

The Hawaii-based Longline Logbook Summary Report October-December 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 fourth quarter of 2012 (Q4-2012). 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 fourth quarter of 2012 and most, but not all, Q4-2012 data from trips that began late in the fourth quarter and continued into the first quarter of 2013. Therefore, the Q4-2012 summary statistics reported here are preliminary.

During Q4-2012, 123 vessels were active in the Hawaii-based fleet, the same number of vessels as in Q4-2011 (Table 1, Fig. 1). They made 420 longline trips (5 more than in Q4-2011), including 404 using deep-set gear to target tuna (3 more than in Q4-2011) and 16 using shallow-set gear to target swordfish (2 more than in Q4-2011; Fig. 2). During Q4-2012, the fleet deployed a record 12.9 million hooks, about 930,000 more hooks compared to Q4-2011 (Fig. 3). They fished mainly in main Hawaiian Islands (MHI) (42% of the total hooks set) followed by the high seas outside the U.S. Exclusive Economic Zone (EEZ) (40%), the EEZ of the Northwestern Hawaiian Islands (NWHI) EEZ (16%), 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) (2%).

In Q4-2012, the Hawaii longline fleet caught 51,685 bigeye tuna, 20% more than in Q4-2011 (Fig. 4); 41% were caught in waters of the MHI EEZ and outside the U.S. EEZ (40%). The bigeye tuna catch-per-unit-of-effort (CPUE) on deep-set trips was 4.1 fish per 1000 hooks, up 0.4 from Q4-2011 (Fig. 5). The albacore catch and CPUE on deep-set trips in Q4-2012 were 4,417 fish and 0.33 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch and CPUE on deep-set trips in Q4-2012 were 8,235 fish and 0.65 fish per 1000 hooks, respectively (Figs. 8-9).

The Q4-2012 swordfish catch was 2,623 fish, almost the same as the swordfish catch in Q4-2011 (Fig. 10). In Q4-2012, swordfish CPUE on shallow-set trips was 9.7 fish per 1000 hooks, 0.5 lower than in Q4-2011 (Fig. 11).

The striped marlin catch in Q4-2012 was 2,519 fish, down 49% from Q4-2011, and the CPUE on deep-set trips was 0.20 fish per 1000 hooks (Figs. 12-13). The blue marlin catch and CPUE in Q4-2012 was 807 fish with a CPUE on deep-set trips of 0.06 fish per 1000 hooks (Figs. 14-15).

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The fleet caught 22,229 sharks in Q4-2012 of which 336 (1.5%) were kept. Blue shark comprised 91% of the total shark catch (20,179 fish) (Fig. 16). Blue shark CPUE on shallow-set trips in Q4-2012 was 5.3 fish per 1000 hooks, 0.8 below the CPUE in Q4-2011 (Fig. 17).

In Q4-2012, the Hawaii longline catch of other key pelagic species included 12,645 mahimahi (Fig. 18) with a CPUE of 0.96 fish per 1000 hooks on deep-set trips (Fig. 19); 3,553 moonfish (Fig. 20) with a CPUE of 0.26 fish per 1000 hooks on deep-set trips (Fig. 21); 12,789 pomfret (Fig. 22) with a CPUE of 1.0 fish per 1000 hooks on deep-set trips (Fig. 23); and 2,013 wahoo (Fig. 24) with a CPUE of 0.16 fish per 1000 hooks on deep-set 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 involving shallow-set gear and targeting swordfish and those using deep-set gear aimed at catching tuna. Hence, the CPUE figures in Table 1 differ from those reported above, which were calculated using data exclusively from deep-set trips or shallow-set trips, depending on the species of interest.

The longline logbook statistics reported above refer to all fishing areas combined. Q4-2012 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. Q4-2012 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 both PDF and HTML formats 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, 2/13/2013 2:40:22PM].

Report Coverage					Number of vessels active	123
Time Period	4th Quarter 2012				Number of trips	420
Fishing Area	All Areas				Number of sets	5,350
Trip Types	All Trip Types				Number of hooks set	12,933,327

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	807	801	6	0.06
Striped marlin	2,519	2,505	14	0.19
Shortbill spearfish	2,598	2,581	17	0.20
Swordfish	2,623	2,403	220	0.20
Other billfishes	130	129	1	0.01
Total	8,677	8,419	258	0.67
Sharks				
Blue shark	20,179	115	20,064	1.56
Mako sharks	768	180	588	0.06
Thresher sharks	1,073	39	1,034	0.08
Oceanic whitetip shark	76	0	76	0.01
Silky shark	5	0	5	0.00
Other sharks	128	2	126	0.01
Total	22,229	336	21,893	1.72
Tunas				
Albacore	4,417	4,404	13	0.34
Bigeye tuna	51,685	50,720	965	4.00
Yellowfin tuna	8,235	8,102	133	0.64
Bluefin tuna	22	22	0	0.00
Skipjack tuna	21,700	20,810	890	1.68
Other tunas	2	2	0	0.00
Total	86,061	84,060	2,001	6.65
Other PMUS				
Mahimahi	12,645	12,545	100	0.98
Moonfish	3,553	3,495	58	0.27
Wahoo	2,013	2,005	8	0.16
Oilfish	9,623	9,441	182	0.74
Pomfret	12,789	12,668	121	0.99
Total	40,623	40,154	469	3.14
Total PMUS	157,590	132,969	24,621	12.18
Total Non-PMUS	300	125	175	0.02
Total All Species	157,890	133,094	24,796	12.21

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active		105
Time Period	4th Quarter 2012	Number of trips		296
Fishing Area	Main Hawaiian Islands EEZ	Number of sets		2,219
Trip Types	All Trip Types	Number of hooks set		5,439,242

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	282	279	3	0.05
Striped marlin	1,147	1,141	6	0.21
Shortbill spearfish	903	895	8	0.17
Swordfish	304	241	63	0.06
Other billfishes	35	35	0	0.01
Total	2,671	2,591	80	0.49
Sharks				
Blue shark	7,268	61	7,207	1.34
Mako sharks	231	61	170	0.04
Thresher sharks	434	22	412	0.08
Oceanic whitetip shark	35	0	35	0.01
Silky shark	2	0	2	0.00
Other sharks	50	0	50	0.01
Total	8,020	144	7,876	1.47
Tunas				
Albacore	425	424	1	0.08
Bigeye tuna	21,366	20,925	441	3.93
Yellowfin tuna	2,626	2,553	73	0.48
Bluefin tuna	0	0	0	0.00
Skipjack tuna	7,024	6,869	155	1.29
Other tunas	0	0	0	0.00
Total	31,441	30,771	670	5.78
Other PMUS				
Mahimahi	5,412	5,368	44	0.99
Moonfish	972	961	11	0.18
Wahoo	491	488	3	0.09
Oilfish	4,461	4,390	71	0.82
Pomfret	3,953	3,898	55	0.73
Total	15,289	15,105	184	2.81
Total PMUS	57,421	48,611	8,810	10.56
Total Non-PMUS	90	48	42	0.02
Total All Species	57,511	48,659	8,852	10.57

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active		69	
Time Period	4th Quarter 2012	Number of trips		108	
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		877	
Trip Types	All Trip Types	Number of hooks set		2,117,241	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	109	106	3	0.05
Striped marlin	424	420	4	0.20
Shortbill spearfish	435	430	5	0.21
Swordfish	72	63	9	0.03
Other billfishes	18	18	0	0.01
Total	1,058	1,037	21	0.50
Sharks				
Blue shark	5,563	33	5,530	2.63
Mako sharks	46	6	40	0.02
Thresher sharks	174	8	166	0.08
Oceanic whitetip shark	20	0	20	0.01
Silky shark	1	0	1	0.00
Other sharks	28	2	26	0.01
Total	5,832	49	5,783	2.75
Tunas				
Albacore	1,446	1,442	4	0.68
Bigeye tuna	8,994	8,774	220	4.25
Yellowfin tuna	1,829	1,808	21	0.86
Bluefin tuna	22	22	0	0.01
Skipjack tuna	6,043	5,679	364	2.85
Other tunas	1	1	0	0.00
Total	18,335	17,726	609	8.66
Other PMUS				
Mahimahi	1,412	1,398	14	0.67
Moonfish	449	448	1	0.21
Wahoo	210	208	2	0.10
Oilfish	1,443	1,425	18	0.68
Pomfret	1,765	1,749	16	0.83
Total	5,279	5,228	51	2.49
Total PMUS	30,504	24,040	6,464	14.41
Total Non-PMUS	24	5	19	0.01
Total All Species	30,528	24,045	6,483	14.42

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active		14
Time Period	4th Quarter 2012	Number of trips		15
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		82
Trip Types	All Trip Types	Number of hooks set		211,795

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	21	21	0	0.10
Striped marlin	42	42	0	0.20
Shortbill spearfish	92	91	1	0.43
Swordfish	8	8	0	0.04
Other billfishes	13	13	0	0.06
Total	176	175	1	0.83
Sharks				
Blue shark	269	9	260	1.27
Mako sharks	5	4	1	0.02
Thresher sharks	38	0	38	0.18
Oceanic whitetip shark	1	0	1	0.00
Silky shark	0	0	0	0.00
Other sharks	0	0	0	0.00
Total	313	13	300	1.48
Tunas				
Albacore	320	320	0	1.51
Bigeye tuna	895	883	12	4.23
Yellowfin tuna	477	470	7	2.25
Bluefin tuna	0	0	0	0.00
Skipjack tuna	530	348	182	2.50
Other tunas	0	0	0	0.00
Total	2,222	2,021	201	10.49
Other PMUS				
Mahimahi	117	114	3	0.55
Moonfish	55	55	0	0.26
Wahoo	76	75	1	0.36
Oilfish	100	96	4	0.47
Pomfret	119	118	1	0.56
Total	467	458	9	2.20
Total PMUS	3,178	2,667	511	15.01
Total Non-PMUS	2	0	2	0.01
Total All Species	3,180	2,667	513	15.01

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active	
Time Period	4th Quarter 2012		115
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of trips	349
Trip Types	All Trip Types	Number of sets	3,178
		Number of hooks set	7,768,278

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	412	406	6	0.05
Striped marlin	1,613	1,603	10	0.21
Shortbill spearfish	1,430	1,416	14	0.18
Swordfish	384	312	72	0.05
Other billfishes	66	66	0	0.01
Total	3,905	3,803	102	0.50
Sharks				
Blue shark	13,100	103	12,997	1.69
Mako sharks	282	71	211	0.04
Thresher sharks	646	30	616	0.08
Oceanic whitetip shark	56	0	56	0.01
Silky shark	3	0	3	0.00
Other sharks	78	2	76	0.01
Total	14,165	206	13,959	1.82
Tunas				
Albacore	2,191	2,186	5	0.28
Bigeye tuna	31,255	30,582	673	4.02
Yellowfin tuna	4,932	4,831	101	0.63
Bluefin tuna	22	22	0	0.00
Skipjack tuna	13,597	12,896	701	1.75
Other tunas	1	1	0	0.00
Total	51,998	50,518	1,480	6.69
Other PMUS				
Mahimahi	6,941	6,880	61	0.89
Moonfish	1,476	1,464	12	0.19
Wahoo	777	771	6	0.10
Oilfish	6,004	5,911	93	0.77
Pomfret	5,837	5,765	72	0.75
Total	21,035	20,791	244	2.71
Total PMUS	91,103	75,318	15,785	11.73
Total Non-PMUS	116	53	63	0.01
Total All Species	91,219	75,371	15,848	11.74

