

PIFSC Report on the Logbook Program for the American Samoa Longline Fishery July – September 2013¹

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Pacific Islands Fisheries Science Center

The American Samoa longline fishery continues to experience challenging conditions. Catch of its primary target species, albacore tuna, has remained at a fairly low level in comparison with long term averages. Catches for many other marketable species have also remained relatively low during the third quarter of 2013, as they were throughout the previous year. However, increasing catches of low-volume, higher-priced species, such as mahimahi, wahoo and yellowfin tuna, may indicate an effort by the fishery to target these fish in order to sell them in higher value local fresh-fish markets rather than to the cannery in Pago Pago.

A summary of the fishery's catch and effort statistics for the third quarter of 2013, based on date of haul, is provided in Table 1. This table was derived from all logbook data submitted to the American Samoa Department of Marine and Wildlife Resources by January 7th, 2014, which reflects more than 99% of sets made during the quarter. . Only large (>50ft in length) vessels participated in the fishery.

The American Samoa longline fleet reported less fishing effort during the third quarter of 2013 than in the same quarter of 2012. There were only 21 active vessels, 12.5% less than during the third quarter of 2012 (Fig. 1). These 21 vessels made 1,103 sets and deployed 3,271,743 hooks, representing a 13.4% decrease in sets (Fig. 2) and 10.5% decrease in hooks (Fig. 3) in comparison to the same quarter of 2012. However-the number of hooks per set increased by nearly 3.3%, from an average 2,872 hooks/set in 2012, to 2,966 hooks/set in 2013. Increasing the number of hooks per set is common in longline fisheries attempting to improve catch per day of operation.

With the exception of significant increases in catches of yellowfin tuna and mahimahi, the number of fish caught greatly decreased for all species individually and as a whole in comparison with the third quarter of 2012. A total of 64,414 fish were caught (all species combined), which was 36% less than during the third quarter of 2012 (Fig. 4). Although the main target species, albacore tuna, dominated the catch as usual (65.6%), the 42,282 fish caught during the third quarter of 2013 represents a 40.2% reduction from the 70,665 albacore caught during the same quarter of 2012 (Fig. 5). Other species and groups showing decreased catch in the third quarter of 2013 include: skipjack tuna (down 59.8%, Fig. 7), bigeye tuna (50.7%, Fig. 6), wahoo (20.5%, Fig. 10), and billfishes (6.7%, Fig. 11). Positive trends for this fishery during the third quarter of 2013 included increased catches of yellowfin tuna (up 93.7%, Fig. 8) and mahimahi (up by 110.9%, Fig. 9). The decrease in shark catch (down by 17.5%, Fig. 12) is appreciated by fishermen, since shark are not targeted or retained, and shark bycatch is discouraged by NMFS .

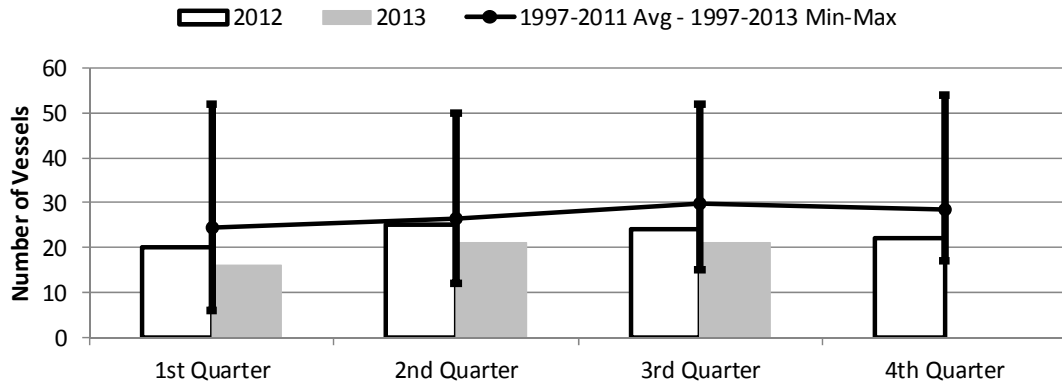
The overall catch per unit of effort (CPUE, number of fish of all species per 1000 hooks) decreased appreciably (28.5%) during the third quarter of 2013, compared with the same quarter of 2012. The fishery caught an average of just 19.7 fish/1000 hooks, as opposed to 27.5 fish/1000 hooks the previous year (Fig. 13). CPUE for yellowfin tuna, mahimahi, and billfishes increased, while CPUE for the most targeted species, albacore, decreased by 33.2% (Fig. 14) and CPUE for the second most targeted species, skipjack tuna, decreased by 55% (Fig. 16). Bigeye tuna CPUE decreased 44.4% (Fig. 15) and wahoo CPUE decreased by 11.8% (Fig. 19), although both of these species are a minor component of the catch. CPUE of yellowfin tuna, being increasingly sold in the local fresh-fish market, increased by 116.7% (Fig. 17), mahimahi CPUE increased by 134.8% (Fig. 18) and CPUE of billfishes increased by 4% (Fig. 20). Shark CPUE decreased by 8.5% (Fig. 21).

¹ PIFSC Data Report DR-14-004
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Table 1. Summary of fish catch and nominal fishing effort by American Samoa Longline vessels during the third quarter of 2013 based on longline logbooks processed as January 7th, 2014.

