in the WCPFC Convention Area in 2024 and monitored 15% of the total hooks set and 17% of days fished (Table 3).

The main focus of the longline observer program is to collect scientific data on interactions with protected species. The observer program also collects catch composition and biological data on retained and discarded catch and information on fishing operations. Biological data includes measurements of a systematic subsample of 33% of all fish brought on deck, including bycatch species. Prior to 2006, observers attempted to measure 100% of tunas, billfishes, and sharks brought on deck, but not other species. Researchers use observer-collected protected species data to estimate the total number of interactions with those species.

Since 2017 there has been research and development in the Pacific Islands Region to investigate electronic monitoring (EM) as a tool to collect data in the Hawaii longline fisheries to supplement the at-sea observer program. This research showed that EM reviewers can detect 98% of retained fish and 89% all catch (Carnes et al. 2019) compared to at-sea observers. In addition, reviewers were able to detect protected species using EM (Stahl and Carnes 2020) and collect information needed to assess their likely post-release condition (Stahl et al. 2023). Furthermore, a report was produced outlining which data fields traditionally collected by human observers can be collected by reviewing video from EM systems (Stahl et al. 2024).

On June 11, 2025, the Western Pacific Fishery Management Council took final action to authorize the use of EM as a mandatory tool for data collection aboard Hawaii and American Samoa longline vessels with phased implementation between 2025 to 2027. EM data will be used to provide protected species data in compliance with the Endangered Species Act and Marine Mammal Protection Act, and will be incorporated into the standardized bycatch reporting methodology.

**Port Sampling**

Weight data are collected from U.S. longline, purse-seine, and albacore troll landings, but no other biological data are collected at port for these fisheries. For the small-boat troll fisheries in Guam, American Samoa, and CNMI, port samplers perform shoreside fisher interviews for catch and effort data and also take length measurements. No biological data are collected at port for the small-boat troll or handline fisheries in Hawaii.

**Unloading/Transshipment**

Purse-seine vessels submit unloading and transshipment logsheet forms as a requirement of the SPTT.

## 11. Research Activities

In 2024, NOAA Fisheries continued research on Pacific tunas and associated species at its Southwest and Pacific Islands Fisheries Science Centers, often in collaboration with scientists from other organizations. Stock assessment research on tuna and tuna-like species was conducted primarily through collaboration with participating scientists of the International Scientific Committee (ISC) for Tuna and Tuna-Like Species in the NPO and international Regional Fisheries Management Organizations. Two noteworthy studies could help improve stock assessments (Brooks and Brodziak 2024; Minte-Vera et al. 2024). While another study could improve assessments for small pelagic fish, such as Pacific saury used as bait for pelagic fisheries (Hsu et al. 2024).

Research studies were conducted on monitoring and socio-economics for fisheries operating in the waters of the U.S. Pacific coast, Hawaiian Islands, U.S. territories, and the high seas; on the biology of tunas, tuna-like species, and bycatch species caught in these fisheries; and on the marine ecosystems where these fisheries occur. NOAA Fisheries scientists also produced reports summarizing monitoring data collected for pelagic fisheries and fisher observations for small boat fisheries operating out of Hawaii, Guam, and the CNMI.

Highlighted research includes:

- Stock assessment research (Brooks and Brodziak 2024; Minte-Vera *et al*. 2024; Hsu et al. 2024).
- The effects of climate change on marine ecosystems (Eddy *et al*., 2025);
- Changes in marine food web productivity across epipelagic, mesopelagic, and bathypelagic zones (Calhoun-Grosch *et al*., 2024);
- The ecological role of small pelagic fish in food webs (Ruzicka *et al*., 2025);
- Migration patterns of Pacific bluefin tuna (Uematsu *et al*.,2024);
- Diet composition of mahimahi (*Coryphaena hippurus*) (Himmelsbach *et al*., 2024);
- Sample design strategies for estimating bigeye tuna (*Thunnus orientalis*) catch in purse seine fisheries (Lennert-Cody *et al*. 2024);

- Seafood marketing dynamics (Advani *et al.*, 2024; Chan *et al*., 2025);
- Shark biology (Stock *et al*., 2024) and movement patterns (Vaudo *et al*., 2024).

## Highlighted Research

### Estimating the scope, scale, and contribution of direct seafood marketing to the United States seafood sector.

**Advani et al. 2024** determined that direct seafood marketing is common in the U.S. as determined from surveying 39,511 wild capture commercial harvesters. Direct seafood marketing, which connects harvesters more closely with consumers, appears especially resistant to food system disruptions and offers benefits to both parties. However, little is known about the scope and diversity of this sector in the U.S. This paper highlights the value of collecting data on direct seafood marketing and outlines an approach to building a national sampling frame. Initial findings show that direct marketing is common—especially through source-identified distributors. Combining survey and permit data, it is estimated that 12% of U.S. seafood harvesters participate in direct sales. These insights can inform policies and programs that support resilient, diverse seafood supply chains and enhance national food security.

### Simulation testing performance of ensemble models when catch data are underreported

**Brooks and Brodziak** (2024) demonstrate the value of using an ensemble model for fisheries stock assessments due the model's ability to capture uncertainty across different model structures, especially when no single model clearly outperforms others. This study uses simulations to examine how the selection of candidate models and the method of weighting them influence the accuracy and reliability of both assessments and short-term forecasts. Results show that ensemble models only outperform single models when the ensemble includes a model close to the true population dynamics. The effectiveness of different weighting schemes varied depending on data quality: information-theoretic weights performed best with accurate catch data, while equal weighting was more robust when catches were underreported, though it introduced multiple potential outcomes. The study highlights the challenge of ensuring that an ensemble captures the true state of nature and emphasizes the need for clear protocols to select diverse, representative models and assess their adequacy.