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active	
Time Period	4th Quarter 2012		112
Fishing Area	Outside U.S. EEZ	Number of trips	267
Trip Types	All Trip Types	Number of sets	2,172
		Number of hooks set	5,165,049

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	395	395	0	0.08
Striped marlin	906	902	4	0.18
Shortbill spearfish	1,168	1,165	3	0.23
Swordfish	2,239	2,091	148	0.43
Other billfishes	64	63	1	0.01
Total	4,772	4,616	156	0.92
Sharks				
Blue shark	7,079	12	7,067	1.37
Mako sharks	486	109	377	0.09
Thresher sharks	427	9	418	0.08
Oceanic whitetip shark	20	0	20	0.00
Silky shark	2	0	2	0.00
Other sharks	50	0	50	0.01
Total	8,064	130	7,934	1.56
Tunas				
Albacore	2,226	2,218	8	0.43
Bigeye tuna	20,430	20,138	292	3.96
Yellowfin tuna	3,303	3,271	32	0.64
Bluefin tuna	0	0	0	0.00
Skipjack tuna	8,103	7,914	189	1.57
Other tunas	1	1	0	0.00
Total	34,063	33,542	521	6.59
Other PMUS				
Mahimahi	5,704	5,665	39	1.10
Moonfish	2,077	2,031	46	0.40
Wahoo	1,236	1,234	2	0.24
Oilfish	3,619	3,530	89	0.70
Pomfret	6,952	6,903	49	1.35
Total	19,588	19,363	225	3.79
Total PMUS	66,487	57,651	8,836	12.87
Total Non-PMUS	184	72	112	0.04
Total All Species	66,671	57,723	8,948	12.91

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active	
Time Period	4th Quarter 2012		8
Fishing Area	All Areas	Number of trips	16
Trip Types	Swordfish Targeted Trips	Number of sets	198
		Number of hooks set	204,817

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	0	0	0	0.00
Striped marlin	0	0	0	0.00
Shortbill spearfish	0	0	0	0.00
Swordfish	1,982	1,861	121	9.68
Other billfishes	0	0	0	0.00
Total	1,982	1,861	121	9.68
Sharks				
Blue shark	1,083	1	1,082	5.29
Mako sharks	301	52	249	1.47
Thresher sharks	4	0	4	0.02
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Other sharks	2	0	2	0.01
Total	1,390	53	1,337	6.79
Tunas				
Albacore	160	154	6	0.78
Bigeye tuna	17	15	2	0.08
Yellowfin tuna	5	5	0	0.02
Bluefin tuna	0	0	0	0.00
Skipjack tuna	0	0	0	0.00
Other tunas	0	0	0	0.00
Total	182	174	8	0.89
Other PMUS				
Mahimahi	417	410	7	2.04
Moonfish	214	175	39	1.04
Wahoo	2	2	0	0.01
Oilfish	164	114	50	0.80
Pomfret	85	58	27	0.42
Total	882	759	123	4.31
Total PMUS	4,436	2,847	1,589	21.66
Total Non-PMUS	2	0	2	0.01
Total All Species	4,438	2,847	1,591	21.67

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, 2/13/2013 2:40:22PM].

Report Coverage		Number of vessels active			118
Time Period	4th Quarter 2012	Number of trips			404
Fishing Area	All Areas	Number of sets			5,152
Trip Types	Tuna Targeted Trips	Number of hooks set			12,728,510

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	807	801	6	0.06
Striped marlin	2,519	2,505	14	0.20
Shortbill spearfish	2,598	2,581	17	0.20
Swordfish	641	542	99	0.05
Other billfishes	130	129	1	0.01
Total	6,695	6,558	137	0.53
Sharks				
Blue shark	19,096	114	18,982	1.50
Mako sharks	467	128	339	0.04
Thresher sharks	1,069	39	1,030	0.08
Oceanic whitetip shark	76	0	76	0.01
Silky shark	5	0	5	0.00
Other sharks	126	2	124	0.01
Total	20,839	283	20,556	1.64
Tunas				
Albacore	4,257	4,250	7	0.33
Bigeye tuna	51,668	50,705	963	4.06
Yellowfin tuna	8,230	8,097	133	0.65
Bluefin tuna	22	22	0	0.00
Skipjack tuna	21,700	20,810	890	1.70
Other tunas	2	2	0	0.00
Total	85,879	83,886	1,993	6.75
Other PMUS				
Mahimahi	12,228	12,135	93	0.96
Moonfish	3,339	3,320	19	0.26
Wahoo	2,011	2,003	8	0.16
Oilfish	9,459	9,327	132	0.74
Pomfret	12,704	12,610	94	1.00
Total	39,741	39,395	346	3.12
Total PMUS	153,154	130,122	23,032	12.03
Total Non-PMUS	298	125	173	0.02
Total All Species	153,452	130,247	23,205	12.06

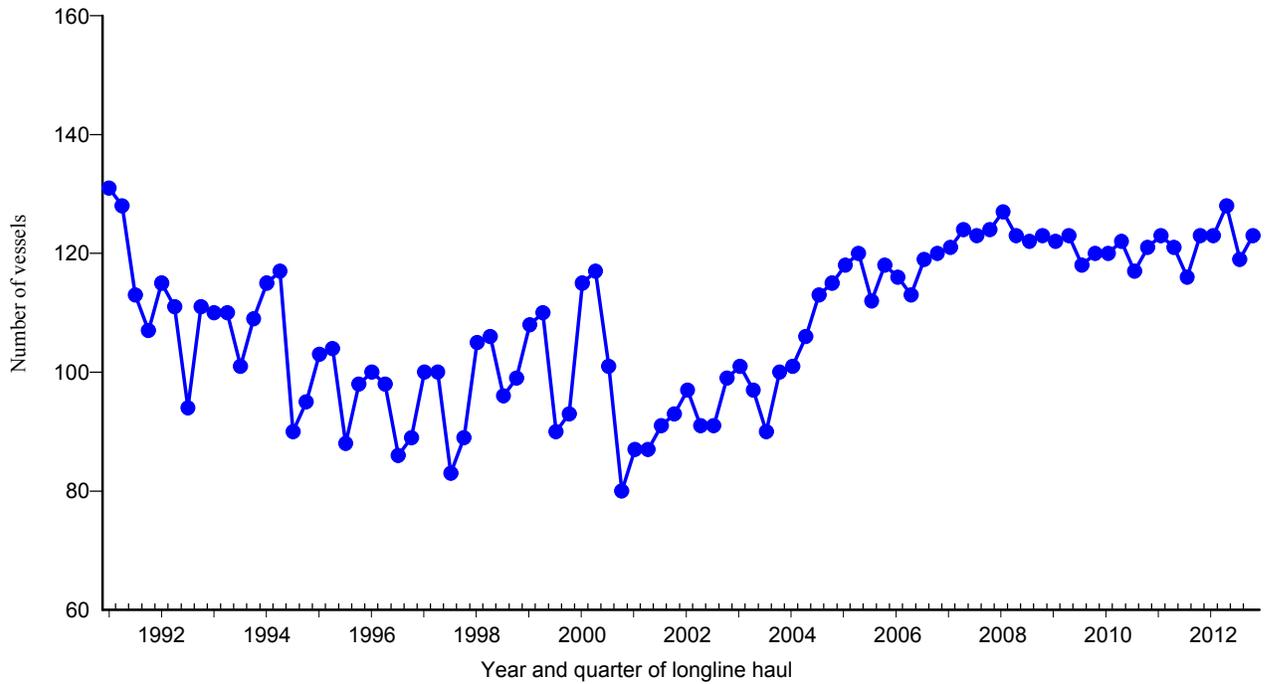


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:32:36PM]

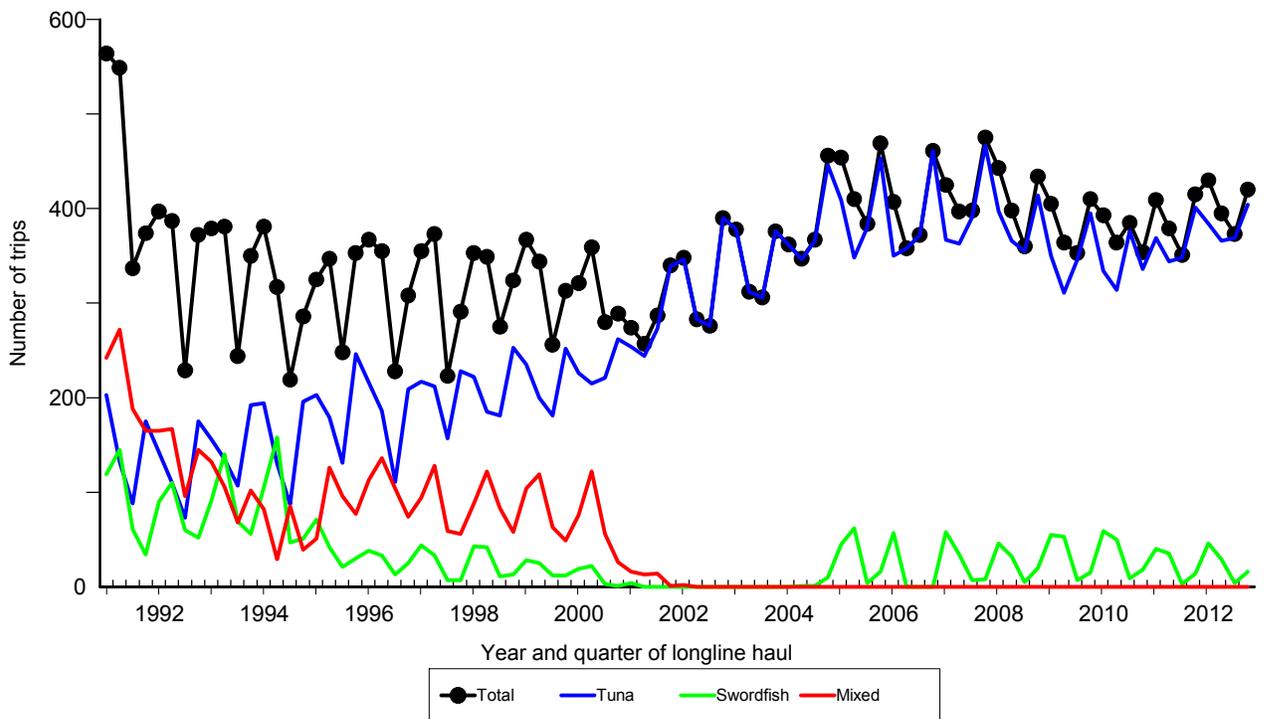


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:32:36PM]