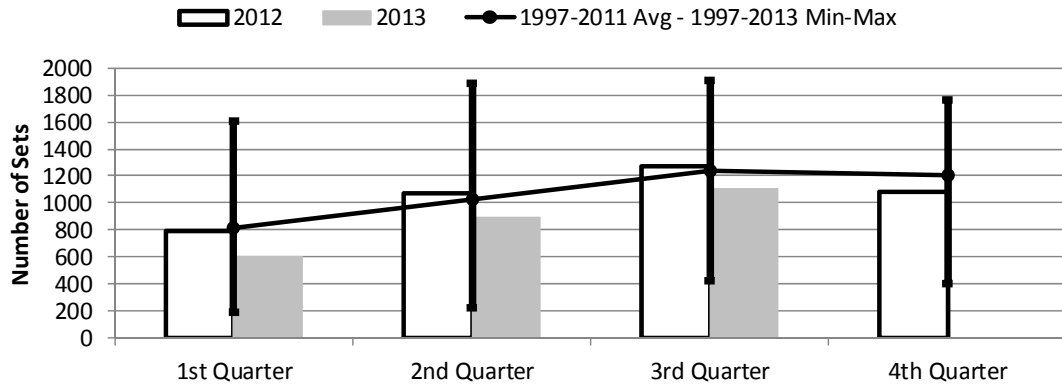
| TRIP INFORMATION | | | | |
|-----------------------------|------------------------------|--------------------|------------------------|-------------------------------------|
| | Number of Vessels: | | 21 | |
| | Number of Trips: | | 41 | |
| | Number of Sets: | | 1,103 | |
| | 1000's of Hooks Set: | | 3,271 | |
| | Number of Light Sticks Used: | | 2,010 | |
| CATCH INFORMATION | | | | |
| Species | Number Caught | Number Kept | Number Released | Number Caught per 1000 Hooks |
| BILLFISH | | | | |
| Blue marlin | 340 | 88 | 252 | 0.10 |
| Striped marlin | 59 | 26 | 33 | 0.02 |
| Sailfish | 94 | 17 | 77 | 0.03 |
| Spearfish | 278 | 38 | 240 | 0.09 |
| Swordfish | 90 | 64 | 26 | 0.03 |
| TOTAL BILLFISH | 861 | 233 | 628 | 0.26 |
| SHARKS | | | | |
| Blue shark | 847 | 7 | 840 | 0.26 |
| Shortfin mako shark | 93 | 0 | 93 | 0.03 |
| Thresher shark | 43 | 0 | 43 | 0.01 |
| White tip oceanic shark | 216 | 11 | 205 | 0.07 |
| Sharks (unknown) | 222 | 3 | 219 | 0.07 |
| TOTAL SHARKS | 1,421 | 21 | 1,400 | 0.43 |
| TUNA | | | | |
| Albacore tuna | 42,282 | 42,158 | 124 | 12.92 |
| Bigeye tuna | 1,463 | 1,398 | 65 | 0.45 |
| Bluefin tuna | 2 | 2 | 0 | 0.00 |
| Skipjack tuna | 5,187 | 4,904 | 283 | 1.59 |
| Yellowfin tuna | 6,391 | 6,235 | 156 | 1.95 |
| TOTAL TUNA | 55,325 | 54,697 | 628 | 16.91 |
| OTHER PELAGICS | | | | |
| Mahimahi | 1,767 | 1,264 | 503 | 0.54 |
| Moonfish | 107 | 33 | 74 | 0.03 |
| Oilfish | 2,349 | 16 | 2,333 | 0.72 |
| Pomfret | 245 | 32 | 213 | 0.07 |
| Wahoo | 2,201 | 1,781 | 420 | 0.67 |
| TOTAL OTHER PELAGICS | 6,669 | 3,126 | 3,543 | 2.04 |
| NON-PMUS | | | | |
| Pelagic fishes (unknown) | 138 | 1 | 137 | 0.04 |
| TOTAL NON-PMUS | 138 | 1 | 137 | 0.04 |
| TOTAL ALL SPECIES | 64,414 | 58,078 | 6,336 | 19.69 |

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



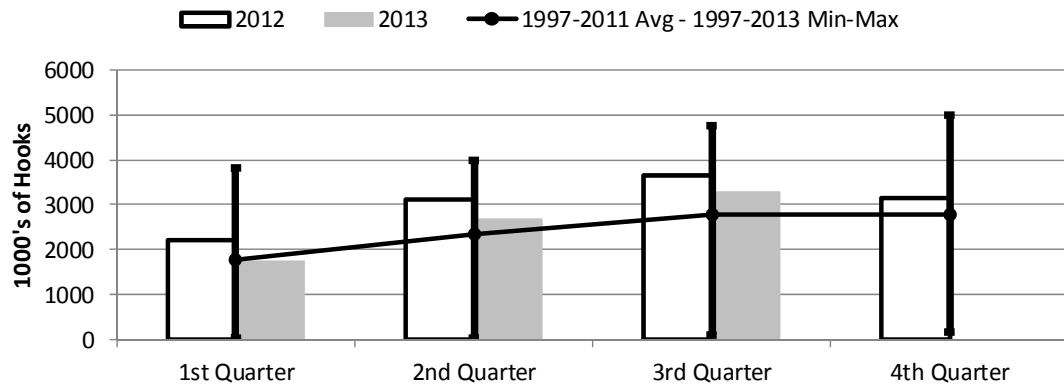
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 16 | 21 | 21 | 0 |
| 2012 | 20 | 25 | 24 | 22 |
| 1997-2013 Max | 52 | 50 | 52 | 54 |
| 1997-2011 Avg | 24 | 26 | 29 | 28 |
| 1997-2013 Min | 6 | 12 | 15 | 17 |

