

PIFSC Report on the Logbook Program for the American Samoa Longline Fishery October – December 2012¹

Fisheries Research and Monitoring Division
Pacific Islands Fisheries Science Center

The American Samoa longline fishery's summary catch and effort statistics for the fourth quarter of 2012, based on date of haul, are shown in Table 1. This table was derived from all logbook data submitted to the American Samoa Department of Marine and Wildlife Resources by the posting date for fourth quarter (April 9, 2012). Table 1 reflects data from an estimated 97.4% of sets made during this quarter, a total of 969 sets were reported from both large and small longline vessels. An estimated 26 logbooks had not yet been submitted by the posting date for this quarterly summary (2.6% delinquency).

Fishing effort was reduced in this quarter, compared to the 4th quarter of 2011. There were 20 active vessels during the 4th quarter of 2012, which was 13% (3 vessels) less than in the 4th quarter of 2011 (Fig. 1). The 20 vessels made 969 sets and deployed 2,849,114 hooks. This was 12.2% fewer sets (Fig. 2) and 9.2% less hooks (Fig. 3) than in the same quarter of 2011. However, the average number of hooks per set increased by 3.4%, going from 2,843 to 2,940 hooks/set.

The total catch (number of fish) for all species combined was 70,336 (Fig. 4), which is a decrease of 16.1% in comparison with 4th quarter 2011 (Fig. 4). Catches of all species, except skipjack and bigeye tuna, and billfishes, decreased in the last quarter of 2012, in comparison with the same quarter in 2011. As usual, albacore dominated the catch, with 33,571 albacore reported as caught in the 4th quarter of 2012. Compared with the 43,983 albacore caught in the same quarter of 2011 (Fig. 5), this indicates a continued downward trend for American Samoa albacore landings, and represents a 23.7% fourth-quarter decrease from 2011. Although albacore landings decreased, there was a significant increase in landings of skipjack tuna (441%), as shown in Fig. 7. Other species or groups that showed an increased 4th quarter catch included bigeye tuna (1.7%, Fig. 6) and billfishes (4.4%, Fig. 11). Decreases in 4th quarter catch were seen for yellowfin tuna (12.5%, Fig. 8), mahimahi (70.8%, Fig. 9), wahoo (11.8%, Fig. 10), and sharks (3.4%, Fig. 12).

The American Samoa longline fishery continues to experience challenging conditions with its primary target species, albacore tuna. Catch rates for albacore remained at fairly low levels, in comparison with long term averages. Catch rates of many other marketable species have also been relatively low.

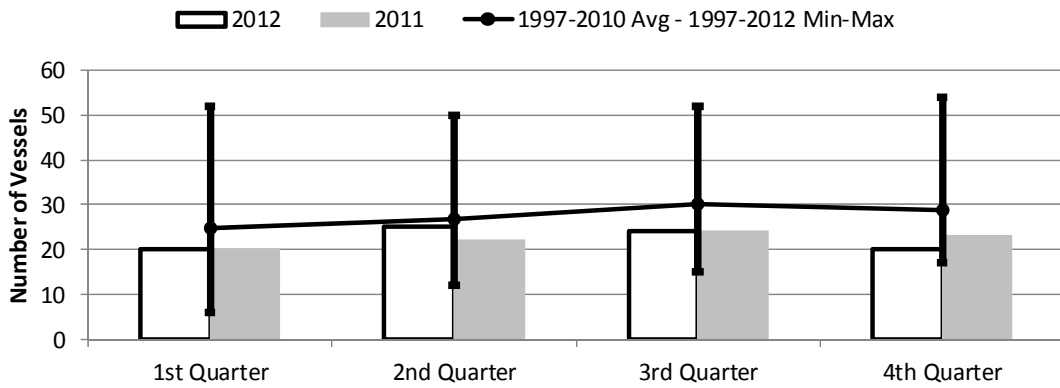
However, it is not all bad news for the American Samoa longline fishery. The overall catch per unit of effort (CPUE, number of fish per 1000 hooks for all species), increased by 27.9%, from 19.3 fish/1000 hooks in the 4th quarter of 2011 to 24.7 fish/1000 hooks in 2012 (Fig. 13). While CPUE for albacore, yellowfin tuna, mahimahi, and wahoo decreased, CPUE for all other species increased. Most noteworthy, CPUE of skipjack tuna more than quadrupled (497% increase Fig. 16). The figures show detailed CPUE trends by species. Decreases in CPUE were seen for albacore (15.9%, Fig. 14), yellowfin (3%, Fig. 17), mahimahi (75%, Fig. 18), and wahoo (2.7%, Fig. 19). In addition to skipjack, fourth quarter CPUE was seen to increase for bigeye tuna (11.9%, Fig. 15) and billfishes (13.3%, Fig. 20). The fact that a slight increase in CPUE for sharks (7.1%, Fig. 21) was not associated with increased catch can be considered another positive trend for this fishery.

¹ PIFSC Data Report DR-13-012
Issued 7 June 2013

Table 1. Summary of fish catch and nominal fishing effort by American Samoa Longline vessels during the fourth quarter of 2012 based on longline logbooks processed before April 9, 2012.