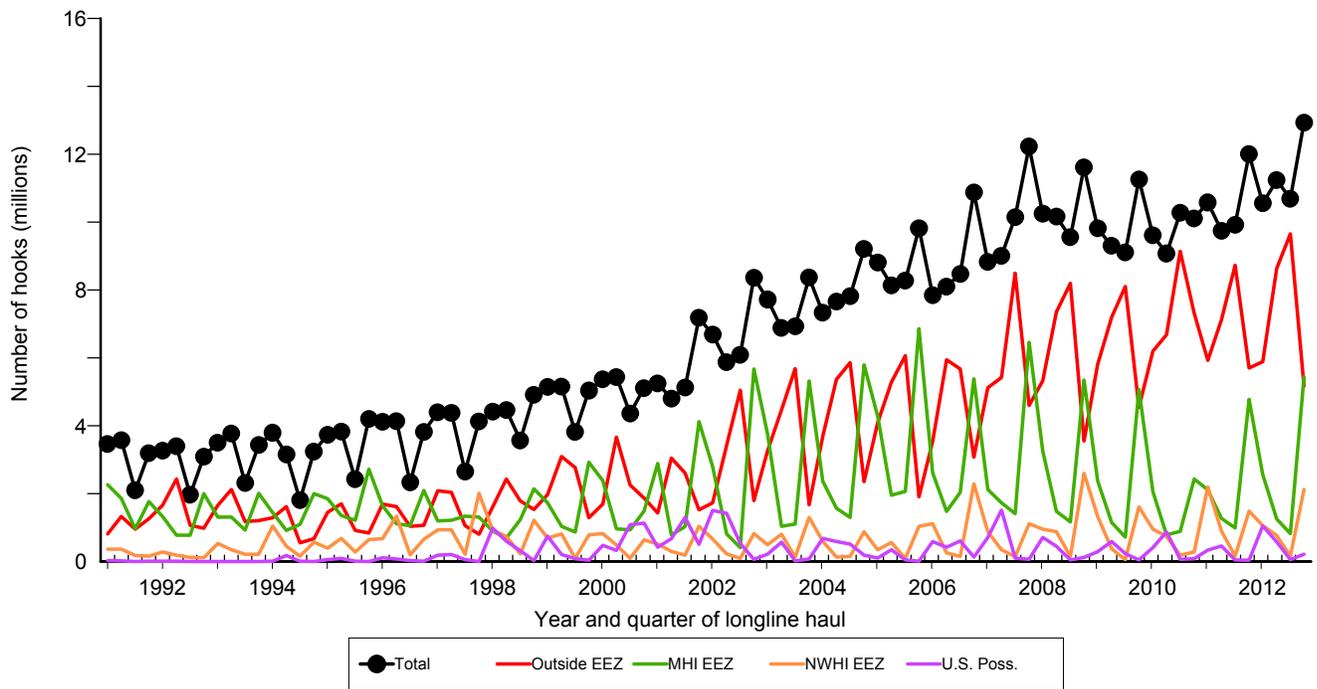


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:34:07PM]

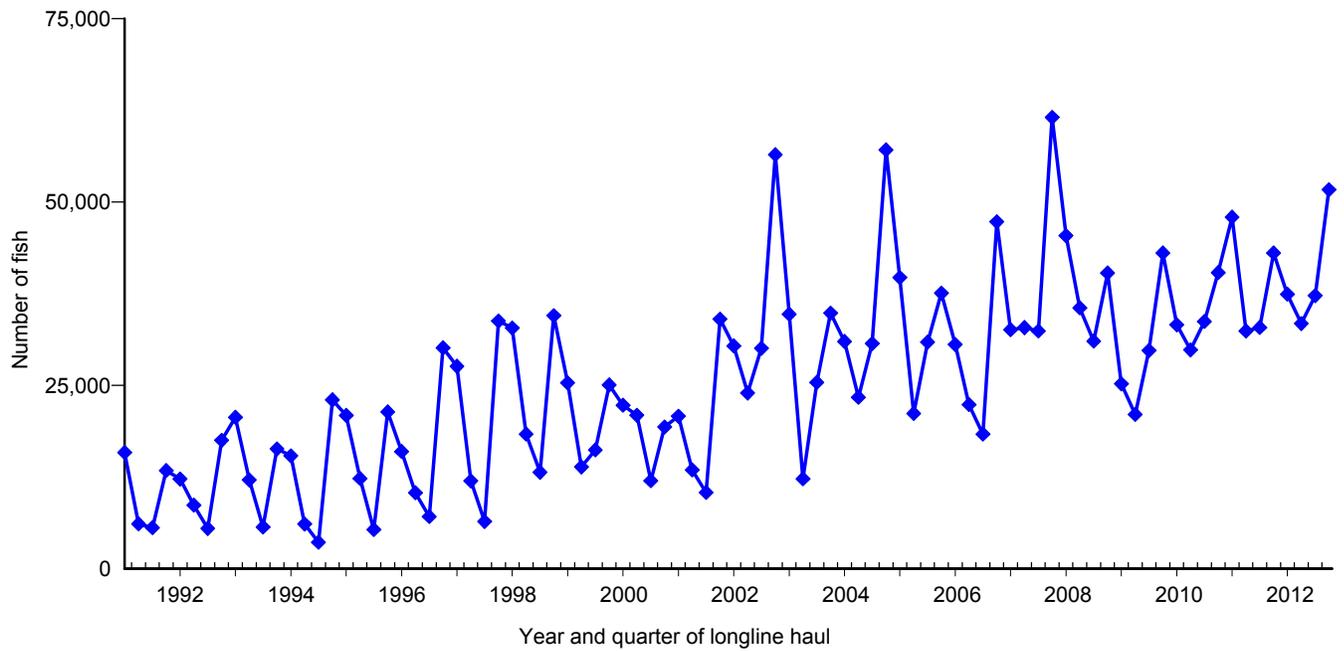


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:34:30PM]

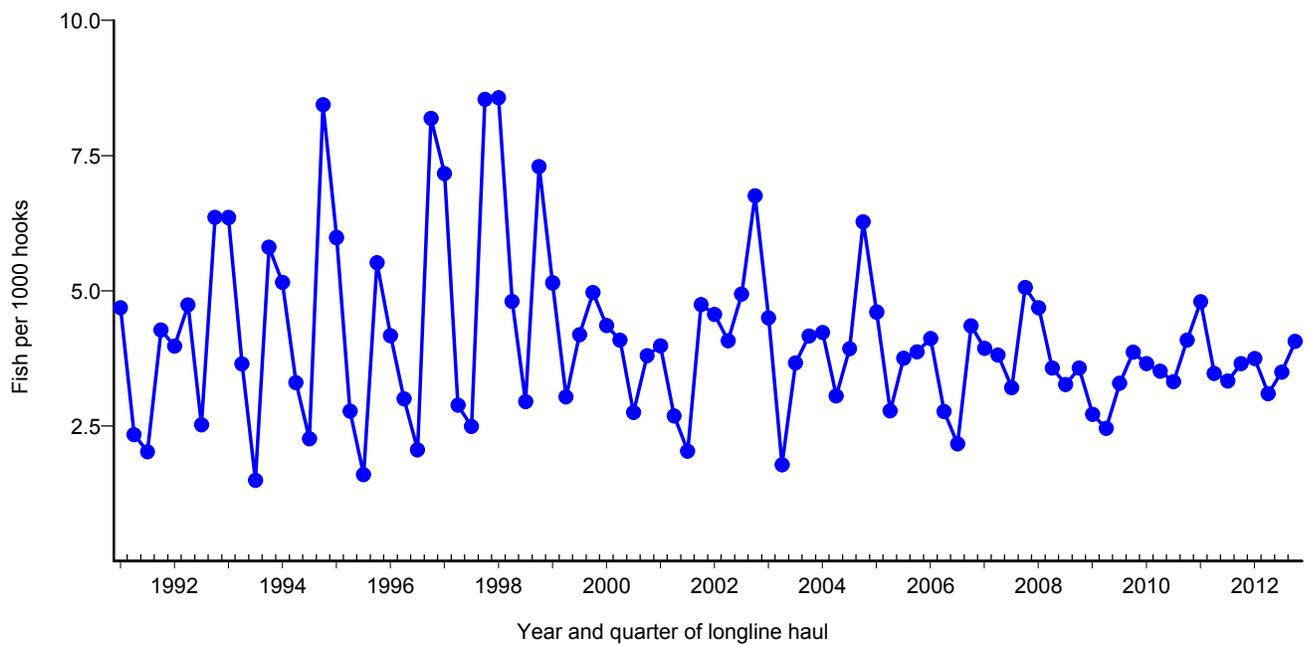


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:34:30PM]

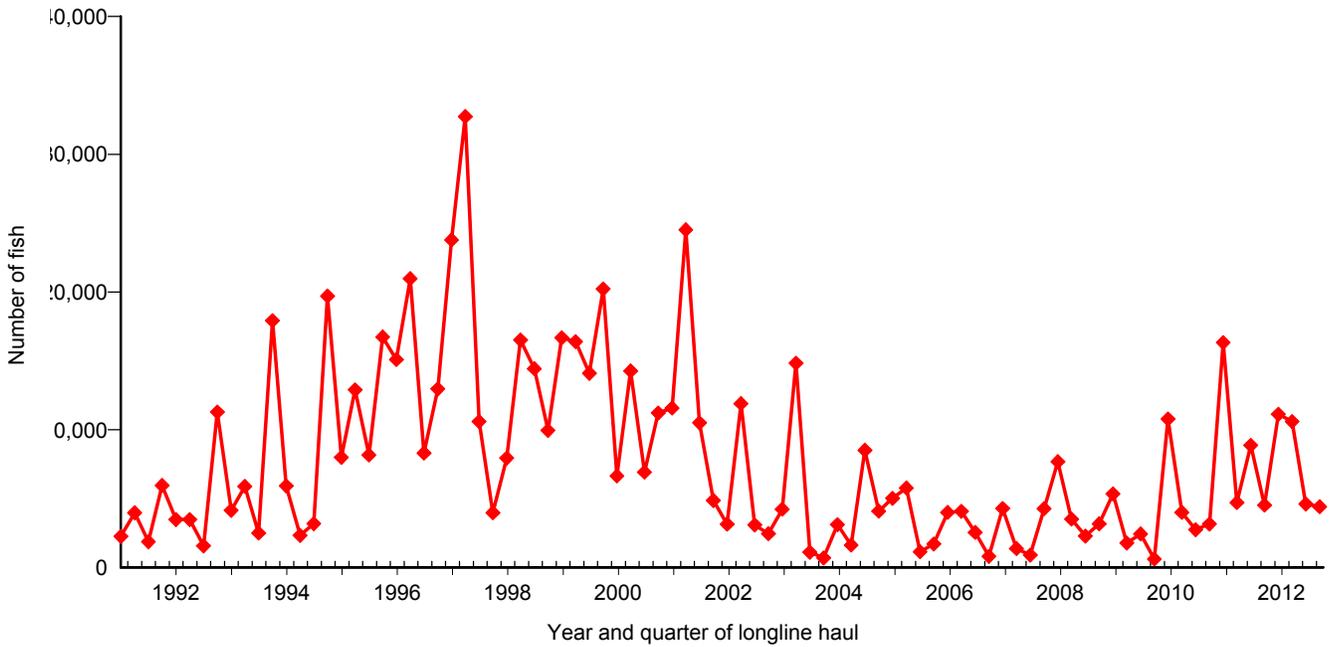


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:34:56PM]