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



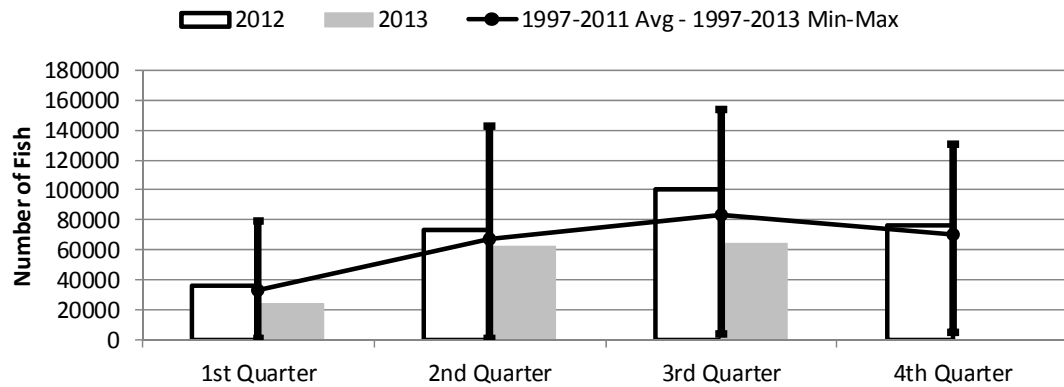
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 598 | 895 | 1,103 | 0 |
| 2012 | 788 | 1,069 | 1,273 | 1,078 |
| 1997-2013 Max | 1,602 | 1,886 | 1,904 | 1,759 |
| 1997-2011 Avg | 814 | 1,030 | 1,237 | 1,209 |
| 1997-2013 Min | 192 | 223 | 424 | 401 |

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



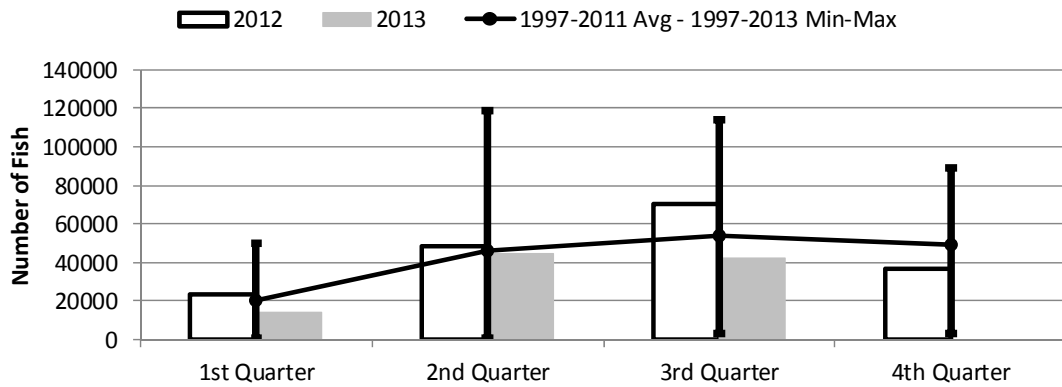
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 1,753 | 2,663 | 3,271 | 0 |
| 2012 | 2,194 | 3,101 | 3,656 | 3,156 |
| 1997-2013 Max | 3,805 | 3,995 | 4,769 | 4,985 |
| 1997-2011 Avg | 1,789 | 2,331 | 2,766 | 2,770 |
| 1997-2013 Min | 41 | 50 | 101 | 175 |

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



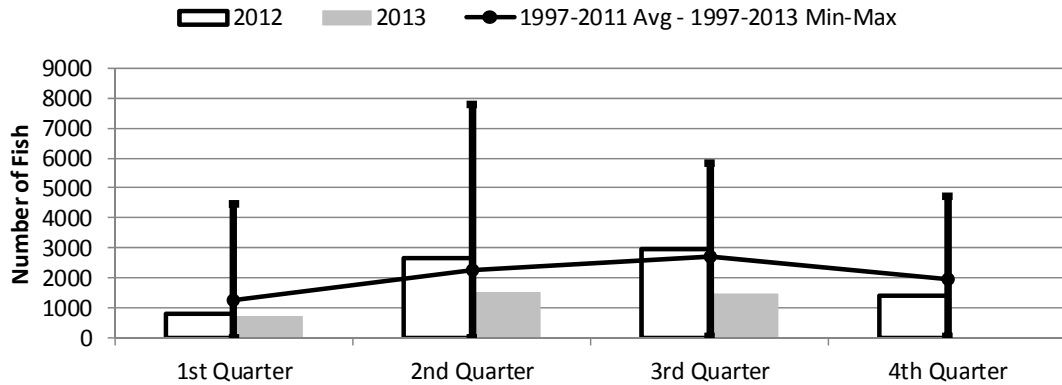
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 24,195 | 61,813 | 64,414 | 0 |
| 2012 | 35,897 | 73,742 | 100,599 | 76,135 |
| 1997-2013 Max | 79,588 | 142,603 | 153,301 | 130,238 |
| 1997-2011 Avg | 33,018 | 66,896 | 83,147 | 70,771 |
| 1997-2013 Min | 1,315 | 1,416 | 4,127 | 5,201 |