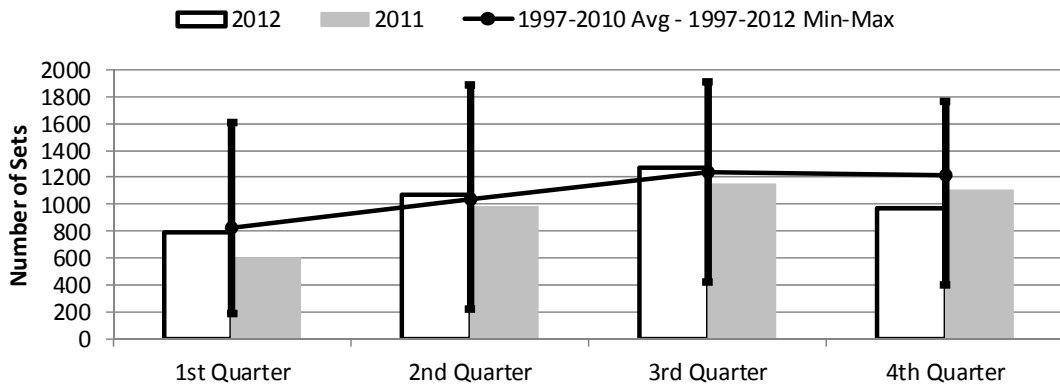
| TRIP INFORMATION | | | | |
|------------------------------|----------------------|--------------------|------------------------|-------------------------------------|
| Number of Vessels: | 20 | | | |
| Number of Trips: | 30 | | | |
| Number of Sets: | 969 | | | |
| 1000's of Hooks Set: | 2,849 | | | |
| Number of Light Sticks Used: | 40 | | | |
| CATCH INFORMATION | | | | |
| Species | Number Caught | Number Kept | Number Released | Number Caught per 1000 Hooks |
| BILLFISH | | | | |
| Black marlin | 1 | 1 | 0 | 0.00 |
| Blue marlin | 424 | 168 | 256 | 0.15 |
| Striped marlin | 125 | 101 | 24 | 0.04 |
| Sailfish | 91 | 14 | 77 | 0.03 |
| Spearfish | 241 | 9 | 232 | 0.08 |
| Swordfish | 90 | 73 | 17 | 0.03 |
| TOTAL BILLFISH | 972 | 366 | 606 | 0.34 |
| SHARKS | | | | |
| Blue shark | 745 | 8 | 737 | 0.26 |
| Shortfin mako shark | 123 | 1 | 122 | 0.04 |
| Thresher shark | 89 | 2 | 87 | 0.03 |
| White tip oceanic shark | 218 | 0 | 218 | 0.08 |
| Sharks (unknown) | 102 | 3 | 99 | 0.04 |
| TOTAL SHARKS | 1,277 | 14 | 1,263 | 0.45 |
| TUNA | | | | |
| Albacore tuna | 33,571 | 33,524 | 47 | 11.78 |
| Bigeye tuna | 1,342 | 1,311 | 31 | 0.47 |
| Bluefin tuna | 11 | 0 | 11 | 0.00 |
| Skipjack tuna | 25,540 | 23,969 | 1,571 | 8.96 |
| Yellowfin tuna | 2,723 | 2,611 | 112 | 0.96 |
| TOTAL TUNA | 63,187 | 61,415 | 1,772 | 22.18 |
| OTHER PELAGICS | | | | |
| Mahimahi | 70 | 59 | 11 | 0.02 |
| Moonfish | 137 | 29 | 108 | 0.05 |
| Oilfish | 2,291 | 1 | 2,290 | 0.80 |
| Pomfret | 226 | 15 | 211 | 0.08 |
| Wahoo | 2,056 | 1,794 | 262 | 0.72 |
| TOTAL OTHER PELAGICS | 4,780 | 1,898 | 2,882 | 1.68 |
| NON-PMUS | | | | |
| Pelagic fishes (unknown) | 120 | 0 | 120 | 0.04 |
| TOTAL NON-PMUS | 120 | 0 | 120 | 0.04 |
| TOTAL ALL SPECIES | 70,336 | 63,693 | 6,643 | 24.69 |

Figure 1. American Samoa Longline Vessels Submitting Logs by Quarter for



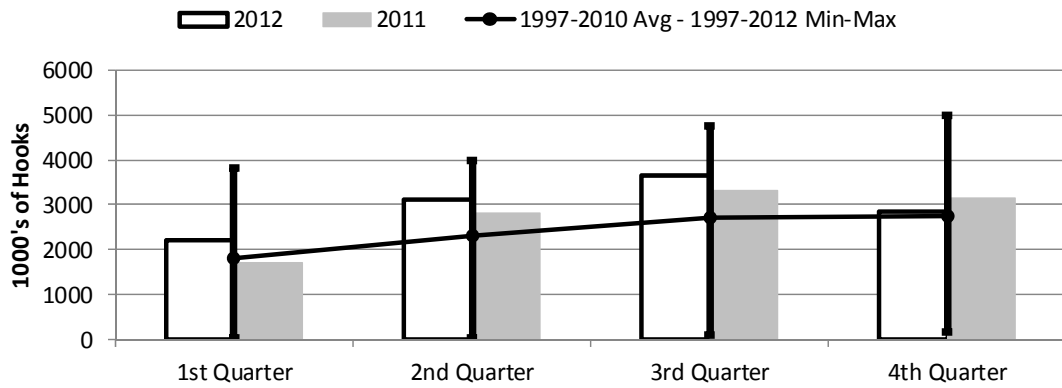
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 20 | 25 | 24 | 20 |
| 2011 | 20 | 22 | 24 | 23 |
| 1997-2012 Max | 52 | 50 | 52 | 54 |
| 1997-2010 Avg | 24 | 26 | 30 | 28 |
| 1997-2012 Min | 6 | 12 | 15 | 17 |