### Simulating productivity changes of epipelagic, mesopelagic, and bathypelagic taxa using a depth-resolved, end-to-end food web model for the oceanic Gulf of Mexico

**Calhoun-Grosch et al. 2024** incorporates the complex processes of diel vertical migration and particle sinking to model open-ocean and deep-sea food webs, ecosystems where long-term datasets are typically limited. Following the Deepwater Horizon Oil Spill, new biomass data enabled the development of a depth-resolved food web model for the oceanic Gulf of Mexico. The model tracks energy transfer across three depth zones—epipelagic, mesopelagic, and bathypelagic—and shows how changes in biomass of key groups, such as large jellyfish, decapods, and mesopelagic fishes, affect food web dynamics. Non-copepod mesozooplankton and euphausiids play a central role in energy flow below 200 m. Increasing jellyfish biomass reduced the abundance of forage species due to competition and predation, while reducing migrating mesopelagic fish biomass led to increases in competing groups. These static scenarios offer a foundation for future dynamic modeling to assess long-term ecosystem impacts.

**Hedonic price model of Hawai‘i ‘Ahi Tuna (*Thunnus obesus* and *Thunnus albacares*) market: Implications of climate change and shark depredation**

**Chan et al. 2025** applies a hedonic price model to demonstrate that in Hawai‘i, the prices of tuna—specifically bigeye (*Thunnus obesus*) and yellowfin (*Thunnus albacares*)—are shaped by a variety of factors, including fish characteristics, trip-level details, market conditions, foreign imports, seller-specific effects, and time trends. Sea surface temperature (SST) at the fishing location and trip length are used as indicators of fish quality; both higher SST and longer trips are linked to lower prices, suggesting reduced quality. The findings highlight the potential economic impacts of climate change on tuna pricing in Hawai‘i. Rising SST, shifts in tuna habitats requiring longer travel distances, climate-driven reductions in fish size, and changes in tuna abundance and distribution all influence supply and pricing. Additionally, the study quantifies the negative revenue impact of shark depredation on the fishery.

**Global and Regional Marine Ecosystem Models Reveal Key Uncertainties in Climate Change Projections**

**Eddy et al. 2025** shows that global marine ecosystem models project greater biomass declines with climate change than regional marine ecosystem models for many regions with more uncertainty around impacts at regional scales. Marine ecosystem global and regional models were compared across 10 ocean regions using two Earth system models. The level of agreement between model types varies significantly by region. These differences highlight the need to better understand why global and regional models diverge and to improve observational data to evaluate and refine projections. Ultimately, more accurate regional forecasts are essential for informed, adaptive management of ocean resources under climate change.

**Diet Analysis of Mahimahi (Coryphaena spp.) Caught on O'ahu, Hawai'i, Using DNA Barcoding**

**Himmelsbach et al. 2024**. Mahimahi (Coryphaena hippurus and C. equiselis) are epipelagic predators important to non-commercial and small-scale commercial fisheries on O‘ahu, Hawai‘i. While past studies using morphology showed they eat various fishes, cephalopods, and crustaceans, species-level ID was limited by prey degradation. This study analyzed 200 stomachs collected from 2019–2022 using DNA barcoding to improve taxonomic resolution. Prey were measured, weighed, and barcoded, revealing a diverse diet, with pelagic juveniles of reef-associated fishes making up over half of identified prey by number and biomass. Results show mahimahi feed across multiple habitats and taxonomic groups.

**On the probable distribution of stock-recruitment resilience of Pacific saury (Cololabis saira) in the Northwest Pacific Ocean**

**Hsu et al. 2024** uses a simulation approach for Pacific saury to estimate the distribution of steepness, a key factor in characterizing stock resilience, and hence providing management reference points. A median steepness of 0.82 (80% probable range: 0.59–0.93) was estimated and suggested that Pacific saury can maintain relatively high recruitment levels even when spawning biomass declines to 20% of its unfished level. Sensitivity (elasticity) analysis reveals that steepness is most influenced by early life stage survival, mean body weight, growth rate, and length-at-maturity. These traits are vulnerable to environmental changes, indicating that warming ocean conditions could reduce the stock's resilience. Our approach offers a transferable framework for estimating steepness in other small pelagic species likely to be affected by rising sea surface temperatures under climate change.

**Within-well patterns in bigeye tuna catch composition and implications for purse-seine port-sampling and catch estimation for the Eastern Pacific Ocean.**

**Lennert-Cody et al. 2024** examined sampling procedures to estimate catch of bigeye (BET) tuna from offloading purse-seine vessels. In response to stock concerns for bigeye tuna in the Eastern Pacific Ocean, the Inter-American Tropical Tuna Commission introduced new management measures in 2021, including vessel-specific catch thresholds and a mandate for improved port sampling. A 2022 pilot study in Manta and Posorja, Ecuador, tested a high-frequency systematic sampling method during well unloading of purse-seine vessels targeting floating-object (OBJ) sets. Sampling about 10% of containers per well revealed large within-well variation in BET proportions, often linked to the number of OBJ sets contributing to the catch. Simulations showed that systematic sampling reduced estimation error compared to random sampling, but that low within-well coverage could inflate variance in trip- and fleet-level estimates. Results suggest that sampling at least 2–3% of containers per well is necessary to improve the accuracy of BET catch estimates, highlighting the importance of both sampling design and coverage for effective fisheries monitoring and management.