Figure 5. American Samoa Longline Albacore Catch by Quarter for



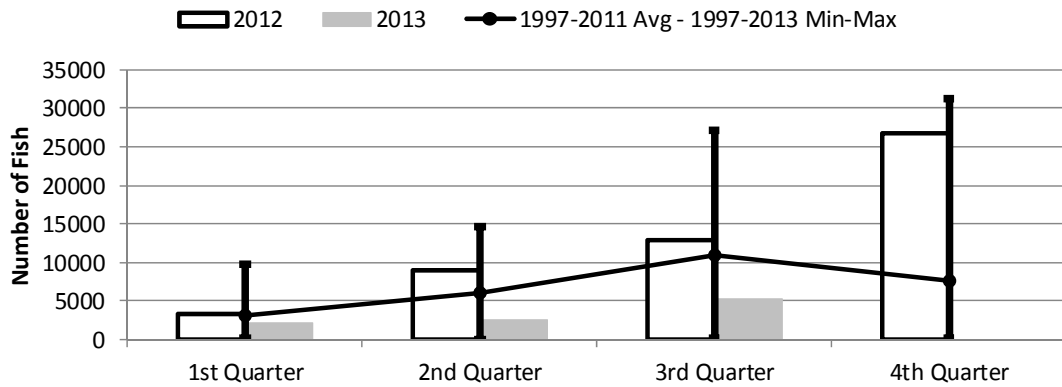
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 14,122 | 44,706 | 42,282 | 0 |
| 2012 | 23,443 | 48,162 | 70,665 | 37,012 |
| 1997-2013 Max | 50,382 | 118,994 | 113,831 | 89,389 |
| 1997-2011 Avg | 20,518 | 46,175 | 54,038 | 49,501 |
| 1997-2013 Min | 940 | 851 | 3,182 | 3,465 |

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



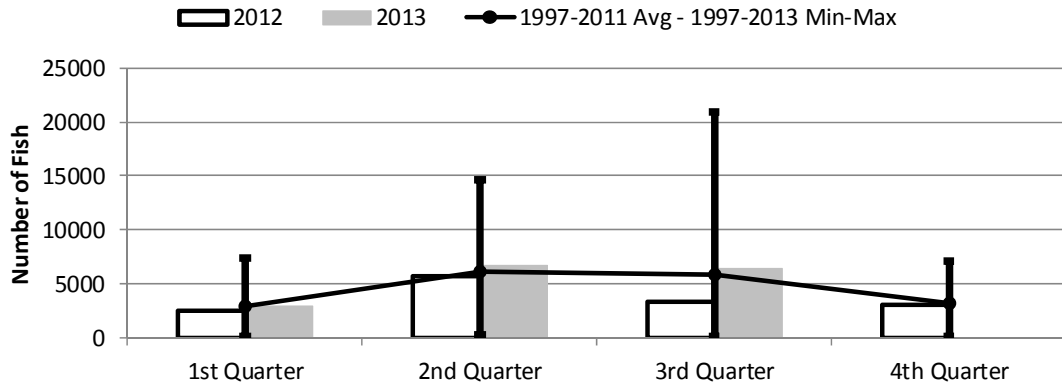
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 690 | 1,513 | 1,463 | 0 |
| 2012 | 800 | 2,651 | 2,965 | 1,410 |
| 1997-2013 Max | 4,470 | 7,785 | 5,824 | 4,728 |
| 1997-2011 Avg | 1,267 | 2,240 | 2,719 | 1,956 |
| 1997-2013 Min | 6 | 26 | 55 | 55 |

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



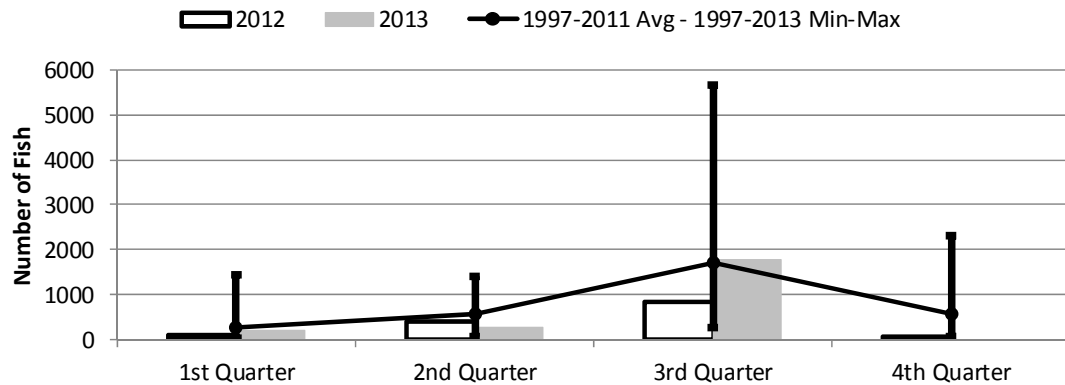
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 2,179 | 2,459 | 5,187 | 0 |
| 2012 | 3,307 | 9,040 | 12,894 | 26,753 |
| 1997-2013 Max | 9,801 | 14,606 | 27,234 | 31,191 |
| 1997-2011 Avg | 3,224 | 6,118 | 10,978 | 7,625 |
| 1997-2013 Min | 116 | 6 | 244 | 178 |