Figure 2. Number of Sets by American Samoa Longline Vessels by Quarter for



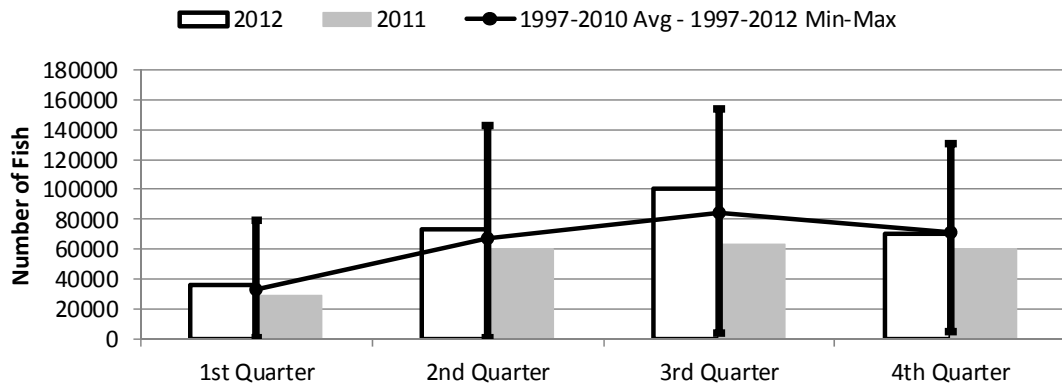
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 788 | 1,069 | 1,273 | 969 |
| 2011 | 601 | 986 | 1,155 | 1,104 |
| 1997-2012 Max | 1,602 | 1,886 | 1,904 | 1,759 |
| 1997-2010 Avg | 830 | 1,033 | 1,242 | 1,216 |
| 1997-2012 Min | 192 | 223 | 424 | 401 |

Figure 3. Number of Hooks Set by the American Samoa Longline Fleet by Quarter for



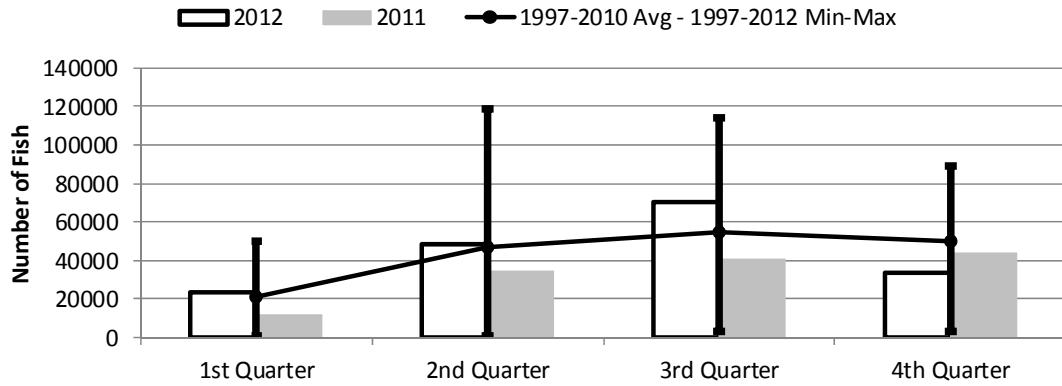
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 2,194 | 3,101 | 3,656 | 2,849 |
| 2011 | 1,695 | 2,811 | 3,317 | 3,138 |
| 1997-2012 Max | 3,805 | 3,992 | 4,769 | 4,985 |
| 1997-2010 Avg | 1,795 | 2,296 | 2,726 | 2,743 |
| 1997-2012 Min | 41 | 50 | 101 | 175 |

Figure 4. American Samoa Longline Total Catch (All Species) by Quarter for



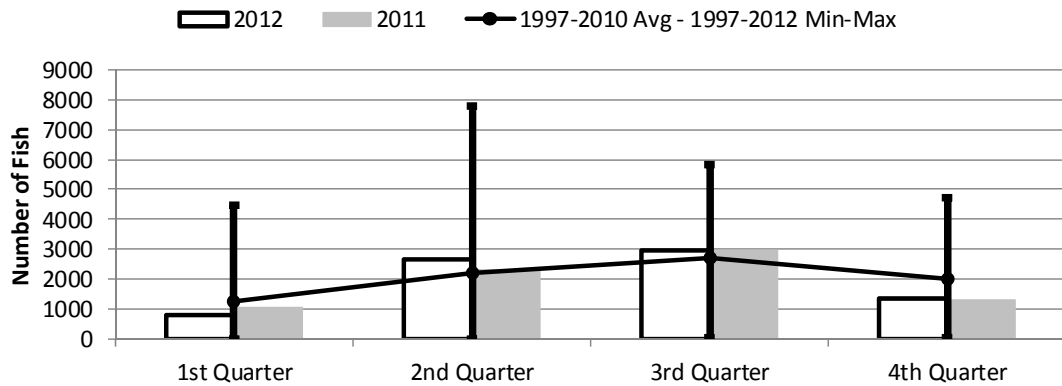
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 35,897 | 73,742 | 100,599 | 70,336 |
| 2011 | 29,498 | 60,624 | 63,705 | 60,582 |
| 1997-2012 Max | 79,588 | 142,603 | 153,301 | 130,238 |
| 1997-2010 Avg | 33,269 | 67,339 | 84,531 | 71,299 |
| 1997-2012 Min | 1,315 | 1,416 | 4,127 | 5,201 |

