

PIFSC Report on the American Samoa Troll Fishery During Calendar Year 2016¹

Fisheries Research and Monitoring Division, National Marine Fisheries Service, Pacific Islands Fisheries Science Center, NOAA Inouye Regional Center, 1845 Wasp Boulevard, Building 176, Honolulu, HI 96818

The following figures and tables represent estimated effort, retained (kept) catch and discards from American Samoa troll data collected via a creel survey. The summary was created with a data version obtained from the Department of Marine & Wildlife Resources (DMWR), American Samoa Government, in February 2017. These estimates are developed using a data expansion algorithm (Bak Hospital, 2014, PIFSC Admin. Rep. H-15-06C), based on surveying a sample of fishing effort and enumerating catch on a subsample of fishing trips annually. Expanded estimates may be biased when catch comes from a small number of surveyed trips and catch data from a few trips is unusual, as was the case for wahoo in 2016.

Note: the following estimates represent a revision from preliminary estimates provided to the WPRFMC Science and Statistical Committee (8 March 2017).

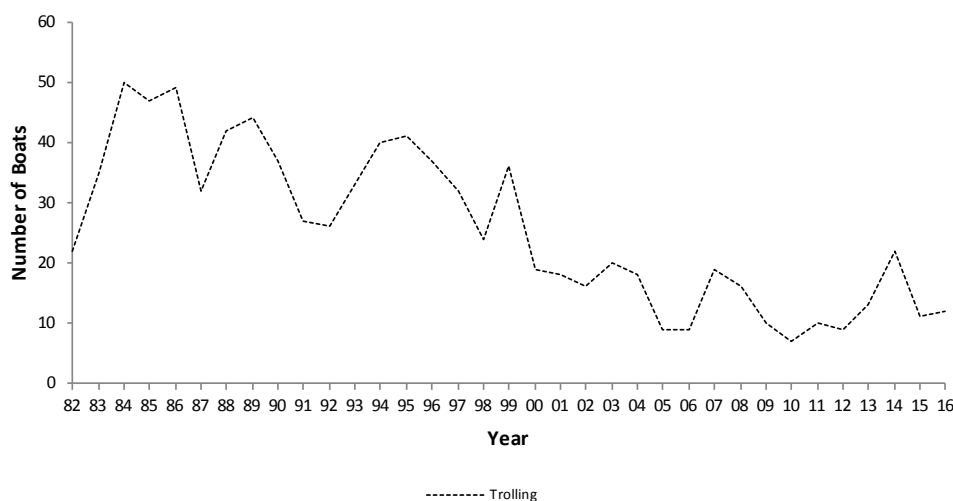


Figure 1. Number of American Samoa boats landing any pelagic species by longlining, trolling and all methods.

¹ PIFSC Data Report DR-17-017.

Issued 8 June 2017.

Supporting data shown in Table A-1 (*Linked file: AMSPELBOATMETHCHRT.xlsx*).

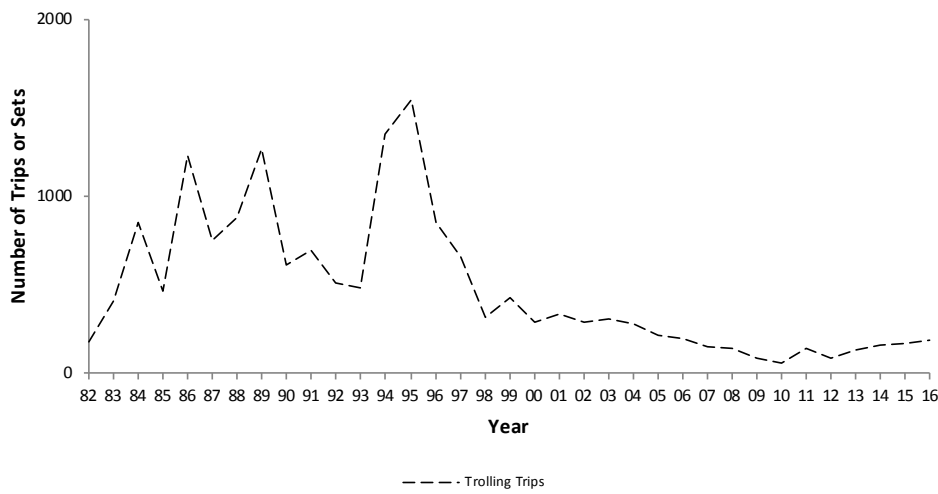


Figure 2. Number of American Samoa fishing trips or sets for all pelagic species by method.