**The use of conceptual models to structure stock assessments: A tool for collaboration and for "modelling what to model"**

**Minte-Vera et al. (2024)** present a framework for constructing conceptual models (CMs) to improve stock assessments, using fisheries systems for highly migratory pelagic species in the Pacific Ocean—specifically north Pacific Albacore tuna, eastern Pacific Dorado, and south Pacific Swordfish—as illustrative examples. Conceptual models are simplified representations of the main components and processes of a dynamic system, the mechanisms by which they are related, and the ways they are observed (i.e., the data-generating processes). Building a CM should be the first step in planning a new stock assessment or updating an existing one, as it guides the workflow and helps clarify what aspects of the system to model.

To develop a CM, several key steps are required: (1) gather existing knowledge about the species and associated fisheries, (2) define the objectives of the assessment, (3) establish the appropriate spatial and temporal scales, and (4) outline the biological, fisheries, and observation processes, including the drivers behind them. CMs should synthesize current information while also articulating hypotheses and assumptions about uncertain or poorly understood elements of the system. Draft models should be grounded in the best available science and constructed using principles from ecology, socioecology, fisheries science, and other relevant fields.

Minte-Vera et al. emphasize that CMs are not static, but dynamic tools that evolve over time to incorporate new insights and direct future research. They highlight the importance of the elicitation process—structured activities such as expert workshops—that enrich the model with diverse perspectives and knowledge across disciplines. By integrating these steps, the authors demonstrate how well-developed CMs can lead to improved stock assessment models.

**The role of small pelagic fish in diverse ecosystems: knowledge gleaned from food-web models**

**Ruzicka et al. 2025** used 199 food-web models from around the world to analyze the role of small pelagic fish (SPF) in ecosystems by examining their diets, biomass, and fishery catches. SPF are essential species in many marine ecosystems linking plankton to larger predators and supporting major global fisheries. Understanding how SPF interact with other species and fisheries is important for managing these resources, especially as they face environmental and human-related pressures. This study found that SPF makes up 43% of total fish production and relies on 8% of ocean primary production. They also account for 18% of total fish and invertebrate catch—rising to 53% in nutrient-rich upwelling areas. Beyond direct harvest, SPF plays a large role in supporting predators and fisheries indirectly, contributing to 22% of seabird, 15% of marine mammal, and 34% of fisheries production on average. These contributions are even higher in upwelling systems. The findings highlight the need to consider both the direct and indirect roles of SPF when making fisheries and ecosystem management decisions.

**Micrometer-scale structure in shark vertebral centra**

**Stock et al. (2024)** examined centrum microarchitecture in lamniform and carcharhiniform sharks with synchrotron microComputed Tomography (microCT), scanning electron microscopy and spectroscopy and light microscopy. The analysis centered on the blue shark (carcharhiniform) and shortfin mako (lamniform), species studied with all three modalities. Synchrotron microCT results from seven other species complete the report. The main centrum structures, the corpus calcareum and intermedialia, consist of fine, closely-spaced, mineralized trabeculae whose mean thicknesses <Tb.Th> and spacings <Tb.Sp> range from 4.5 to 11.2 µm and 4.5 to 15.6 µm, respectively. A significant ($p = 0.00001$) positive linear relationship between <Tb.Th> and <Tb.Sp> exists for multiple positions within one mako centrum. Carcharhiniform species' <Tb.Th> and <Tb.Sp> exhibit an inverse linear relationship ($p = 0.005$) while in lamniforms these variables tend toward a positive relationship which does not reach convention significance ($p = 0.099$). In all species, the trabeculae form an uninterrupted, interconnected network, and the unmineralized volumes are similarly interconnected. Small differences in mineralization level are observed in trabeculae. Centrum growth band pairs are found to consist of locally higher /lower mineral volume fraction. Within the intermedialia, radial canals and radial microrods were characterized, and compacted trabeculae are prominent in the mako intermedialia. The centra's mineralized central zones were non-trabecular and are also described.

**Distinct natal origins based on vertebral ring analysis corroborate the migration pattern of Pacific bluefin tuna in the North Pacific Ocean**

**Uematsu et al. (2024)** analyzed vertebral samples collected from a wide range of ages and areas and estimated the natal grounds of Pacific bluefin tuna (PBF) (*Thunnus orientalis*) from the first annulus in the vertebra to understand the population structure and migratory ecology of the species in the North Pacific Ocean. Both spawning groups of PBF, including fish that originated from the Sea of Japan (assigned as group SJ) and from the waters around the Ryukyu Archipelago and Taiwan (group RT), were observed in all sampling areas and age classes. In younger age classes, the percentages of group SJ were higher around Japan, whereas those of group RT were higher in the eastern Pacific Ocean (EPO). The percentage of group RT decreases around Japan as they migrate to the EPO and then increases when they return. These results suggest a tendency toward different migration patterns depending on the natal area. Interestingly, the results suggest that fish from the EPO rarely migrate to the Sea of Japan. The percentages of group RT for age 10+ were similar and higher in all sampling areas, and these are considered to be the final percentages of the relative contribution of the 2 natal grounds. This is a useful approach that enables us to easily examine the relative contribution of the 2 spawning grounds across time and space, providing insights into the dynamics of movement around the Pacific based on variations in the population composition.

