

The Hawaii-based Longline Logbook Summary Report January-March 2012¹

Pacific Islands Fisheries Science Center
Fisheries Monitoring Branch

This report summarizes data on fish catch and fishing effort by Hawaii-based longline vessels during the first quarter of 2012 (Q1-2012). 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 2012 and most, but not all, Q1-2012 data from trips that began late in the first quarter and continued into the second quarter of 2012. Therefore, the Q1-2012 summary statistics reported here are preliminary.

During Q1-2012, 123 vessels were active in the Hawaii-based fleet, the same number of vessels as in Q1-2011 (Table 1, Fig. 1). They made 426 longline trips (17 more than in Q1-2011), including 382 using deep-set gear to target tuna (13 more than in Q1-2011) and 44 using shallow-set gear to target swordfish (4 more than in Q1-2011; Fig. 2). During Q1-2012, the fleet deployed 10.5 million hooks, almost the same number of hooks as in Q1-2011 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ) (56% of the total hooks set), followed by the EEZ of the main Hawaiian Islands (MHI) (24%), 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) (10%).

In Q1-2012, the Hawaii longline fleet caught 37,424 bigeye tuna (Fig. 4); 57% were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.7 fish per 1000 hooks, down 22% from Q1-2011 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q1-2012 were 11,128 fish and 1.04 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q1-2012 were 11,362 fish and 1.14 fish per 1000 hooks, respectively (Figs. 8-9).

The Q1-2012 swordfish catch was 8,321 fish, 16% lower than the swordfish catch in Q1-2011 (Fig. 10). In Q1-2012, swordfish CPUE on shallow-set swordfish-targeted trips was 10.7 fish per 1000 hooks, 18% lower than in Q1-2011 (Fig. 11).

The striped marlin catch in Q1-2012 was 3,798 fish, and the CPUE on tuna-targeted trips was 0.38 fish per 1000 hooks, a 49% decrease in both catch and CPUE from Q1-2011 (Figs. 12-13). The blue marlin catch in Q1-2012 was 564 fish with a CPUE of 0.06 fish per 1000 hooks on tuna-targeted trips (Figs. 14-15).

¹ PIFSC Data Report DR-12-008
Issued 25 May 2012

The fleet caught 15,258 sharks in Q1-2012, of which 357 (2%) were kept. Blue shark comprised 72% of the total shark catch (10,956 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q1-2012 was 3.6 fish per 1000 hooks, 39% lower than Q1-2011 (Fig. 17).

In Q1-2012, the Hawaii longline catch of other key pelagic species included 23,013 mahimahi (Fig. 18) with a CPUE of 2.2 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 1,955 moonfish (Fig. 20) with a CPUE of 0.19 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 13,576 pomfret (Fig. 22) with a CPUE of 1.4 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 2,918 wahoo (Fig. 24) with a CPUE of 0.30 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. Q1-2012 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. Q1-2012 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 website at <http://www.pifsc.noaa.gov/fmb/reports.php>. The website 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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active		123
Time Period	1st Quarter 2012	Number of trips		426
Fishing Area	All Areas	Number of sets		4,796
Trip Types	All Trip Types	Number of hooks set		10,542,031

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	564	560	4	0.05
Striped marlin	3,798	3,759	39	0.36
Shortbill spearfish	4,439	4,408	31	0.42
Swordfish	8,321	7,735	586	0.79
Other billfishes	81	73	8	0.01
Total	17,203	16,535	668	1.63
Sharks				
Blue shark	10,956	88	10,868	1.04
Mako sharks	902	212	690	0.09
Thresher sharks	2,673	42	2,631	0.25
Oceanic whitetip shark	339	10	329	0.03
Silky shark	209	0	209	0.02
Other sharks	179	5	174	0.02
Total	15,258	357	14,901	1.45
Tunas				
Albacore	11,128	10,994	134	1.06
Bigeye tuna	37,424	36,896	528	3.55
Yellowfin tuna	11,362	11,061	301	1.08
Bluefin tuna	1	0	1	0.00
Skipjack tuna	4,344	4,225	119	0.41
Other tunas	0	0	0	0.00
Total	64,259	63,176	1,083	6.10
Other PMUS				
Mahimahi	23,013	22,639	374	2.18
Moonfish	1,955	1,934	21	0.19
Wahoo	2,918	2,907	11	0.28
Oilfish	10,075	9,866	209	0.96
Pomfret	13,576	13,436	140	1.29
Total	51,537	50,782	755	4.89
Total PMUS	148,257	130,850	17,407	14.06
Total Non-PMUS	745	104	641	0.07
Total All Species	149,002	130,954	18,048	14.13

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, 5/17/2012 3:38:32PM].

Report Coverage

Time Period 1st Quarter 2012
 Fishing Area Main Hawaiian Islands EEZ
 Trip Types All Trip Types

Number of vessels active	97
Number of trips	207
Number of sets	1,107
Number of hooks set	2,562,303

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	98	96	2	0.04
Striped marlin	1,138	1,135	3	0.44
Shortbill spearfish	1,000	993	7	0.39
Swordfish	84	81	3	0.03
Other billfishes	21	14	7	0.01
Total	2,341	2,319	22	0.91
Sharks				
Blue shark	2,011	69	1,942	0.78
Mako sharks	207	74	133	0.08
Thresher sharks	113	10	103	0.04
Oceanic whitetip shark	20	4	16	0.01
Silky shark	3	0	3	0.00
Other sharks	25	0	25	0.01
Total	2,379	157	2,222	0.93
Tunas				
Albacore	1,019	1,013	6	0.40
Bigeye tuna	8,388	8,290	98	3.27
Yellowfin tuna	2,152	2,124	28	0.84
Bluefin tuna	0	0	0	0.00
Skipjack tuna	419	413	6	0.16
Other tunas	0	0	0	0.00
Total	11,978	11,840	138	4.67
Other PMUS				
Mahimahi	4,486	4,435	51	1.75
Moonfish	491	490	1	0.19
Wahoo	337	336	1	0.13
Oilfish	2,261	2,242	19	0.88
Pomfret	2,456	2,430	26	0.96
Total	10,031	9,933	98	3.91
Total PMUS	26,729	24,249	2,480	10.43
Total Non-PMUS	256	40	216	0.10
Total All Species	26,985	24,289	2,696	10.53

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active		64
Time Period	1st Quarter 2012	Number of trips		91
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		435
Trip Types	All Trip Types	Number of hooks set		1,054,304

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	39	38	1	0.04
Striped marlin	758	750	8	0.72
Shortbill spearfish	457	456	1	0.43
Swordfish	103	94	9	0.10
Other billfishes	6	6	0	0.01
Total	1,363	1,344	19	1.29
Sharks				
Blue shark	1,254	0	1,254	1.19
Mako sharks	64	16	48	0.06
Thresher sharks	61	1	60	0.06
Oceanic whitetip shark	6	0	6	0.01
Silky shark	0	0	0	0.00
Other sharks	2	0	2	0.00
Total	1,387	17	1,370	1.32
Tunas				
Albacore	1,704	1,693	11	1.62
Bigeye tuna	3,599	3,506	93	3.41
Yellowfin tuna	1,008	947	61	0.96
Bluefin tuna	0	0	0	0.00
Skipjack tuna	249	249	0	0.24
Other tunas	0	0	0	0.00
Total	6,560	6,395	165	6.22
Other PMUS				
Mahimahi	1,109	1,106	3	1.05
Moonfish	247	245	2	0.23
Wahoo	102	101	1	0.10
Oilfish	1,422	1,411	11	1.35
Pomfret	725	713	12	0.69
Total	3,605	3,576	29	3.42
Total PMUS	12,915	11,332	1,583	12.25
Total Non-PMUS	14	9	5	0.01
Total All Species	12,929	11,341	1,588	12.26

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active		51
Time Period	1st Quarter 2012	Number of trips		71
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		417
Trip Types	All Trip Types	Number of hooks set		1,046,877

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	136	136	0	0.13
Striped marlin	179	177	2	0.17
Shortbill spearfish	346	346	0	0.33
Swordfish	86	82	4	0.08
Other billfishes	13	13	0	0.01
Total	760	754	6	0.73
Sharks				
Blue shark	979	0	979	0.94
Mako sharks	69	10	59	0.07
Thresher sharks	392	4	388	0.37
Oceanic whitetip shark	218	2	216	0.21
Silky shark	201	0	201	0.19
Other sharks	105	0	105	0.10
Total	1,964	16	1,948	1.88
Tunas				
Albacore	1,599	1,597	2	1.53
Bigeye tuna	4,102	4,078	24	3.92
Yellowfin tuna	2,897	2,798	99	2.77
Bluefin tuna	0	0	0	0.00
Skipjack tuna	977	975	2	0.93
Other tunas	0	0	0	0.00
Total	9,575	9,448	127	9.15
Other PMUS				
Mahimahi	1,800	1,800	0	1.72
Moonfish	120	120	0	0.11
Wahoo	727	727	0	0.69
Oilfish	882	880	2	0.84
Pomfret	1,908	1,908	0	1.82
Total	5,437	5,435	2	5.19
Total PMUS	17,736	15,653	2,083	16.94
Total Non-PMUS	62	3	59	0.06
Total All Species	17,798	15,656	2,142	17.00

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active	
Time Period	1st Quarter 2012		108
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of trips	291
Trip Types	All Trip Types	Number of sets	1,959
		Number of hooks set	4,663,484

