

The Hawaii-based Longline Logbook Summary Report April-June 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 second quarter of 2012 (Q2-2012). 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 second quarter of 2012 and most, but not all, Q2-2012 data from trips that began late in the second quarter and continued into the third quarter of 2012. Therefore, the Q2-2012 summary statistics reported here are preliminary.

During Q2-2012, 128 vessels were active in the Hawaii-based fleet, 7 more vessels than in Q2-2011 (Table 1, Fig. 1). They made 368 longline trips (11 less than in Q2-2011), including 339 using deep-set gear to target tuna (5 less than in Q2-2011) and 29 using shallow-set gear to target swordfish (6 less than in Q2-2011; Fig. 2). During Q2-2012, the fleet deployed 10.3 million hooks, about 6% more than in Q2-2011 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ) (75% of the total hooks set), followed by the EEZ of the main Hawaiian Islands (MHI) (12%), the Northwestern Hawaiian Islands (NWHI) EEZ (7%), 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) (6%).

In Q2-2012, the Hawaii longline fleet caught 30,153 bigeye tuna (Fig. 4); 81% were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.1 fish per 1000 hooks, down 12% from Q2-2011 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q2-2012 were 10,127 fish and 1.03 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q2-2012 were 5,866 fish and 0.59 fish per 1000 hooks, respectively (Figs. 8-9).

The Q2-2012 swordfish catch was 5,593 fish, about the same as the swordfish catch in Q2-2011 (Fig. 10). In Q2-2012, the swordfish CPUE on shallow-set swordfish-targeted trips was 8.8 fish per 1000 hooks, about the same as in Q2-2011 (Fig. 11).

The striped marlin catch in Q2-2012 was 2,070 fish, and the CPUE on tuna-targeted trips was 0.19 fish per 1000 hooks; the catch decreased 40% and CPUE 42% from their values in Q2-2011 (Figs. 12-13). The blue marlin catch in Q2-2012 was 1,324 fish with a CPUE of 0.13 fish per 1000 hooks on tuna-targeted trips (Figs. 14-15).

¹ PIFSC Data Report DR-12-011
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The fleet caught 15,151 sharks in Q2-2012, of which 334 (2%) were kept. Blue shark comprised 68% of the total shark catch (10,233 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q2-2012 was 3.1 fish per 1000 hooks, 19% lower than in Q2-2011 (Fig. 17).

In Q2-2012, the Hawaii longline catch of other key pelagic species included 11,632 mahimahi (Fig. 18) with a CPUE of 0.96 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 4,170 moonfish (Fig. 20) with a CPUE of 0.42 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 15,579 pomfret (Fig. 22) with a CPUE of 1.6 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 4,910 wahoo (Fig. 24) with a CPUE of 0.50 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. Q2-2012 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. Q2-2012 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 Web site at <http://www.pifsc.noaa.gov/fmb/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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active			128
Time Period	2nd Quarter 2012	Number of trips			368
Fishing Area	All Areas	Number of sets			4,494
Trip Types	All Trip Types	Number of hooks set			10,302,923

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,324	1,316	8	0.13
Striped marlin	2,070	2,059	11	0.20
Shortbill spearfish	2,729	2,712	17	0.26
Swordfish	5,593	4,990	603	0.54
Other billfishes	77	77	0	0.01
Total	11,793	11,154	639	1.14
Sharks				
Blue shark	10,233	59	10,174	0.99
Mako sharks	696	193	503	0.07
Thresher sharks	3,779	70	3,709	0.37
Oceanic whitetip shark	250	7	243	0.02
Silky shark	24	0	24	0.00
Other sharks	169	5	164	0.02
Total	15,151	334	14,817	1.47
Tunas				
Albacore	10,127	10,110	17	0.98
Bigeye tuna	30,153	29,923	230	2.93
Yellowfin tuna	5,866	5,823	43	0.57
Bluefin tuna	1	1	0	0.00
Skipjack tuna	6,939	6,846	93	0.67
Other tunas	4	4	0	0.00
Total	53,090	52,707	383	5.15
Other PMUS				
Mahimahi	11,632	11,499	133	1.13
Moonfish	4,170	4,166	4	0.40
Wahoo	4,910	4,894	16	0.48
Oilfish	8,233	8,144	89	0.80
Pomfret	15,579	15,528	51	1.51
Total	44,524	44,231	293	4.32
Total PMUS	124,558	108,426	16,132	12.09
Total Non-PMUS	1,924	563	1,361	0.19
Total All Species	126,482	108,989	17,493	12.28