**Integrating vertical and horizontal movements of shortfin mako sharks Isurus oxyrinchus in the eastern North Pacific Ocean**

**Vaudo et al. (2024)** investigated how vertical behaviors change in relation to horizontal movements in the pelagic, highly migratory, shortfin mako shark (*Isurus oxyrinchus*). Data from 30 sharks (114 to 245 cm total length), double-tagged with Pop-up Archival and Transmitting (PAT) and Smart Position or Temperature Transmitting (SPOT) tags within the Southern California Bight were analyzed. Vaudo et al. examined shark daytime depth distributions after their horizontal movements were first classified by water column thermal structure (thermal habitat), and into 1 of 2 behavioral modes (area-restricted search or transient) using a switching state-space model. Despite high inter- and intra-individual variability, thermal habitat and behavioral mode influenced depth distribution. Within thermal habitats, sharks spent similar amounts of time near the surface in both behavioral modes, although transient animals spent more time in deeper waters within some thermal habitats. Comparing among thermal habitats, sharks performing transient movements in warmer waters spent more time at depth. Sharks experienced an expansion of vertical habitat use when they switched to transient behaviors, possibly to search for prey, and the degree of habitat expansion may be influenced by temperature. These results suggest that in a 3-dimensional habitat, such as the pelagic environment, prey searching behaviors in the horizontal and vertical dimensions are linked.

## Highlighted Publications


Advani S, O'Hara JK, Shoffler SM , Pinto da Silva P, Agar J, Arnett, J, Brislen, L, Cutler M, Harley A, Hospital J, Norman K, Ragland E, Squires D, Stoffle B, Szymkowiak M, Vega-Labiosa AJ, Stoll JS. 2024. Estimating the scope, scale, and contribution of direct seafood marketing to the United States seafood sector. Marine Policy, 165:106188. https://doi.org/10.1016/j.marpol.2024.106188

Brooks EN, Brodziak JKT. 2024. Simulation testing performance of ensemble models when catch data are underreported. ICES Journal of Marine Science, 81:61. https://doi.org/10.1093/icesjms/fsae067

Calhoun-Grosch S, Ruzicka J, Robinson KL, Wang VH, Sutton T, Ainsworth C, Hernandez F. 2024. Simulating productivity changes of epipelagic, mesopelagic, and bathypelagic taxa using a depth-resolved, end-to-end food web model for the oceanic Gulf of Mexico. Ecological Modelling, Volume 489:110623. https://doi.org/10.1016/j.ecolmodel.2024.110623

Chan HL, Kobayashi D, Suca J. 2025. Hedonic price model of Hawaiʻi ʻAhi Tuna (*Thunnus obesus* and *Thunnus albacares*) market: Implications of climate change and shark depredation. PLOS Climate, 4(3). https://doi.org/10.1371/journal.pclm.0000595

Eddy, T. D., Heneghan, R. F., Bryndum-Buchholz, A., Fulton, E. A., Harrison, C. S., Tittensor, D. P., et al.. 2025. Global and Regional Marine Ecosystem Models Reveal Key Uncertainties in Climate Change Projections. Earth's Future, 13: e2024EF005537. https://doi.org/10.1029/2024EF005537

Himmelsbach NS, Suca J.J, Timmers MA, Asher JM, Boland RC, Kamikawa KT, Samson JC, Whitney JL. 2024. Diet Analysis of Mahimahi (Coryphaena spp.) Caught on O'ahu, Hawai'i, Using DNA Barcoding. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-164, 41 p. https://doi.org/10.25923/7z9f-xt14

Hsu, J, Chang Y, Brodziak J, Kai M, Punt AE. 2024. On the probable distribution of stock-recruitment resilience of Pacific saury (Cololabis saira) in the Northwest Pacific Ocean. ICES Journal of Marine Science, 81(4). https://doi.org/10.1093/icesjms/fsae030

Lennert-Cody CE, De La Cadena C, McCracken M, Chompoy L, Vogel NW, Maunder MN, Wiley BA, Nieto EA, Aires-da-Silva A. 2024. Within-well patterns in bigeye tuna catch composition and implications for purse-seine port-sampling and catch estimation for the Eastern Pacific Ocean. Fisheries Research. 277: 107079. https://doi.org/10.1016/j.fishres.2024.107079

Minte-Vera, C.V., M.N. Maunder, A. Aires-da-Silva, H. Xu, J.L. Valero, S.L.H. Teo, P. Barría, and N.D. Ducharme-Barth. 2024. The use of conceptual models to structure stock assessments: A tool for collaboration and for "modelling what to model". FISH RES, 279: 107135. https://doi.org/10.1016/j.fishres.2024.107135

Ruzicka J, Chiaverano L, Coll M, Garrido S Tam J,Murase H, Robinson K, Romagnoni G, Shannon L, Silva A, Szalaj D, Watari S. 2025. The role of small pelagic fish in diverse ecosystems: knowledge gleaned from food-web models. Mar Ecol Prog Ser: 741: 7-27. Contribution to the Theme Section 'Small pelagic fish: new research frontiers'. https://doi.org/10.3354/meps14513.