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	273	270	3	0.06
Striped marlin	2,075	2,062	13	0.44
Shortbill spearfish	1,803	1,795	8	0.39
Swordfish	273	257	16	0.06
Other billfishes	40	33	7	0.01
Total	4,464	4,417	47	0.96
Sharks				
Blue shark	4,244	69	4,175	0.91
Mako sharks	340	100	240	0.07
Thresher sharks	566	15	551	0.12
Oceanic whitetip shark	244	6	238	0.05
Silky shark	204	0	204	0.04
Other sharks	132	0	132	0.03
Total	5,730	190	5,540	1.23
Tunas				
Albacore	4,322	4,303	19	0.93
Bigeye tuna	16,089	15,874	215	3.45
Yellowfin tuna	6,057	5,869	188	1.30
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,645	1,637	8	0.35
Other tunas	0	0	0	0.00
Total	28,113	27,683	430	6.03
Other PMUS				
Mahimahi	7,395	7,341	54	1.59
Moonfish	858	855	3	0.18
Wahoo	1,166	1,164	2	0.25
Oilfish	4,565	4,533	32	0.98
Pomfret	5,089	5,051	38	1.09
Total	19,073	18,944	129	4.09
Total PMUS	57,380	51,234	6,146	12.30
Total Non-PMUS	332	52	280	0.07
Total All Species	57,712	51,286	6,426	12.38

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active		121
Time Period	1st Quarter 2012	Number of trips		329
Fishing Area	Outside U.S. EEZ	Number of sets		2,837
Trip Types	All Trip Types	Number of hooks set		5,878,547

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	291	290	1	0.05
Striped marlin	1,723	1,697	26	0.29
Shortbill spearfish	2,636	2,613	23	0.45
Swordfish	8,048	7,478	570	1.37
Other billfishes	41	40	1	0.01
Total	12,739	12,118	621	2.17
Sharks				
Blue shark	6,712	19	6,693	1.14
Mako sharks	562	112	450	0.10
Thresher sharks	2,107	27	2,080	0.36
Oceanic whitetip shark	95	4	91	0.02
Silky shark	5	0	5	0.00
Other sharks	47	5	42	0.01
Total	9,528	167	9,361	1.62
Tunas				
Albacore	6,806	6,691	115	1.16
Bigeye tuna	21,335	21,022	313	3.63
Yellowfin tuna	5,305	5,192	113	0.90
Bluefin tuna	1	0	1	0.00
Skipjack tuna	2,699	2,588	111	0.46
Other tunas	0	0	0	0.00
Total	36,146	35,493	653	6.15
Other PMUS				
Mahimahi	15,618	15,298	320	2.66
Moonfish	1,097	1,079	18	0.19
Wahoo	1,752	1,743	9	0.30
Oilfish	5,510	5,333	177	0.94
Pomfret	8,487	8,385	102	1.44
Total	32,464	31,838	626	5.52
Total PMUS	90,877	79,616	11,261	15.46
Total Non-PMUS	413	52	361	0.07
Total All Species	91,290	79,668	11,622	15.53

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active		17
Time Period	1st Quarter 2012	Number of trips		44
Fishing Area	All Areas	Number of sets		690
Trip Types	Swordfish Targeted Trips	Number of hooks set		729,210

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	5	5	0	0.01
Striped marlin	64	49	15	0.09
Shortbill spearfish	73	64	9	0.10
Swordfish	7,788	7,234	554	10.68
Other billfishes	1	0	1	0.00
Total	7,931	7,352	579	10.88
Sharks				
Blue shark	2,669	6	2,663	3.66
Mako sharks	313	36	277	0.43
Thresher sharks	9	0	9	0.01
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Other sharks	18	1	17	0.02
Total	3,009	43	2,966	4.13
Tunas				
Albacore	954	846	108	1.31
Bigeye tuna	675	622	53	0.93
Yellowfin tuna	193	179	14	0.26
Bluefin tuna	1	0	1	0.00
Skipjack tuna	19	19	0	0.03
Other tunas	0	0	0	0.00
Total	1,842	1,666	176	2.53
Other PMUS				
Mahimahi	1,411	1,256	155	1.93
Moonfish	61	46	15	0.08
Wahoo	8	7	1	0.01
Oilfish	591	479	112	0.81
Pomfret	255	195	60	0.35
Total	2,326	1,983	343	3.19
Total PMUS	15,108	11,044	4,064	20.72
Total Non-PMUS	4	2	2	0.01
Total All Species	15,112	11,046	4,066	20.72

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, 5/17/2012 3:38:32PM].

Report Coverage		Number of vessels active	
Time Period	1st Quarter 2012		109
Fishing Area	All Areas	Number of trips	382
Trip Types	Tuna Targeted Trips	Number of sets	4,106
		Number of hooks set	9,812,821

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	559	555	4	0.06
Striped marlin	3,734	3,710	24	0.38
Shortbill spearfish	4,366	4,344	22	0.44
Swordfish	533	501	32	0.05
Other billfishes	80	73	7	0.01
Total	9,272	9,183	89	0.94
Sharks				
Blue shark	8,287	82	8,205	0.84
Mako sharks	589	176	413	0.06
Thresher sharks	2,664	42	2,622	0.27
Oceanic whitetip shark	339	10	329	0.03
Silky shark	209	0	209	0.02
Other sharks	161	4	157	0.02
Total	12,249	314	11,935	1.25
Tunas				
Albacore	10,174	10,148	26	1.04
Bigeye tuna	36,749	36,274	475	3.74
Yellowfin tuna	11,169	10,882	287	1.14
Bluefin tuna	0	0	0	0.00
Skipjack tuna	4,325	4,206	119	0.44
Other tunas	0	0	0	0.00
Total	62,417	61,510	907	6.36
Other PMUS				
Mahimahi	21,602	21,383	219	2.20
Moonfish	1,894	1,888	6	0.19
Wahoo	2,910	2,900	10	0.30
Oilfish	9,484	9,387	97	0.97
Pomfret	13,321	13,241	80	1.36
Total	49,211	48,799	412	5.01
Total PMUS	133,149	119,806	13,343	13.57
Total Non-PMUS	741	102	639	0.08
Total All Species	133,890	119,908	13,982	13.64

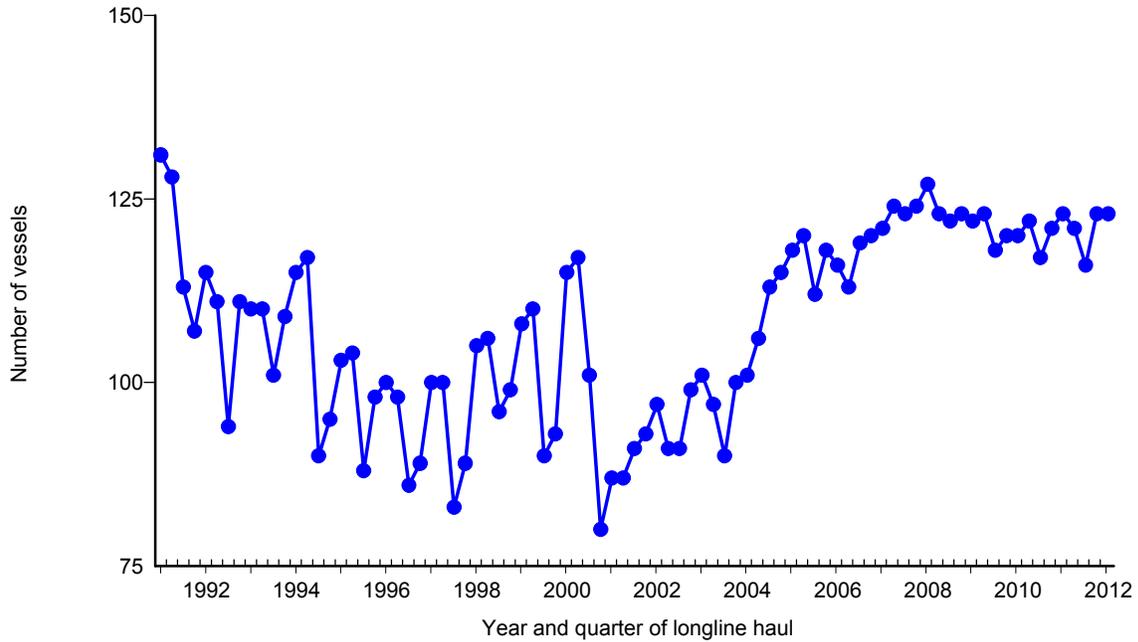


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:14:42PM]