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active		48
Time Period	2nd Quarter 2012	Number of trips		65
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		383
Trip Types	All Trip Types	Number of hooks set		759,224

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	93	93	0	0.12
Striped marlin	339	335	4	0.45
Shortbill spearfish	147	146	1	0.19
Swordfish	1,969	1,699	270	2.59
Other billfishes	2	2	0	0.00
Total	2,550	2,275	275	3.36
Sharks				
Blue shark	1,104	6	1,098	1.45
Mako sharks	113	36	77	0.15
Thresher sharks	36	0	36	0.05
Oceanic whitetip shark	30	1	29	0.04
Silky shark	2	0	2	0.00
Other sharks	14	0	14	0.02
Total	1,299	43	1,256	1.71
Tunas				
Albacore	636	634	2	0.84
Bigeye tuna	1,171	1,147	24	1.54
Yellowfin tuna	556	553	3	0.73
Bluefin tuna	1	1	0	0.00
Skipjack tuna	338	333	5	0.45
Other tunas	1	1	0	0.00
Total	2,703	2,669	34	3.56
Other PMUS				
Mahimahi	1,554	1,544	10	2.05
Moonfish	347	347	0	0.46
Wahoo	316	315	1	0.42
Oilfish	896	872	24	1.18
Pomfret	654	654	0	0.86
Total	3,767	3,732	35	4.96
Total PMUS	10,319	8,719	1,600	13.59
Total Non-PMUS	21	19	2	0.03
Total All Species	10,340	8,738	1,602	13.62

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active		43
Time Period	2nd Quarter 2012	Number of trips		48
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		245
Trip Types	All Trip Types	Number of hooks set		583,191

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	54	54	0	0.09
Striped marlin	62	62	0	0.11
Shortbill spearfish	160	160	0	0.27
Swordfish	93	87	6	0.16
Other billfishes	11	11	0	0.02
Total	380	374	6	0.65
Sharks				
Blue shark	450	2	448	0.77
Mako sharks	27	8	19	0.05
Thresher sharks	156	0	156	0.27
Oceanic whitetip shark	92	0	92	0.16
Silky shark	15	0	15	0.03
Other sharks	40	0	40	0.07
Total	780	10	770	1.34
Tunas				
Albacore	892	892	0	1.53
Bigeye tuna	1,390	1,383	7	2.38
Yellowfin tuna	1,674	1,672	2	2.87
Bluefin tuna	0	0	0	0.00
Skipjack tuna	455	436	19	0.78
Other tunas	0	0	0	0.00
Total	4,411	4,383	28	7.56
Other PMUS				
Mahimahi	59	59	0	0.10
Moonfish	47	47	0	0.08
Wahoo	352	352	0	0.60
Oilfish	416	414	2	0.71
Pomfret	703	702	1	1.21
Total	1,577	1,574	3	2.70
Total PMUS	7,148	6,341	807	12.26
Total Non-PMUS	219	14	205	0.38
Total All Species	7,367	6,355	1,012	12.63

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active		106
Time Period	2nd Quarter 2012	Number of trips		192
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of sets		1,210
Trip Types	All Trip Types	Number of hooks set		2,569,271

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	242	241	1	0.09
Striped marlin	695	689	6	0.27
Shortbill spearfish	913	905	8	0.36
Swordfish	2,492	2,182	310	0.97
Other billfishes	18	18	0	0.01
Total	4,360	4,035	325	1.70
Sharks				
Blue shark	2,635	15	2,620	1.03
Mako sharks	220	75	145	0.09
Thresher sharks	334	14	320	0.13
Oceanic whitetip shark	138	2	136	0.05
Silky shark	18	0	18	0.01
Other sharks	69	1	68	0.03
Total	3,414	107	3,307	1.33
Tunas				
Albacore	2,200	2,191	9	0.86
Bigeye tuna	5,717	5,656	61	2.23
Yellowfin tuna	3,396	3,371	25	1.32
Bluefin tuna	1	1	0	0.00
Skipjack tuna	1,469	1,436	33	0.57
Other tunas	1	1	0	0.00
Total	12,784	12,656	128	4.98
Other PMUS				
Mahimahi	3,631	3,596	35	1.41
Moonfish	638	637	1	0.25
Wahoo	1,137	1,133	4	0.44
Oilfish	2,244	2,204	40	0.87
Pomfret	2,618	2,606	12	1.02
Total	10,268	10,176	92	4.00
Total PMUS	30,826	26,974	3,852	12.00
Total Non-PMUS	801	362	439	0.31
Total All Species	31,627	27,336	4,291	12.31