Stock, S.R., U. Kierdorf, K.C. James, P.D. Shevchenko, L.J. Natanson, S. Gomez, and H. Kierdorf. 2024. Micrometer-scale structure in shark vertebral centra. ACTA BIOMATER, ISSN 1742-7061. https://doi.org/10.1016/j.actbio.2024.01.033

Uematsu, Y., T. Ishihara, T. Shimose, K.S. Chen, J.A. Mohan, J.R. Rooker, R. J. David Wells, O.E. Snodgrass, H. Dewar, S. Ohshimo, Y. Tanaka. 2024. Distinct natal origins based on vertebral ring analysis corroborate the migration pattern of Pacific bluefin tuna in the North Pacific Ocean. Mar Ecol Prog Ser 743:65-74. https://doi.org/10.3354/meps14656

Vaudo, J.J., H. Dewar, M.E. Byrne, B.M. Wetherbee, M.S. Shivji. 2024. Integrating vertical and horizontal movements of shortfin mako sharks Isurus oxyrinchus in the eastern North Pacific Ocean. Mar Ecol Prog Ser 732:85-99. https://doi.org/10.3354/meps14542

**Other Relevant Publications**

Ayers A, Leong K, Hospital J, Tam C, Morioka R. 2024a. 2023 American Samoa fisher observations data summary and analysis. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-24-09, 30 p. https://doi.org/10.25923/yyfz-a677

Ayers A, Leong K, Hospital J, Tam C, Morioka R. 2024b. 2023 Guam and CNMI Fisher Observations Data Summary and Analysis. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-24-12, 20 p. https://doi.org/10.25923/zh4f-4k39

Ayers A, Leong K, Hospital J, Tam C, Morioka R. 2024c. 2023 Hawai‘i fisher observations data summary and analysis. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-24-09, 30 p. https://doi.org/10.25923/yyfz-a677

Carnes, MJ, JP Stahl, and KA Bigelow. 2019. Evaluation of Electronic Monitoring Pre-implementation in the Hawaii-based Longline Fisheries. NOAA Technical Memorandum. NMFS-PIFSC -90, 38 p. https://doi.org/10.25923/82gg-jq77

Chan HL 2023. Economic Contributions of U.S. Commercial Fisheries in American Samoa U.S.. NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-151, 35 p. https://doi.org/10.25923/x904-a830

Chan HL. 2024. Economic Contributions of Small Boat Fisheries in Guam and the CNMI. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-160, 29 p. https://doi.org/10.25923/nsxb-my70

Cooper B, Bigelow K. 2024. Projecting U.S. Western and Central Pacific Longline Bigeye Tuna Annual Catch. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-24-15, 9p. https://doi.org/10.25923/n5g7-t472

Ely TD, Mukai GNM, Kobayashi DR, Marko PB, Moran AL, Wren JLK. 2024. Key sensitivities for long-distance dispersal models in the North Central Pacific Ocean. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-166, 39 p. https://doi.org/10.25923/tqem-v681

McCracken, M. 2019. Sampling the Hawaii deep-set longline fishery and point estimators of bycatch. Pacific Islands Fisheries Science Center, NOAA technical memorandum 89. https://doi.org/10.25923/2psa-7s55

McCracken, M. 2024. Estimation of Bycatch with Seabirds, Sea Turtles, Bony Fish, Sharks, and Rays in the 2023 Permitted American Sāmoa Longline Fishery. Pacific Islands Fisheries Science

Center, PIFSC Data Report, DR-24-06. https://doi.org/10.25923/yy14-wf97

McCracken, M. and Cooper, B. 2024. Estimation of bycatch with bony fish, sharks, and rays in the 2023 Hawai‘i permitted deep-set longline fishery. Pacific Islands Fisheries Science Center, PIFSC Data Report, DR-24-11. https://doi.org/10.25923/25ff-7y63

NOAA National Marine Fisheries Service [NMFS]. 2012. Process for distinguishing serious from non-serious injury of marine mammals. NOAA Fisheries Policy Directive 02-238-01:42.

NOAA National Marine Fisheries Service [NMFS]. 2023. Process for distinguishing serious from non-serious injury of marine mammals. NOAA Fisheries Policy Directive 02-238-01:55.

Oleson, EM, Bradford, AL, Martien, KM. 2023. Developing a management area for Hawai‘i pelagic false killer whales. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-150, 25 p. https://doi.org/10.25923/c9qv-2v95

Stahl, J. and M. Carnes. 2020. Detection Accuracy in the Hawai‘i Longline Electronic Monitoring Program with Comparisons between Three Video Review Speeds. PIFSC Data Report DR-20-012. https://doi.org/10.25923/n1gq-m468.

Stahl, J. P., Tucker, J. B., Hawn, L. A., and Bradford, A. L. 2023. The role of electronic monitoring in assessing post-release mortality of protected species in pelagic longline fisheries. U.S. Dept. of Commerce, NOAA Technical Memorandum NOAA-TM-NMFS-PIFSC-147. https://doi.org/10.25923/zxfv-5b50

Stahl, J. P., Tucker, J. B., Rassel, L., and Hawn, L. A. 2024. Data Collectable Using Electronic Monitoring Systems Compared to At-Sea Observers in the Hawai‘i Longline Fisheries. https://doi.org/10.25923/eewf-gz02

# Addendum

### Swordfish (CMM 2009-03)

No swordfish were caught and no longline vessels targeted swordfish south of 20°S in the WCPFC Convention Area from 2020–2024.