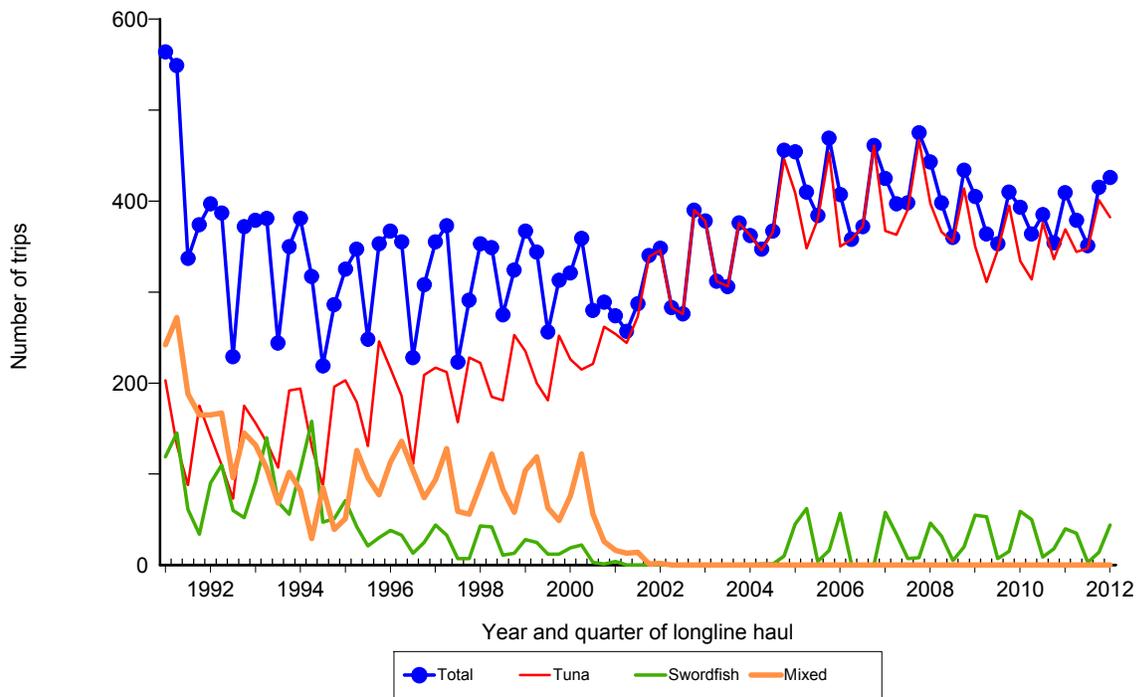


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:14:42PM]

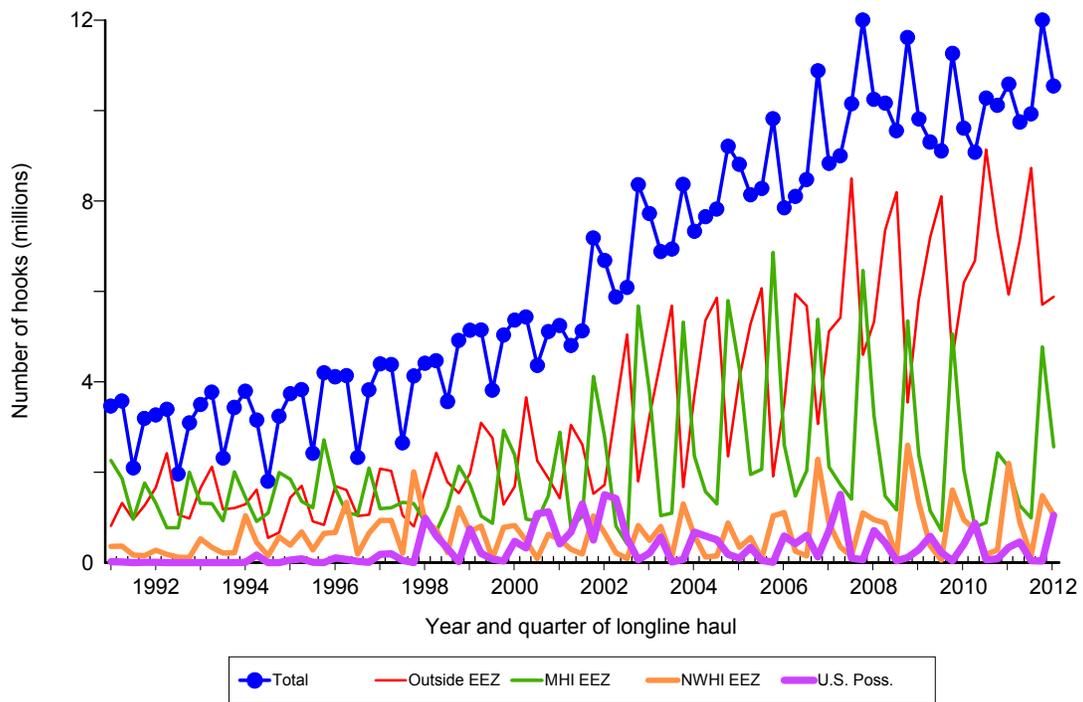


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:14:45PM]

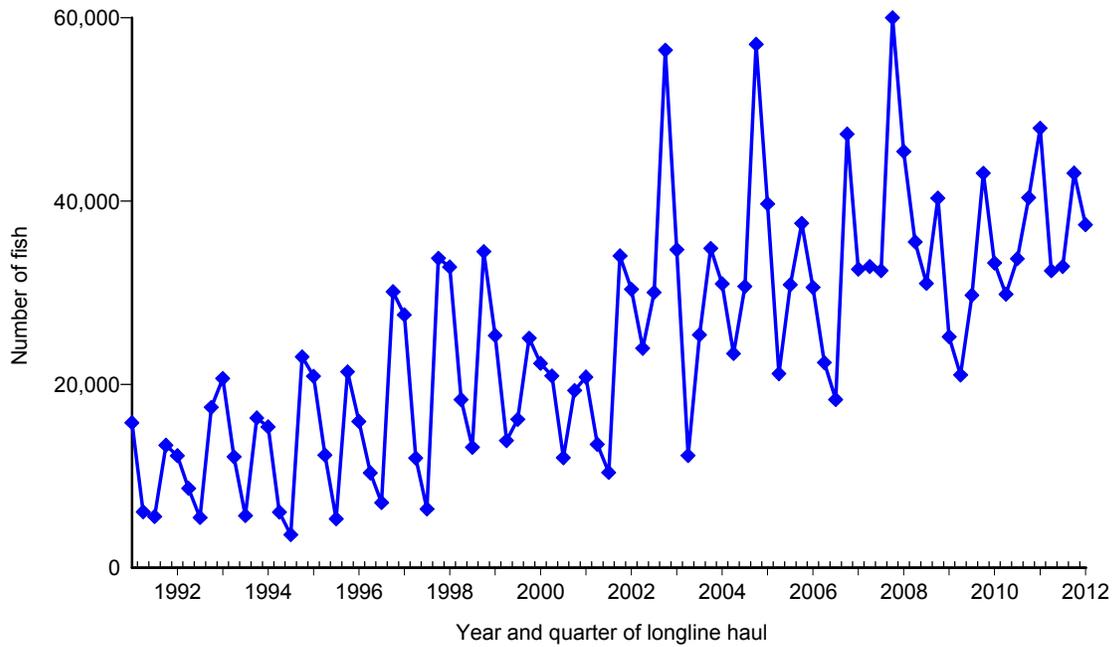


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:05PM]

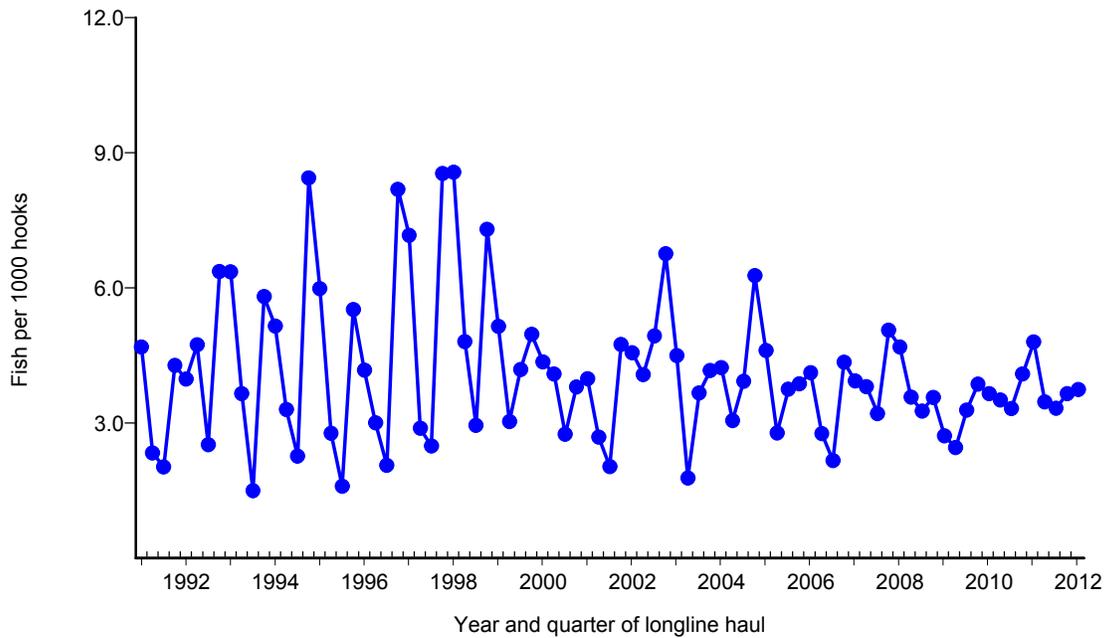


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:05PM]

