

The Hawaii-based Longline Logbook Summary Report January–March 2010¹

Pacific Islands Fisheries Science Center
Fisheries Monitoring and Analysis Program

This report summarizes data on fish catch and fishing effort by Hawaii-based longline vessels during the first quarter of 2010 (Q1-2010). Results are based on the date gear was hauled, as reported by vessel operators to the National Marine Fisheries Service in Federal logbooks of daily fishing activity. The report covers longline operations for fishing trips completed in the first quarter of 2010 and most, but not all, Q1-2010 data from trips that began late in the first quarter and continued into the second quarter of 2010. Therefore, the Q1-2010 summary statistics reported here are preliminary.

During Q1-2010, 120 vessels were active in the Hawaii-based fleet, 2 fewer than in Q1-2009 (Table 1, Fig. 1). They made 391 longline trips (13 less than in Q1-2009), including 332 using deep-set gear to target tuna (17 less than in Q1-2009) and 59 using shallow-set gear to target swordfish (4 more than in Q1-2009; Fig. 2). During Q1-2010, the fleet deployed 9.56 million hooks, 200,000 less than in Q1-2009 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ) (65% of the total hooks set), followed by the EEZ of the main Hawaiian Islands (MHI) (21%) the Northwestern Hawaiian Islands (NWHI) EEZ (10%) and the EEZ of the U.S. Pacific Remote Island Areas (PRIA, consisting of U.S. possessions, Wake Island, Jarvis Island, Howland Island, Baker Island, Kingman Reef, Palmyra Atoll, and Johnston Atoll) (4%).

In Q1-2010, the Hawaii longline fleet caught 32,933 bigeye tuna (Fig. 4); 70% were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.6 fish per 1000 hooks, 33% higher than the Q1-2009 CPUE of 2.7 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q1-2010 were at their highest levels in 9 years with 10,722 fish caught and a CPUE of 1.2 fish per 1000 hooks (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q1-2010 were 4,205 fish and 0.47 fish per 1000 hooks, respectively (Figs. 8-9).

The Q1-2010 swordfish catch was 9,416 fish, 11% higher than in Q1-2009 (Fig. 10). In Q1-2010, swordfish CPUE on shallow-set swordfish-targeted trips was 10.4 fish per 1000 hooks, 13% higher than in Q1-2009 (Fig. 11).

The striped marlin catch in Q1-2010 was 830 fish, and the CPUE on tuna-targeted trips was 0.09 fish per 1000 hooks; both were record lows (Figs. 12-13). The Q1-2010 blue marlin catch (451 fish) was the third lowest catch recorded for the first quarter, while blue marlin CPUE on tuna-targeted trips (0.05 fish per 1000 hooks) was a record low for the quarter (Figs. 14-15).

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The fleet caught 21,503 sharks in Q1-2010, of which 478 (2%) were kept. Blue shark comprised 82% of the total shark catch (17,668 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q1-2010 was 12.8 fish per 1000 hooks (Fig. 17).

In Q1-2010, the Hawaii longline catch of other key pelagic species included 5,505 mahimahi (Fig. 18) with a record Q1 low CPUE of 0.62 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 4,079 moonfish (Fig. 20) with a CPUE of 0.46 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 9,740 pomfret (Fig. 22) with a CPUE of 1.1 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 1,286 wahoo (Fig. 24) with a CPUE of 0.15 fish per 1000 hooks on tuna-targeted trips (Fig. 25). A high percentage of the catch of these species was kept.

The summary statistics in Table 1 are based on logbook records from all fishing areas combined and all types of longline trips—those targeting swordfish and those aimed at catching tuna. Hence, the CPUE figures in Table 1 differ from those reported above, which were calculated using data exclusively from tuna-targeted trips or swordfish-targeted trips, depending on the species of interest.

The longline logbook statistics reported above refer to all fishing areas combined. Q1-2010 summary catch and effort were also compiled by several geographical sub-areas including: the MHI EEZ; the NWHI EEZ; the PRIA EEZ; the combined EEZ of MHI, NWHI and PRIA; and waters outside the U.S. EEZ. These statistics are presented in Tables 2-6. Q1-2010 summary statistics for the entire fishing area are also presented for each distinct trip type: swordfish-targeted trips using shallow-set gear (Table 7) and tuna-targeted trips deploying deep-set gear (Table 8).

This report is available in PDF format on the PIFSC Web site at <http://www.pifsc.noaa.gov/fmsd/reports.php>. The Web site also provides quarterly and yearly charts and an archive of quarterly and annual summary tables of fish catch and fishing effort from 1991 to the present. The statistics in the online graphs and archived tables are updated periodically as new records are added to the database and corrections are made.

Table 1. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage					Number of vessels active	120
Time Period	1st Quarter 2010				Number of trips	391
Fishing Area	All Areas				Number of sets	4,652
Trip Types	All Trip Types				Number of hooks set	9,555,211

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	451	446	5	0.05
Striped marlin	830	824	6	0.09
Shortbill spearfish	1,875	1,860	15	0.20
Swordfish	9,416	8,934	482	0.99
Other billfishes	39	37	2	0.00
Total	12,611	12,101	510	1.32
Sharks				
Blue shark	17,668	51	17,617	1.85
Mako sharks	1,602	368	1,234	0.17
Thresher sharks	1,369	41	1,328	0.14
Oceanic whitetip shark	255	2	253	0.03
Silky shark	170	0	170	0.02
Other sharks	439	16	423	0.05
Total	21,503	478	21,025	2.25
Tunas				
Albacore	10,722	10,263	459	1.12
Bigeye tuna	32,933	32,422	511	3.45
Yellowfin tuna	4,205	4,186	19	0.44
Bluefin tuna	1	1	0	0.00
Skipjack tuna	8,041	7,694	347	0.84
Other tunas	35	28	7	0.00
Total	55,937	54,594	1,343	5.85
Other PMUS				
Mahimahi	5,505	5,453	52	0.58
Moonfish	4,079	3,984	95	0.43
Wahoo	1,286	1,284	2	0.13
Oilfish	10,833	10,458	375	1.13
Pomfret	9,740	9,719	21	1.02
Total	31,443	30,898	545	3.29
Total PMUS	121,494	98,071	23,423	12.71
Total Non-PMUS	1,293	107	1,186	0.14
Total All Species	122,787	98,178	24,609	12.85

Table 2. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage		Number of vessels active		82
Time Period	1st Quarter 2010	Number of trips		159
Fishing Area	Main Hawaiian Islands EEZ	Number of sets		918
Trip Types	All Trip Types	Number of hooks set		2,048,308

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	45	45	0	0.02
Striped marlin	177	175	2	0.09
Shortbill spearfish	576	575	1	0.28
Swordfish	76	73	3	0.04
Other billfishes	6	6	0	0.00
Total	880	874	6	0.43
Sharks				
Blue shark	1,377	1	1,376	0.67
Mako sharks	176	113	63	0.09
Thresher sharks	86	14	72	0.04
Oceanic whitetip shark	9	2	7	0.00
Silky shark	0	0	0	0.00
Other sharks	12	9	3	0.01
Total	1,660	139	1,521	0.81
Tunas				
Albacore	805	805	0	0.39
Bigeye tuna	4,222	4,166	56	2.06
Yellowfin tuna	626	618	8	0.31
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,038	2,019	19	0.99
Other tunas	0	0	0	0.00
Total	7,691	7,608	83	3.75
Other PMUS				
Mahimahi	1,348	1,340	8	0.66
Moonfish	435	434	1	0.21
Wahoo	155	155	0	0.08
Oilfish	2,189	2,170	19	1.07
Pomfret	1,273	1,270	3	0.62
Total	5,400	5,369	31	2.64
Total PMUS	15,631	13,990	1,641	7.63
Total Non-PMUS	412	40	372	0.20
Total All Species	16,043	14,030	2,013	7.83

Table 3. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage		Number of vessels active		53
Time Period	1st Quarter 2010	Number of trips		72
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		413
Trip Types	All Trip Types	Number of hooks set		927,673

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	31	31	0	0.03
Striped marlin	153	152	1	0.16
Shortbill spearfish	216	208	8	0.23
Swordfish	392	341	51	0.42
Other billfishes	3	3	0	0.00
Total	795	735	60	0.86
Sharks				
Blue shark	1,025	0	1,025	1.10
Mako sharks	87	53	34	0.09
Thresher sharks	16	5	11	0.02
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Other sharks	1	0	1	0.00
Total	1,129	58	1,071	1.22
Tunas				
Albacore	1,551	1,547	4	1.67
Bigeye tuna	3,432	3,418	14	3.70
Yellowfin tuna	578	576	2	0.62
Bluefin tuna	0	0	0	0.00
Skipjack tuna	520	479	41	0.56
Other tunas	23	23	0	0.02
Total	6,104	6,043	61	6.58
Other PMUS				
Mahimahi	147	147	0	0.16
Moonfish	311	311	0	0.34
Wahoo	88	88	0	0.09
Oilfish	1,467	1,439	28	1.58
Pomfret	732	732	0	0.79
Total	2,745	2,717	28	2.96
Total PMUS	10,773	9,553	1,220	11.61
Total Non-PMUS	17	6	11	0.02
Total All Species	10,790	9,559	1,231	11.63

Table 4. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage		Number of vessels active		18
Time Period	1st Quarter 2010	Number of trips		21
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		152
Trip Types	All Trip Types	Number of hooks set		408,577