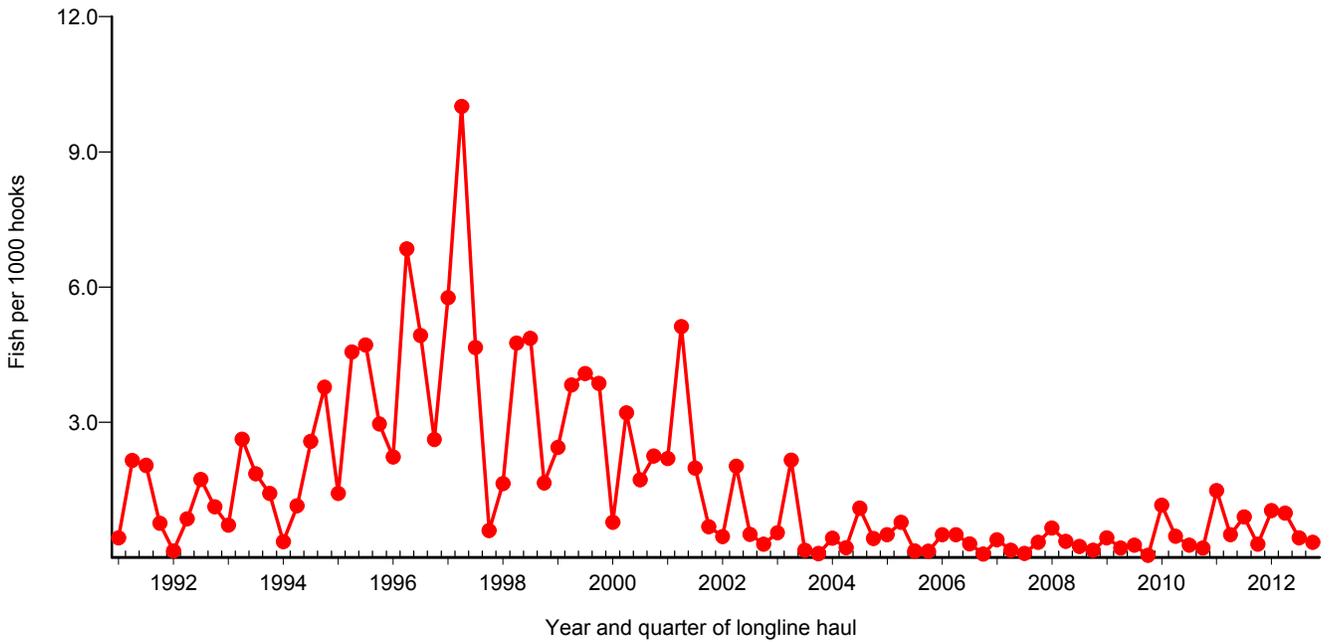


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:34:56PM]

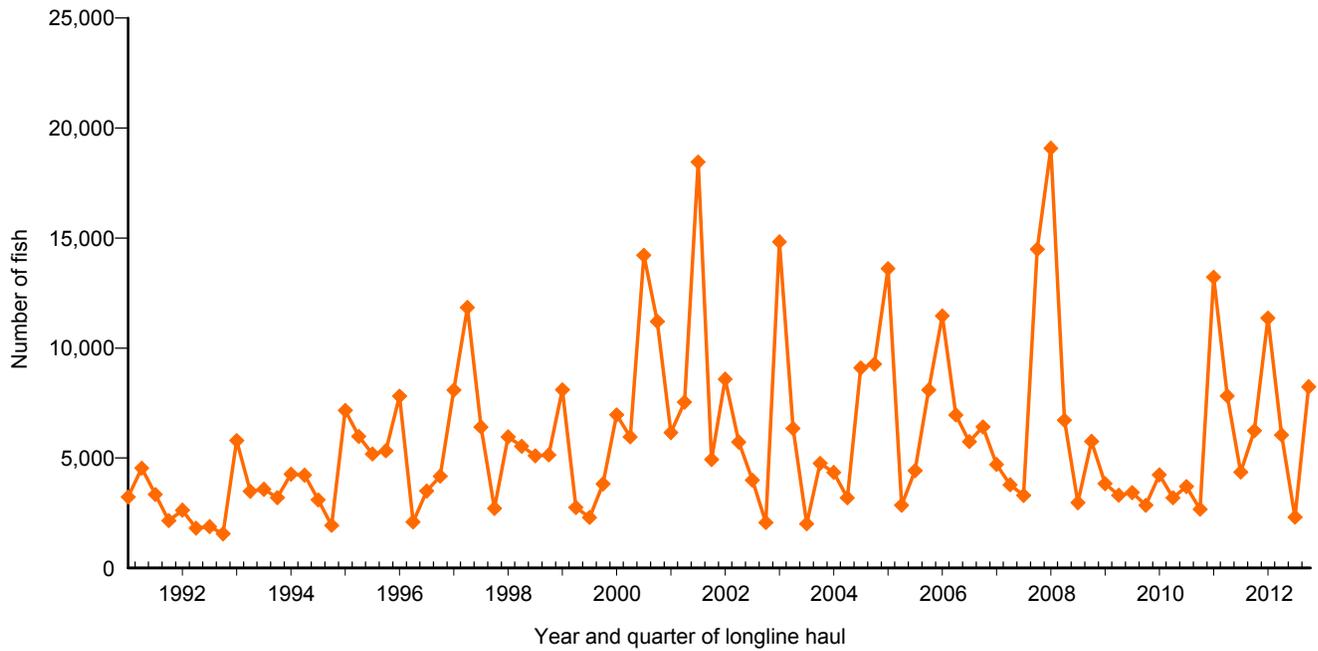


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:35:23PM]

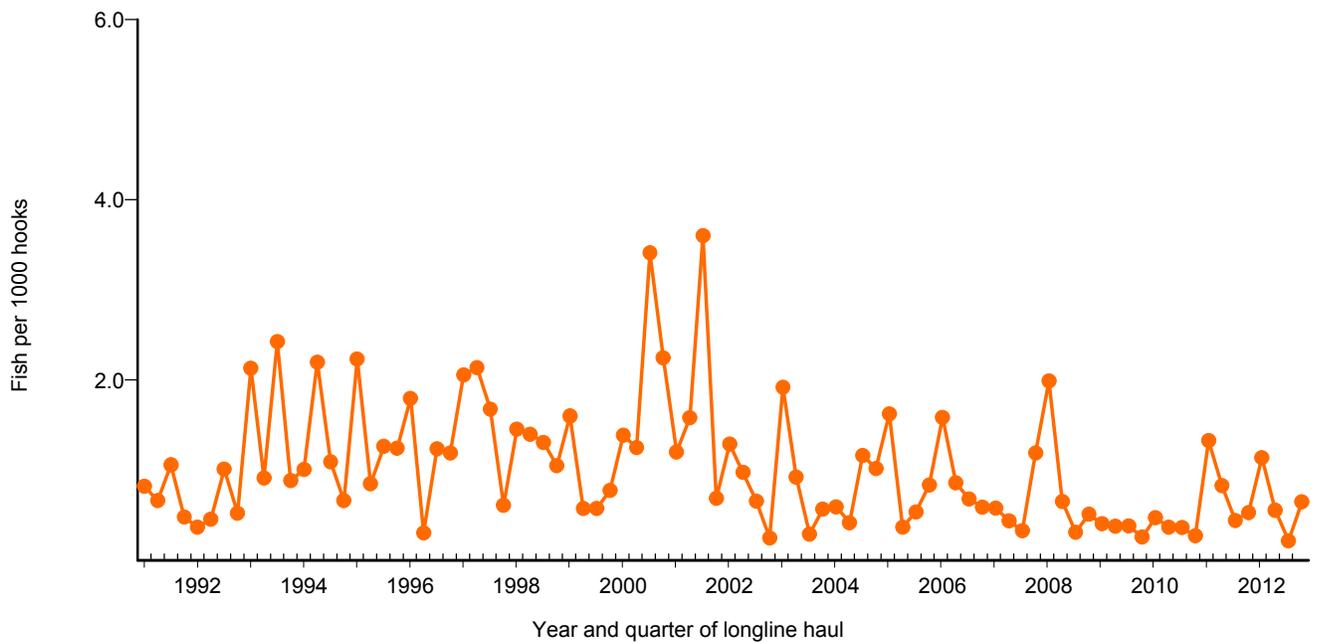


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:35:23PM]

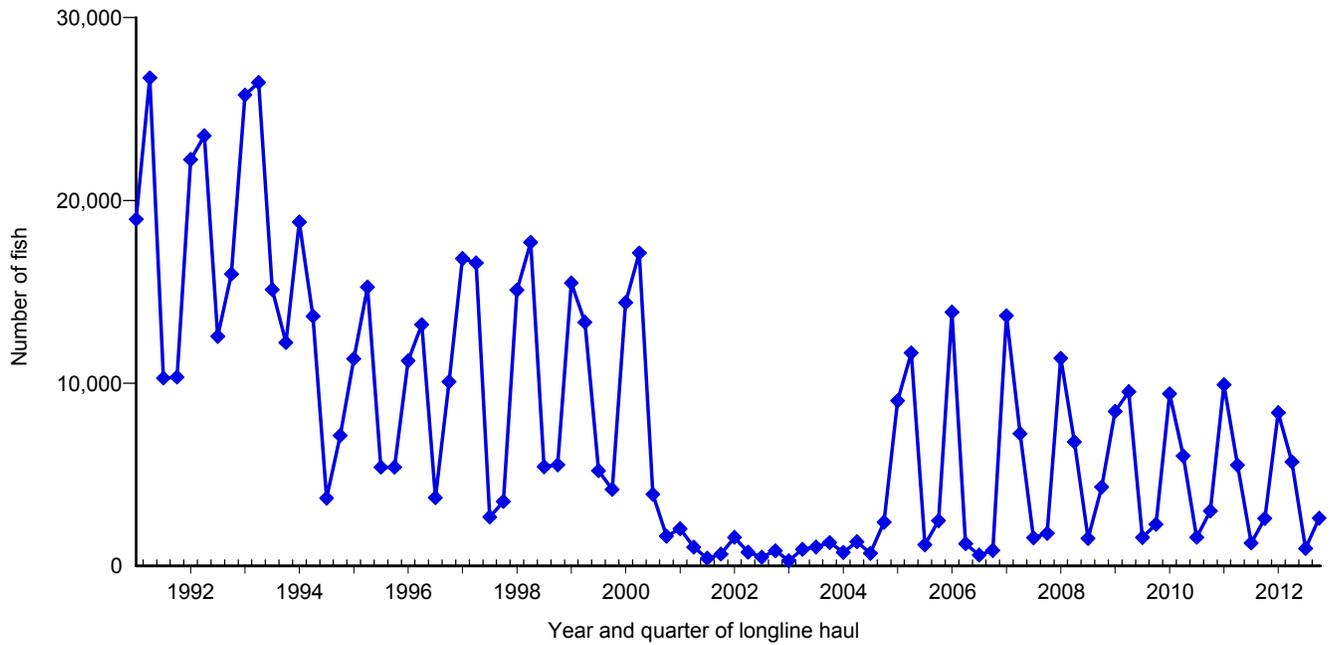


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:35:50PM]