Figure 5. American Samoa Longline Albacore Catch by Quarter for



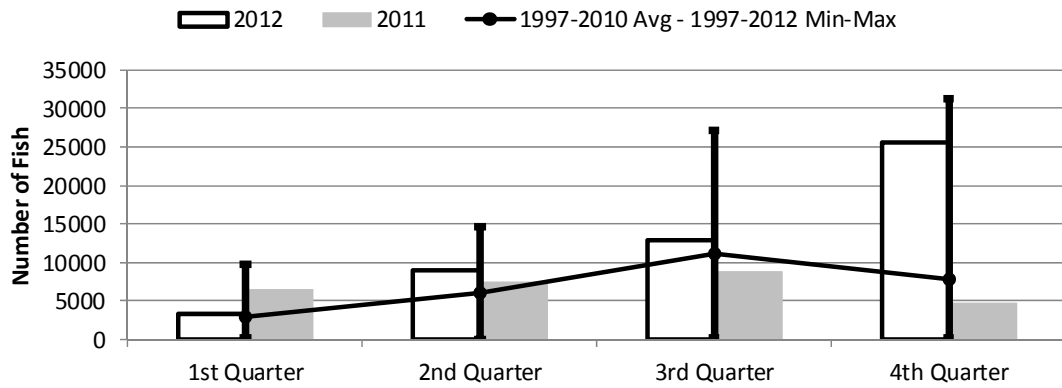
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 23,443 | 48,162 | 70,665 | 33,571 |
| 2011 | 11,899 | 34,320 | 40,269 | 43,983 |
| 1997-2012 Max | 50,382 | 118,994 | 113,831 | 89,389 |
| 1997-2010 Avg | 21,134 | 47,018 | 55,018 | 49,749 |
| 1997-2012 Min | 940 | 851 | 3,182 | 3,465 |

Figure 6. American Samoa Longline Bigeye Tuna Catch by Quarter for



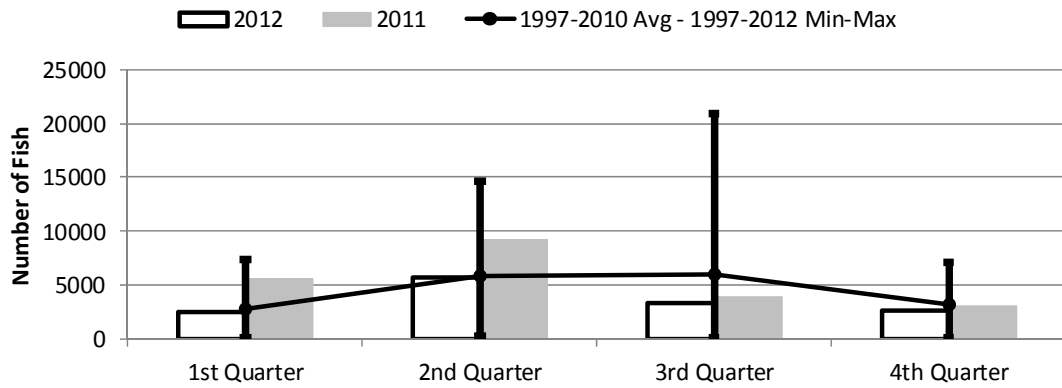
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 800 | 2,651 | 2,965 | 1,342 |
| 2011 | 1,043 | 2,303 | 2,948 | 1,320 |
| 1997-2012 Max | 4,470 | 7,785 | 5,824 | 4,728 |
| 1997-2010 Avg | 1,283 | 2,236 | 2,702 | 1,998 |
| 1997-2012 Min | 6 | 26 | 55 | 55 |

Figure 7. American Samoa Longline Skipjack Tuna Catch by Quarter for



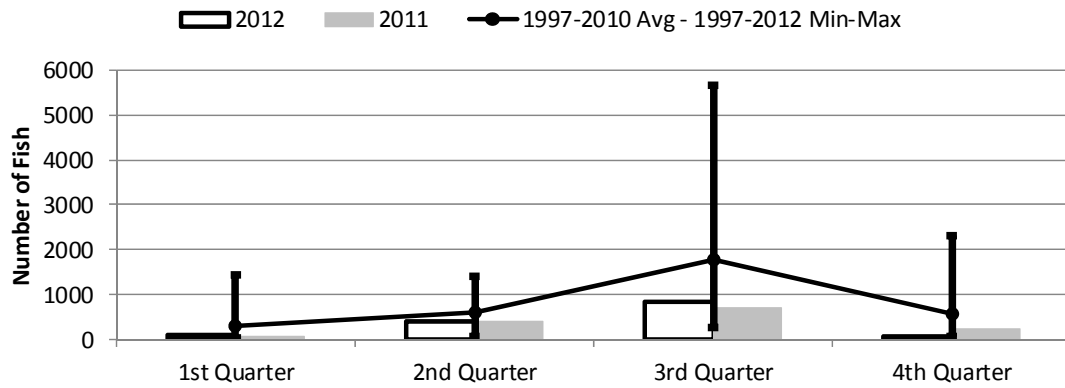
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 3,307 | 9,040 | 12,894 | 25,540 |
| 2011 | 6,446 | 7,465 | 8,717 | 4,718 |
| 1997-2012 Max | 9,801 | 14,606 | 27,234 | 31,191 |
| 1997-2010 Avg | 2,994 | 6,021 | 11,139 | 7,828 |
| 1997-2012 Min | 116 | 6 | 244 | 178 |