Supporting data shown in Table A-2 (*Linked files: AMSPELTRIPCHRT.xlsx*).

Table 1. American Samoa 2016 estimated total landings of pelagic species by gear type.

Species	Troll Pounds
Skipjack tuna	9,817
Albacore tuna	0
Yellowfin tuna	9,492
Kawakawa	117
Bigeye tuna	2,785
Tunas (unknown)	0
TUNAS SUBTOTALS	22,211
Mahimahi	1,428
Black marlin	0
Blue marlin	476
Striped marlin	0
Wahoo	13,097
Sharks (unknown coastal)	0
Swordfish	0
Sailfish	0
Spearfish	0
Moonfish	0
Oilfish	91
Pomfret	0
NON-TUNA PMUS SUBTOTALS	15,093
Pelagic fishes (unknown)	0
OTHER PELAGICS SUBTOTALS	0
TOTAL PELAGICS	37,303

(Linked file: AMSPELTOTTAB.DOCX)

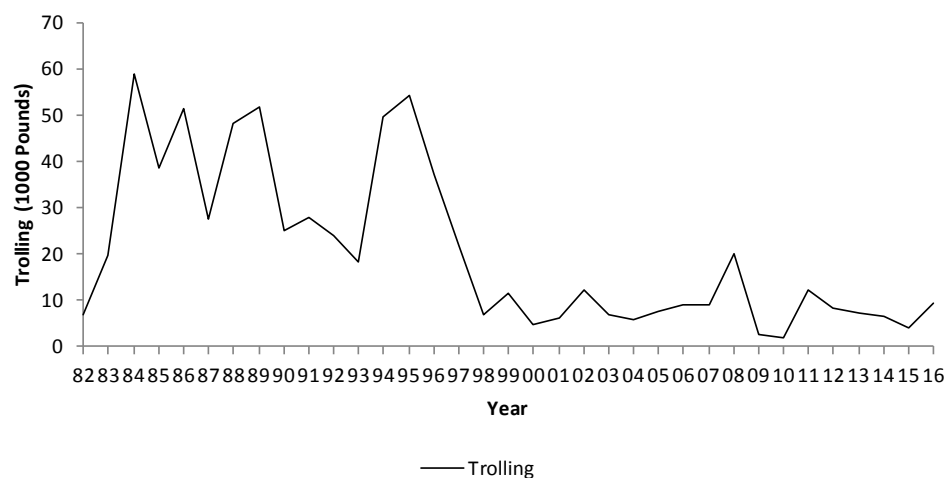


Figure 3. American Samoa annual estimated total landings of Yellowfin Tuna by gear.

Supporting data shown in Table A-3 (Linked file: AMSPELYELLANDCHRT.xlsx).