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active		126	
Time Period	2nd Quarter 2012	Number of trips		330	
Fishing Area	Outside U.S. EEZ	Number of sets		3,284	
Trip Types	All Trip Types	Number of hooks set		7,733,652	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,082	1,075	7	0.14
Striped marlin	1,375	1,370	5	0.18
Shortbill spearfish	1,816	1,807	9	0.23
Swordfish	3,101	2,808	293	0.40
Other billfishes	59	59	0	0.01
Total	7,433	7,119	314	0.96
Sharks				
Blue shark	7,598	44	7,554	0.98
Mako sharks	476	118	358	0.06
Thresher sharks	3,445	56	3,389	0.45
Oceanic whitetip shark	112	5	107	0.01
Silky shark	6	0	6	0.00
Other sharks	100	4	96	0.01
Total	11,737	227	11,510	1.52
Tunas				
Albacore	7,927	7,919	8	1.03
Bigeye tuna	24,436	24,267	169	3.16
Yellowfin tuna	2,470	2,452	18	0.32
Bluefin tuna	0	0	0	0.00
Skipjack tuna	5,470	5,410	60	0.71
Other tunas	3	3	0	0.00
Total	40,306	40,051	255	5.21
Other PMUS				
Mahimahi	8,001	7,903	98	1.03
Moonfish	3,532	3,529	3	0.46
Wahoo	3,773	3,761	12	0.49
Oilfish	5,989	5,940	49	0.77
Pomfret	12,961	12,922	39	1.68
Total	34,256	34,055	201	4.43
Total PMUS	93,732	81,452	12,280	12.12
Total Non-PMUS	1,123	201	922	0.15
Total All Species	94,855	81,653	13,202	12.27

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active		14
Time Period	2nd Quarter 2012	Number of trips		29
Fishing Area	All Areas	Number of sets		428
Trip Types	Swordfish Targeted Trips	Number of hooks set		478,071

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	80	79	1	0.17
Striped marlin	214	209	5	0.45
Shortbill spearfish	68	65	3	0.14
Swordfish	4,226	3,708	518	8.84
Other billfishes	1	1	0	0.00
Total	4,589	4,062	527	9.60
Sharks				
Blue shark	1,500	5	1,495	3.14
Mako sharks	149	52	97	0.31
Thresher sharks	25	2	23	0.05
Oceanic whitetip shark	5	1	4	0.01
Silky shark	0	0	0	0.00
Other sharks	13	0	13	0.03
Total	1,692	60	1,632	3.54
Tunas				
Albacore	55	53	2	0.12
Bigeye tuna	141	134	7	0.29
Yellowfin tuna	74	72	2	0.15
Bluefin tuna	1	1	0	0.00
Skipjack tuna	14	12	2	0.03
Other tunas	0	0	0	0.00
Total	285	272	13	0.60
Other PMUS				
Mahimahi	2,165	2,113	52	4.53
Moonfish	3	3	0	0.01
Wahoo	28	26	2	0.06
Oilfish	923	876	47	1.93
Pomfret	5	5	0	0.01
Total	3,124	3,023	101	6.53
Total PMUS	9,690	7,417	2,273	20.27
Total Non-PMUS	4	2	2	0.01
Total All Species	9,694	7,419	2,275	20.28

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, 8/15/2012 1:51:55PM].