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	94	93	1	0.23
Striped marlin	32	32	0	0.08
Shortbill spearfish	47	47	0	0.12
Swordfish	35	35	0	0.09
Other billfishes	3	3	0	0.01
Total	211	210	1	0.52
Sharks				
Blue shark	508	2	506	1.24
Mako sharks	39	1	38	0.10
Thresher sharks	202	0	202	0.49
Oceanic whitetip shark	152	0	152	0.37
Silky shark	152	0	152	0.37
Other sharks	358	0	358	0.88
Total	1,411	3	1,408	3.45
Tunas				
Albacore	235	235	0	0.58
Bigeye tuna	2,231	2,180	51	5.46
Yellowfin tuna	381	380	1	0.93
Bluefin tuna	0	0	0	0.00
Skipjack tuna	156	156	0	0.38
Other tunas	0	0	0	0.00
Total	3,003	2,951	52	7.35
Other PMUS				
Mahimahi	287	287	0	0.70
Moonfish	32	32	0	0.08
Wahoo	244	244	0	0.60
Oilfish	300	300	0	0.73
Pomfret	481	481	0	1.18
Total	1,344	1,344	0	3.29
Total PMUS	5,969	4,508	1,461	14.61
Total Non-PMUS	15	2	13	0.04
Total All Species	5,984	4,510	1,474	14.65

Table 5. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage		Number of vessels active		96
Time Period	1st Quarter 2010	Number of trips		212
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of sets		1,483
Trip Types	All Trip Types	Number of hooks set		3,384,558

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	170	169	1	0.05
Striped marlin	362	359	3	0.11
Shortbill spearfish	839	830	9	0.25
Swordfish	503	449	54	0.15
Other billfishes	12	12	0	0.00
Total	1,886	1,819	67	0.56
Sharks				
Blue shark	2,910	3	2,907	0.86
Mako sharks	302	167	135	0.09
Thresher sharks	304	19	285	0.09
Oceanic whitetip shark	161	2	159	0.05
Silky shark	152	0	152	0.04
Other sharks	371	9	362	0.11
Total	4,200	200	4,000	1.24
Tunas				
Albacore	2,591	2,587	4	0.77
Bigeye tuna	9,885	9,764	121	2.92
Yellowfin tuna	1,585	1,574	11	0.47
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,714	2,654	60	0.80
Other tunas	23	23	0	0.01
Total	16,798	16,602	196	4.96
Other PMUS				
Mahimahi	1,782	1,774	8	0.53
Moonfish	778	777	1	0.23
Wahoo	487	487	0	0.14
Oilfish	3,956	3,909	47	1.17
Pomfret	2,486	2,483	3	0.73
Total	9,489	9,430	59	2.80
Total PMUS	32,373	28,051	4,322	9.56
Total Non-PMUS	444	48	396	0.13
Total All Species	32,817	28,099	4,718	9.70

Table 6. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage					Number of vessels active	119
Time Period	1st Quarter 2010				Number of trips	328
Fishing Area	Outside U.S. EEZ				Number of sets	3,169
Trip Types	All Trip Types				Number of hooks set	6,170,653

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	281	277	4	0.05
Striped marlin	468	465	3	0.08
Shortbill spearfish	1,036	1,030	6	0.17
Swordfish	8,913	8,485	428	1.44
Other billfishes	27	25	2	0.00
Total	10,725	10,282	443	1.74
Sharks				
Blue shark	14,758	48	14,710	2.39
Mako sharks	1,300	201	1,099	0.21
Thresher sharks	1,065	22	1,043	0.17
Oceanic whitetip shark	94	0	94	0.02
Silky shark	18	0	18	0.00
Other sharks	68	7	61	0.01
Total	17,303	278	17,025	2.80
Tunas				
Albacore	8,131	7,676	455	1.32
Bigeye tuna	23,048	22,658	390	3.74
Yellowfin tuna	2,620	2,612	8	0.42
Bluefin tuna	1	1	0	0.00
Skipjack tuna	5,327	5,040	287	0.86
Other tunas	12	5	7	0.00
Total	39,139	37,992	1,147	6.34
Other PMUS				
Mahimahi	3,723	3,679	44	0.60
Moonfish	3,301	3,207	94	0.53
Wahoo	799	797	2	0.13
Oilfish	6,877	6,549	328	1.11
Pomfret	7,254	7,236	18	1.18
Total	21,954	21,468	486	3.56
Total PMUS	89,121	70,020	19,101	14.44
Total Non-PMUS	849	59	790	0.14
Total All Species	89,970	70,079	19,891	14.58

Table 7. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage					Number of vessels active	26
Time Period	1st Quarter 2010				Number of trips	59
Fishing Area	All Areas				Number of sets	865
Trip Types	Swordfish Targeted Trips				Number of hooks set	837,620

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	9	9	0	0.01
Striped marlin	61	59	2	0.07
Shortbill spearfish	25	17	8	0.03
Swordfish	8,733	8,279	454	10.43
Other billfishes	13	11	2	0.02
Total	8,841	8,375	466	10.55
Sharks				
Blue shark	10,735	32	10,703	12.82
Mako sharks	914	59	855	1.09
Thresher sharks	41	0	41	0.05
Oceanic whitetip shark	2	0	2	0.00
Silky shark	0	0	0	0.00
Other sharks	23	1	22	0.03
Total	11,715	92	11,623	13.99
Tunas				
Albacore	652	517	135	0.78
Bigeye tuna	1,255	1,210	45	1.50
Yellowfin tuna	86	83	3	0.10
Bluefin tuna	0	0	0	0.00
Skipjack tuna	45	42	3	0.05
Other tunas	12	5	7	0.01
Total	2,050	1,857	193	2.45
Other PMUS				
Mahimahi	58	58	0	0.07
Moonfish	37	27	10	0.04
Wahoo	3	3	0	0.00
Oilfish	1,089	804	285	1.30
Pomfret	34	27	7	0.04
Total	1,221	919	302	1.46
Total PMUS	23,827	11,243	12,584	28.45
Total Non-PMUS	7	2	5	0.01
Total All Species	23,834	11,245	12,589	28.45

Table 8. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 6/1/2010 1:13:19PM].

Report Coverage					Number of vessels active	101
Time Period	1st Quarter 2010				Number of trips	332
Fishing Area	All Areas				Number of sets	3,787
Trip Types	Tuna Targeted Trips				Number of hooks set	8,717,591

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	442	437	5	0.05
Striped marlin	769	765	4	0.09
Shortbill spearfish	1,850	1,843	7	0.21
Swordfish	683	655	28	0.08
Other billfishes	26	26	0	0.00
Total	3,770	3,726	44	0.43
Sharks				
Blue shark	6,933	19	6,914	0.80
Mako sharks	688	309	379	0.08
Thresher sharks	1,328	41	1,287	0.15
Oceanic whitetip shark	253	2	251	0.03
Silky shark	170	0	170	0.02
Other sharks	416	15	401	0.05
Total	9,788	386	9,402	1.12
Tunas				
Albacore	10,070	9,746	324	1.16
Bigeye tuna	31,678	31,212	466	3.63
Yellowfin tuna	4,119	4,103	16	0.47
Bluefin tuna	1	1	0	0.00
Skipjack tuna	7,996	7,652	344	0.92
Other tunas	23	23	0	0.00
Total	53,887	52,737	1,150	6.18
Other PMUS				
Mahimahi	5,447	5,395	52	0.62
Moonfish	4,042	3,957	85	0.46
Wahoo	1,283	1,281	2	0.15
Oilfish	9,744	9,654	90	1.12
Pomfret	9,706	9,692	14	1.11
Total	30,222	29,979	243	3.47
Total PMUS	97,667	86,828	10,839	11.20
Total Non-PMUS	1,286	105	1,181	0.15
Total All Species	98,953	86,933	12,020	11.35

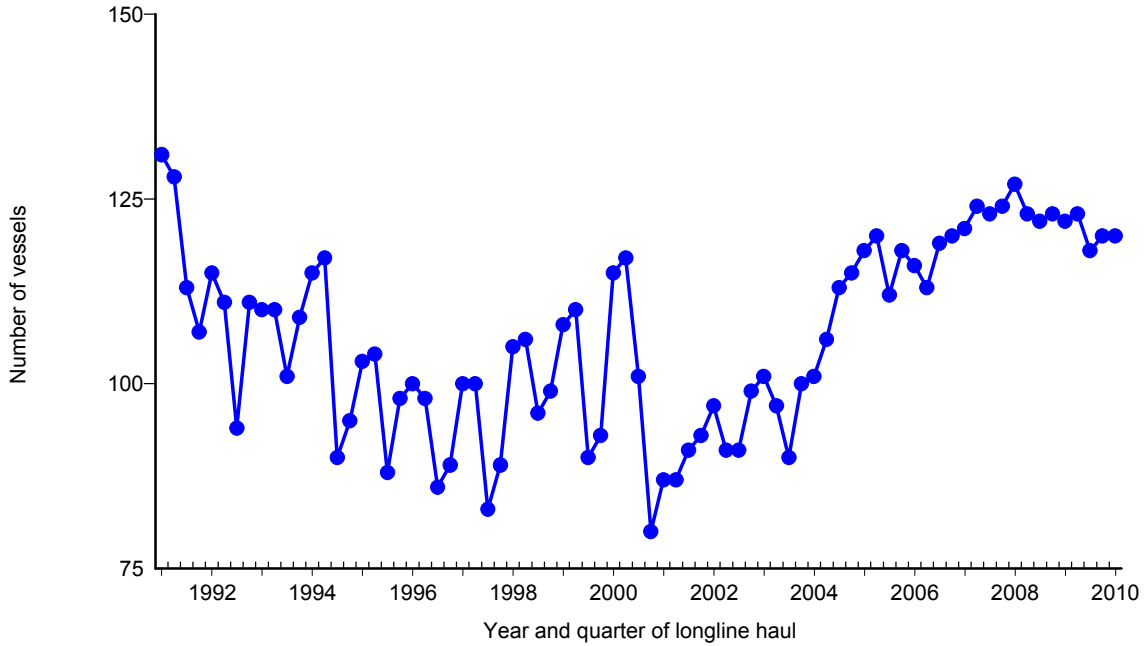


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:12:47PM]