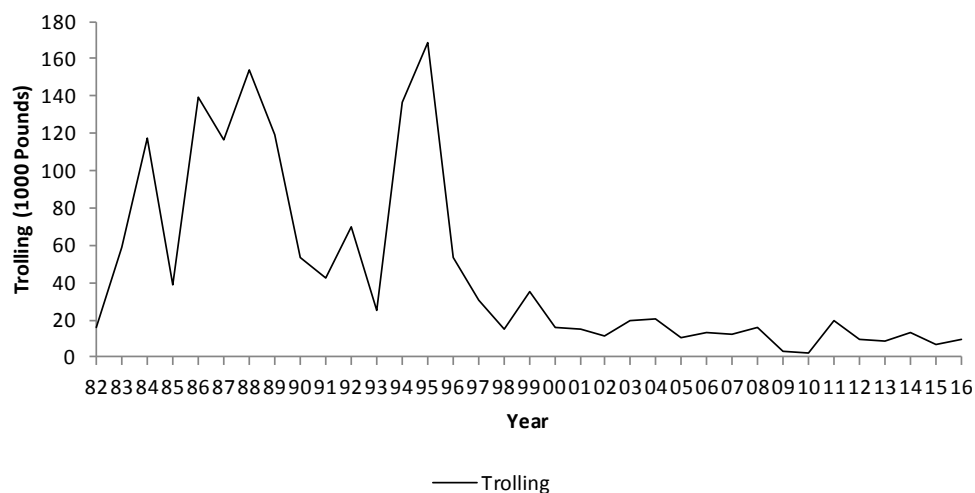


Figure 4. American Samoa annual estimated total landings of Skipjack Tuna by gear.

Supporting data shown in Table A-4 (*Linked Files: AMSPELSKPLANDCHRT.xlsx*).

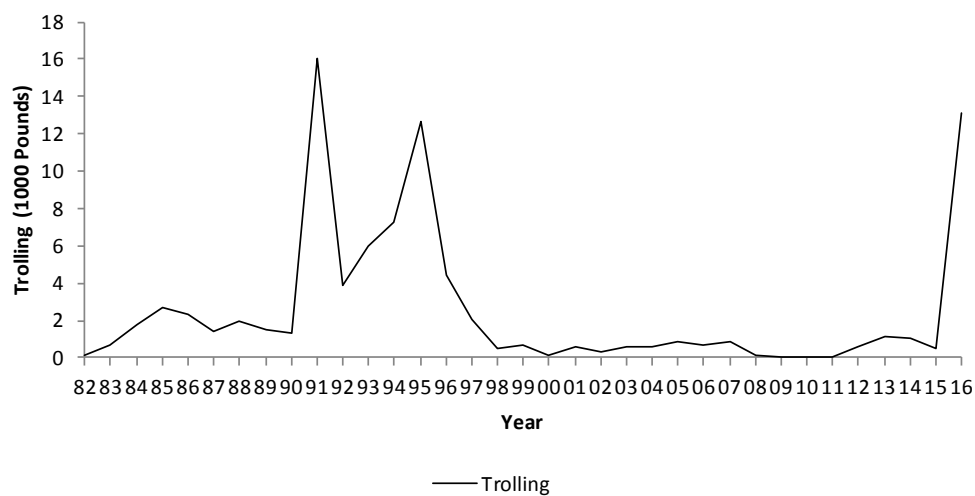


Figure 5. American Samoa annual estimated total landings of Wahoo by gear.

Supporting data shown in Table A-5 (*Linked files: AMSPELWAHLANDCHRT.xlsx*).

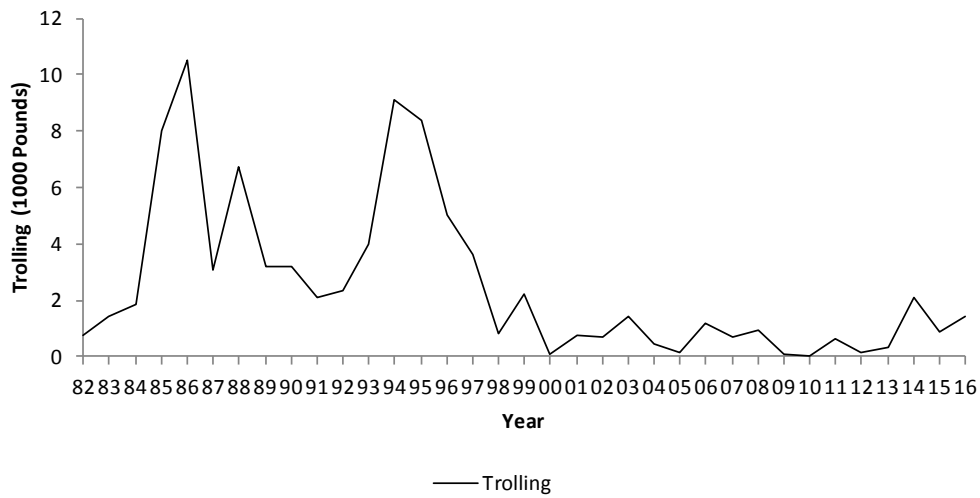


Figure 6. American Samoa annual estimated total landings of Mahimahi by gear.