Report Coverage		Number of vessels active	
Time Period	2nd Quarter 2012		123
Fishing Area	All Areas	Number of trips	339
Trip Types	Tuna Targeted Trips	Number of sets	4,066
		Number of hooks set	9,824,852

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,244	1,237	7	0.13
Striped marlin	1,856	1,850	6	0.19
Shortbill spearfish	2,661	2,647	14	0.27
Swordfish	1,367	1,282	85	0.14
Other billfishes	76	76	0	0.01
Total	7,204	7,092	112	0.73
Sharks				
Blue shark	8,733	54	8,679	0.89
Mako sharks	547	141	406	0.06
Thresher sharks	3,754	68	3,686	0.38
Oceanic whitetip shark	245	6	239	0.02
Silky shark	24	0	24	0.00
Other sharks	156	5	151	0.02
Total	13,459	274	13,185	1.37
Tunas				
Albacore	10,072	10,057	15	1.03
Bigeye tuna	30,012	29,789	223	3.05
Yellowfin tuna	5,792	5,751	41	0.59
Bluefin tuna	0	0	0	0.00
Skipjack tuna	6,925	6,834	91	0.70
Other tunas	4	4	0	0.00
Total	52,805	52,435	370	5.37
Other PMUS				
Mahimahi	9,467	9,386	81	0.96
Moonfish	4,167	4,163	4	0.42
Wahoo	4,882	4,868	14	0.50
Oilfish	7,310	7,268	42	0.74
Pomfret	15,574	15,523	51	1.59
Total	41,400	41,208	192	4.21
Total PMUS	114,868	101,009	13,859	11.69
Total Non-PMUS	1,920	561	1,359	0.20
Total All Species	116,788	101,570	15,218	11.89

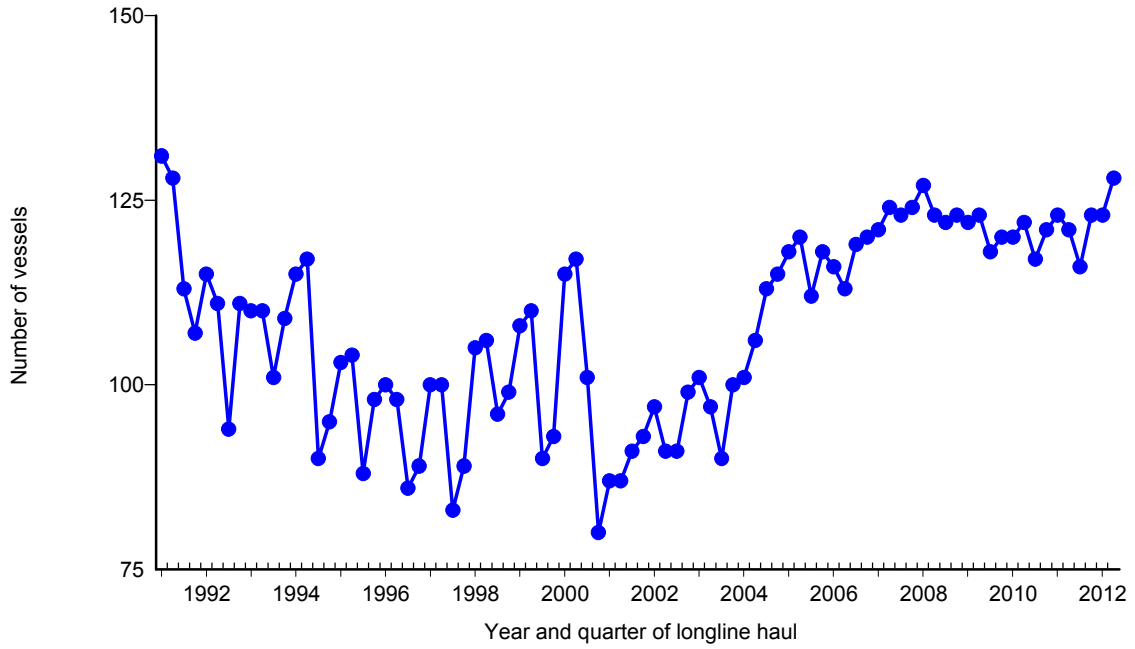


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:57:11AM]