Figure 8. American Samoa Longline Yellowfin Tuna Catch by Quarter for



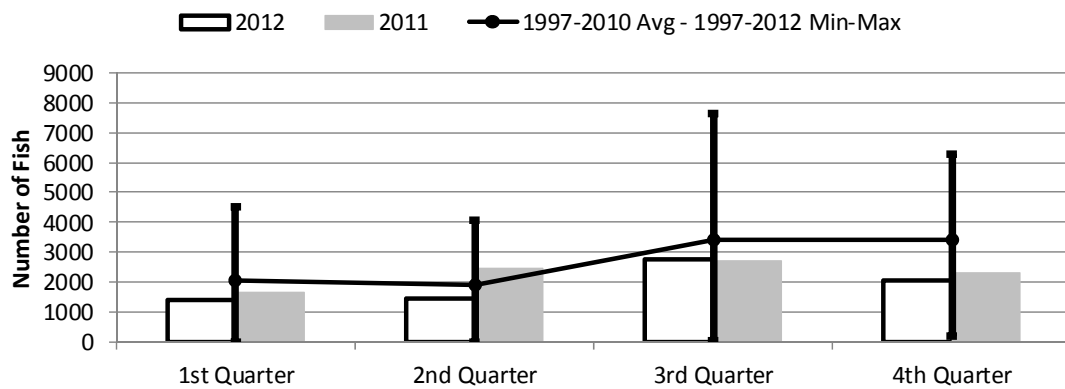
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 2,530 | 5,705 | 3,300 | 2,723 |
| 2011 | 5,645 | 9,185 | 3,887 | 3,111 |
| 1997-2012 Max | 7,426 | 14,681 | 20,993 | 7,104 |
| 1997-2010 Avg | 2,811 | 5,872 | 6,068 | 3,207 |
| 1997-2012 Min | 213 | 356 | 84 | 177 |

Figure 9. American Samoa Mahimahi Catch by Quarter for



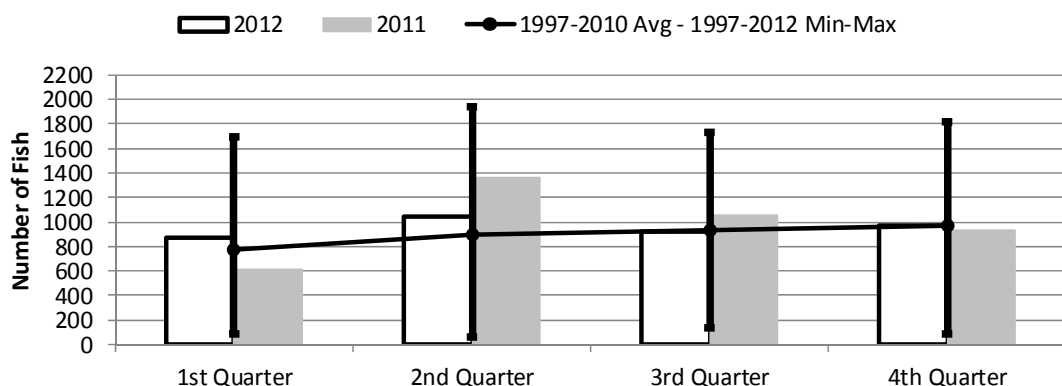
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 93 | 417 | 838 | 70 |
| 2011 | 72 | 405 | 690 | 240 |
| 1997-2012 Max | 1,454 | 1,392 | 5,642 | 2,297 |
| 1997-2010 Avg | 294 | 590 | 1,779 | 586 |
| 1997-2012 Min | 30 | 59 | 280 | 70 |

Figure 10. American Samoa Wahoo Catch by Quarter for



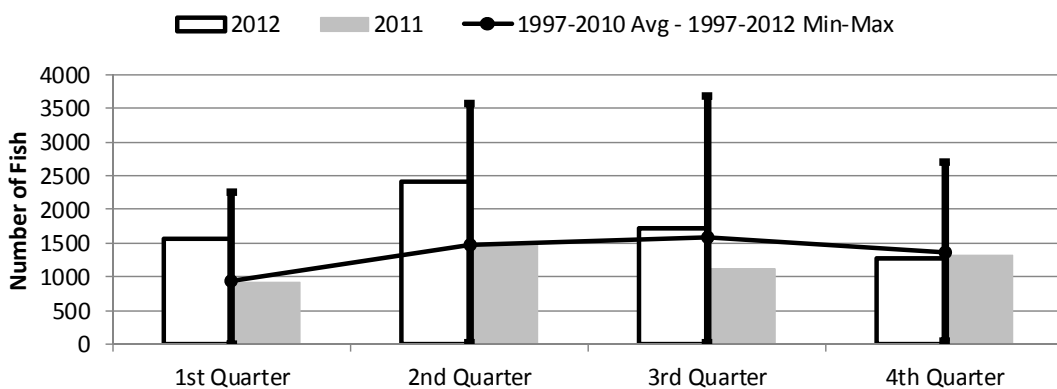
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 1,413 | 1,472 | 2,768 | 2,056 |
| 2011 | 1,682 | 2,484 | 2,701 | 2,331 |
| 1997-2012 Max | 4,524 | 4,076 | 7,629 | 6,281 |
| 1997-2010 Avg | 2,042 | 1,913 | 3,399 | 3,412 |
| 1997-2012 Min | 27 | 20 | 68 | 210 |