### Observer Coverage (WCPFC 11 decision - para 484(b))

**Table 3. Observer coverage in 2024 for U.S. longline fisheries in the WCPFC Convention Area excluding the U.S. EEZ. Includes the total estimated effort in number of hooks, days fished, and number of trips, and the amount of this effort observed in numbers and percent of total effort.**

| Fishery | Number of Hooks | | | Days Fished | | | Number of Trips | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Observed | % | Total | Observed | % | Total | Observed | % |
| Hawaii and California | 44,387,174 | 6,518,319 | 15 | 15,177 | 2,646 | 17 | 1,364 | 225 | 17 |

## Unloading / Transshipment (CMM 2009-06)

In 2024, five purse-seine vessels transhipped 11,240 t of highly migratory species catch, 1,935 t bigeye; 9,012 t skipjack; and 293 t yellowfin tuna in the WCPFC Convention Area and unloaded this catch in foreign ports. An estimated 9,060 t of this catch was caught inside the WCPFC Convention Area with 2,180 t caught outside the WCPFC Convention Area (Table 4a; Table 4b).

**Table 4a.** The total quantities, by weight, of highly migratory fish stocks that were transhipped by purse-seine vessels in 2024 with reporting according to CMM 2009-06.

| a) offloaded and received; | b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction | c) transhipped inside the Convention Area and transshipped outside the Convention Area; | d) caught inside the Convention Area and caught outside the Convention Area; | e) Species | f) Product Form | g) Fishing gear |
|---|---|---|---|---|---|---|
| offloaded | 1,935 | | | BET | Frozen | purse seine |
| | 9,012 | | | SKJ | Frozen | purse seine |
| | 293 | | | YFT | Frozen | purse seine |
| received | | | | | | |
| | | | | | | |
| | | | | | | |

**Table 4b.** The number of transshipments involving highly migratory fish stocks by fishing vessels in 2024 with reporting according to CMM 2009-06.

| a) offloaded and received | b) transhipped in port, transhipped at sea in areas of national jurisdiction, and transhipped beyond areas of national jurisdiction | c) transhipped inside the Convention Area and transhipped outside the Convention Area | d) caught inside the Convention Area and caught outside the Convention Area | e) fishing gear |
|---|---|---|---|---|
| offloaded | 12 | | | purse seine |
| | | | | |
| | | | | |
| received | | | | |
| | | | | |
| | | | | |

## Fishery Interactions with Protected Species

CMM 2011-03 requires CCMs to report instances in which cetaceans have been encircled by purse-seine nets. In 2024, there were no reports of purse-seine vessels encircling cetaceans.

Information is provided on fishery interactions for marine mammals, sea turtles, and seabirds by the

Hawaii-based (Table 5a-5b, 5e-5f; McCracken and Cooper 2024) and American Samoa-based (Table 5c-5d, 5e, 5g; McCracken 2024) longline fisheries during 2020–2024. Annual estimates for total fishery interactions are provided when available; otherwise observed counts are provided based on PIROP at-sea observer data. Estimates are made by raising the number of observed interactions by a factor determined according to the sample design of the PIROP; with methods evolved from McCracken 2019. For marine mammal interactions, NOAA staff assess each interaction according to established methodology in NOAA policy directives (NOAA 2012; NOAA 2023) to determine if a non-serious or serious injury or mortality are likely to result from an interaction after release from fishing gear. Observed and estimated marine mammal fishery interactions do not necessarily result in mortality or serious injury.

CMM 2018-03 requires CCMs to report on seabirds including 1) the proportion of observed effort with specific mitigation measures used; and 2) observed and reported species-specific bycatch rates and numbers or statistically rigorous estimates of species-specific seabird interaction rates and total numbers. The number of observed seabird captures and fishing effort for the Hawaii and American Samoa longline fisheries (combined) are provided based on PIROP observer data (Table 5e) and the annual estimated species-specific seabird catch for the entire fishery is shown for the Hawaii-based (Table 5f) and American Samoa-based longline fisheries (Table 5g). In addition, mandated mitigation measures required for seabirds for the Hawaii longline fisheries are included for 2024 (Table 4h). No mitigation measures are required for longline fishing based out of American Samoa. Mitigation measures used by Hawaii-based longline fishery include: TL = tori line, NS = night setting, WB = weighted branch lines, SS = side setting, BC = bird curtain, BDB = blue dyed bait, DSLS = deep setting line shooter, and MOD = management of offal (or bait) discharge. If fishers employ management of offal (or bait) discharge as a mitigation measure, it is only required when seabirds are present. A change in mitigation measure requirements for the Hawaii longline fishery began on April 1, 2024, with tori lines becoming mandatory for the Hawaii deep-set fishery when setting north of 23° N with requirements removed for management of offal discharge and blue dyed bait. Requirements for weighted branchlines and employing a line shooter remain for the Hawaii deep-set fishery when setting north of 23° N. Pelagic longline seabird mitigation measures can be found in the Code of Federal Regulations (Title 50, Chapter VI, Part 665, Subpart F, 665.815; https://www.ecfr.gov/current/title-50/part-665/subpart-F#p-665.815)