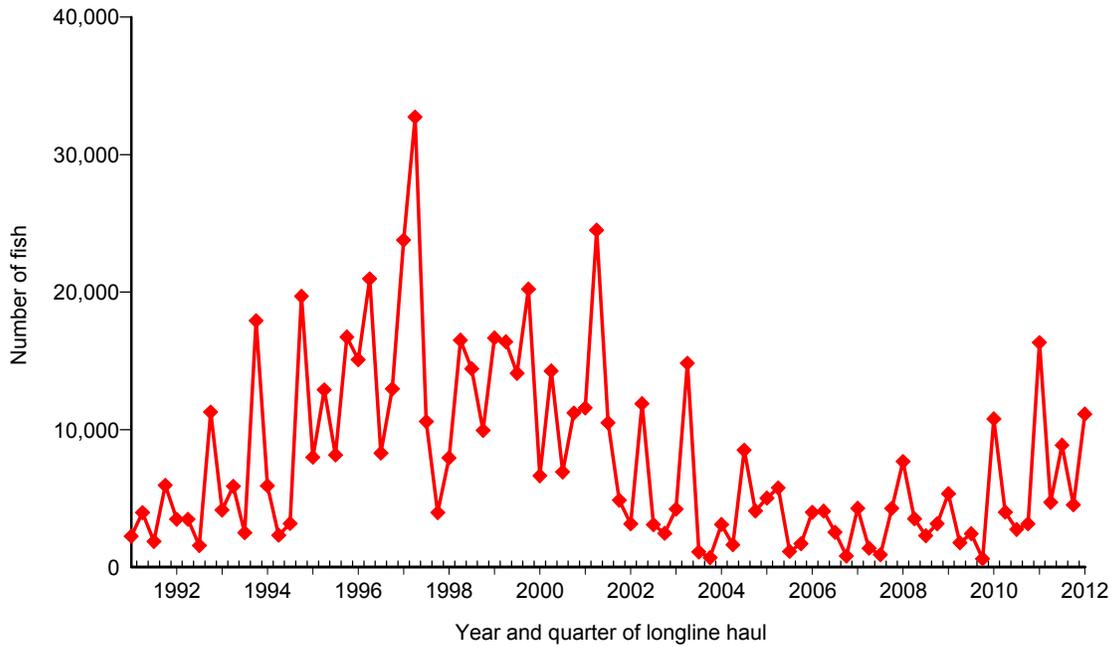


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:30PM]

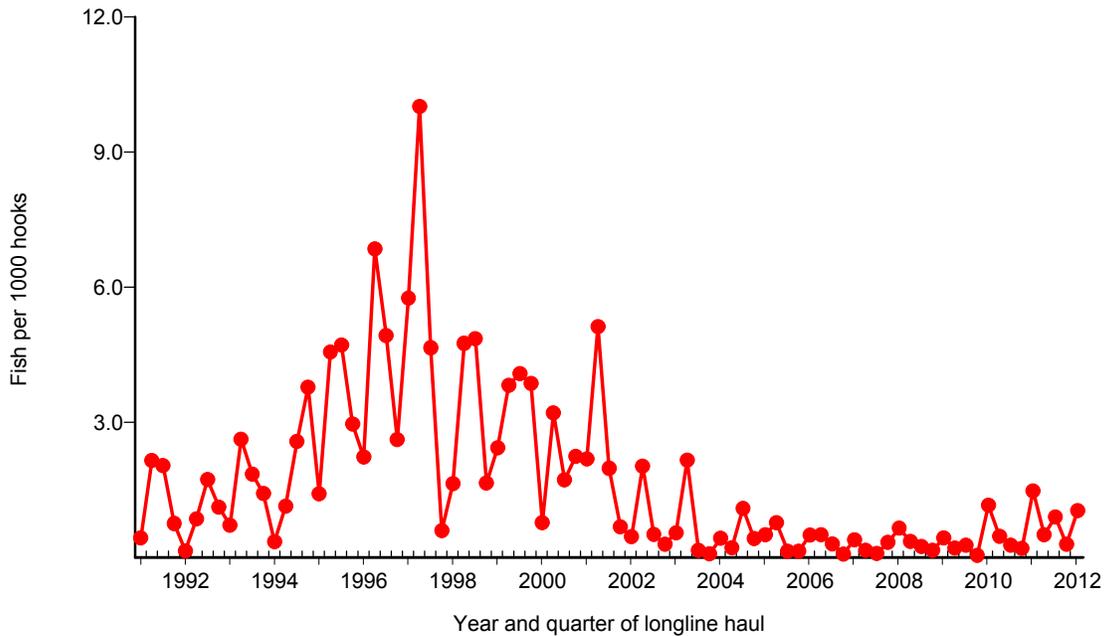


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:30PM]

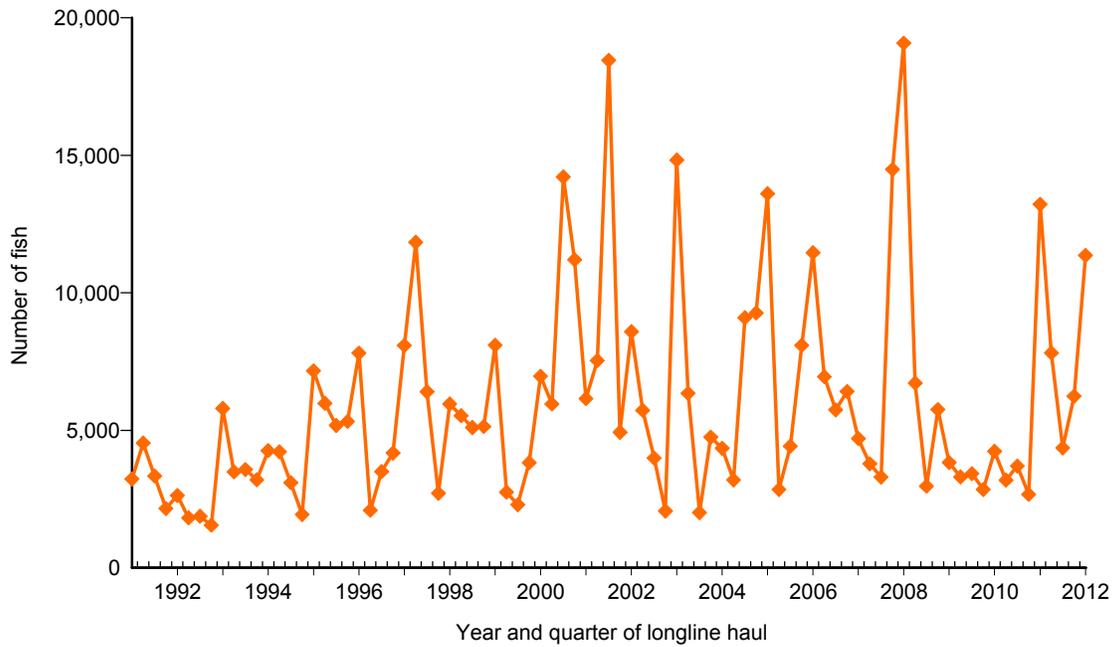


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:55PM]

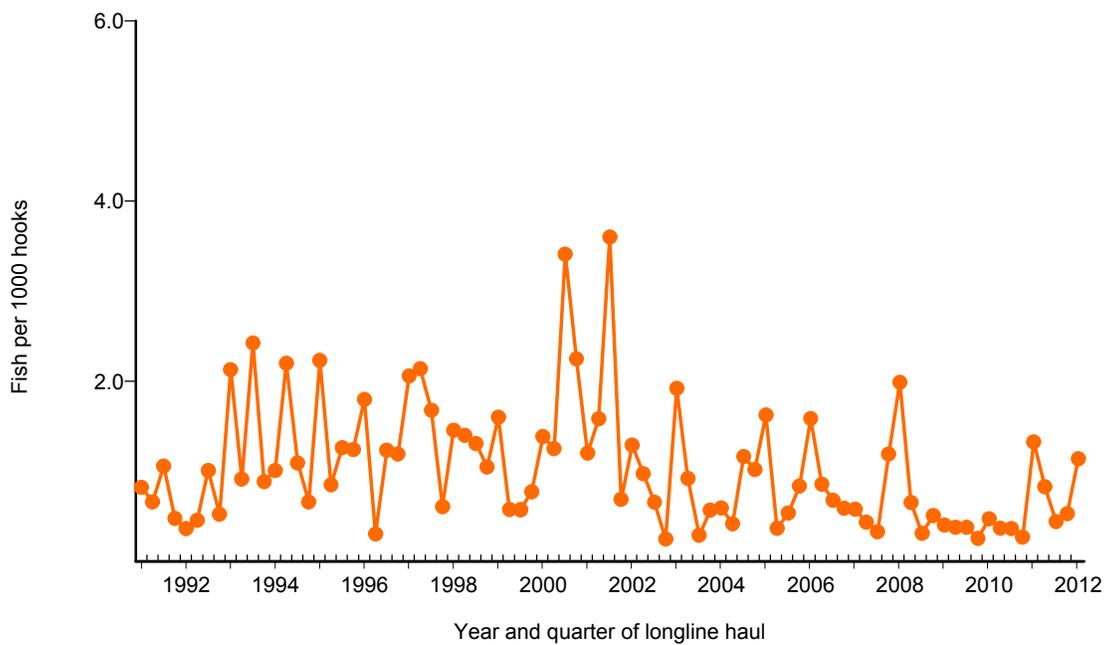


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:15:55PM]