Supporting data shown in Table A-6 (*Linked file: AMSPELMAHLANDCHRT.xlsx*).

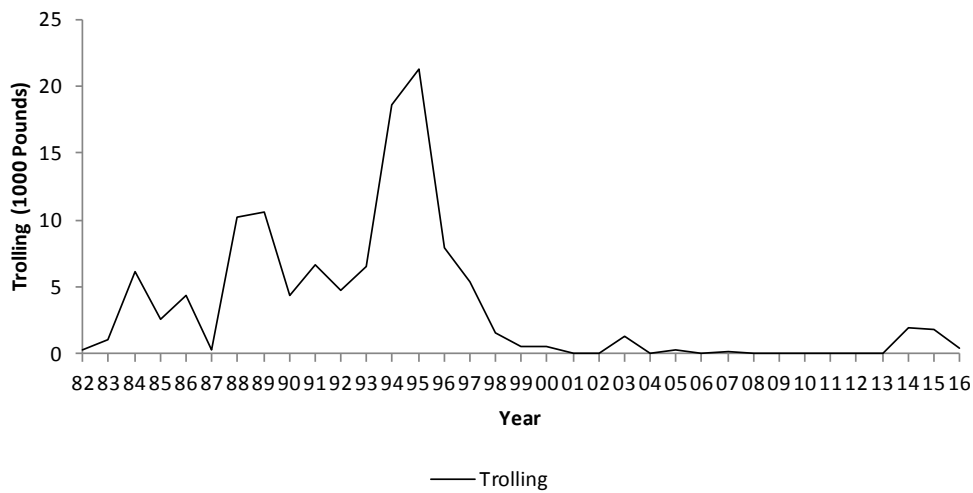


Figure 7. American Samoa annual estimated total landings of Blue Marlin by gear.

Supporting data shown in Table A-7 (*Linked files: AMSPELMARLANDCHRT.xlsx*).

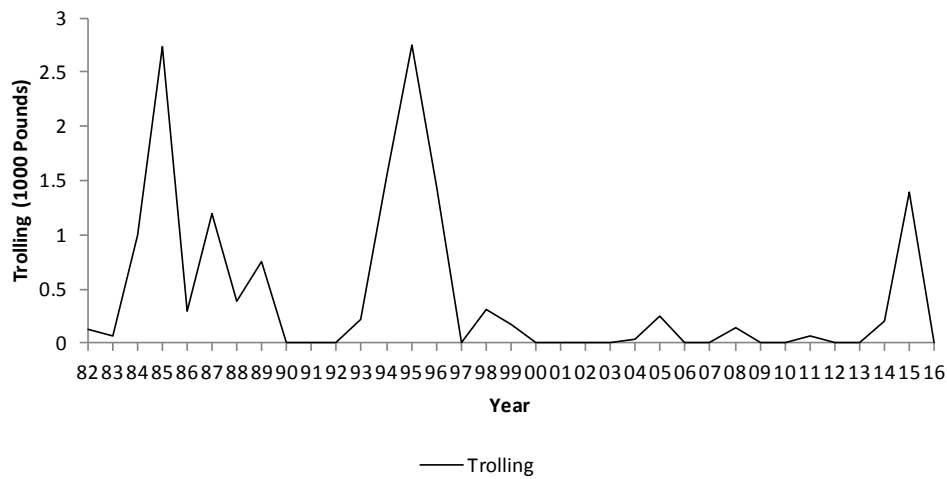


Figure 8. American Samoa annual estimated total landings of Sailfish by gear.