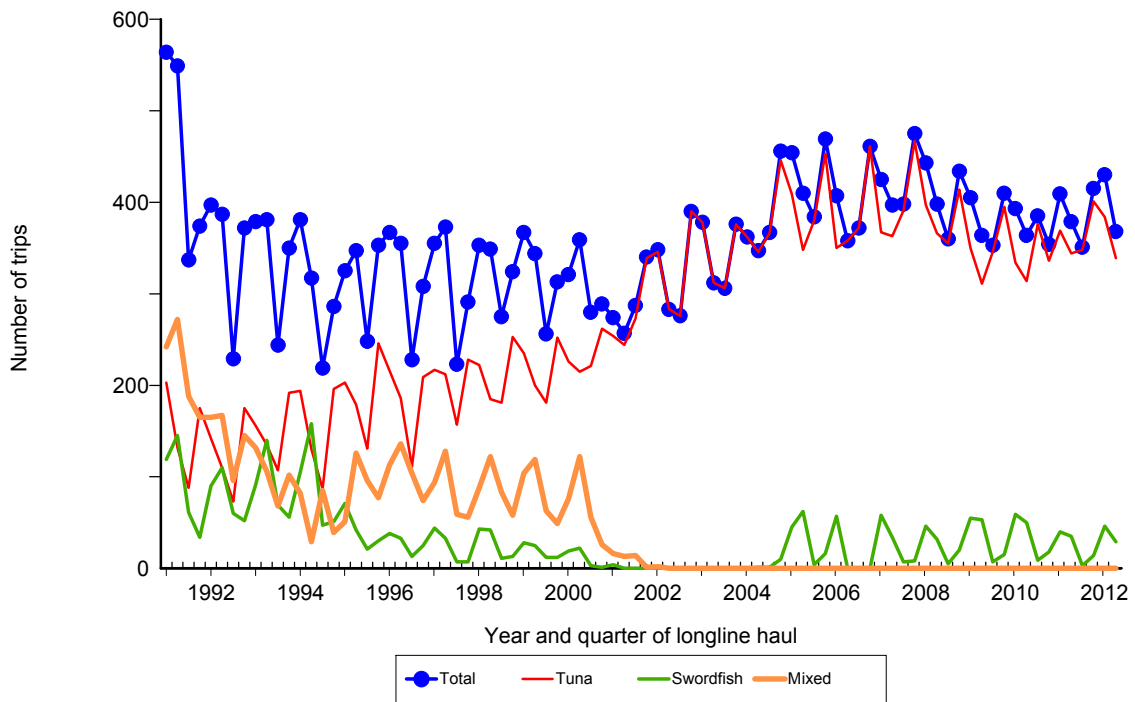


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:57:11AM]