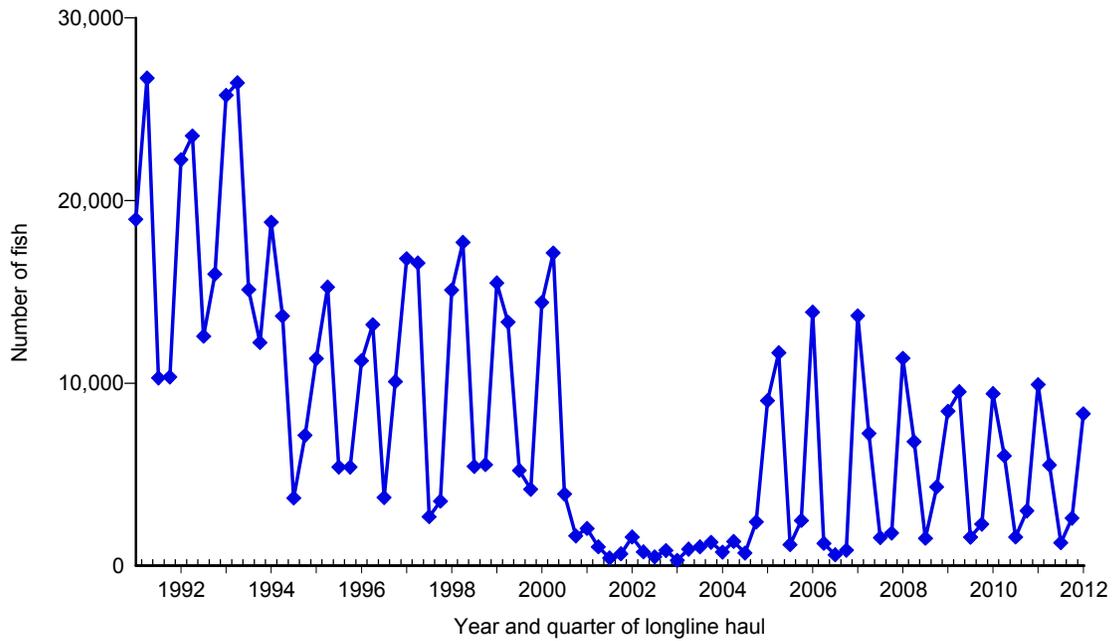


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:16:20PM]

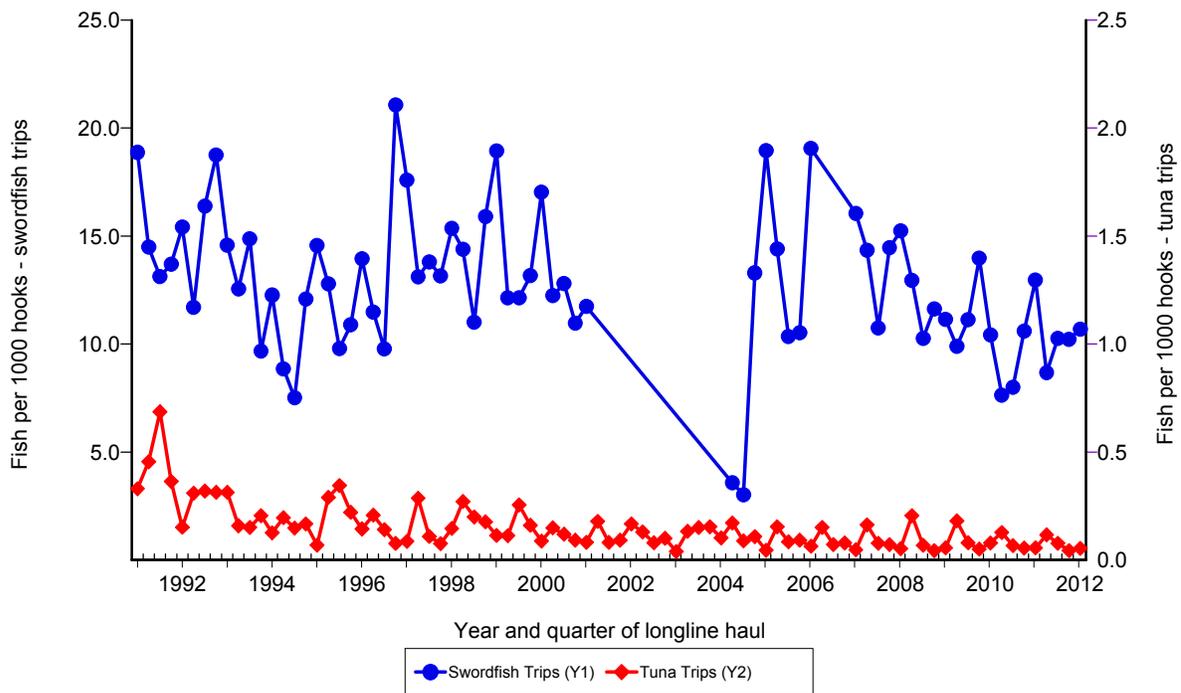


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:16:20PM]

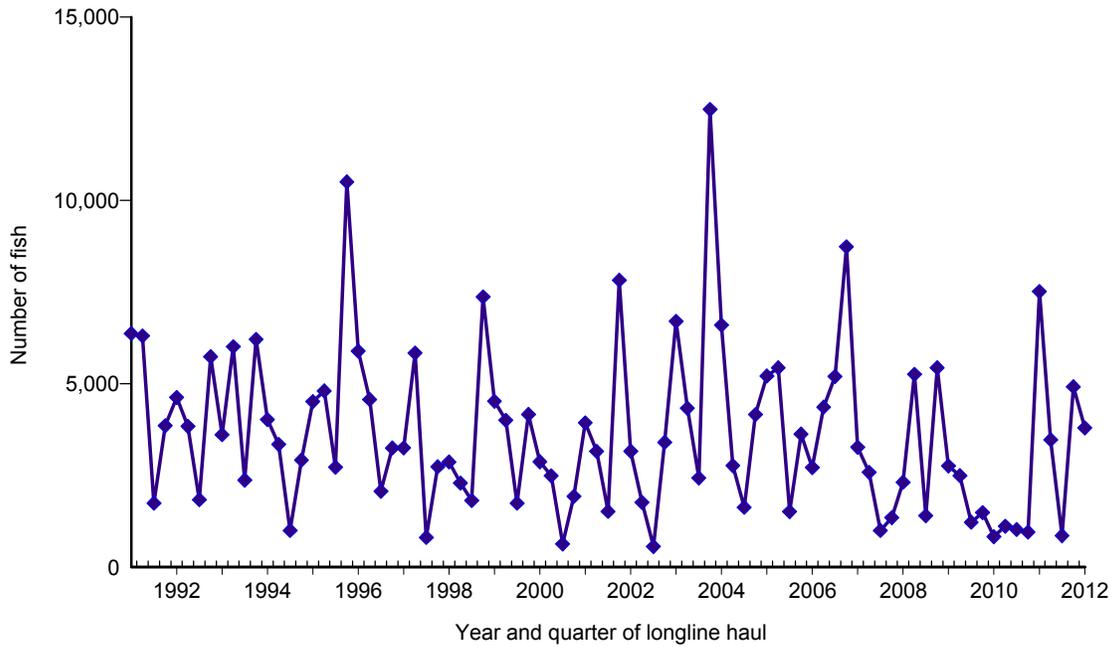


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:16:45PM]

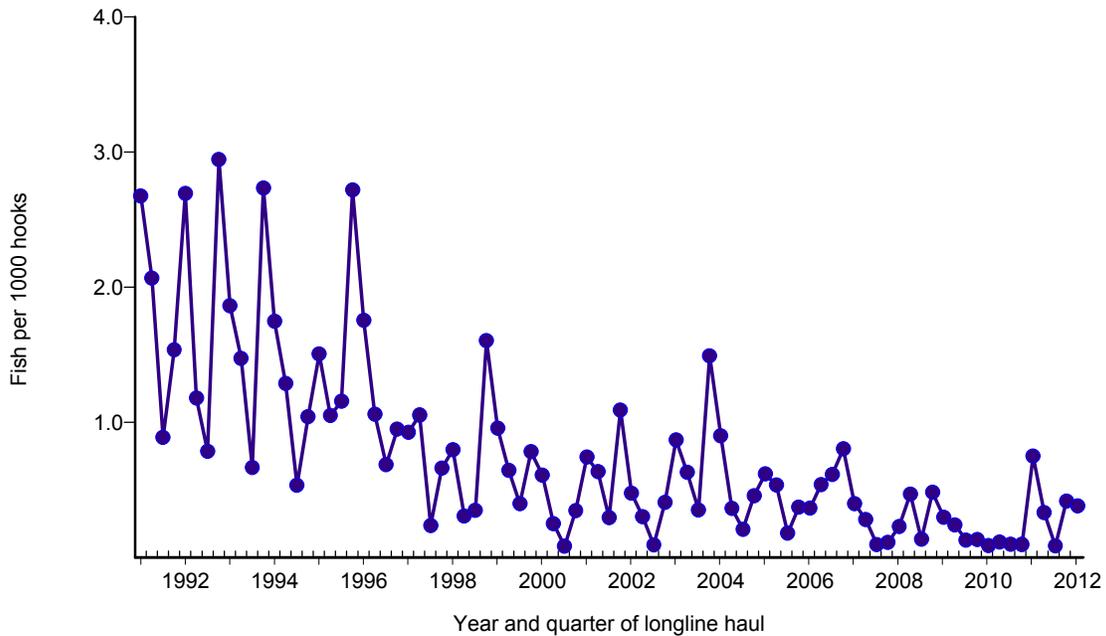


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:16:45PM]