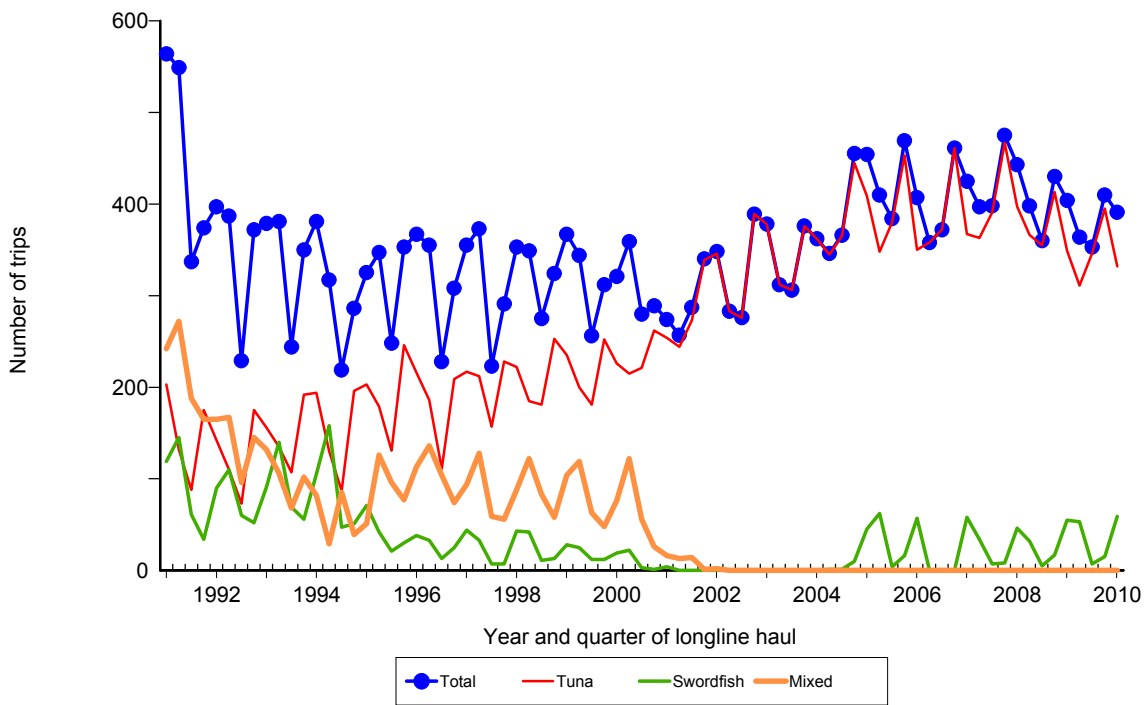


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:12:47PM]

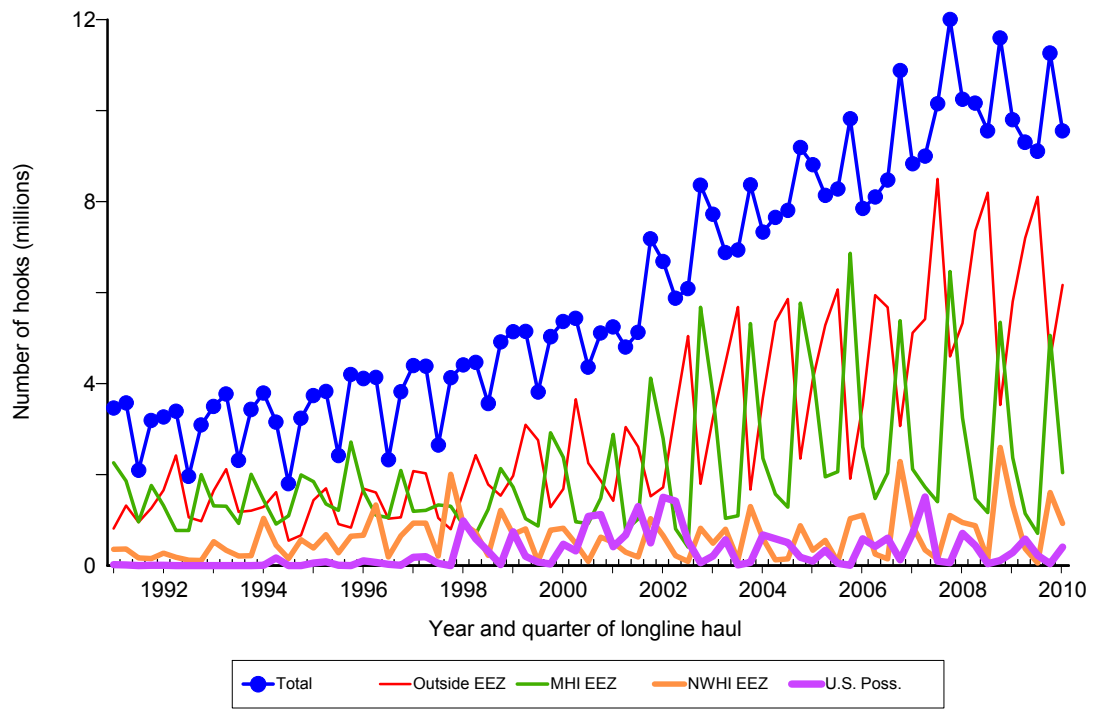


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:12:50PM]

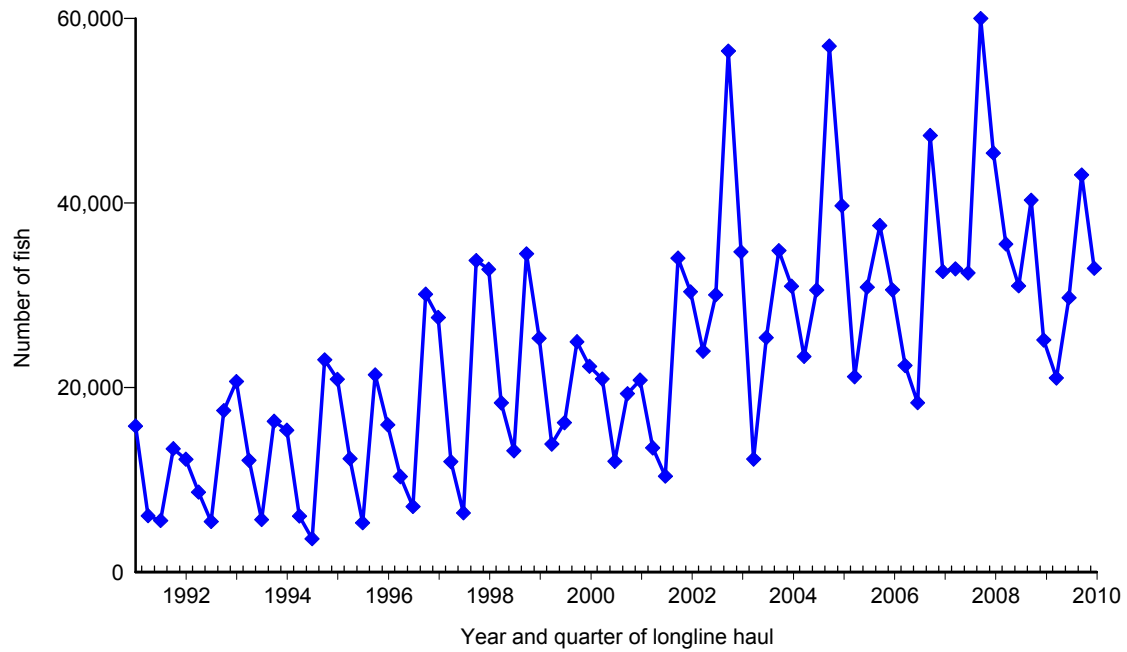


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:10PM]

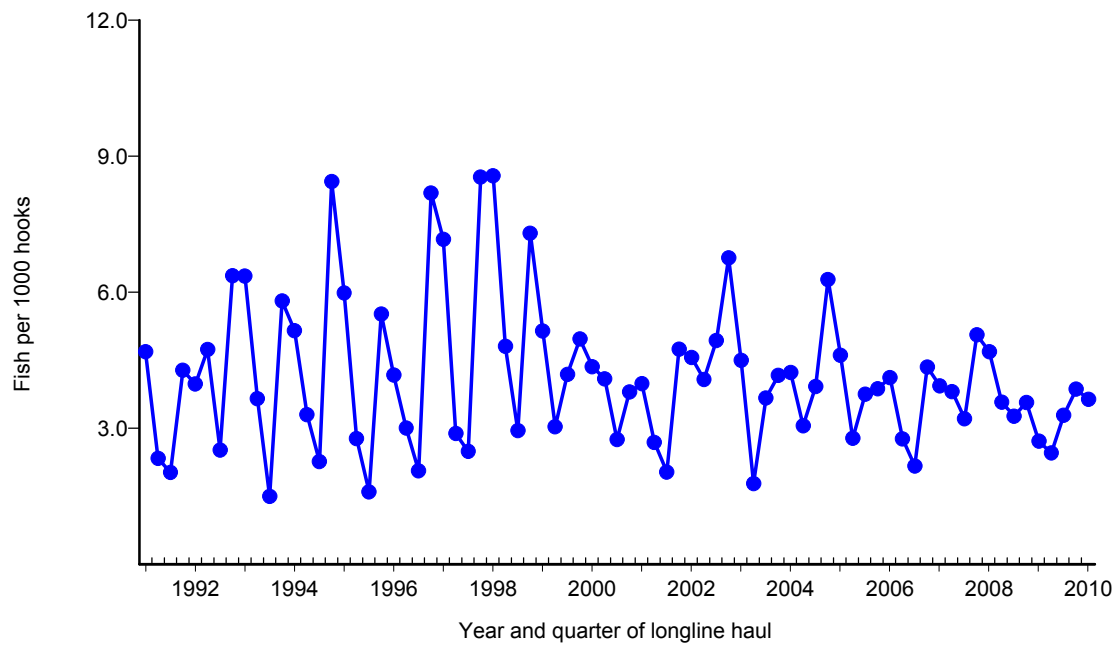


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:10PM]