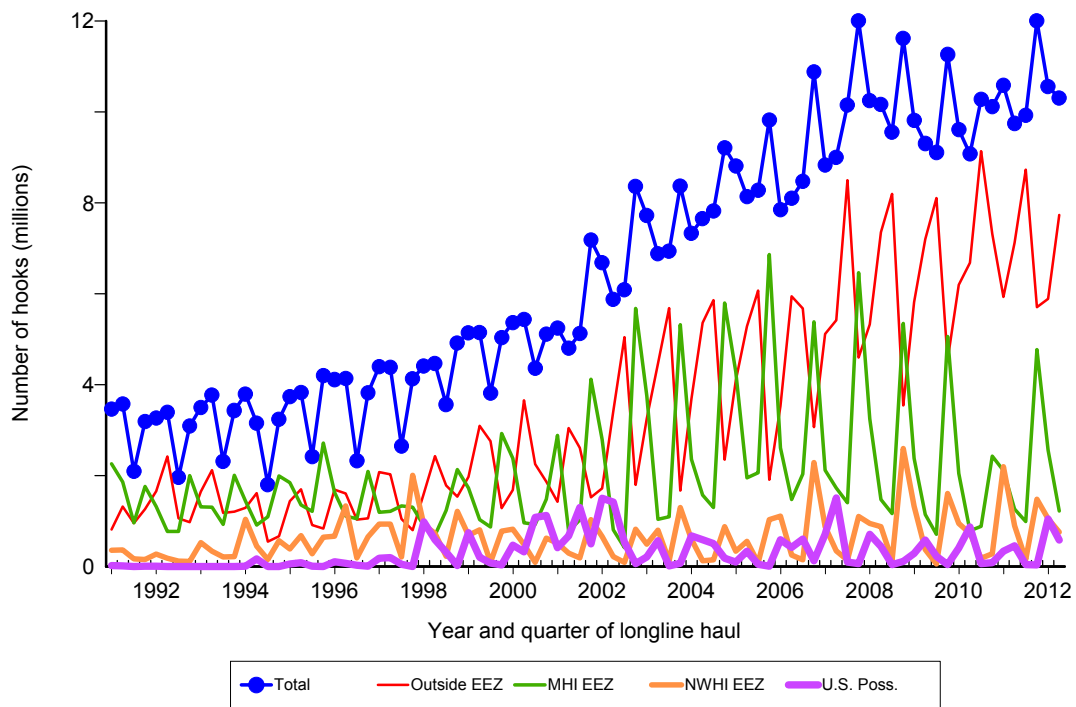


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:57:13AM]

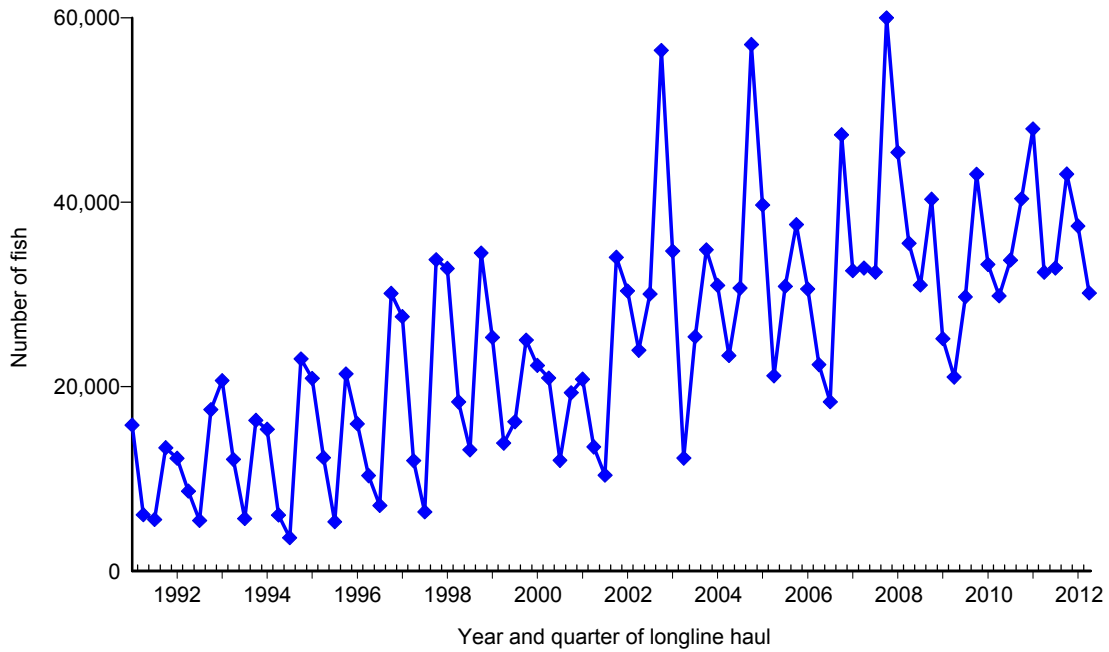


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:57:35AM]