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



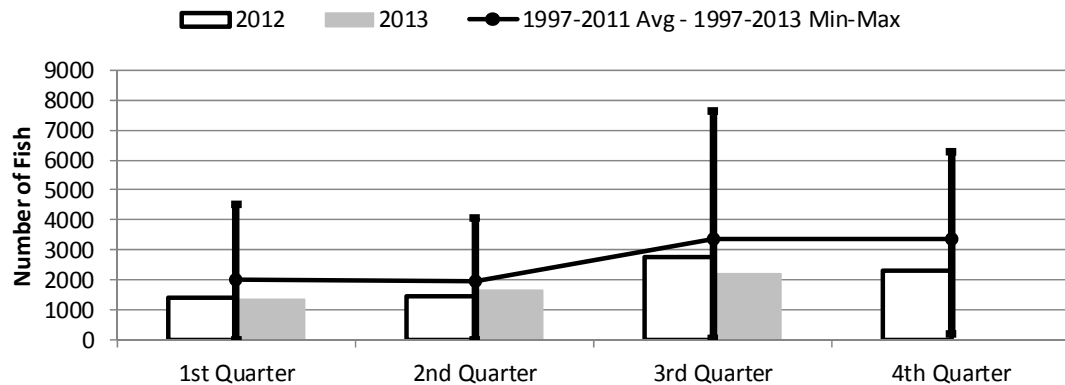
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 2,995 | 6,688 | 6,391 | 0 |
| 2012 | 2,530 | 5,705 | 3,300 | 3,056 |
| 1997-2013 Max | 7,426 | 14,681 | 20,993 | 7,104 |
| 1997-2011 Avg | 3,000 | 6,093 | 5,922 | 3,205 |
| 1997-2013 Min | 213 | 356 | 84 | 177 |

Figure 9. American Samoa Mahimahi Catch by Quarter for



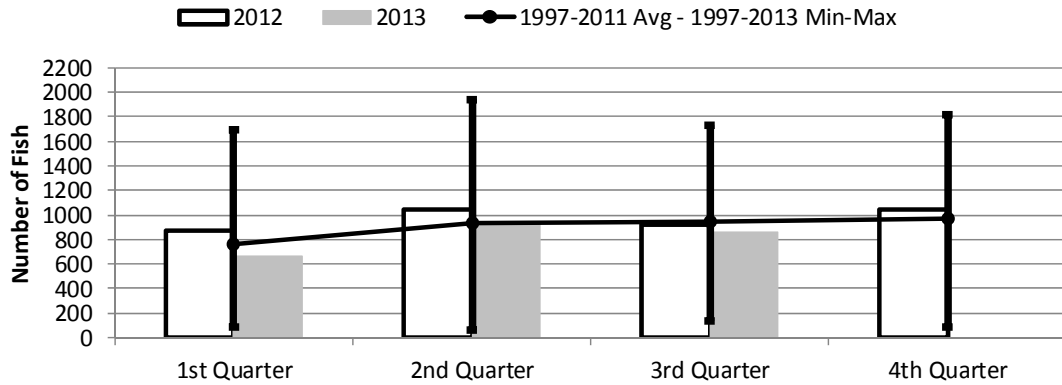
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 188 | 280 | 1,767 | 0 |
| 2012 | 93 | 417 | 838 | 77 |
| 1997-2013 Max | 1,454 | 1,392 | 5,642 | 2,297 |
| 1997-2011 Avg | 280 | 578 | 1,706 | 563 |
| 1997-2013 Min | 30 | 59 | 280 | 77 |

Figure 10. American Samoa Wahoo Catch by Quarter for



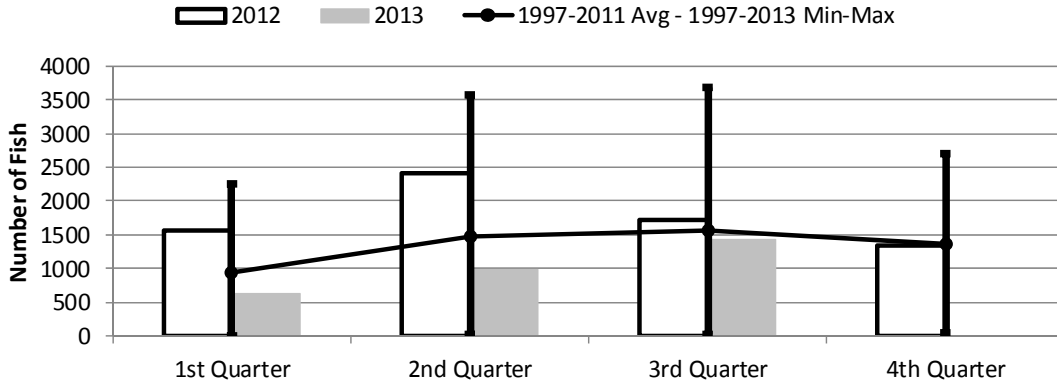
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 1,347 | 1,671 | 2,201 | 0 |
| 2012 | 1,413 | 1,472 | 2,768 | 2,290 |
| 1997-2013 Max | 4,524 | 4,076 | 7,629 | 6,281 |
| 1997-2011 Avg | 2,018 | 1,951 | 3,352 | 3,349 |
| 1997-2013 Min | 27 | 20 | 68 | 210 |