Supporting data shown in Table A-8 (*Linked files: AMSPELSALLANDCHRT.xlsx*).

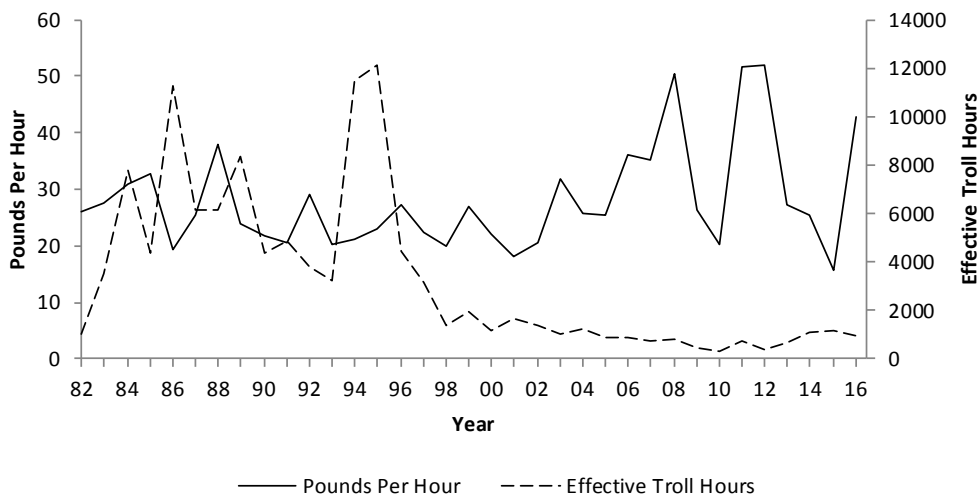


Figure 9. American Samoa pelagic catch per hour of trolling and number of trolling hours.

Supporting data shown in Table A-9 (*Linked file: AMSPELALLCPUECHRT.xlsx*).

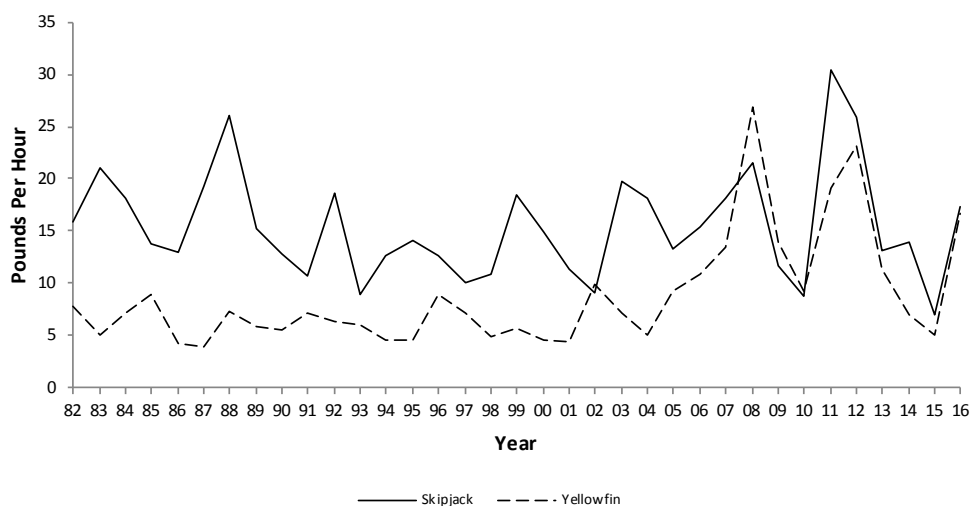


Figure 10. American Samoa trolling catch rates for Skipjack and Yellowfin Tuna.

Supporting data shown in Table A-10 (*Linked files: AMSPELSKPCPUECHRT.xlsx*).