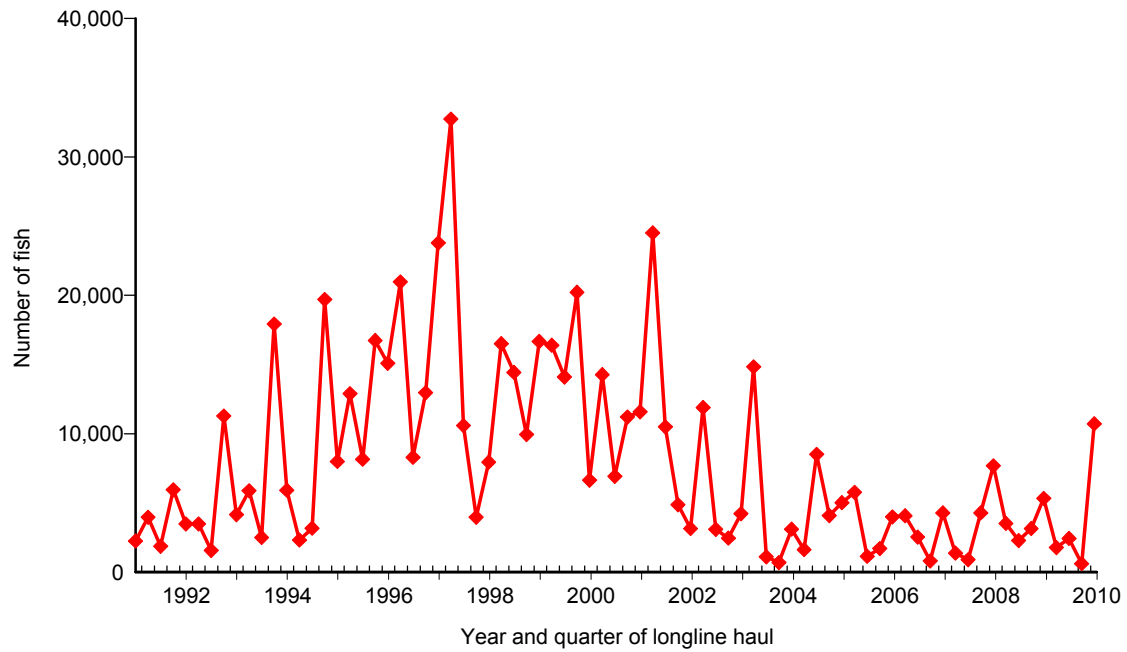


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:33PM]

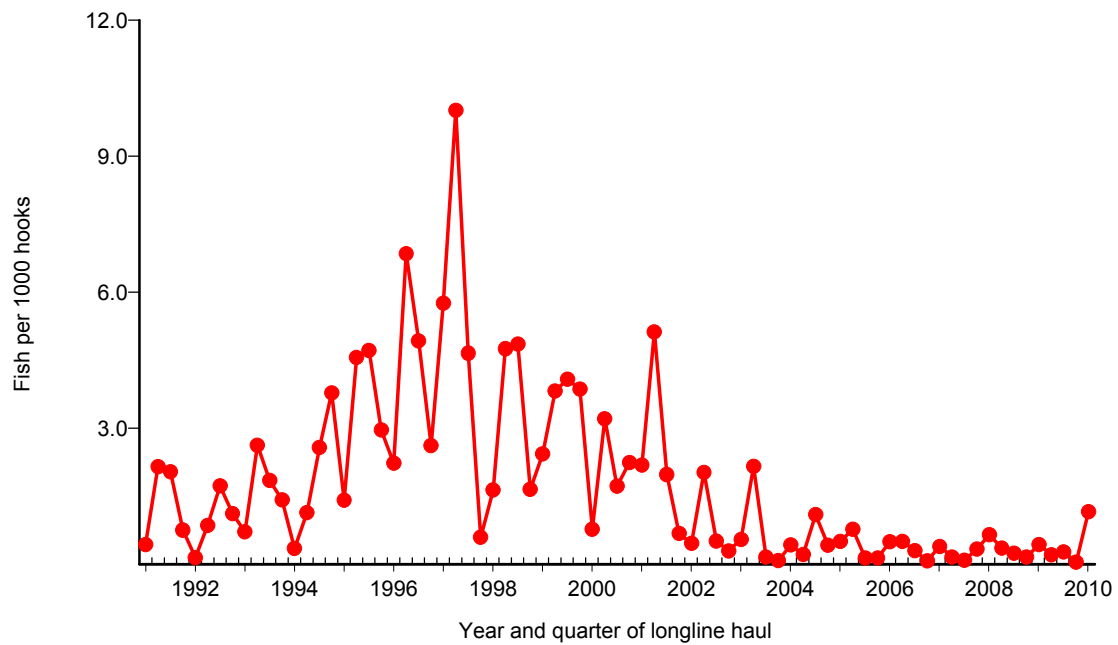


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:33PM]

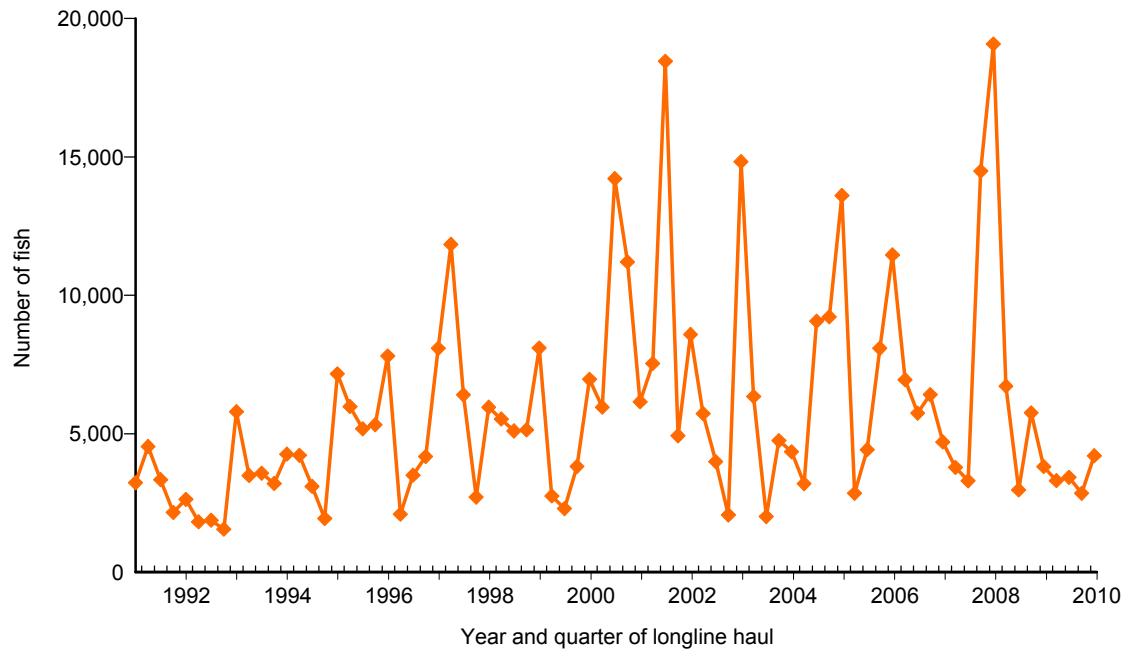


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:55PM]

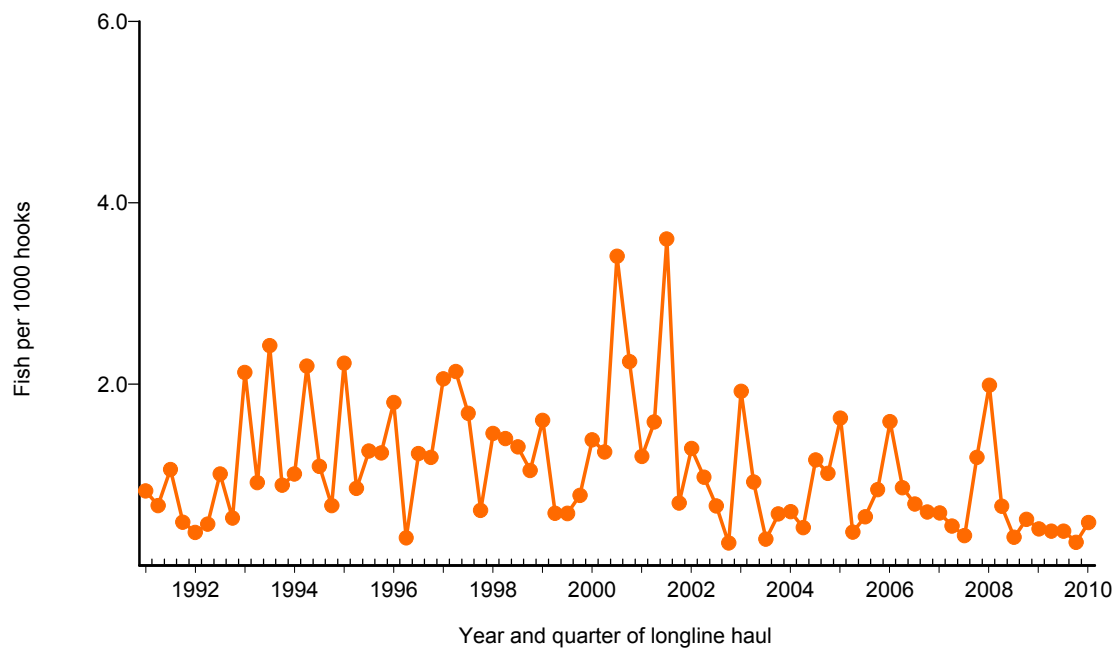


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:13:55PM]