Figure 11. American Samoa Billfish Catch by Quarter for



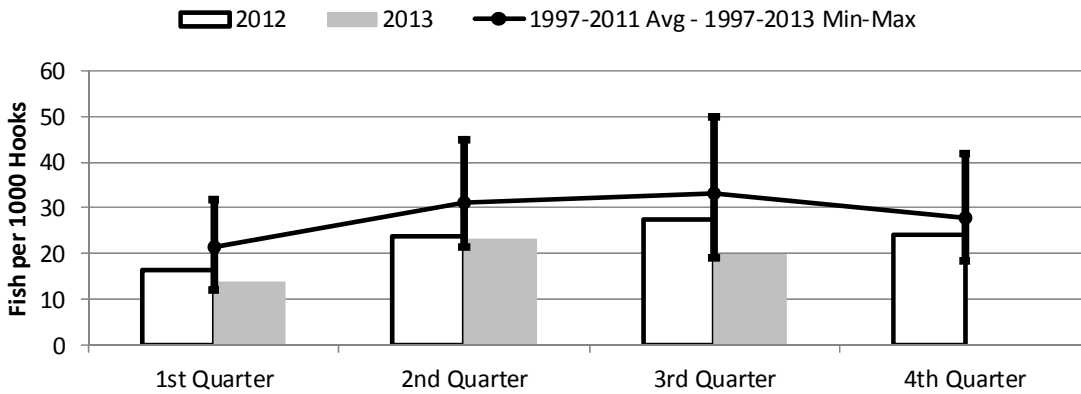
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 669 | 950 | 861 | 0 |
| 2012 | 875 | 1,045 | 923 | 1,043 |
| 1997-2013 Max | 1,692 | 1,934 | 1,729 | 1,819 |
| 1997-2011 Avg | 766 | 931 | 939 | 974 |
| 1997-2013 Min | 83 | 58 | 132 | 84 |

Figure 12. American Samoa Shark Catch by Quarter for



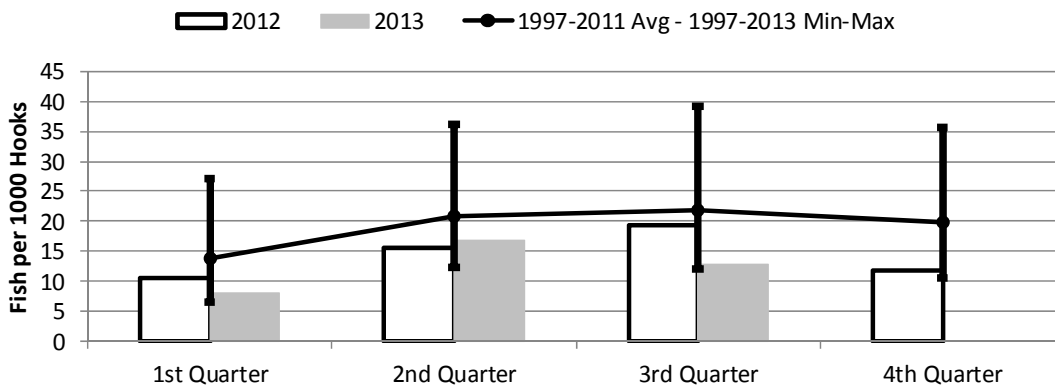
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 635 | 990 | 1,421 | 0 |
| 2012 | 1,565 | 2,405 | 1,723 | 1,349 |
| 1997-2013 Max | 2,260 | 3,562 | 3,686 | 2,697 |
| 1997-2011 Avg | 941 | 1,473 | 1,562 | 1,366 |
| 1997-2013 Min | 5 | 16 | 26 | 49 |

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



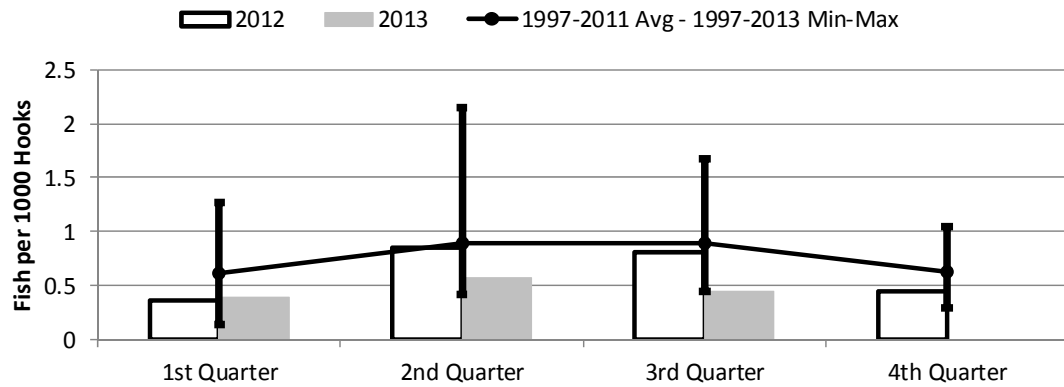
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 13.80 | 23.21 | 19.69 | 0.00 |
| 2012 | 16.36 | 23.78 | 27.52 | 24.12 |
| 1997-2013 Max | 31.98 | 44.76 | 49.87 | 41.86 |
| 1997-2011 Avg | 21.38 | 31.12 | 33.04 | 27.85 |
| 1997-2013 Min | 12.02 | 21.57 | 19.20 | 18.55 |