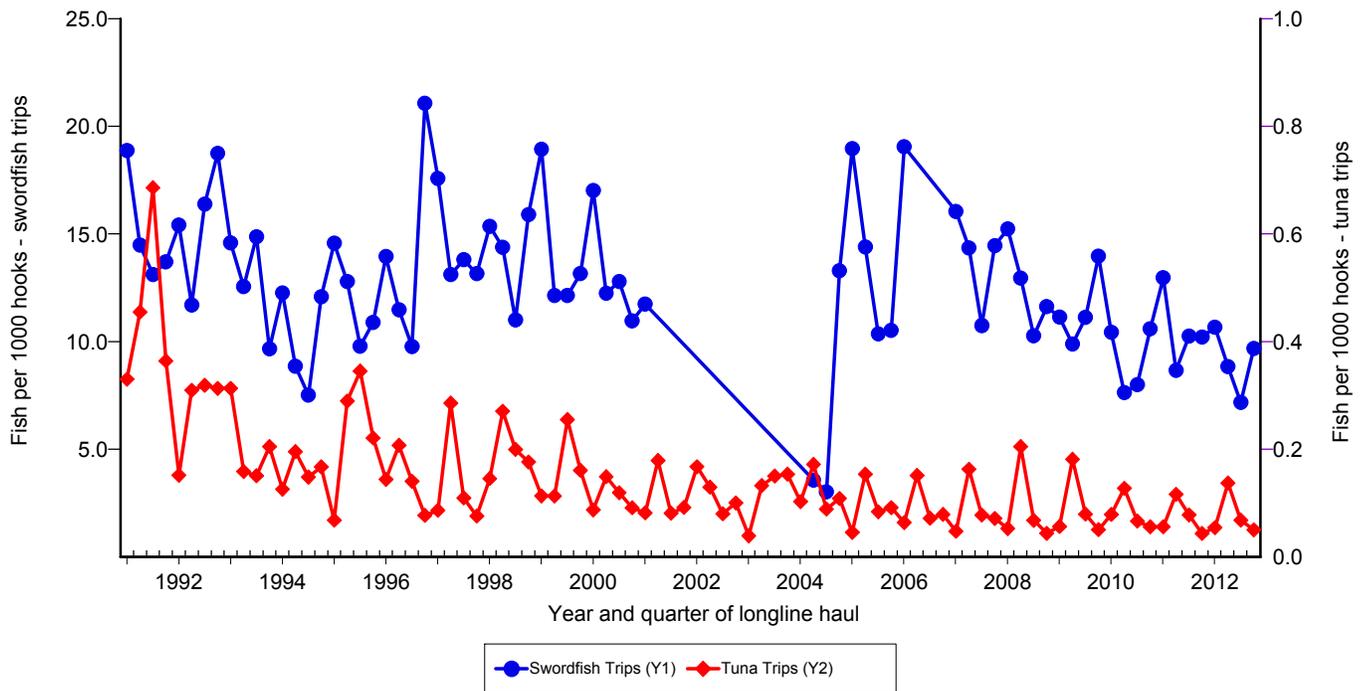


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:35:50PM]

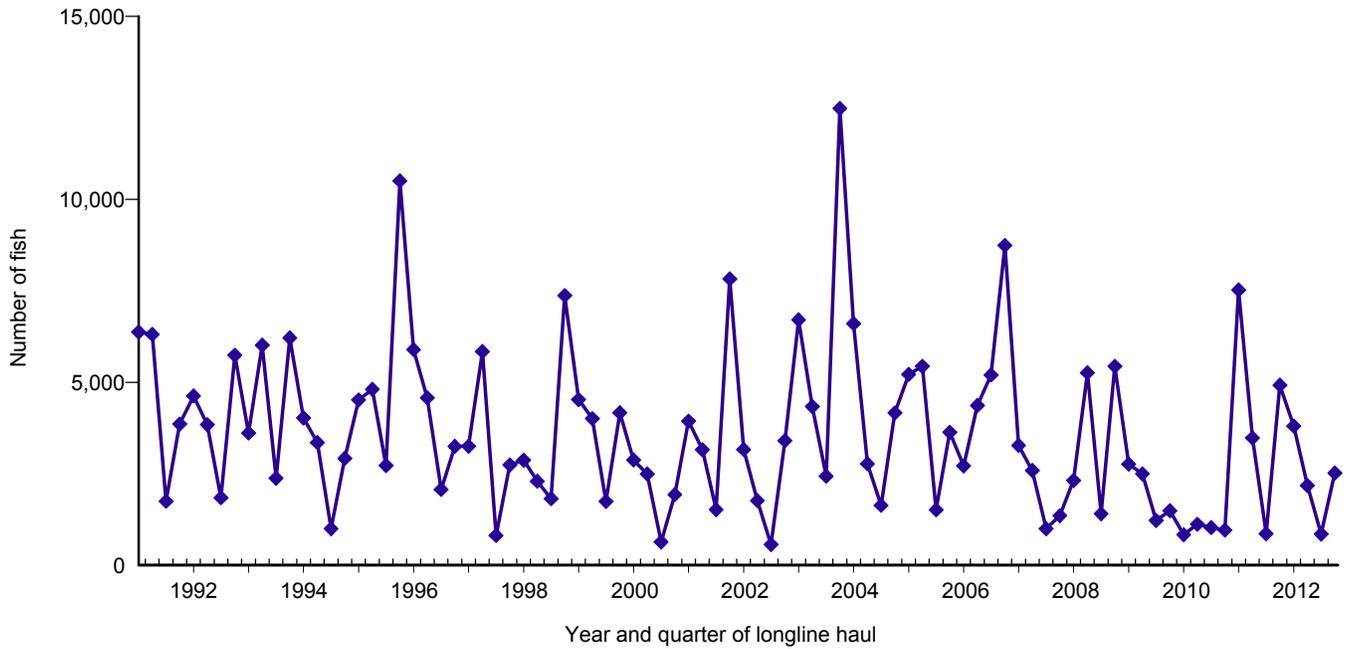


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:36:17PM]

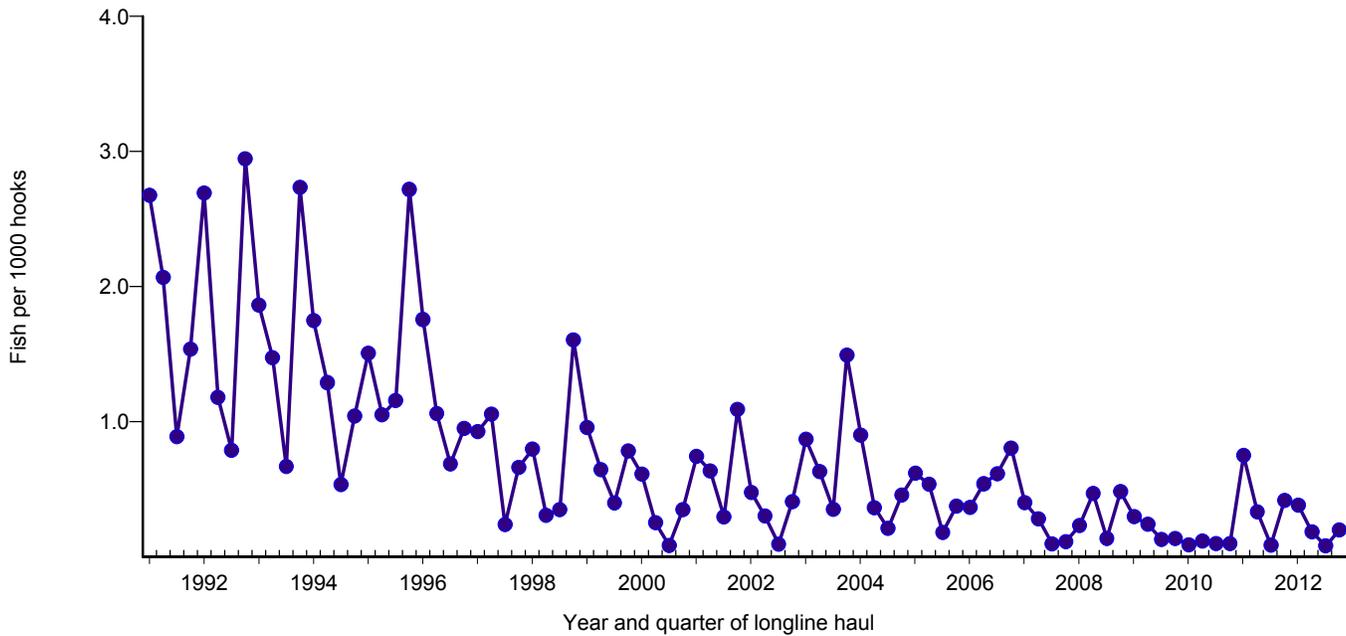


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:36:17PM]