**Table 5a. Marine mammal estimated (2020–2021) or observed (2022–2024) interactions for the Hawaii-based longline fisheries for the entire shallow- and deep-set distribution (including areas outside the WCPFC Convention Area) for 2020–2024.**

| Marine Mammals | 2024 | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|
| Striped dolphin (*Stenella coeruleoalba*) | 0 | 0 | 0 | 0 | 0 |
| Spotted dolphin (*Stenella attenuata*) | 0 | 2 | 0 | 0 | 0 |
| Bottlenose dolphin (*Tursiops truncatus*) | 1 | 1 | 1 | 10 | 10 |
| Risso's dolphin (*Grampus griseus*) | 4 | 3 | 3 | 0 | 16 |
| Rough-toothed dolphin (*Steno bradenensis*) | 6 | 2 | 0 | 14 | 29 |
| False killer whale (*Pseudorca crassidens*) | 4 | 6 | 7 | 43 | 23 |
| Shortfinned pilot whale (*Globicephala* | 0 | 0 | 0 | 5 | 0 |
| Unspecified false killer or shortfinned pilot whale | 0 | 0 | 0 | 0 | 0 |
| Unspecified member of beaked whales (*Ziphiidae*) | 0 | 1 | 1 | 1 | 6 |
| Unidentified Kogia Whale | 0 | 0 | 0 | 0 | 4 |
| Unidentified Cetacean (*Cetacea*) | 2 | 5 | 2 | 24 | 23 |
| Guadalupe fur seal (*Arctocephalus townsendi*) | 0 | 0 | 2 | 0 | 7 |
| Unidentified Pinniped *(Pinnipedia*) | 0 | 0 | 1 | 0 | 0 |
| Unspecified eared seal (*Otariidae*) | 0 | 0 | 0 | 0 | 2 |
| Unidentified earless seal | 0 | 0 | 0 | 0 | 0 |
| Cuvier's beaked whale (*Ziphius cavirostris*) | 1 | 0 | 0 | 0 | 0 |
| Humpback whale (Megaptera novaeangliae) | 1 | 0 | 0 | 0 | 0 |
| **Total Marine Mammals** | **19** | **20** | **17** | **97** | **120** |

**Table 5b. Sea turtles estimated (2021–2024) or observed (2020) fishery interactions in the Hawaii-based shallow- and deep-set longline fisheries for 2020–2024 in the WCPFC Convention Area.**

| Sea Turtles | 2024 | 2023 | 2022 | 2021 | 2020[16] |
|---|---|---|---|---|---|
| Loggerhead turtle (*Caretta caretta*) | 35 | 48 | 21 | 18 | 15 |
| Leatherback turtle (*Dermochelys coriacea*) | 61 | 26 | 32 | 11 | 1 |
| Olive Ridley turtle (*Lepidochelys olivacea*) | 88 | 70 | 50 | 48 | 0 |
| Green turtle (*Chelonia mydas*) | 9 | 10 | 6 | 18 | 0 |
| Unidentified hardshell turtle (Cheloniidae) | 0 | 8 | 0 | 1 | 0 |
| **Total Sea Turtles** | **193** | **162** | **109** | **96** | **16** |

16 In 2020, there were issues with estimation of sea turtles in the WCPFC Convention Area due to the observer coverage during the COVID-19 pandemic. As a result, the reported number is the observed count only and includes the complete distribution of Hawaii longline fisheries with areas outside of WCPFC Convention area.

**Table 5c. Marine mammal estimated (2020–2021) or observed (2022–2024) fishery interactions in the American Samoa-based longline fishery from 2020–2024.**

| Marine Mammals | 2024[17] | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|
| Striped dolphin (S*tenella coeruleoalba*) | | 0 | 0 | 0 | 0 |
| False killer whale (*Pseudorca crassidens*) | | 0 | 0 | 3 | 5 |
| Shortfinned pilot whale (*Globicephala* | | 0 | 0 | 0 | 0.4 |
| Rough-toothed dolphin (*Steno bradenensis*) | | 0 | 0 | 2 | 3 |
| **Total Marine Mammals** | | **0** | **0** | **5** | **8.4** |

**Table 5d. Sea turtle estimated fishery interactions in the American Samoa-based longline fishery from 2020–2024.**

| Sea Turtles | 2024[18] | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|
| Leatherback turtle (*Dermochelys coriacea*) | | 0 | 2 | 6 | 7 |
| Olive Ridley turtle (*Lepidochelys olivacea*) | | 0 | 8 | 7 | 6 |
| Green turtle (*Chelonia mydas*) | | 23 | 4 | 10 | 11 |
| Hawksbill *(Eretmochelys imbricata*) | | 0 | 0 | 2 | 2 |
| **Total Sea Turtles** | | **23** | **14** | **25** | **26** |

[17] In 2024, marine mammal interactions with the American Samoa-based fishery were not included as they are being reported separately in a report submitted by American Samoa.

[18] In 2024, sea turtle interactions with the American Samoa-based fishery were not included as they are being reported separately in a report submitted by American Samoa.

**Table 5e. The rate (captures per 1,000 observed hooks) and number of observed seabird captures and fishing effort for the Hawaii and American Samoa longline fisheries (combined) from 2020–2024. Interactions include the complete distribution of these fisheries with areas outside of the WCPFC reporting area included. No fishery effort occurred for latitudinal bands south of 25° S. Note some effort data are suppressed due to confidentiality.**

| **Effort and Observed Seabird Captures North of 23° N** | | | | | | |
|---|---|---|---|---|---|---|
| **Fishing Effort** | | | | | **Observed Seabird Captures** | |
| **Year** | **Number of Vessels** | **Number of Hooks Set** | **Observed Hooks** | **% Hooks Observed** | **Numb er** | **Rate** |
| **2020** | 142 | 26,330,528 | 4,832,226 | 18.4 | 148 | 0.03 |
| **2021** | 137 | 23,689,608 | 5,177,025 | 21.9 | 159 | 0.03 |
| **2022** | 131 | 20,533,974 | 5,176,012 | 25.2 | 201 | 0.04 |
| **2023** | 139 | 25,305,441 | 4,908,034 | 19.4 | 77 | 0.02 |
| **2024** | 144 | 22,010,161 | 3,794,947 | 17.2 | 99 | 0.03 |