Figure 11. American Samoa Billfish Catch by Quarter for



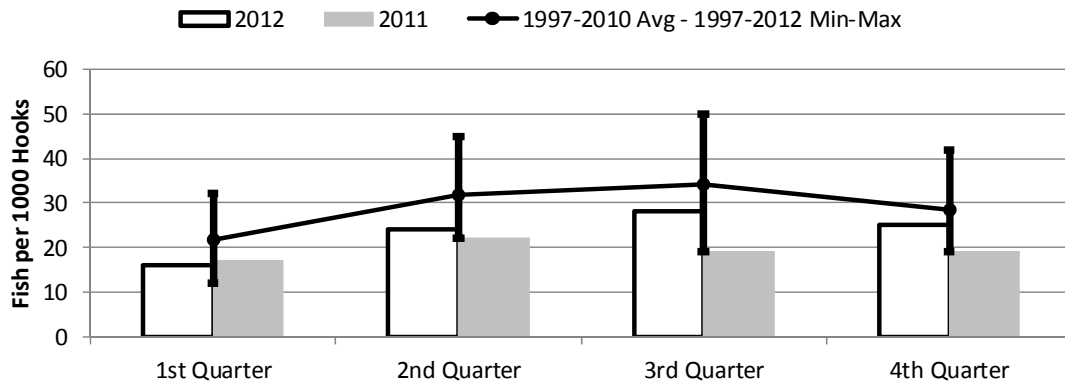
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 875 | 1,045 | 923 | 972 |
| 2011 | 611 | 1,367 | 1,061 | 931 |
| 1997-2012 Max | 1,692 | 1,934 | 1,729 | 1,819 |
| 1997-2010 Avg | 777 | 900 | 930 | 973 |
| 1997-2012 Min | 83 | 58 | 132 | 84 |

Figure 12. American Samoa Shark Catch by Quarter for



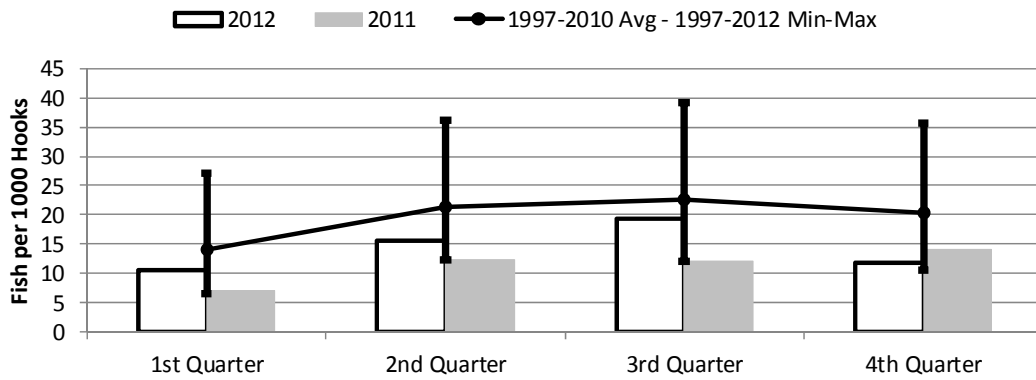
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 1,565 | 2,405 | 1,723 | 1,277 |
| 2011 | 915 | 1,475 | 1,112 | 1,322 |
| 1997-2012 Max | 2,260 | 3,562 | 3,686 | 2,697 |
| 1997-2010 Avg | 943 | 1,472 | 1,594 | 1,362 |
| 1997-2012 Min | 5 | 16 | 26 | 49 |

Figure 13. American Samoa Longline Total Catch per 1000 Hooks by Quarter for



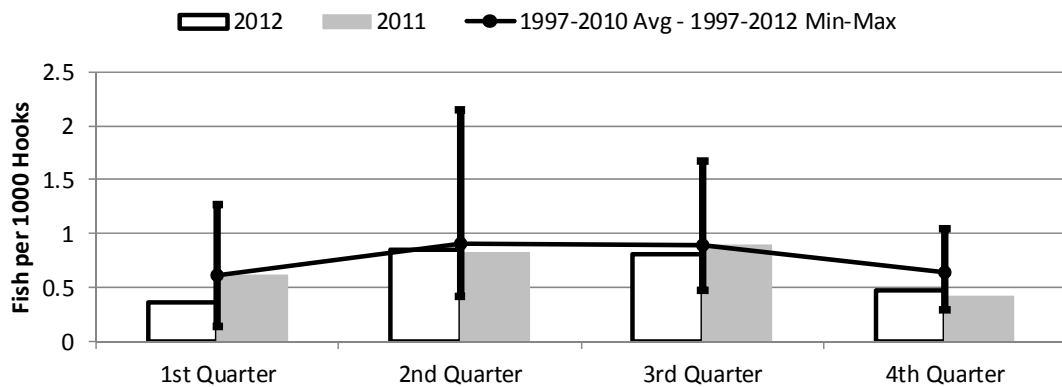
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 16 | 24 | 28 | 25 |
| 2011 | 17 | 22 | 19 | 19 |
| 1997-2012 Max | 32 | 45 | 50 | 42 |
| 1997-2010 Avg | 21 | 31 | 34 | 28 |
| 1997-2012 Min | 12 | 22 | 19 | 19 |