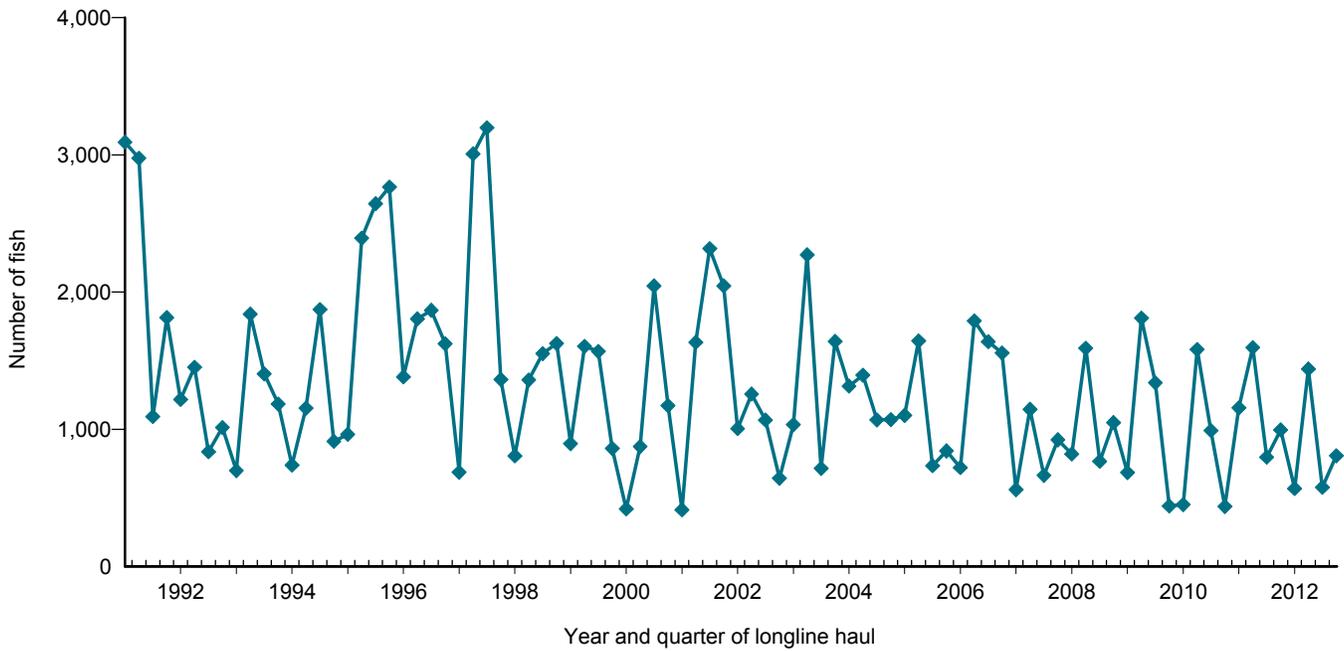


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:36:44PM]

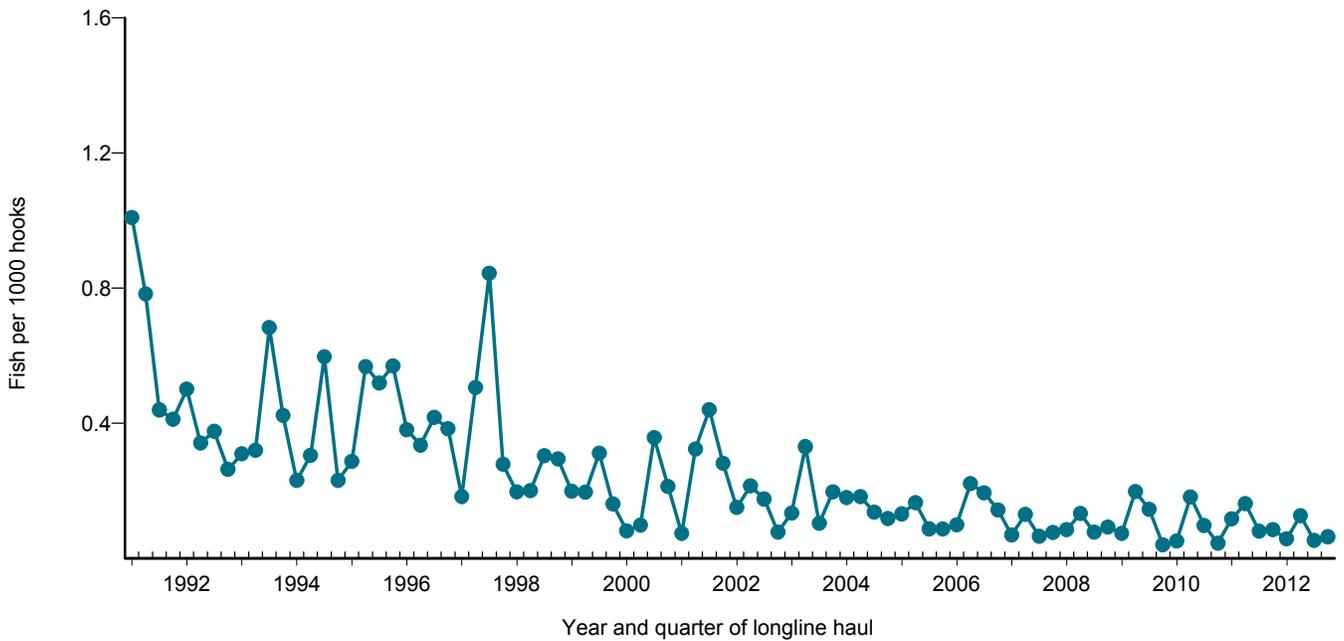


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:36:44PM]

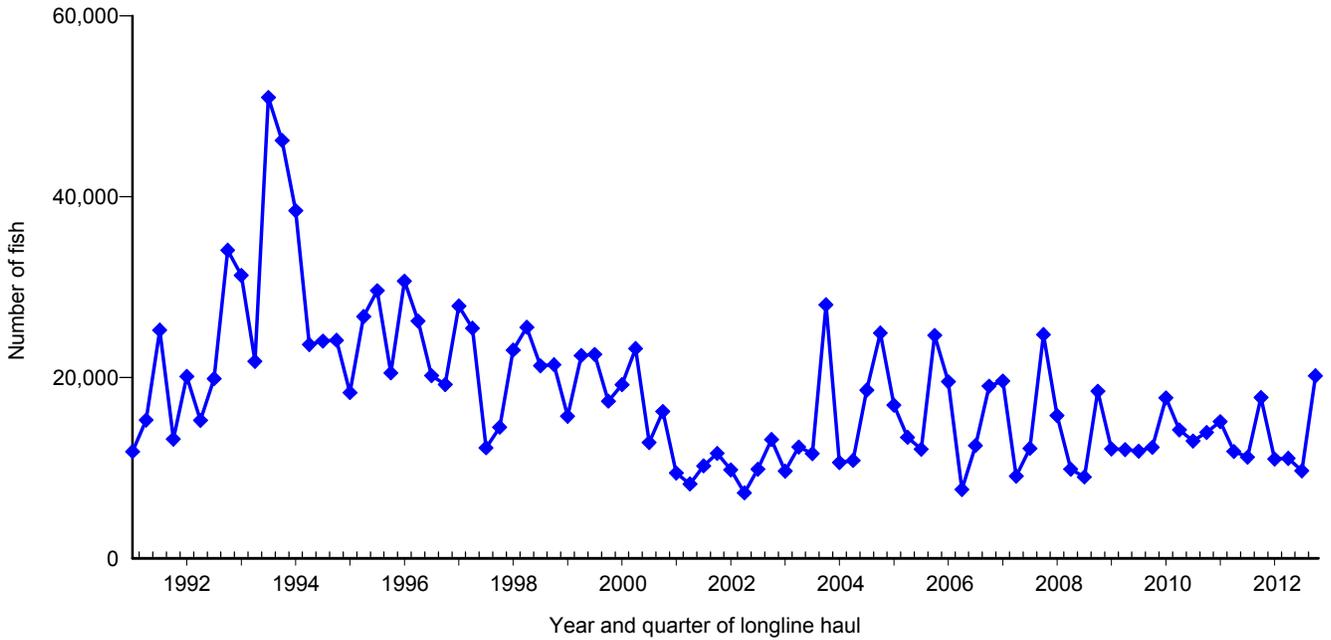


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:37:10PM]

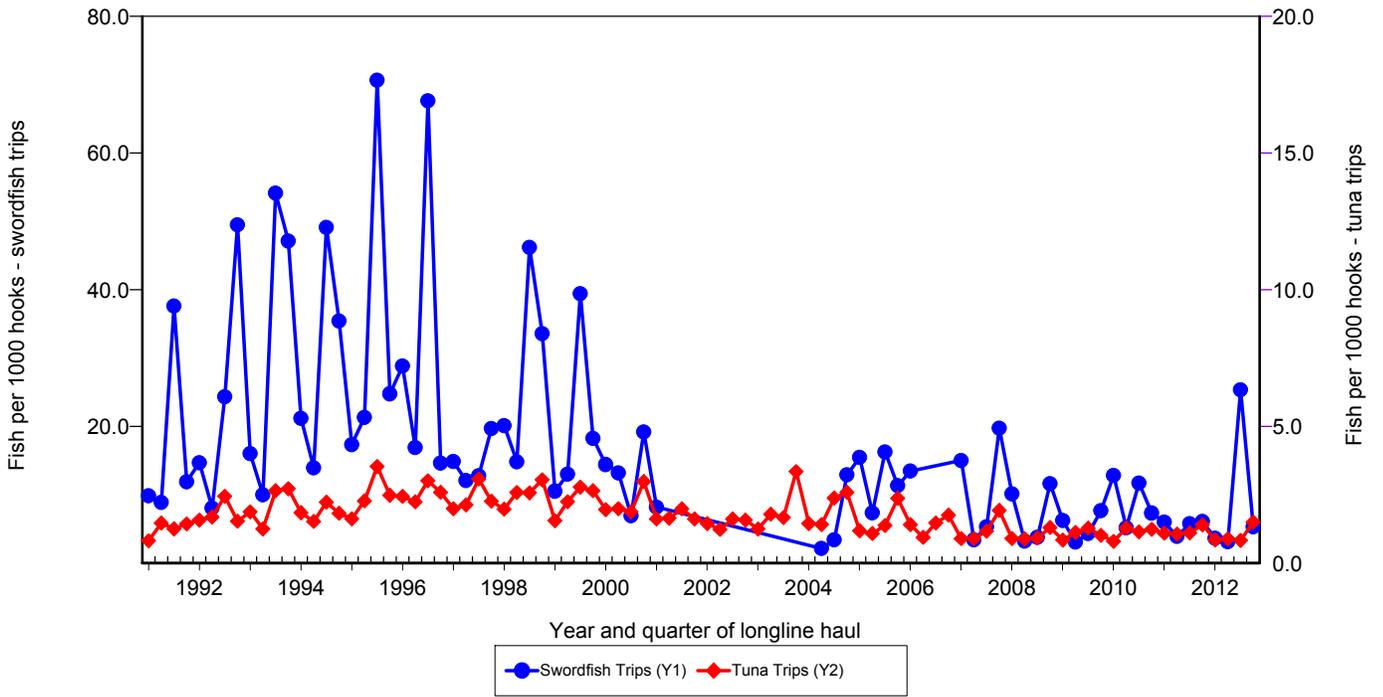


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:37:10PM]