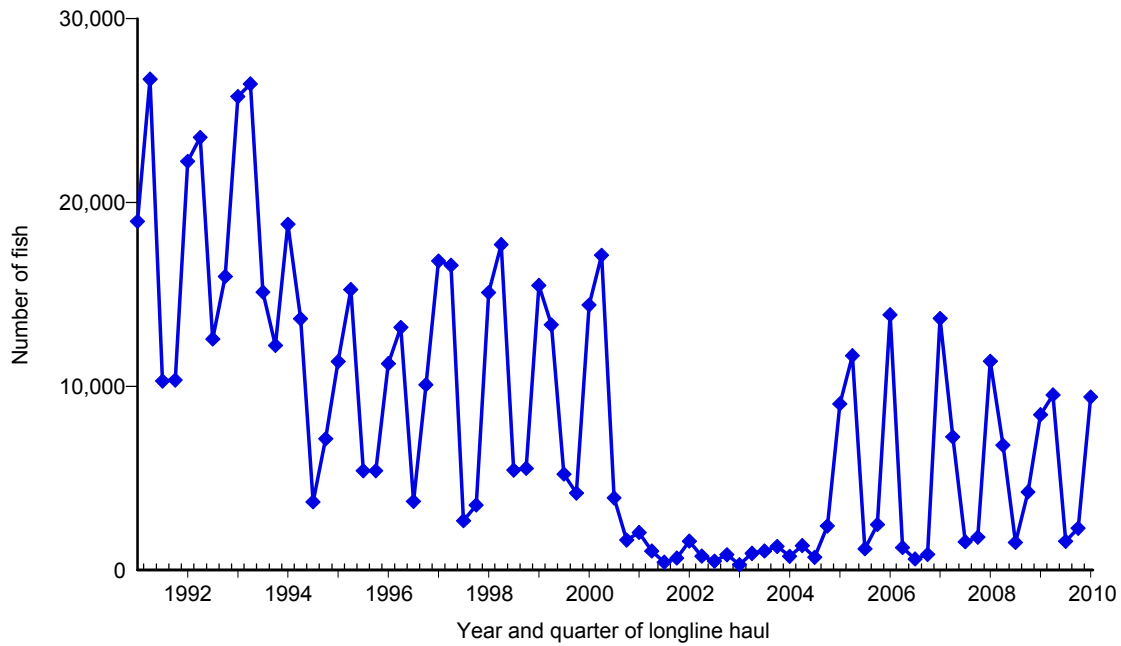


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:14:17PM]

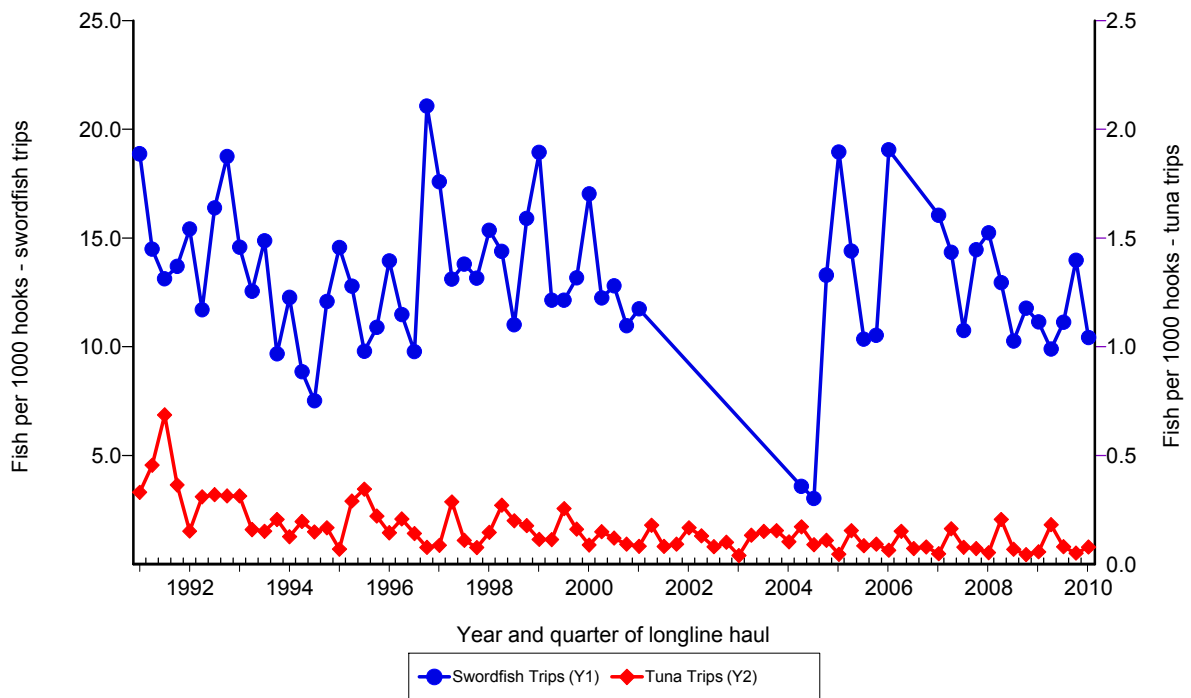


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:14:17PM]

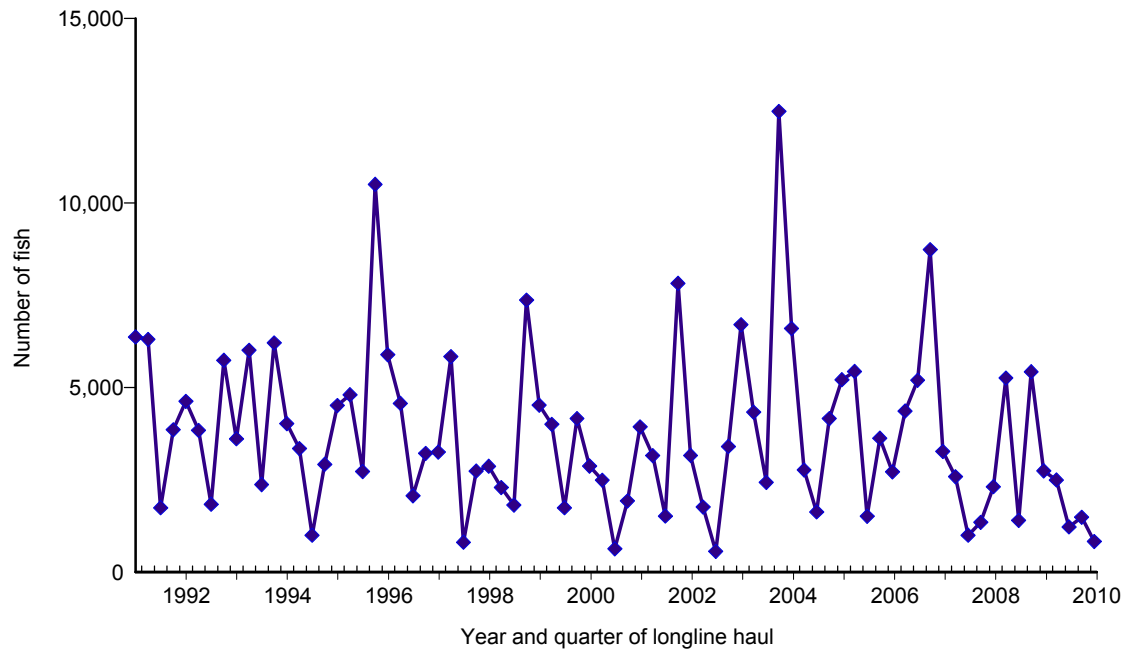


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:14:40PM]

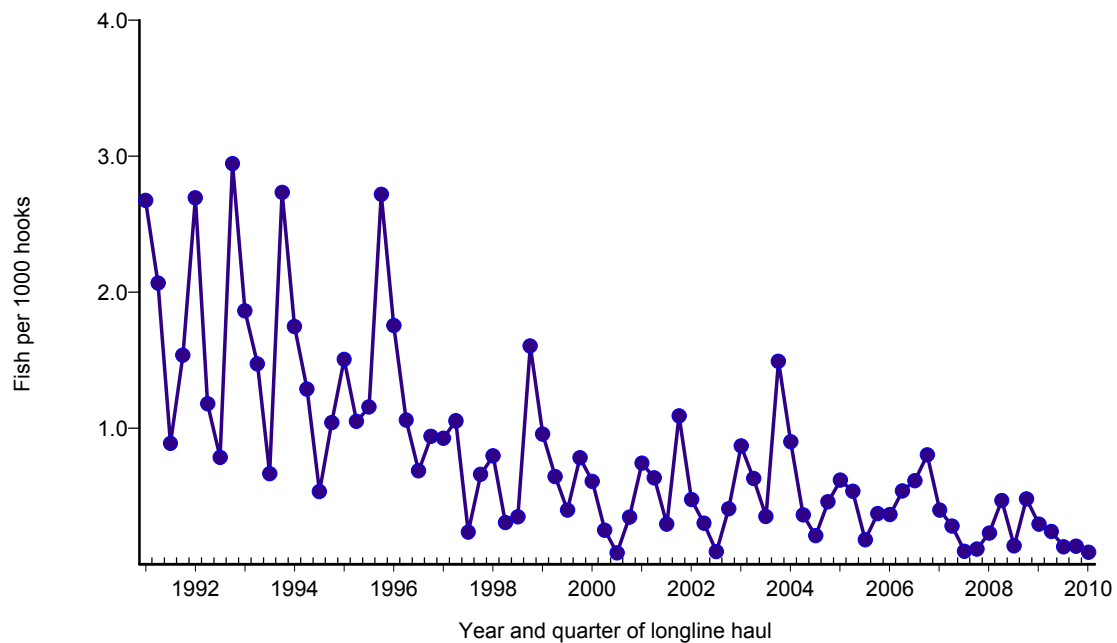


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:14:40PM]