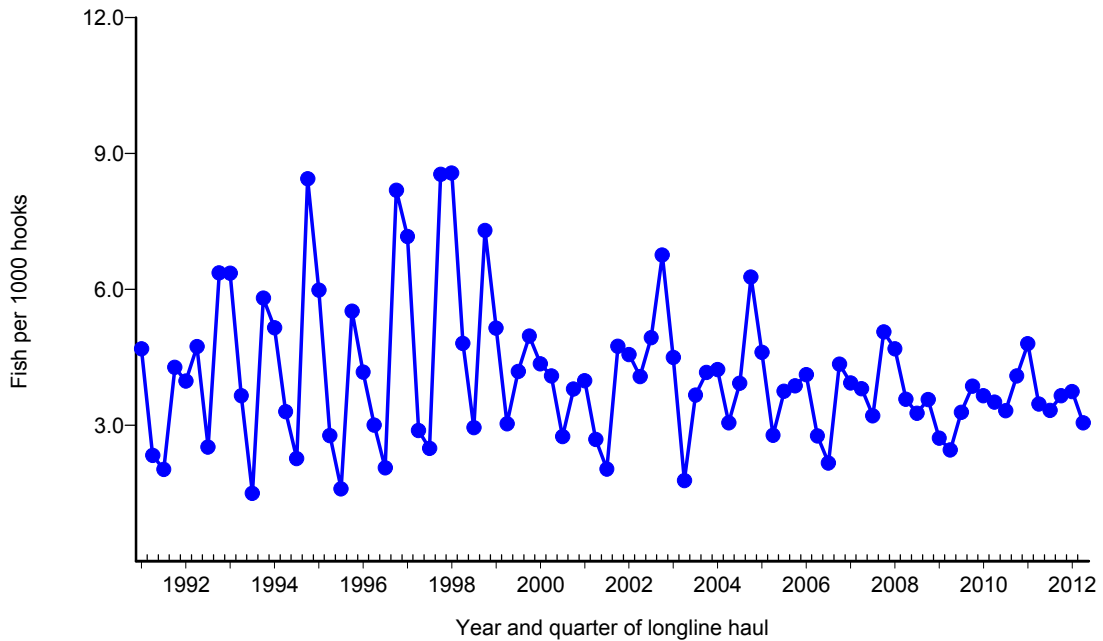


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:57:35AM]

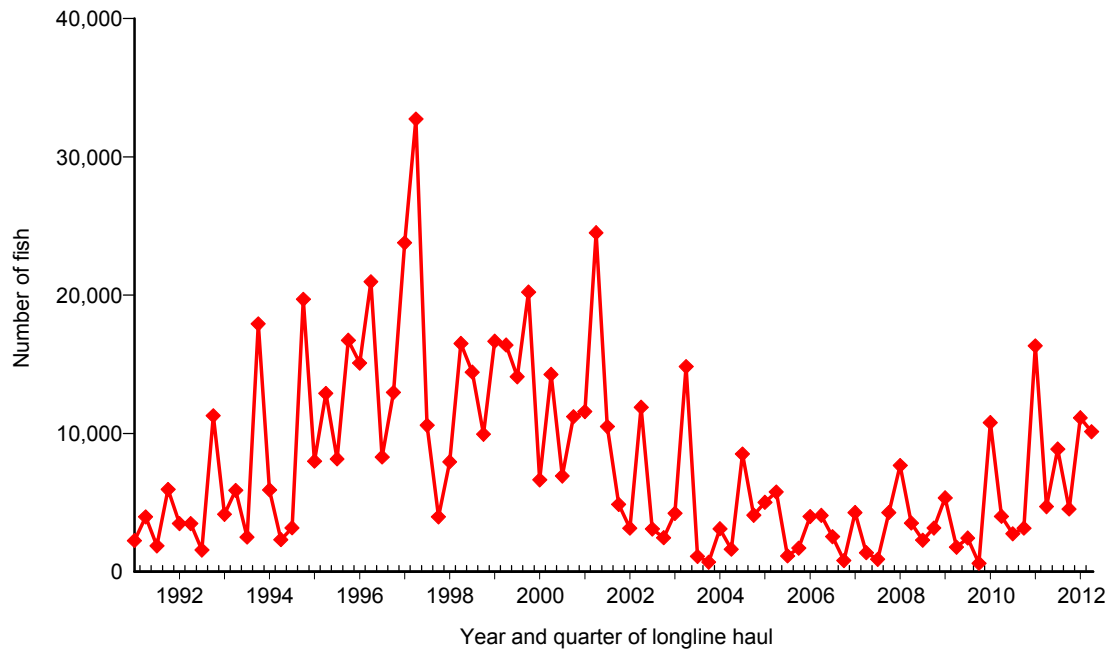


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:01AM]