Figure 14. American Samoa Longline Albacore Catch per 1000 Hooks by Quarter for



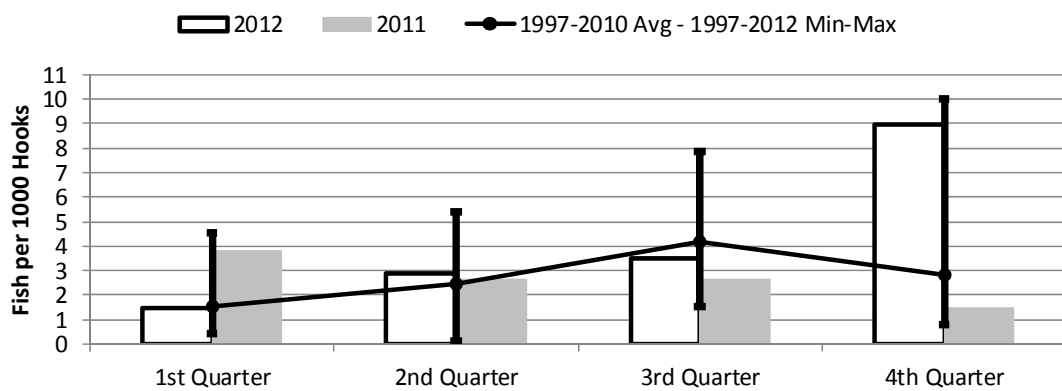
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 10.68 | 15.53 | 19.33 | 11.78 |
| 2011 | 7.02 | 12.21 | 12.14 | 14.01 |
| 1997-2012 Max | 27.01 | 36.18 | 39.13 | 35.75 |
| 1997-2010 Avg | 14.19 | 21.44 | 22.66 | 20.34 |
| 1997-2012 Min | 6.58 | 12.21 | 12.14 | 10.54 |

Figure 15. American Samoa Longline Bigeye Tuna Catch per 1000 Hooks by Quarter for



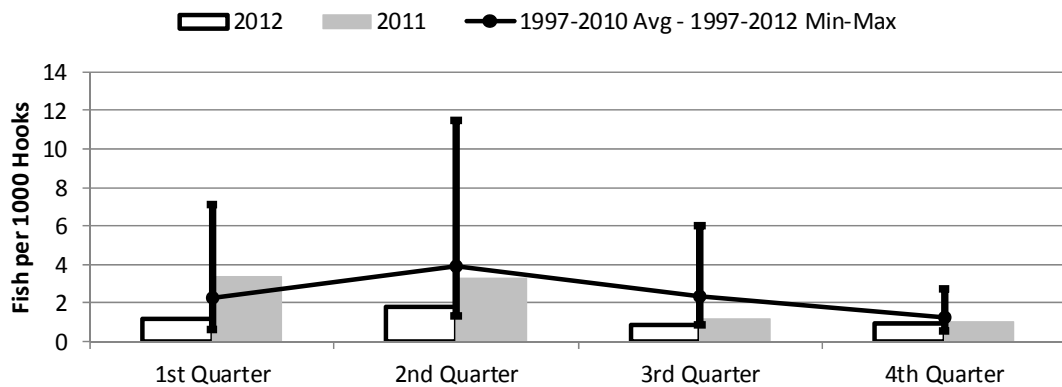
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 0.36 | 0.85 | 0.81 | 0.47 |
| 2011 | 0.62 | 0.82 | 0.89 | 0.42 |
| 1997-2012 Max | 1.27 | 2.15 | 1.68 | 1.05 |
| 1997-2010 Avg | 0.62 | 0.90 | 0.89 | 0.64 |
| 1997-2012 Min | 0.15 | 0.41 | 0.48 | 0.29 |

Figure 16. American Samoa Longline Skipjack Tuna Catch per 1000 Hooks by Quarter for



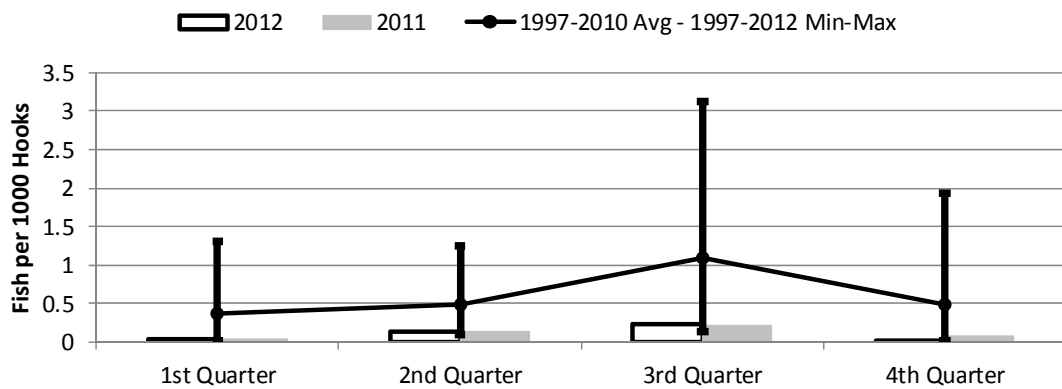
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 1.51 | 2.92 | 3.53 | 8.96 |
| 2011 | 3.80 | 2.66 | 2.63 | 1.50 |
| 1997-2012 Max | 4.56 | 5.39 | 7.84 | 9.98 |
| 1997-2010 Avg | 1.57 | 2.46 | 4.19 | 2.81 |
| 1997-2012 Min | 0.44 | 0.12 | 1.56 | 0.79 |