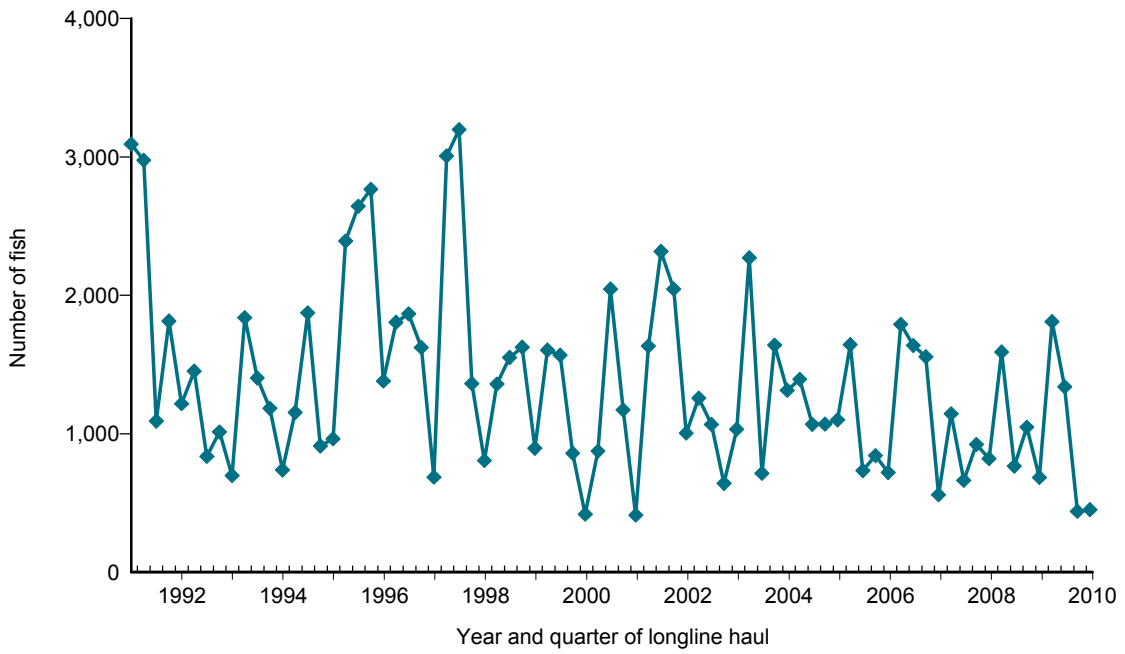


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:02PM]

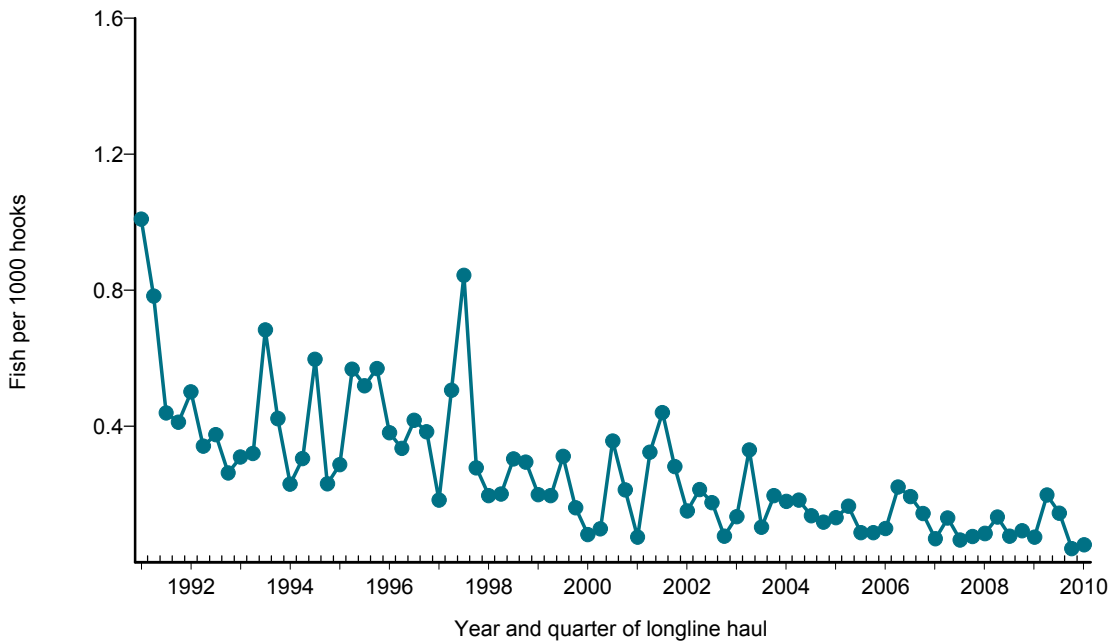


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:02PM]

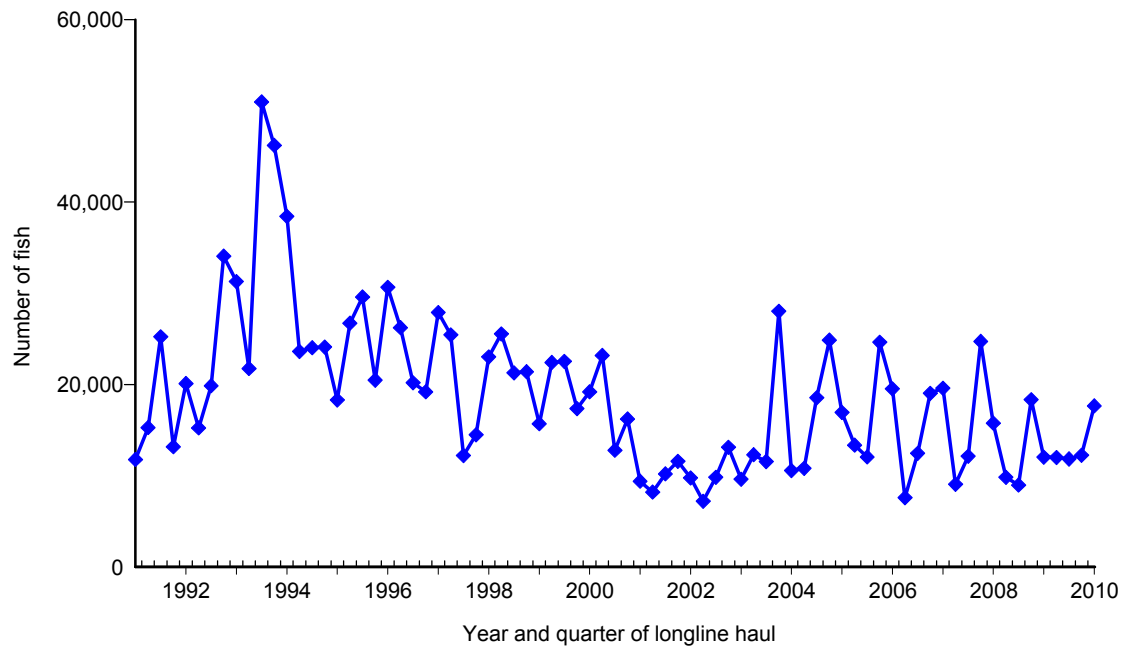


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:24PM]

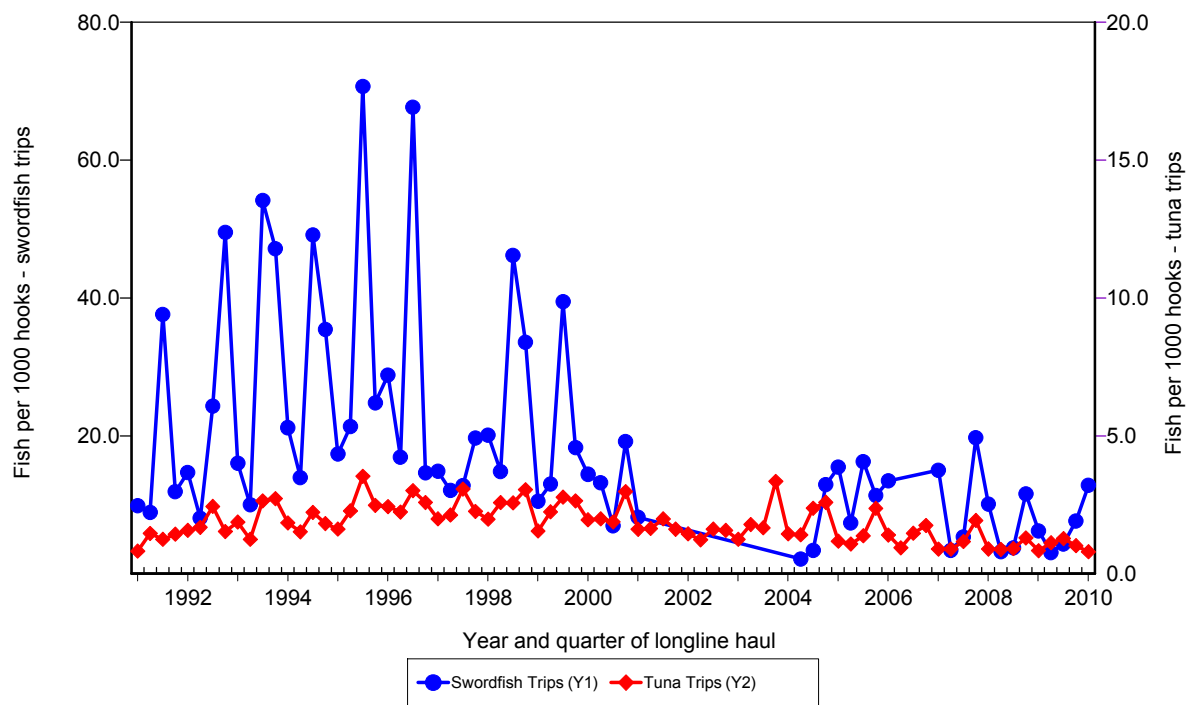


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:24PM]