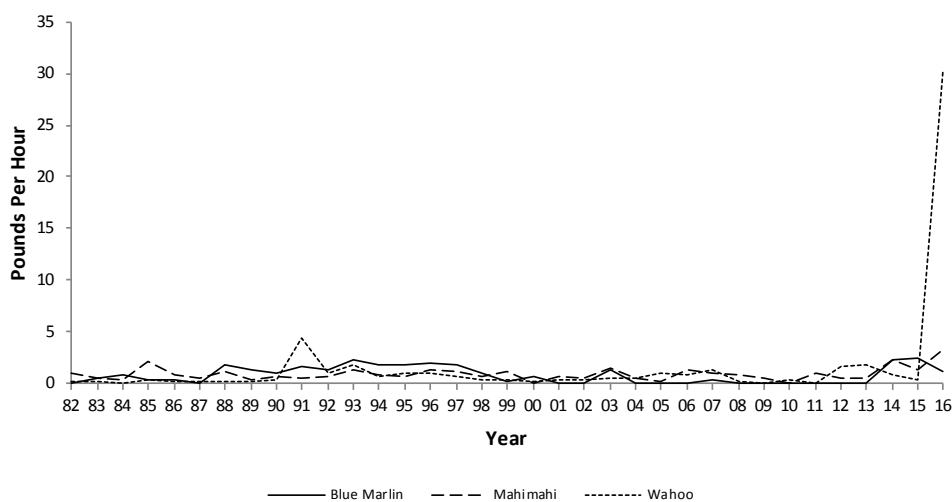


Figure 11. American Samoa trolling catch rates for Blue Marlin, Mahimahi, and Wahoo.

Supporting data shown in Table A-11 (*Linked file: AMSPELMARCPUECHRT.xlsx*).

Table A-1. Supporting Data for Figure 1. Number of American Samoa boats landing any pelagic species by longlining, trolling and all methods.

Year	Number of Boats Using
	Trolling
1982	22
1983	35
1984	50
1985	47
1986	49
1987	32
1988	42
1989	44
1990	37
1991	27
1992	26
1993	33
1994	40
1995	41
1996	37
1997	32
1998	24
1999	36
2000	19
2001	18
2002	16
2003	20
2004	18
2005	9
2006	9
2007	19
2008	16
2009	10
2010	7
2011	10
2012	9
2013	13
2014	22
2015	11
2016	12
Average	25
Std. Dev.	13

(Linked file: AMSPELBOATMETHTAB.DOCX)

Table A-2. Supporting Data for Figure 2. Number of American Samoa fishing trips or sets for all pelagic species by method.

Year	Troll Trips
1982	177
1983	406
1984	853
1985	464
1986	1,234
1987	751
1988	875
1989	1,269
1990	615
1991	699
1992	513
1993	481
1994	1,355
1995	1,548
1996	847
1997	656
1998	316
1999	429
2000	292
2001	330
2002	288
2003	310
2004	276
2005	211
2006	193
2007	145
2008	143
2009	81
2010	53
2011	141
2012	84
2013	132
2014	157
2015	167
2016	190
Average	477
Std. Dev.	393

(Linked file AMSPELTRIPTAB.DOCX)

Table A-3. Supporting Data for Figure 3. American Samoa annual estimated total landings of Yellowfin Tuna by gear.

Year	Pounds Landed
	Trolling
1982	7,038
1983	19,789
1984	58,704
1985	38,586
1986	51,439
1987	27,451
1988	48,319
1989	51,873
1990	25,188
1991	28,046
1992	23,916
1993	18,180
1994	49,415
1995	54,139
1996	37,051
1997	21,679
1998	6,762
1999	11,566
2000	4,827
2001	6,116
2002	12,353
2003	6,953
2004	5,939
2005	7,501
2006	9,106
2007	9,023
2008	20,089
2009	2,785
2010	2,052
2011	12,379
2012	8,479
2013	7,137
2014	6,617
2015	3,981
2016	9,492
Average	20,399
Std. Dev.	17,167

(Linked file: AMSPELYELLANDTAB.DOCX)

Table A-4. Supporting Data for Figure 4. American Samoa annual estimated total landings of Skipjack Tuna by gear.