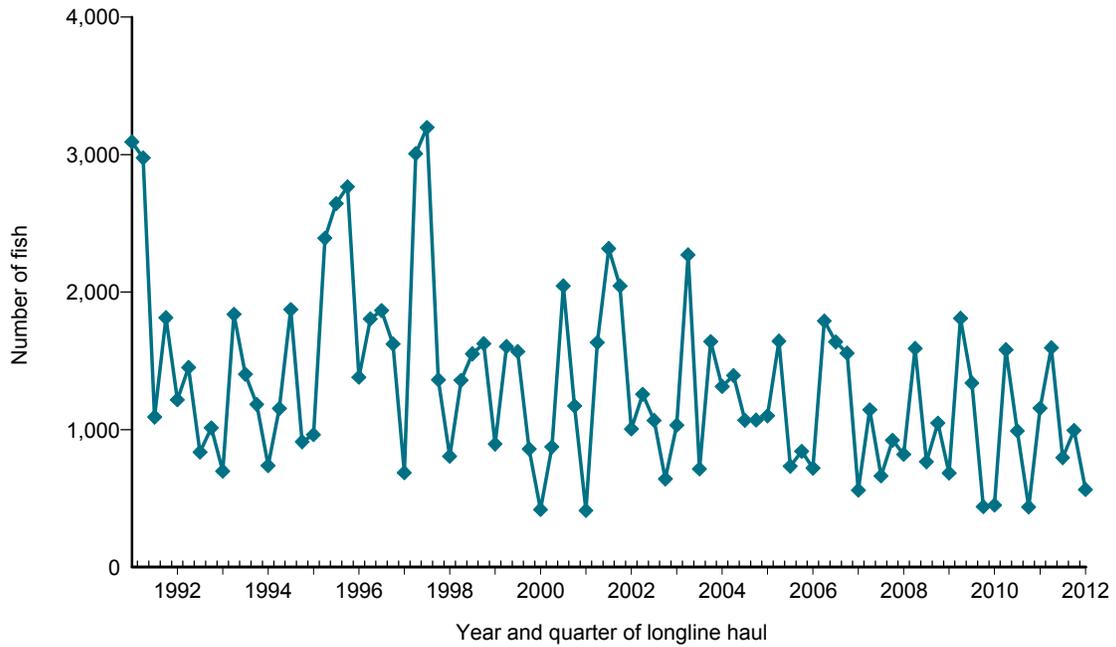


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:10PM]

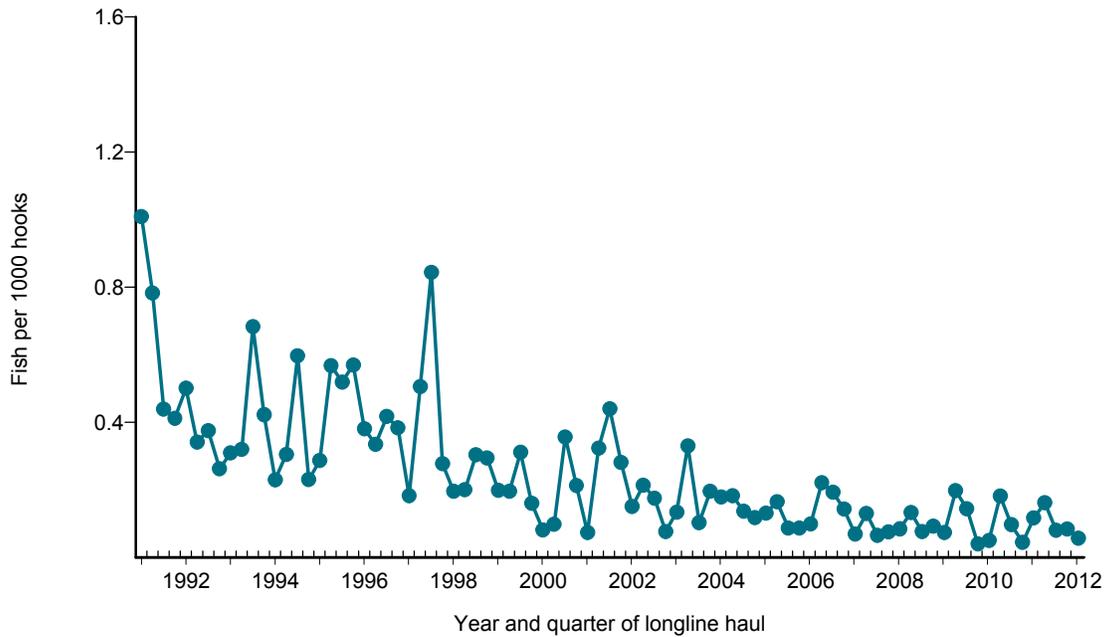


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:10PM]

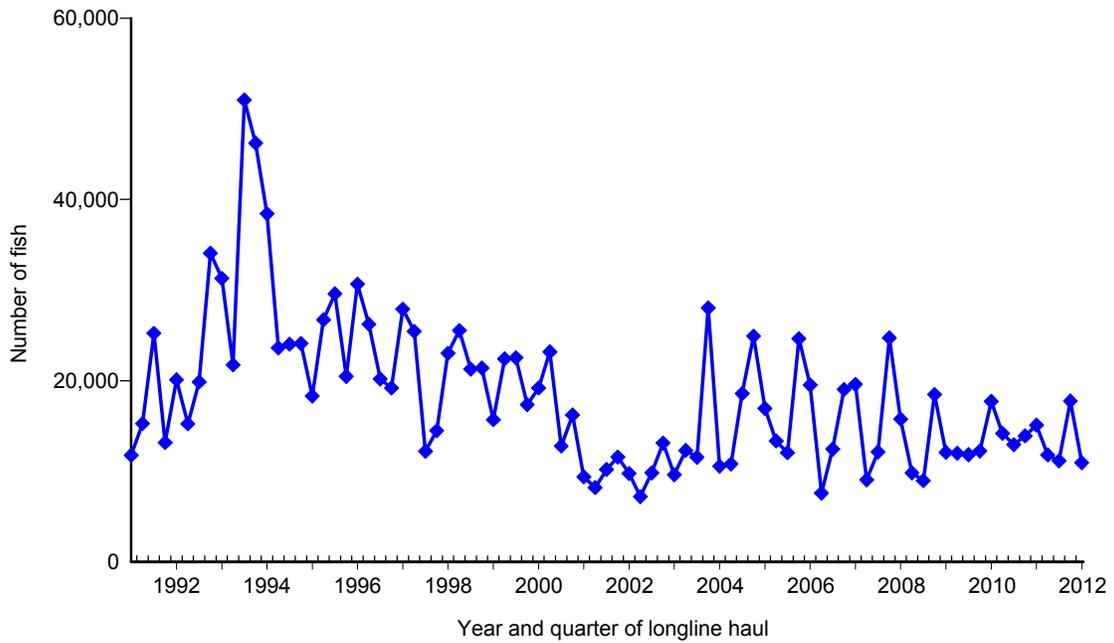


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:34PM]

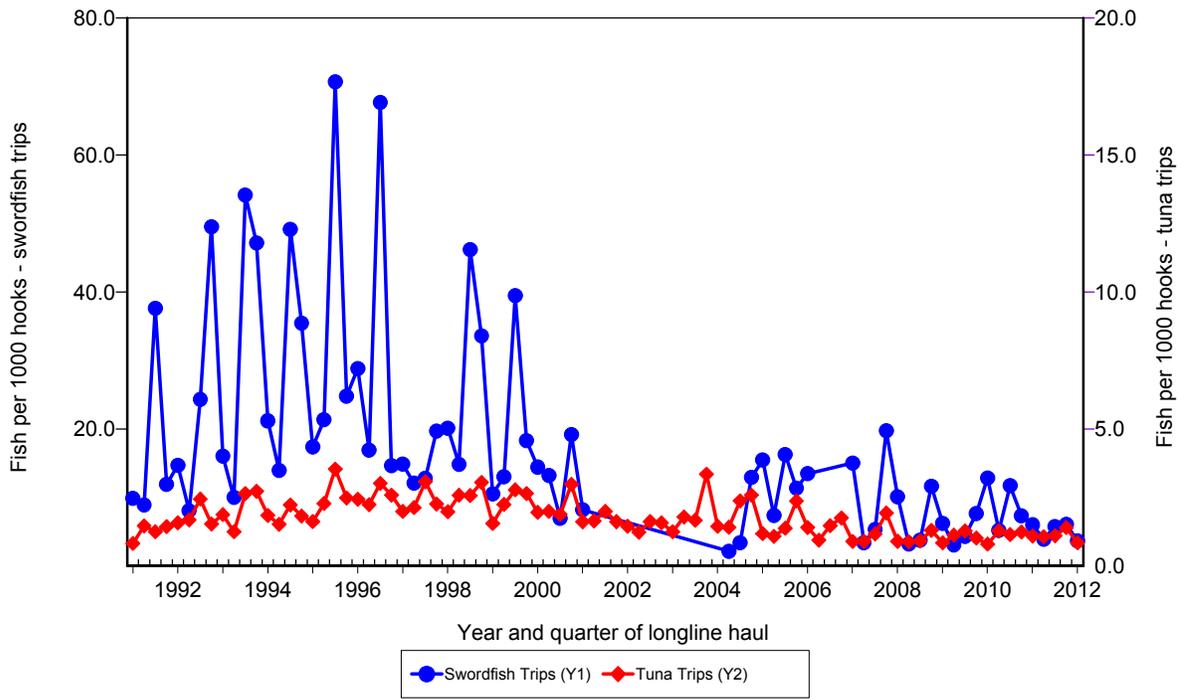


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:34PM]