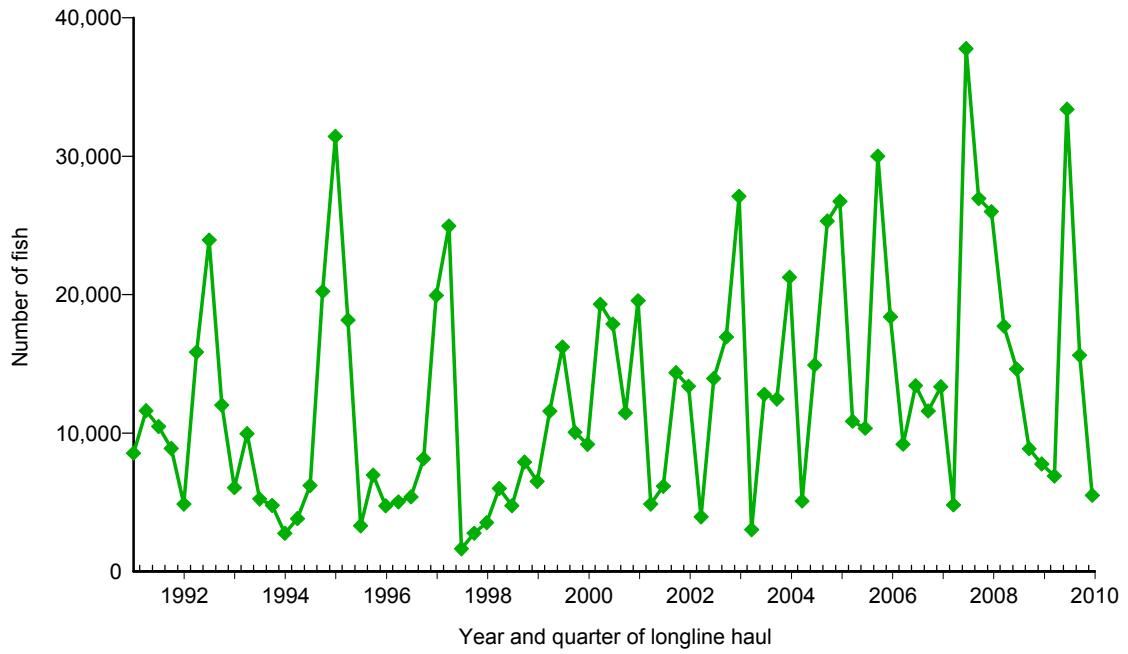


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:48PM]

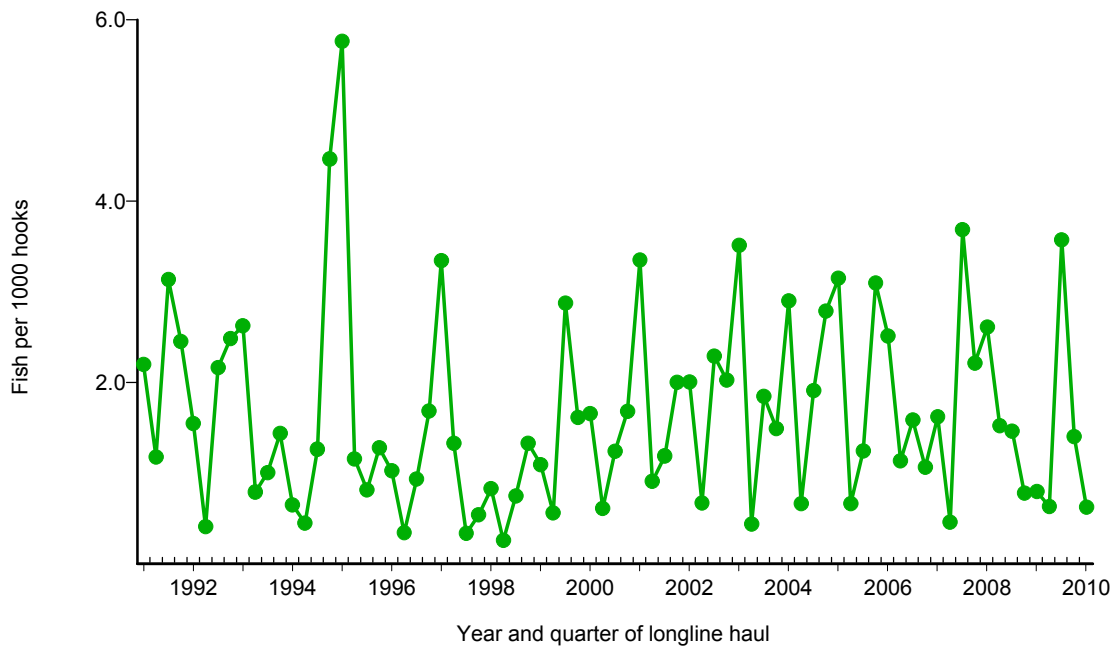


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:15:48PM]

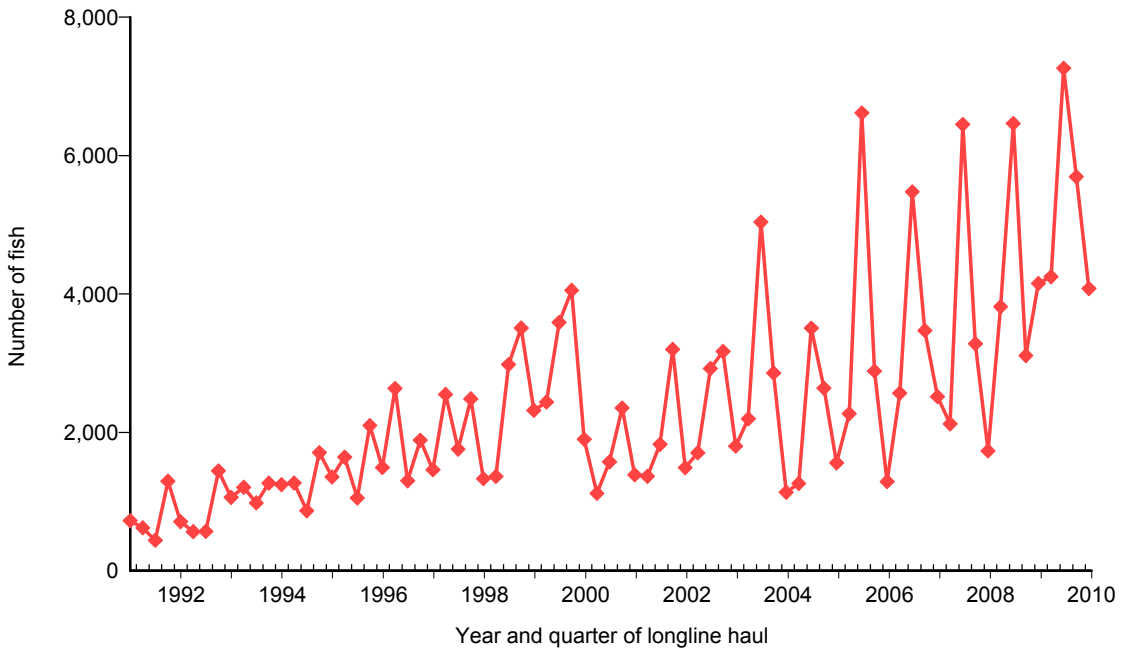


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:10PM]

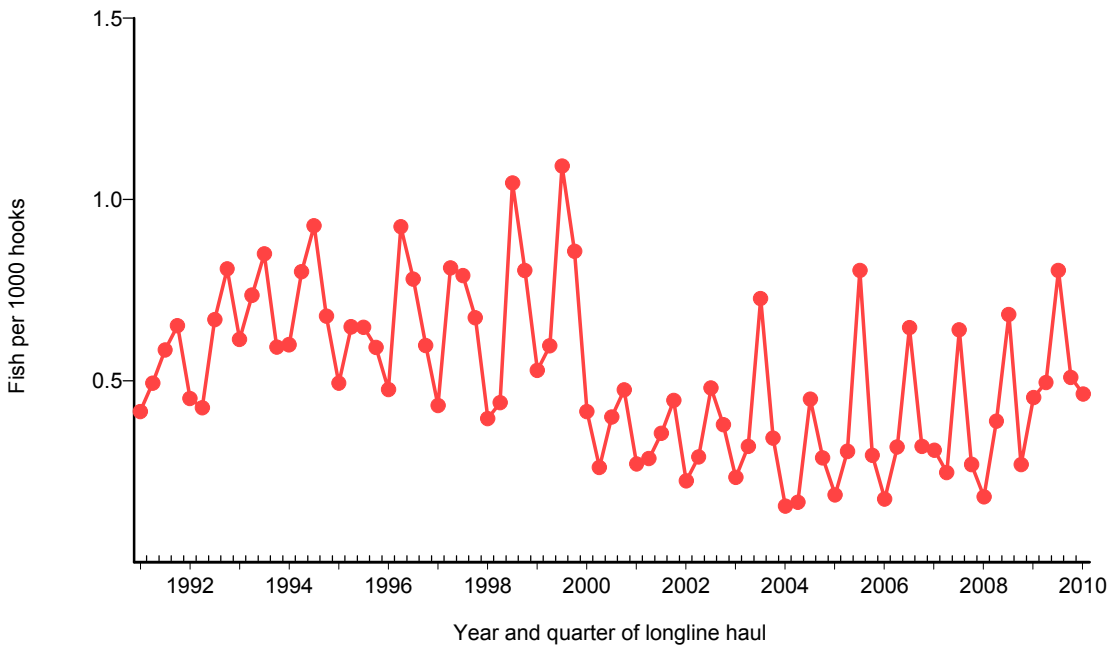


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:10PM]