Year	Pounds Landed
	Trolling
1982	15,877
1983	58,997
1984	117,693
1985	38,902
1986	139,421
1987	116,436
1988	153,903
1989	118,948
1990	53,423
1991	42,137
1992	69,901
1993	25,356
1994	136,762
1995	168,389
1996	53,149
1997	30,430
1998	14,822
1999	35,171
2000	16,211
2001	15,086
2002	11,376
2003	19,464
2004	20,728
2005	10,845
2006	13,040
2007	12,255
2008	16,294
2009	2,775
2010	2,043
2011	19,862
2012	9,703
2013	8,459
2014	12,941
2015	6,925
2016	9,817
Average	45,644
Std. Dev.	48,536

(Linked file: AMSPELSKPLANDTAB.DOCX)

Table A-5. Supporting Data for Figure 5. American Samoa annual estimated total landings of Wahoo by gear.

Year	Pounds Landed
	Trolling
1982	114
1983	632
1984	1,777
1985	2,678
1986	2,282
1987	1,395
1988	1,962
1989	1,476
1990	1,333
1991	16,081
1992	3,904
1993	5,977
1994	7,261
1995	12,625
1996	4,399
1997	2,074
1998	487
1999	685
2000	140
2001	587
2002	351
2003	612
2004	537
2005	828
2006	696
2007	889
2008	165
2009	0
2010	64
2011	55
2012	597
2013	1,109
2014	1,072
2015	496
2016	13,097
Average	2,527
Std. Dev.	3,876

(Linked file: AMSPELWAHLANDTAB.DOCX)

Table A-6. Supporting Data for Figure 6. American Samoa annual estimated total landings of Mahimahi by gear.

Year	Pounds Landed
	Trolling
1982	777
1983	1,443
1984	1,844
1985	8,011
1986	10,542
1987	3,049
1988	6,736
1989	3,170
1990	3,169
1991	2,090
1992	2,325
1993	4,000
1994	9,086
1995	8,393
1996	5,022
1997	3,623
1998	843
1999	2,193
2000	66
2001	782
2002	720
2003	1,434
2004	469
2005	161
2006	1,164
2007	684
2008	931
2009	113
2010	0
2011	611
2012	157
2013	300
2014	2,077
2015	893
2016	1,428
Average	2,523
Std. Dev.	2,776

(Linked file: AMSPELMAHLANDTAB.docx)

Table A-7. Supporting Data for Figure 7. American Samoa annual estimated total landings of Blue Marlin by gear.

Year	Pounds Landed
	Trolling
1982	315
1983	1,083
1984	6,097
1985	2,574
1986	4,327
1987	265
1988	10,217
1989	10,590
1990	4,339
1991	6,669
1992	4,807
1993	6,545
1994	18,661
1995	21,272
1996	7,867
1997	5,379
1998	1,592
1999	590
2000	623
2001	0
2002	0
2003	1,344
2004	0
2005	300
2006	0
2007	204
2008	0
2009	0
2010	0
2011	0
2012	0
2013	0
2014	2,007
2015	1,765
2016	476
Average	3,426
Std. Dev.	5,079

(Linked file: AMSPELMARLANDTAB.DOCX)

Table A-8. Supporting Data for Figure 8. American Samoa annual estimated total landings of Sailfish by gear.

Year	Pounds Landed
	Trolling
1982	127
1983	74
1984	989
1985	2,744
1986	294
1987	1,187
1988	394
1989	757
1990	0
1991	0
1992	0
1993	218
1994	1,561
1995	2,751
1996	1,444
1997	0
1998	314
1999	184
2000	0
2001	0
2002	0
2003	0
2004	32
2005	248
2006	0
2007	0
2008	148
2009	0
2010	0
2011	73
2012	0
2013	0
2014	195
2015	1,391
2016	0
Average	432
Std. Dev.	728

(Linked file: AMSPELSALLANDTAB.DOCX)

Table A-9. Supporting Data for Figure 9. American Samoa pelagic catch per hour of trolling and number of trolling hours.