| **Effort and Observed Seabird Captures 23° N–25° S** | | | | | | |
|---|---|---|---|---|---|---|
| **Fishing Effort** | | | | | **Observed Seabird Captures** | |
| **Year** | **Number of Vessels** | **Number of Hooks Set** | **Observed Hooks** | **% Hooks Observed** | **Number** | **Rate** |
| **2020** | 142 | 36,320,732 | 4,293,640 | 11.8 | 41 | 0.01 |
| **2021** | 149 | 45,642,014 | 7,392,695 | 16.2 | 25 | 0.00 |
| **2022** | 149 | 46,593,920 | 8,777,251 | 18.8 | 8 | 0.00 |
| **2023** | 153 | 45,076,988 | 7,782,262 | 17.3 | 12 | 0.00 |
| **2024[19]** | 151 | 43,694,575 | 5,541,052 | 12.7 | 1 | 0.00 |

[19] In 2024, American Samoa-based longline fishery interactions are not included as these are covered in a report submitted by American Samoa. This fishery only operates within the band from 23° N–25° S.

**Table 5f. Total number of estimated seabird interactions by species in the Hawaii–based longline fishery from 2020–2024. Interactions include the complete distribution of the shallow- and deep-set fisheries with areas outside of the WCPFC reporting area. No observed captures occurred south of 25°S.**

| Species | 2024 | | 2023 | | 2022 | | 2021 | | 2020 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | >23° N | 23°N –25°S | >23° N | 23°N –25°S | >23° N | 23°N –25°S | >23° N | 23°N –25°S | >23° N | 23°N –25°S |
| Blackfooted albatross (*Phoebastria nigripes*) | 74 | 0 | 183 | 50 | 315 | 22 | 435 | 146 | 395 | 204 |
| Laysan albatross (*Phoebastria diomedia*) | 86 | 0 | 81 | 5 | 394 | 8 | 241 | 13 | 285 | 58 |
| Red-footed booby (*Sula sula*) | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 |
| Brown booby (*Sula leucogaster*) | 0 | 6 | 0 | 0 | 0 | 6 | 1 | 0 | 0 | 5 |
| Masked booby (*Sula dactylatra*) | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sooty shearwater (*Ardenna grisea*) | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 7 |
| Unidentified shearwater (*Procellariidae*) | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 |
| Northern fulmar (*Fulmarus glacialis*) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| **Totals** | **160** | **6** | **269** | **67** | **709** | **36** | **688** | **159** | **681** | **274** |

**Table 5g. Total number of estimated seabird interactions by species for the American Samoa-based longline fishery from 2020–2023. No interactions occurred north of 23°N or south of 25°S.**

| Species | 2024[20] | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|---|
| | 23°N–25°S | 23°N–25°S | 23°N–25°S | 23°N–25°S | 23°N–25°S |
| Frigate bird (Fregatidae) | | 0 | 0 | 1 | 1 |
| Unidentified shearwater (*Procellariidae*) | | 0 | 0 | 1 | 1 |
| **Totals** | | **0** | **0** | **2** | **2** |

[20] In 2024, seabird interactions with the American Samoa-based fishery were not included as they are being covered separately in a report submitted by American Samoa.

**Table 5h. Seabird mitigation measures used in Hawaii-based deep-set (DS) and shallow-set (SS) longline fisheries by type of set, location of set, and method of setting (side-setting or stern-setting).**

| Set Type | Location Set | Method of Setting | Mitigation Measures[21] | Proportion of Observed Effort Using Mitigation Measures |
|---|---|---|---|---|
| SS | All locations | Side-setting | SS + WB + BC | 3% |
| SS | All locations | Stern-setting | BDB + NS + MOD | 91% |
| SS | All locations | Stern-setting | NS + MOD | 3% |
| SS | All locations | Stern-setting | BDB + MOD | 1% |
| SS | All locations | Stern-setting | BDB + NS | <1% |
| SS | All locations | Stern-setting | None used | 2% |
| **SS Total** | **All locations** | **All set types** | **-** | **100%** |
| DS | North 23° N | Side-setting | SS + WB +BC | 3% |
| DS | North 23° N | Side-setting | SS + WB | 1% |
| DS | North 23° N | Stern-setting | WB + DSLS + BDB + MOD | 5% |
| DS | North 23° N | Stern-setting | WB + DSLS + BDB | 3% |
| DS | North 23° N | Stern-setting | WB + DSLS + MOD | <1% |
| DS | North 23° N | Stern-setting | WB + DSLS | 1% |
| DS | North 23° N | Stern-setting | TL + WB + DSLS + MOD + BDB | 2% |
| DS | North 23° N | Stern-setting | TL + WB + DSLS + BDB | 1% |
| DS | North 23° N | Stern-setting | TL + WB + DSLS + MOD | 6% |
| DS | North 23° N | Stern-setting | TL + WB + DSLS | 9% |
| DS | South 23° N | Side setting or stern-setting | No mitigation measures | 69% |
| **DS total** | **All locations** | **All set types** | **-** | **100%** |

[21] Mitigation measures include: TL = tori line, NS = night setting, WB = weighted branch lines, SS = side setting, BC = bird curtain, BDB = blue dyed bait, DSLS = deep setting line shooter, and MOD = management of offal (or bait) discharge.