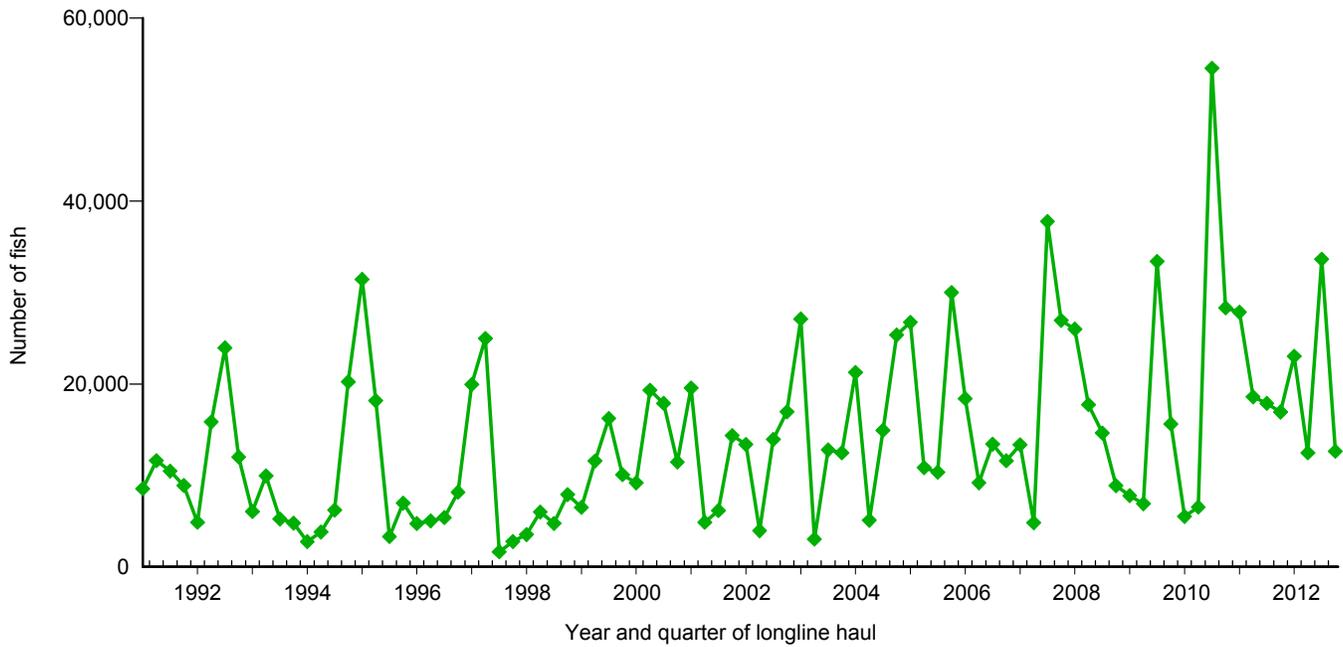


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:37:38PM]

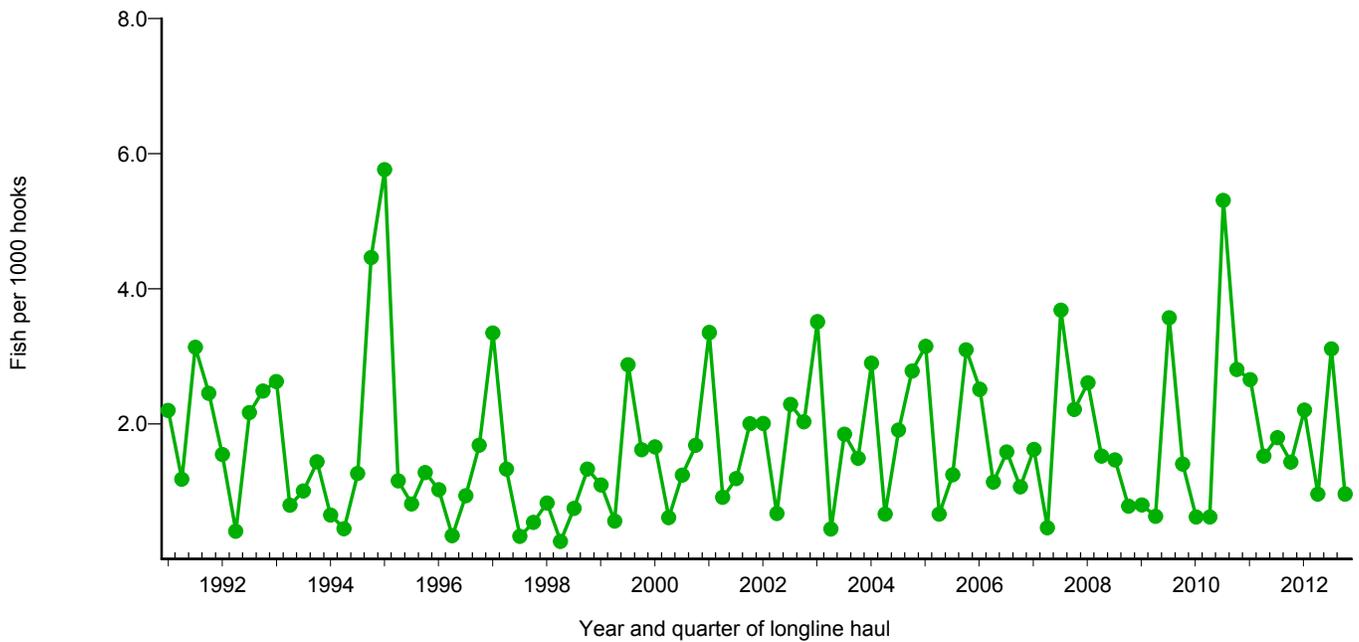


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:37:38PM]

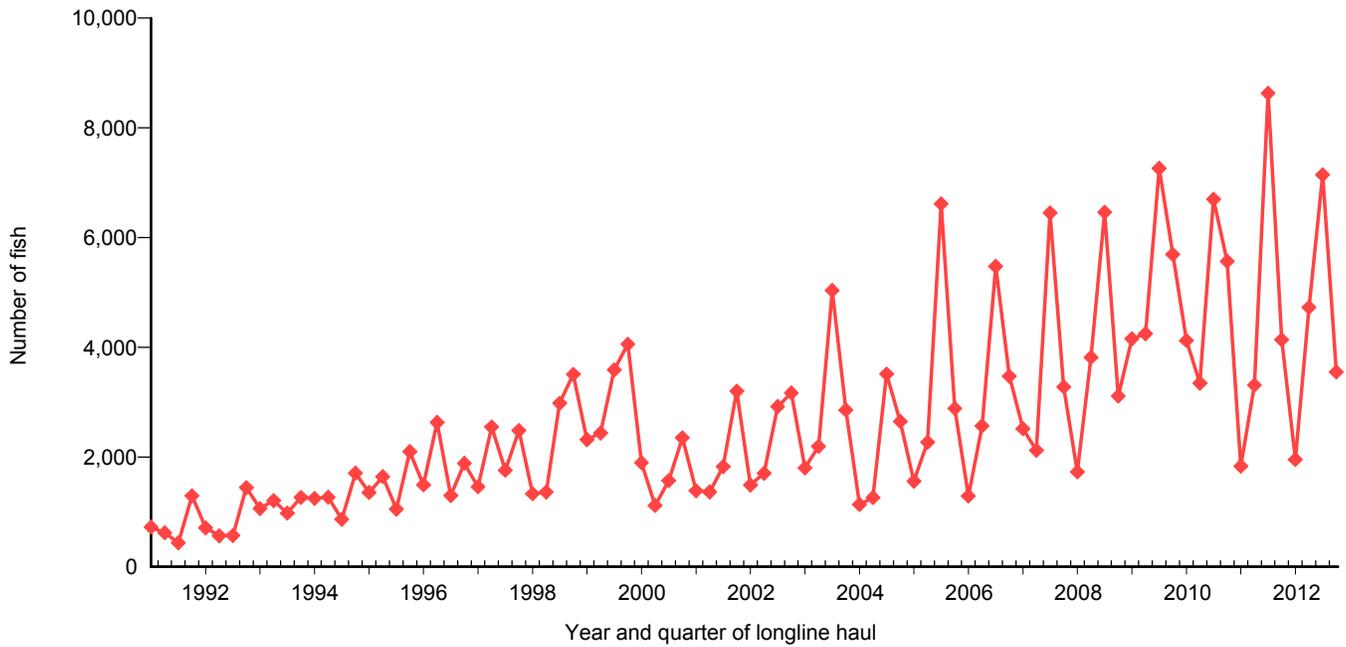


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:04PM]

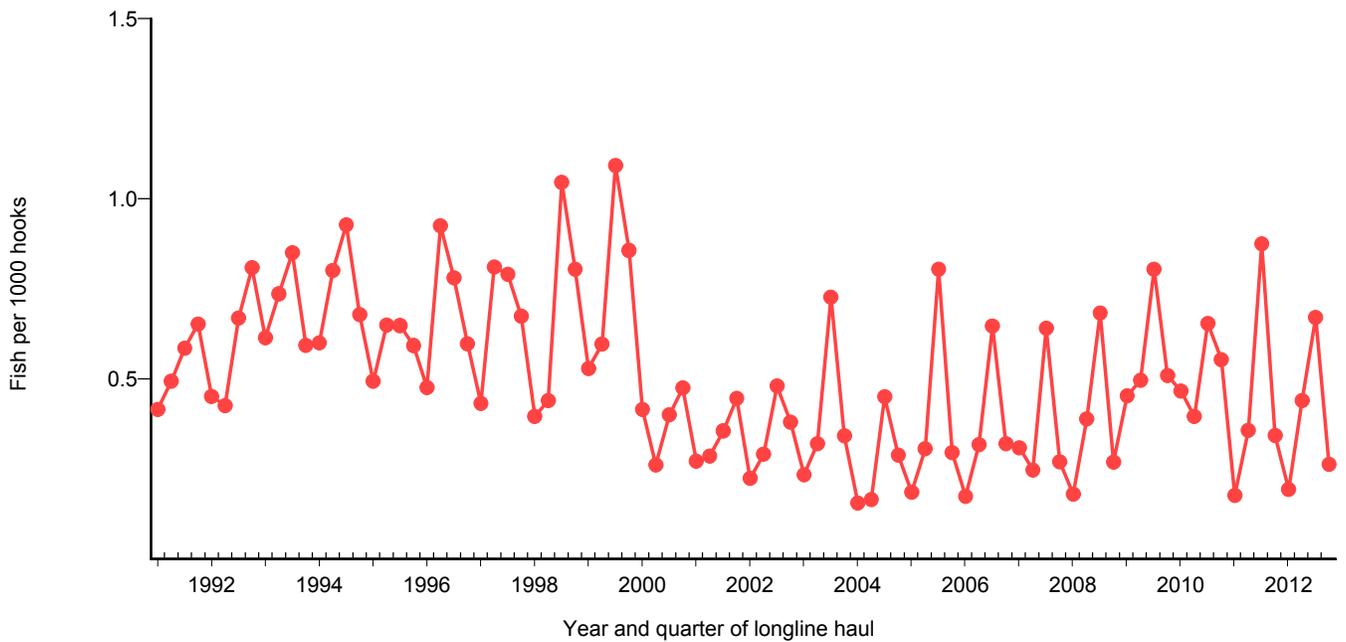


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:04PM]