Year	CPUE	Hours
1982	25.91	1,019
1983	27.41	3,513
1984	30.97	7,785
1985	32.59	4,394
1986	19.36	11,294
1987	25.34	6,179
1988	38.01	6,125
1989	23.79	8,370
1990	21.86	4,362
1991	20.64	4,884
1992	28.97	3,809
1993	20.09	3,216
1994	21.23	11,448
1995	22.94	12,143
1996	27.38	4,442
1997	22.31	3,144
1998	19.93	1,405
1999	26.81	1,981
2000	22.01	1,149
2001	18.09	1,655
2002	20.62	1,362
2003	31.78	1,044
2004	25.70	1,204
2005	25.44	862
2006	36.02	883
2007	35.15	723
2008	50.44	808
2009	26.38	424
2010	20.32	308
2011	51.56	711
2012	52.03	389
2013	27.40	673
2014	25.31	1,063
2015	15.80	1,143
2016	42.85	981
Average	28.07	3,283
Std. Dev.	9.20	3,326

(Linked file: AMSPELALLCPUETAB.DOCX)

Table A-10. Supporting Data for Figure 10. American Samoa trolling catch rates for Skipjack and Yellowfin Tuna.

Year	Pounds Caught Per Trolling Hour	
	Skipjack	Yellowfin
1982	15.90	7.80
1983	21.00	5.04
1984	18.10	7.20
1985	13.80	8.90
1986	12.90	4.31
1987	19.30	3.88
1988	26.00	7.30
1989	15.20	5.90
1990	12.80	5.51
1991	10.70	7.06
1992	18.70	6.40
1993	8.89	6.06
1994	12.60	4.49
1995	14.10	4.57
1996	12.70	8.98
1997	10.10	7.19
1998	10.80	4.89
1999	18.40	5.62
2000	14.90	4.61
2001	11.40	4.44
2002	9.03	9.83
2003	19.80	7.10
2004	18.20	5.10
2005	13.30	9.25
2006	15.40	10.80
2007	18.20	13.40
2008	21.50	26.90
2009	11.70	14.00
2010	8.78	9.23
2011	30.50	19.10
2012	25.90	23.20
2013	13.10	11.40
2014	13.90	6.95
2015	7.00	5.03
2016	17.30	16.70
Average	15.48	8.80
Std. Dev.	5.19	5.34

(Linked file: AMSPELSKPCPUETAB.DOCX)

Table A-11. Supporting Data for Figure 11. American Samoa trolling catch rates for Blue Marlin, Mahimahi, and Wahoo.

Year	Pounds Caught Per Trolling Hour		
	Blue Marlin	Mahimahi	Wahoo
1982	0.00	0.92	0.14
1983	0.43	0.43	0.15
1984	0.91	0.28	0.09
1985	0.41	2.06	0.36
1986	0.39	0.90	0.15
1987	0.00	0.52	0.23
1988	1.79	1.13	0.22
1989	1.40	0.36	0.15
1990	1.05	0.70	0.30
1991	1.70	0.57	4.39
1992	1.29	0.62	1.04
1993	2.25	1.38	1.84
1994	1.74	0.80	0.64
1995	1.74	0.69	1.00
1996	1.99	1.27	1.05
1997	1.86	1.18	0.63
1998	0.99	0.65	0.35
1999	0.13	1.21	0.37
2000	0.60	0.06	0.14
2001	0.00	0.60	0.37
2002	0.00	0.59	0.28
2003	1.39	1.49	0.59
2004	0.00	0.43	0.48
2005	0.00	0.21	0.94
2006	0.00	1.40	0.79
2007	0.31	0.98	1.29
2008	0.00	0.90	0.22
2009	0.00	0.58	0.00
2010	0.00	0.00	0.29
2011	0.00	1.02	0.04
2012	0.00	0.44	1.67
2013	0.00	0.46	1.78
2014	2.34	2.37	0.86
2015	2.49	1.26	0.38
2016	1.09	3.28	30.1
Average	0.81	0.91	1.52
Std. Dev.	0.83	0.65	4.97

(Linked file: AMSPELMARCPUETAB.DOCX)