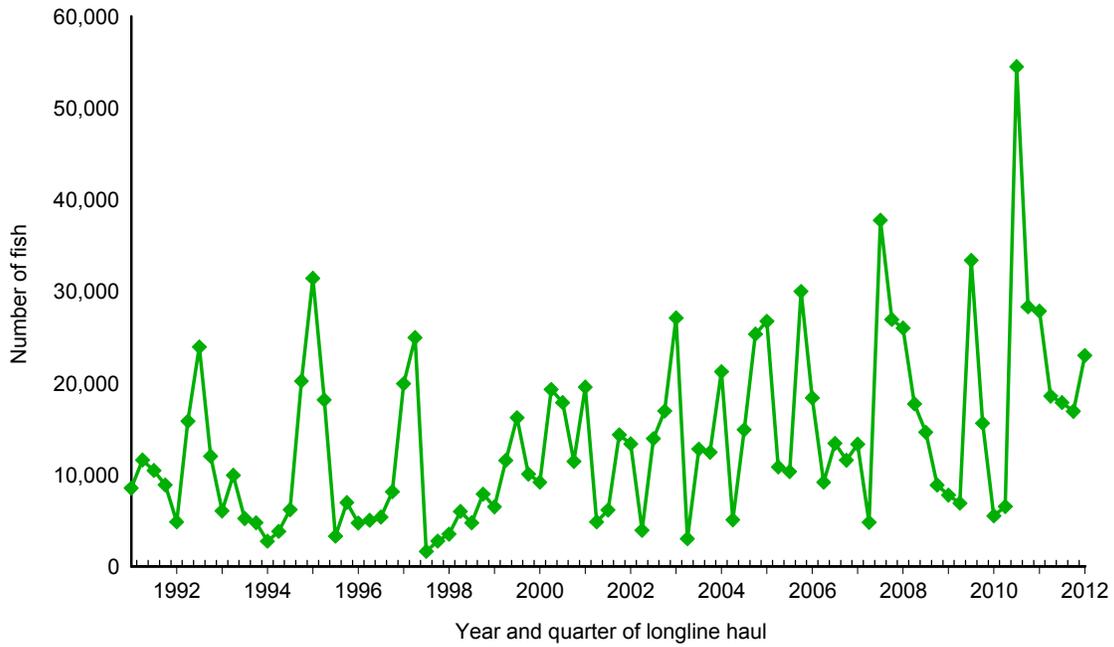


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:59PM]

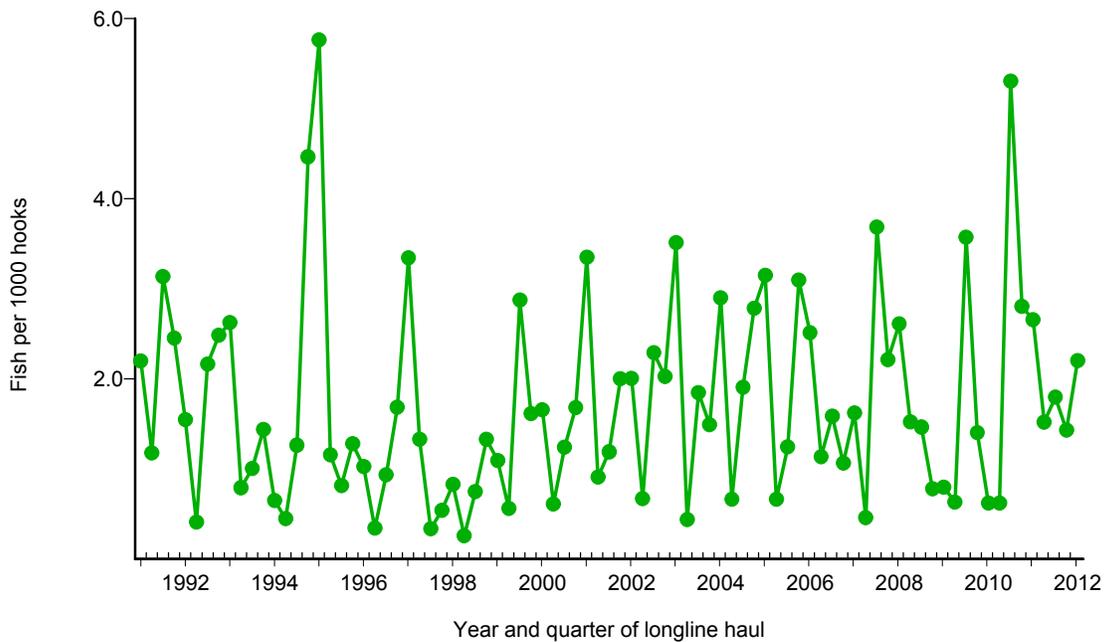


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:17:59PM]

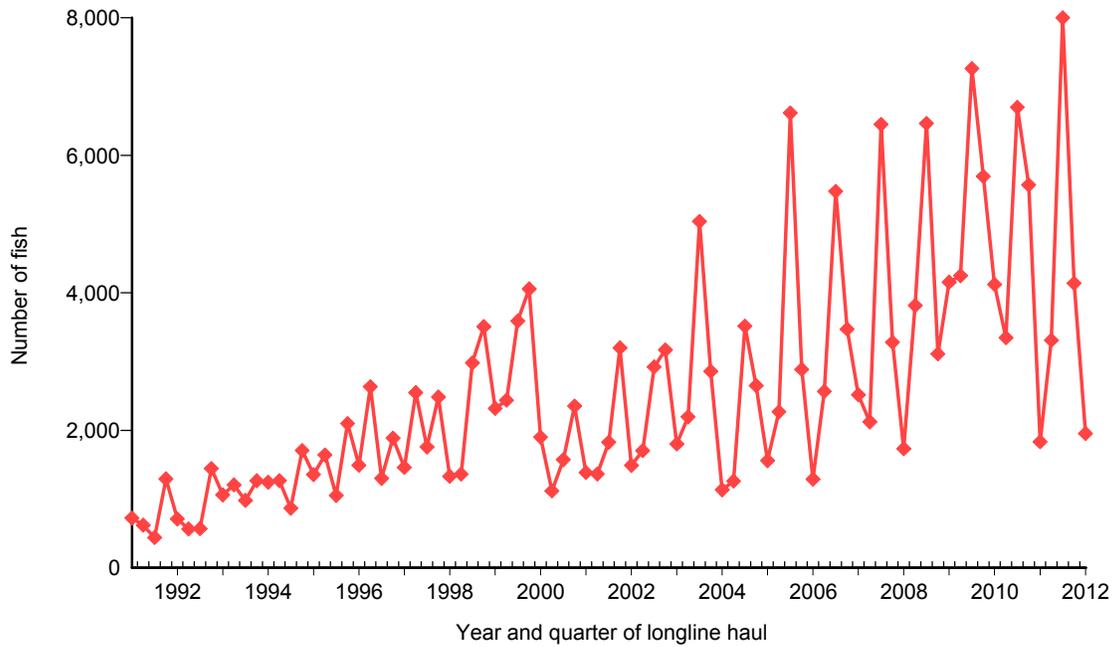


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:18:24PM]

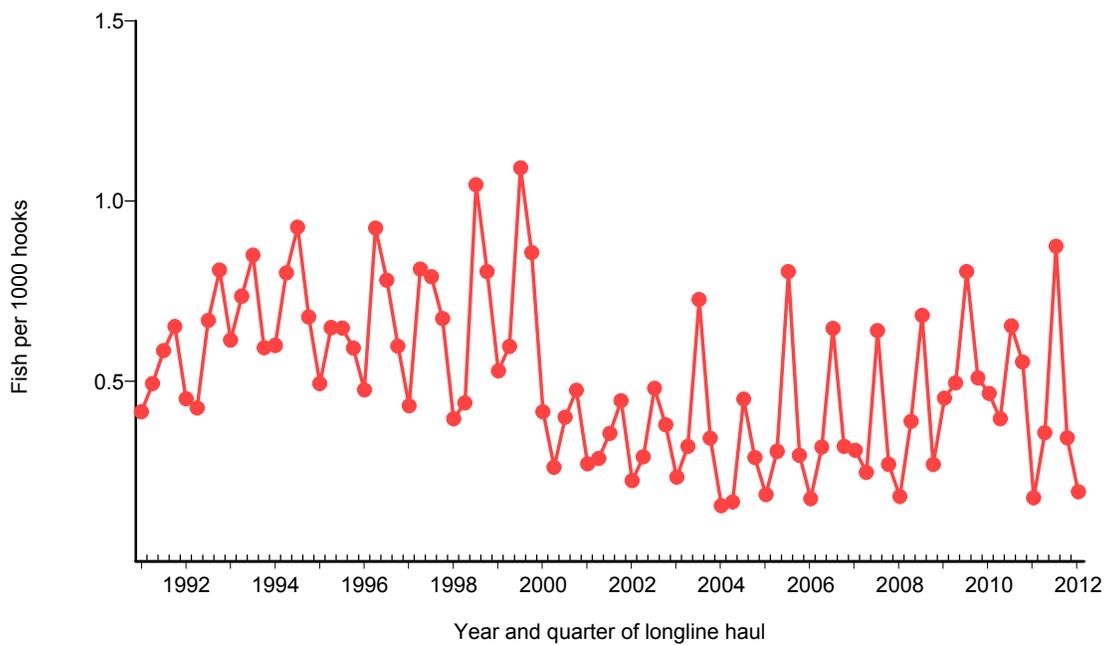


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:18:24PM]