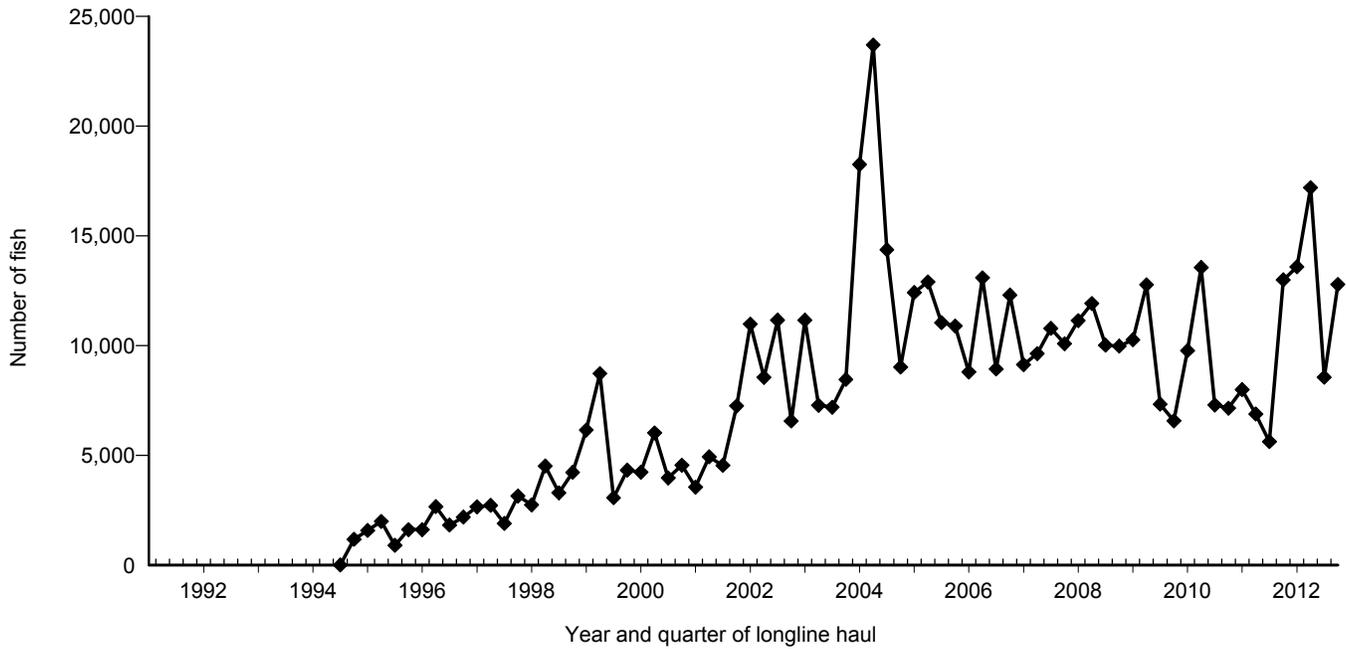


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:31PM]

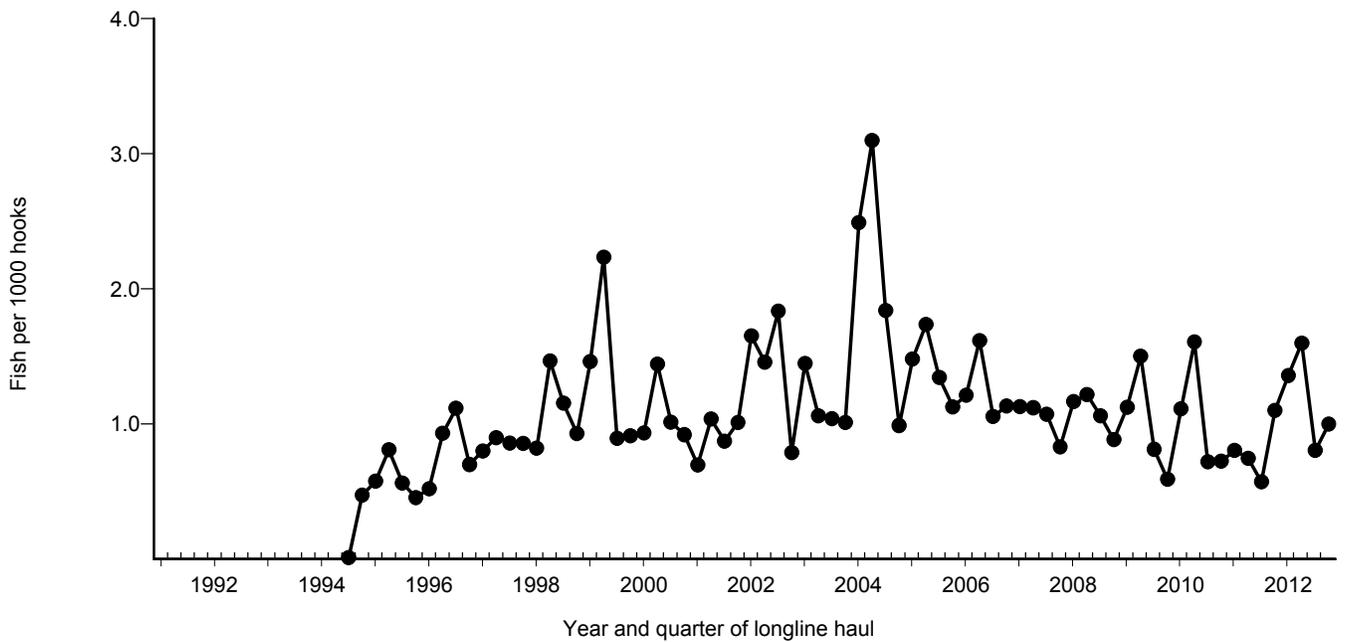


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:31PM]

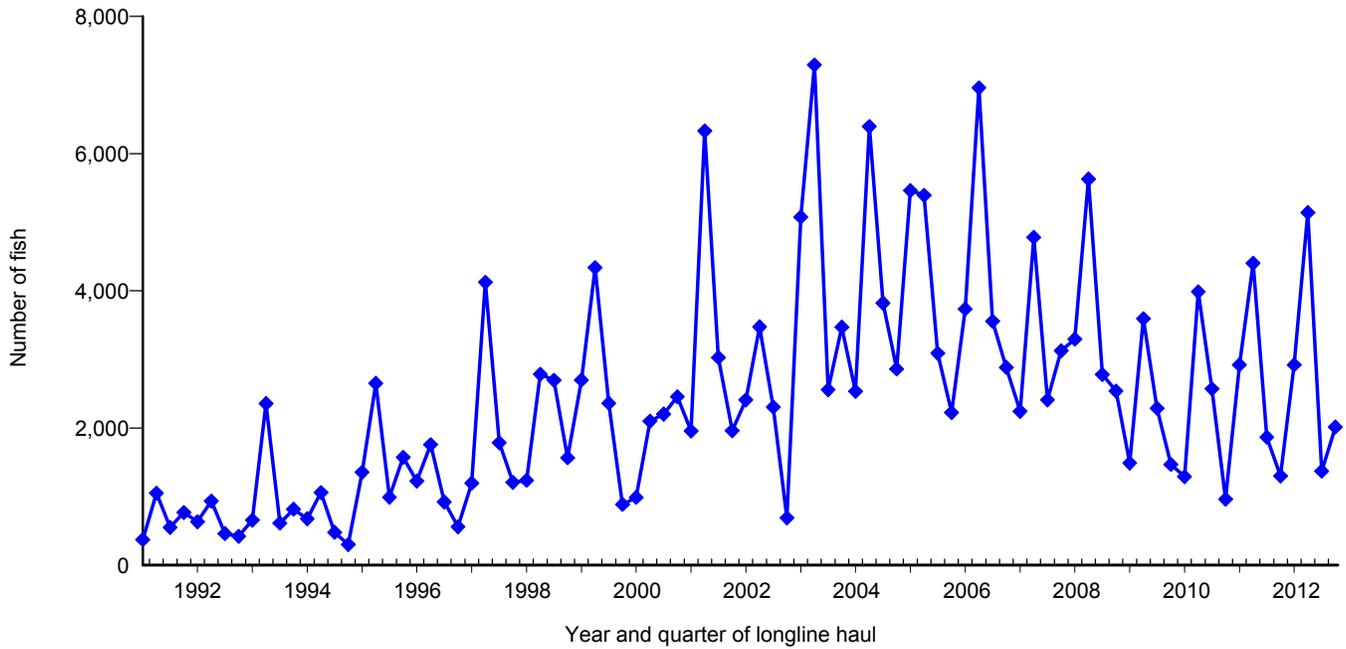


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:58PM]

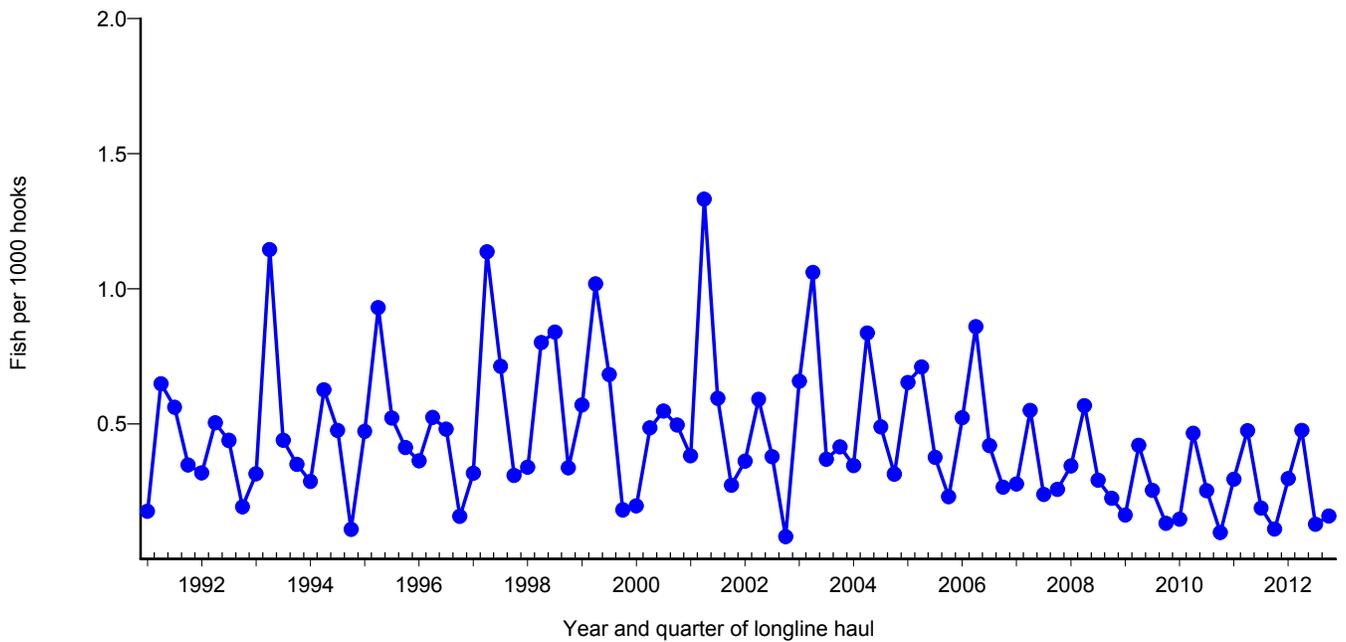


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 2/20/2013 2:38:58PM]