Figure 17. American Samoa Yellowfin Tuna Catch per 1000 Hooks by Quarter for



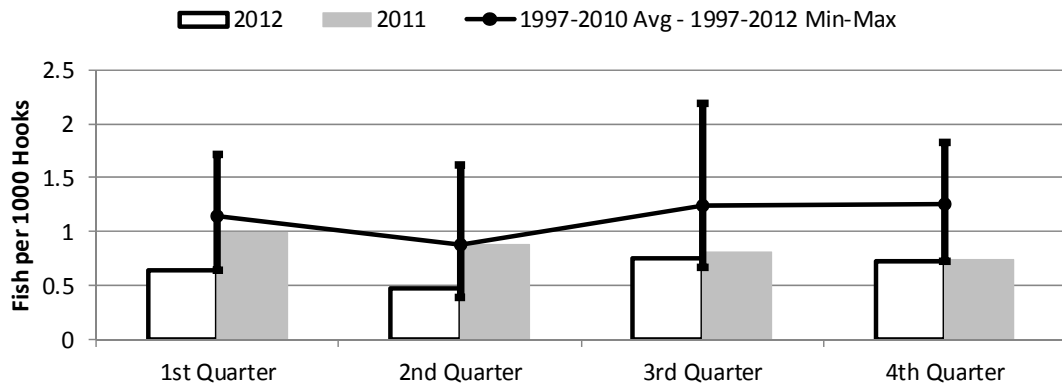
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 1.15 | 1.84 | 0.90 | 0.96 |
| 2011 | 3.33 | 3.27 | 1.17 | 0.99 |
| 1997-2012 Max | 7.11 | 11.51 | 6.04 | 2.76 |
| 1997-2010 Avg | 2.24 | 3.95 | 2.35 | 1.26 |
| 1997-2012 Min | 0.66 | 1.34 | 0.83 | 0.55 |

Figure 18. American Samoa Longline Mahimahi Catch per 1000 Hooks by Quarter for



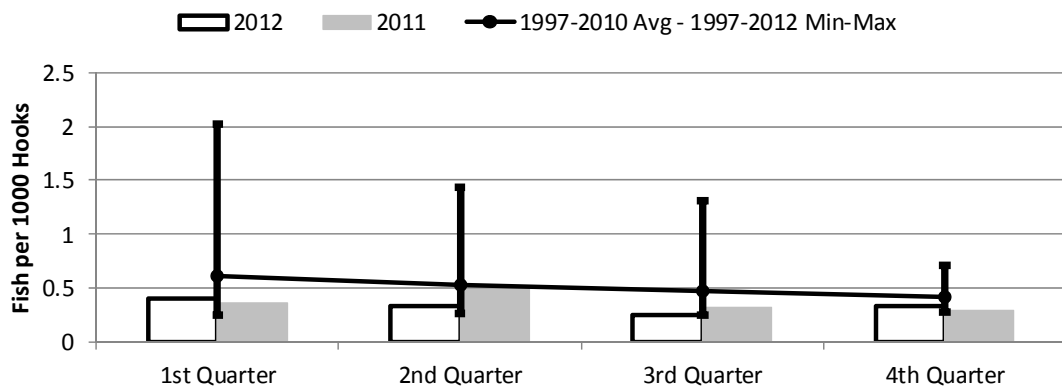
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 0.04 | 0.13 | 0.23 | 0.02 |
| 2011 | 0.04 | 0.14 | 0.21 | 0.08 |
| 1997-2012 Max | 1.30 | 1.25 | 3.13 | 1.93 |
| 1997-2010 Avg | 0.38 | 0.49 | 1.10 | 0.50 |
| 1997-2012 Min | 0.02 | 0.10 | 0.14 | 0.02 |

Figure 19. American Samoa Wahoo Catch per 1000 Hooks by Quarter for



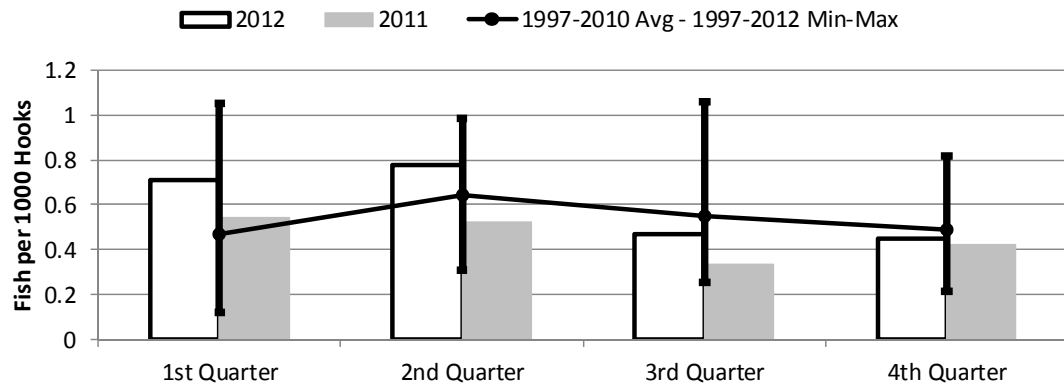
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 0.64 | 0.47 | 0.76 | 0.72 |
| 2011 | 0.99 | 0.88 | 0.81 | 0.74 |
| 1997-2012 Max | 1.71 | 1.62 | 2.20 | 1.83 |
| 1997-2010 Avg | 1.14 | 0.88 | 1.24 | 1.25 |
| 1997-2012 Min | 0.64 | 0.39 | 0.67 | 0.72 |

Figure 20. American Samoa Billfish Catch per 1000 Hooks by Quarter for



| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 0.40 | 0.34 | 0.25 | 0.34 |
| 2011 | 0.36 | 0.49 | 0.32 | 0.30 |
| 1997-2012 Max | 2.02 | 1.44 | 1.31 | 0.71 |
| 1997-2010 Avg | 0.62 | 0.53 | 0.47 | 0.41 |
| 1997-2012 Min | 0.25 | 0.26 | 0.25 | 0.28 |

Figure 21. American Samoa Shark Catch per 1000 Hooks by Quarter for



| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2012 | 0.71 | 0.78 | 0.47 | 0.45 |
| 2011 | 0.54 | 0.52 | 0.34 | 0.42 |
| 1997-2012 Max | 1.05 | 0.99 | 1.06 | 0.82 |
| 1997-2010 Avg | 0.47 | 0.64 | 0.55 | 0.49 |
| 1997-2012 Min | 0.12 | 0.31 | 0.26 | 0.22 |