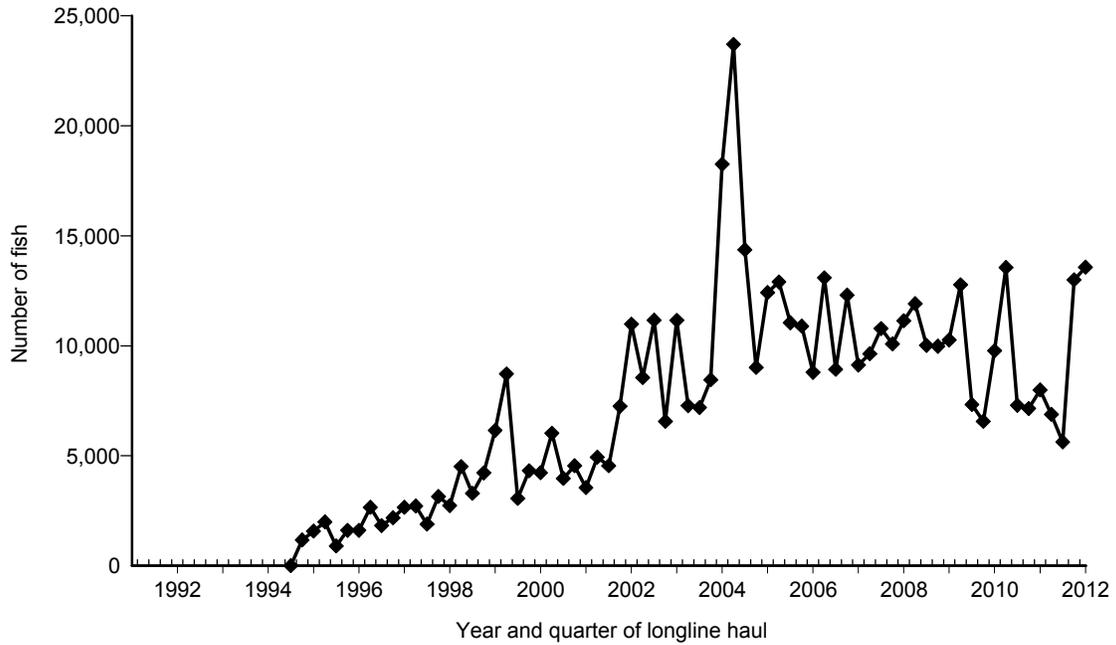


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:18:48PM]

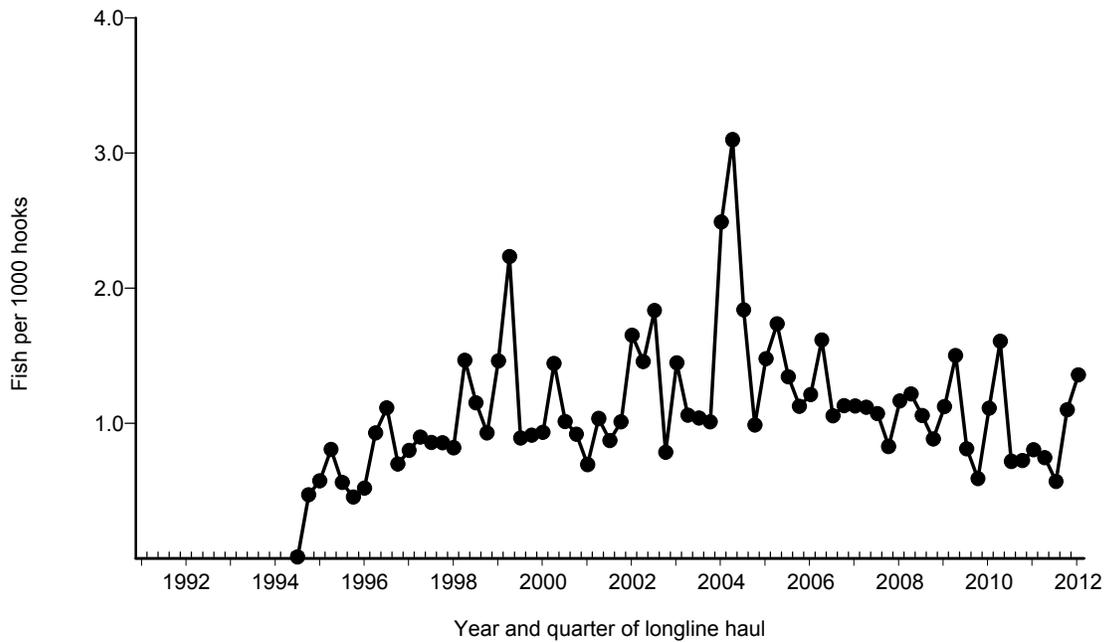


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:18:48PM]

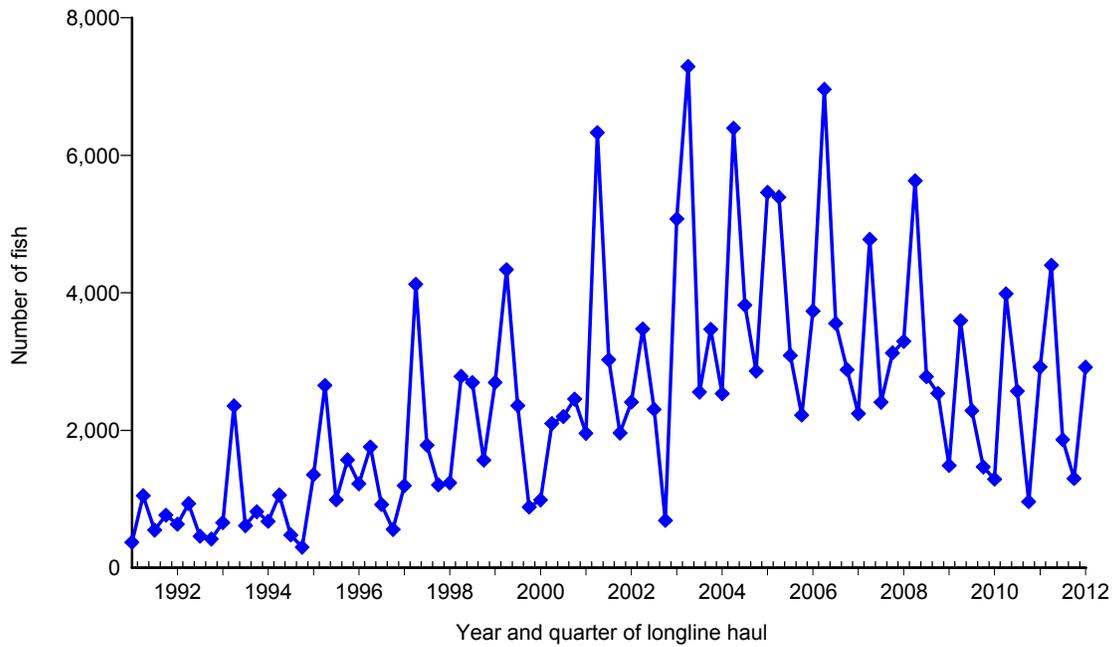


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:11:44PM]

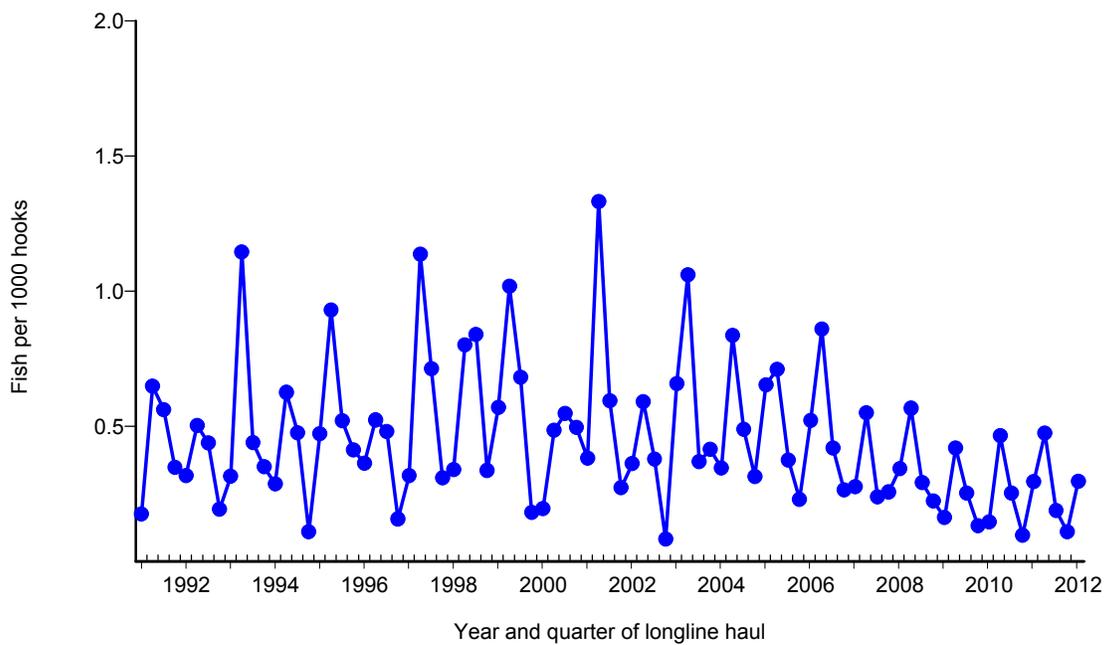


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 5/17/2012 3:11:44PM]