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



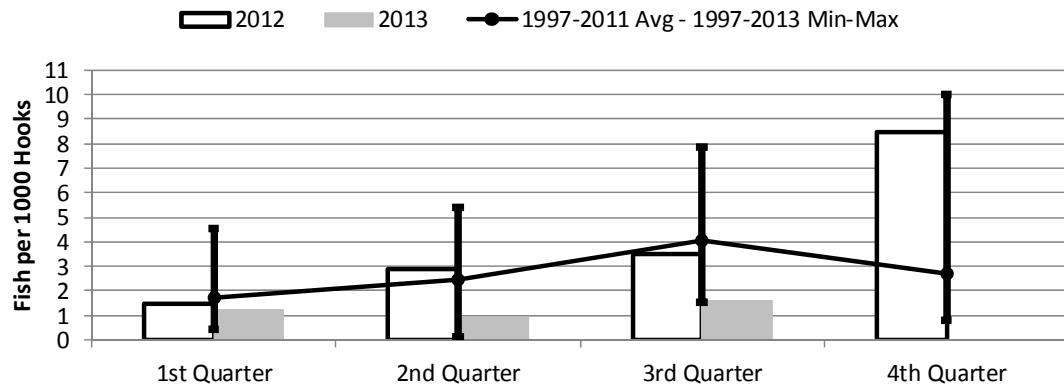
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 8.06 | 16.79 | 12.92 | 0.00 |
| 2012 | 10.68 | 15.53 | 19.33 | 11.72 |
| 1997-2013 Max | 27.01 | 36.18 | 39.13 | 35.75 |
| 1997-2011 Avg | 13.71 | 20.82 | 21.96 | 19.96 |
| 1997-2013 Min | 6.58 | 12.21 | 12.14 | 10.54 |

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



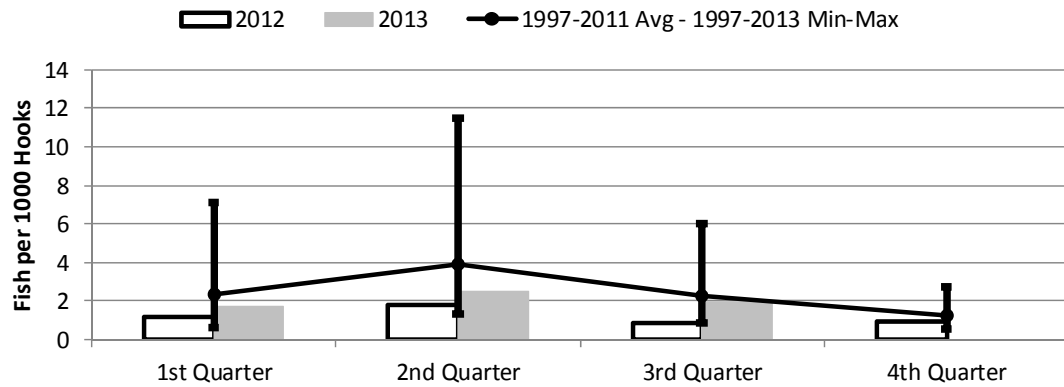
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 0.39 | 0.57 | 0.45 | 0.00 |
| 2012 | 0.36 | 0.85 | 0.81 | 0.45 |
| 1997-2013 Max | 1.27 | 2.15 | 1.68 | 1.05 |
| 1997-2011 Avg | 0.62 | 0.90 | 0.89 | 0.63 |
| 1997-2013 Min | 0.15 | 0.41 | 0.45 | 0.29 |

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



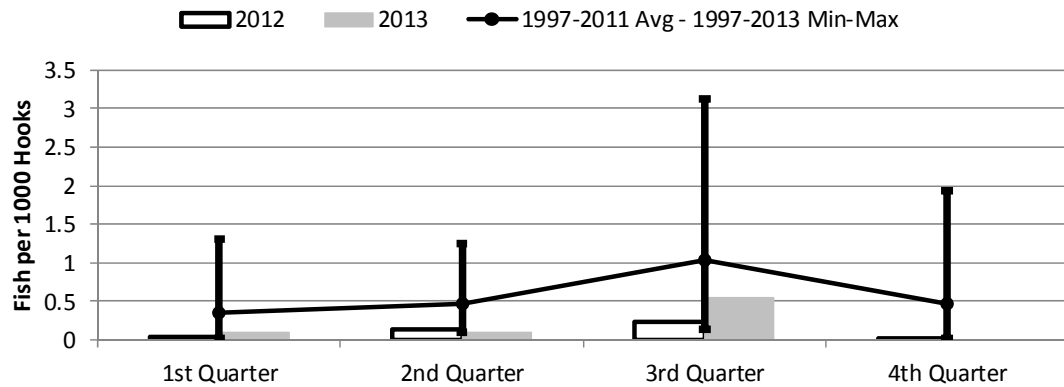
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 1.24 | 0.92 | 1.59 | 0.00 |
| 2012 | 1.51 | 2.92 | 3.53 | 8.47 |
| 1997-2013 Max | 4.56 | 5.39 | 7.84 | 9.98 |
| 1997-2011 Avg | 1.71 | 2.47 | 4.08 | 2.72 |
| 1997-2013 Min | 0.44 | 0.12 | 1.56 | 0.79 |