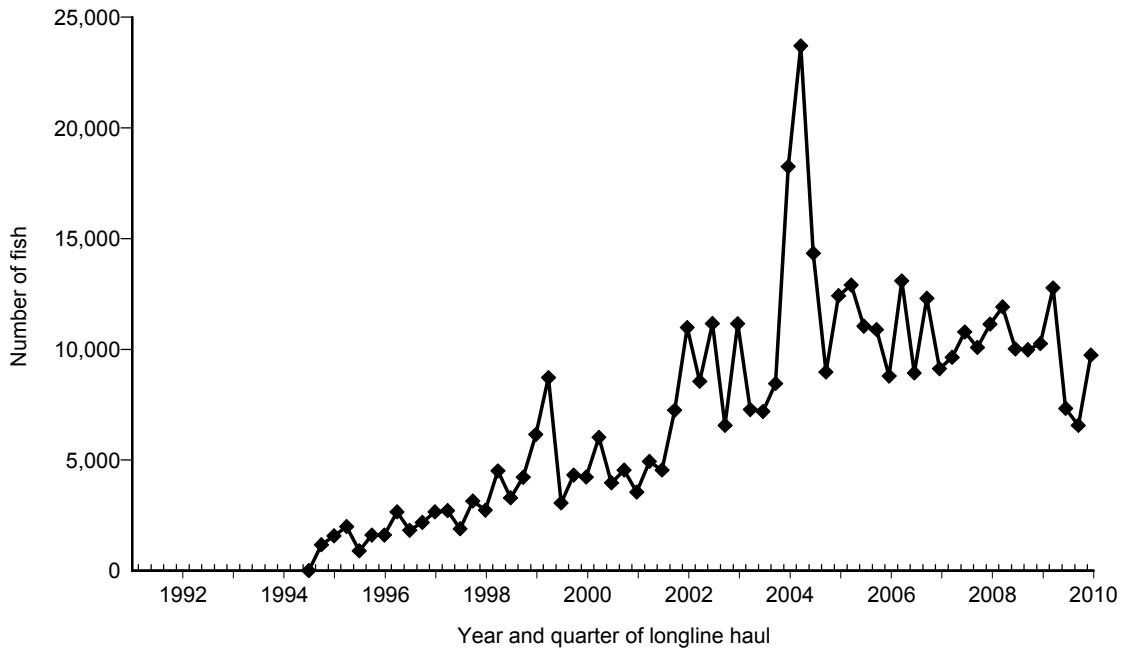


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:32PM]

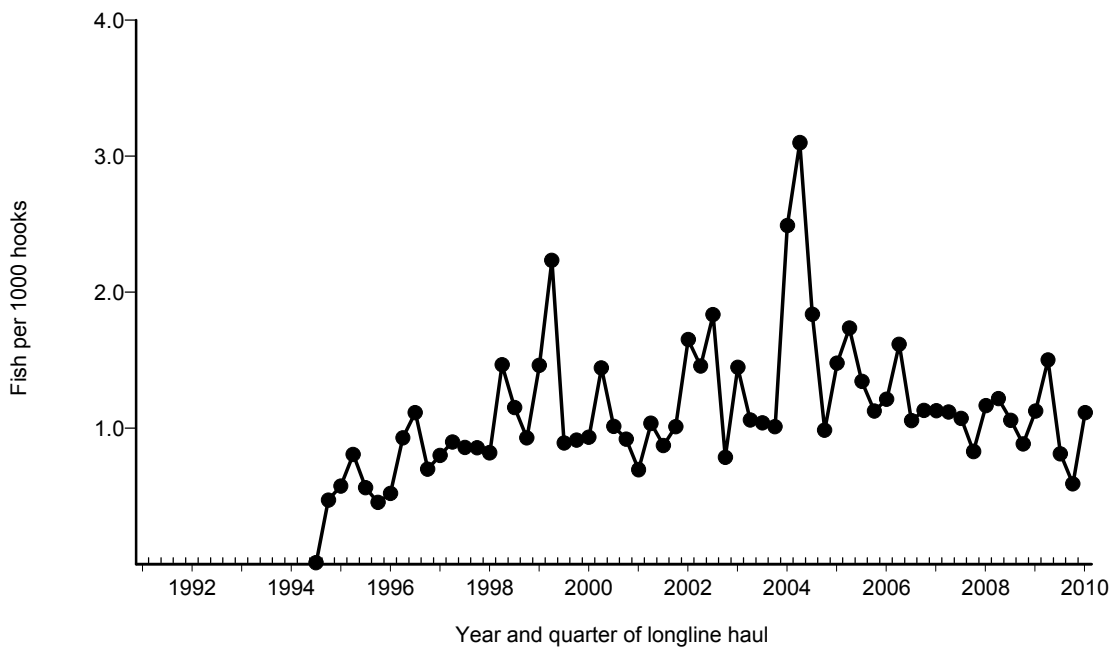


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:32PM]

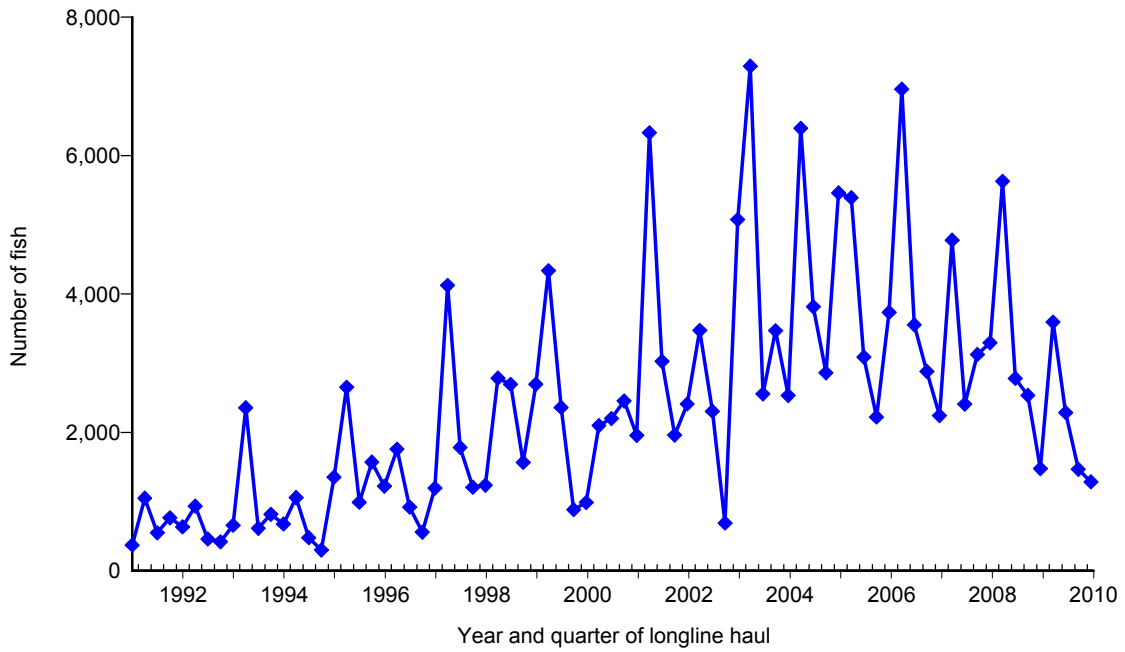


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:56PM]

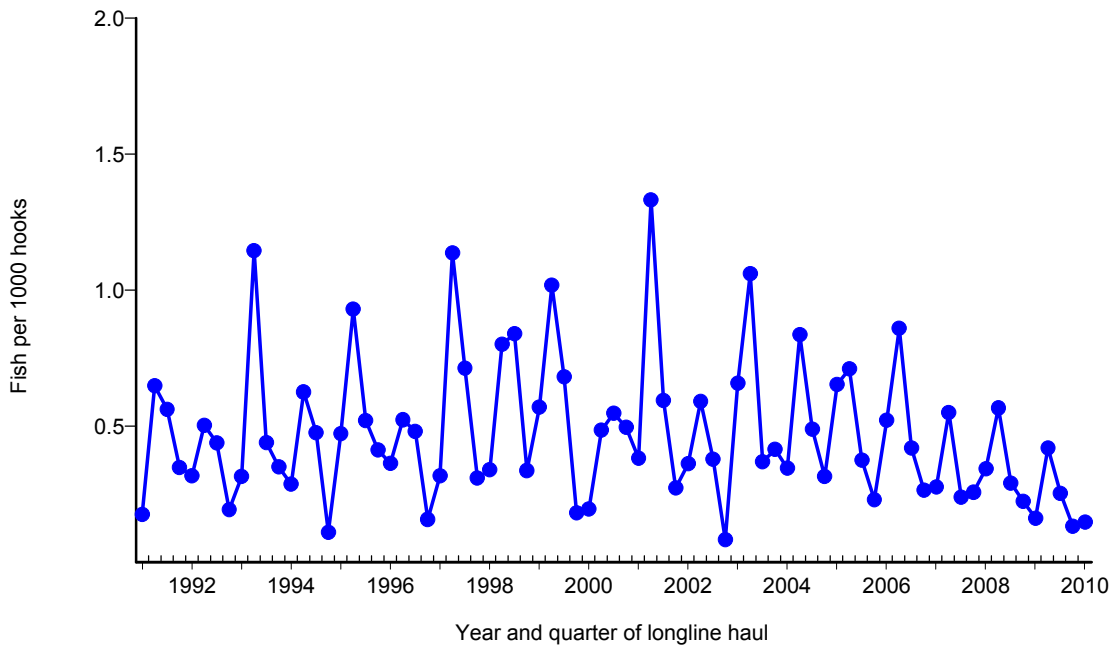


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 6/1/2010 3:16:56PM]