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



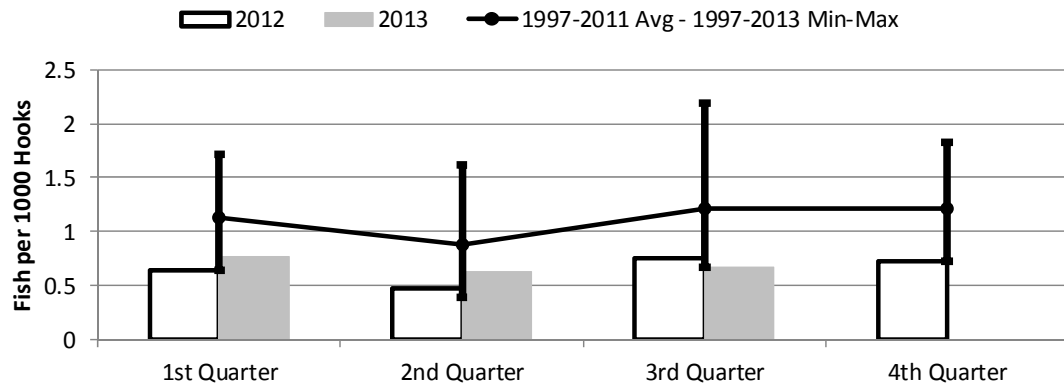
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 1.71 | 2.51 | 1.95 | 0.00 |
| 2012 | 1.15 | 1.84 | 0.90 | 0.97 |
| 1997-2013 Max | 7.11 | 11.51 | 6.04 | 2.76 |
| 1997-2011 Avg | 2.31 | 3.90 | 2.27 | 1.24 |
| 1997-2013 Min | 0.66 | 1.34 | 0.83 | 0.55 |

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



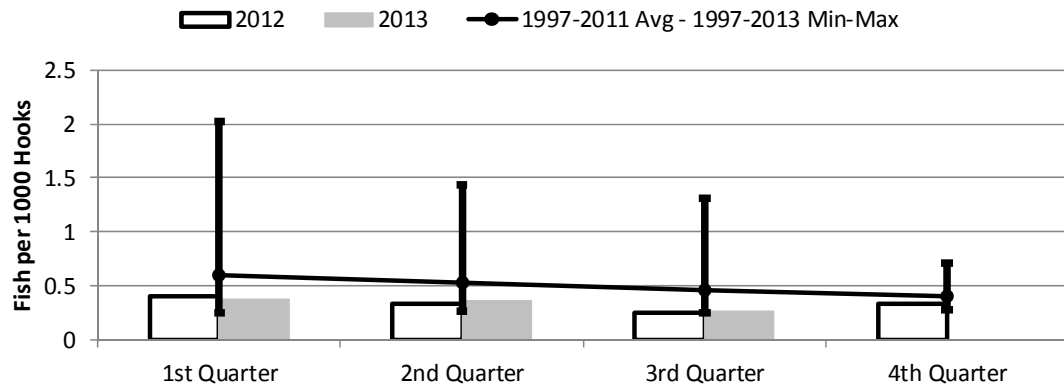
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 0.11 | 0.11 | 0.54 | 0.00 |
| 2012 | 0.04 | 0.13 | 0.23 | 0.02 |
| 1997-2013 Max | 1.30 | 1.25 | 3.13 | 1.93 |
| 1997-2011 Avg | 0.35 | 0.47 | 1.04 | 0.47 |
| 1997-2013 Min | 0.02 | 0.10 | 0.14 | 0.02 |

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



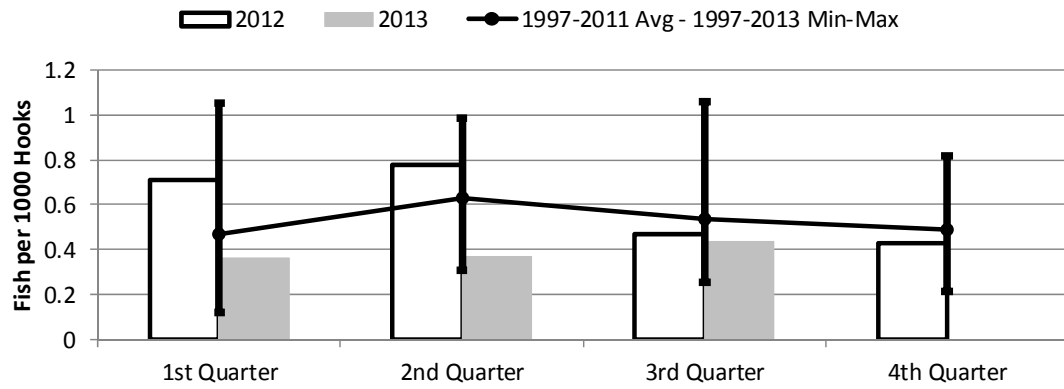
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 0.77 | 0.63 | 0.67 | 0.00 |
| 2012 | 0.64 | 0.47 | 0.76 | 0.73 |
| 1997-2013 Max | 1.71 | 1.62 | 2.20 | 1.83 |
| 1997-2011 Avg | 1.13 | 0.88 | 1.22 | 1.22 |
| 1997-2013 Min | 0.64 | 0.39 | 0.67 | 0.73 |

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



| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 0.38 | 0.36 | 0.26 | 0.00 |
| 2012 | 0.40 | 0.34 | 0.25 | 0.33 |
| 1997-2013 Max | 2.02 | 1.44 | 1.31 | 0.71 |
| 1997-2011 Avg | 0.60 | 0.53 | 0.46 | 0.41 |
| 1997-2013 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 |
|---------------|-------------|-------------|-------------|-------------|
| 2013 | 0.36 | 0.37 | 0.43 | 0.00 |
| 2012 | 0.71 | 0.78 | 0.47 | 0.43 |
| 1997-2013 Max | 1.05 | 0.99 | 1.06 | 0.82 |
| 1997-2011 Avg | 0.47 | 0.63 | 0.53 | 0.49 |
| 1997-2013 Min | 0.12 | 0.31 | 0.26 | 0.22 |