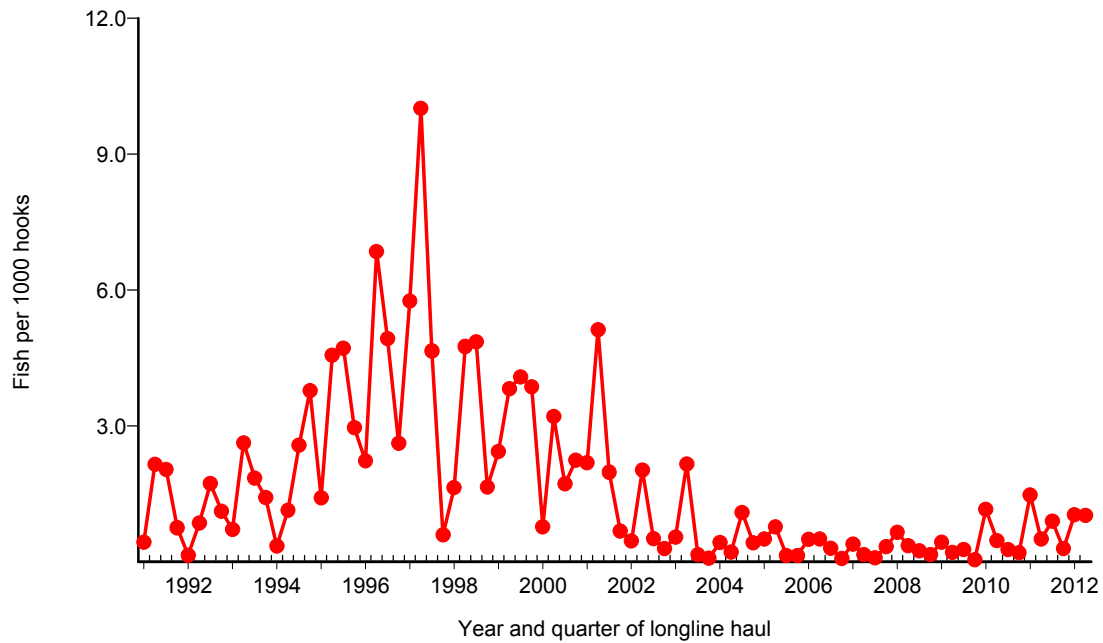


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:01AM]

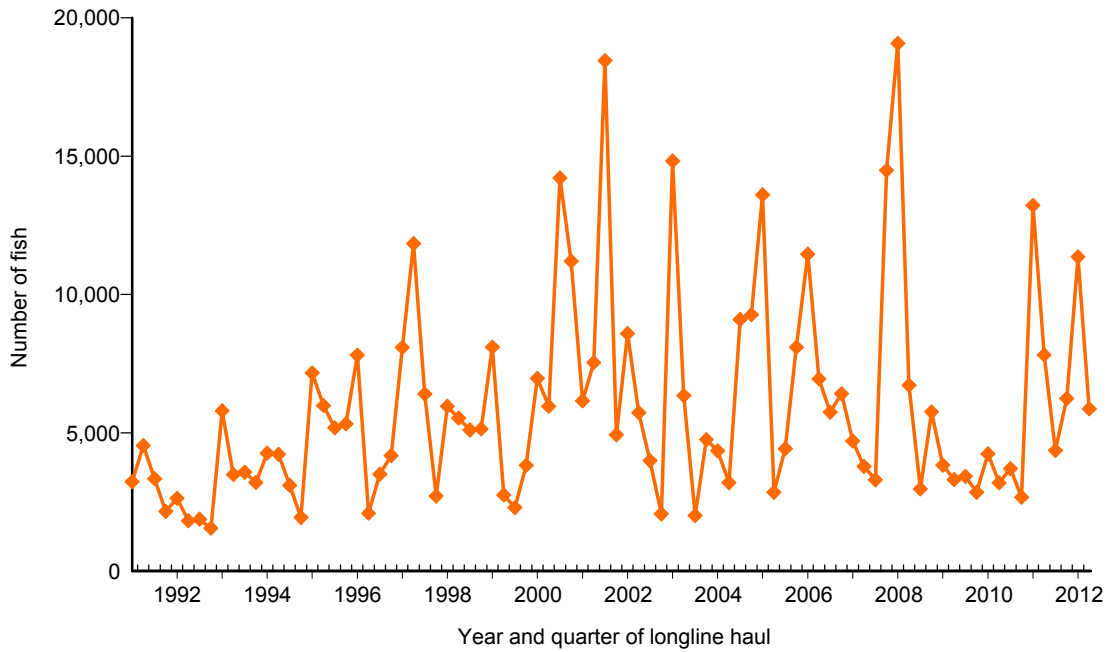


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:26AM]

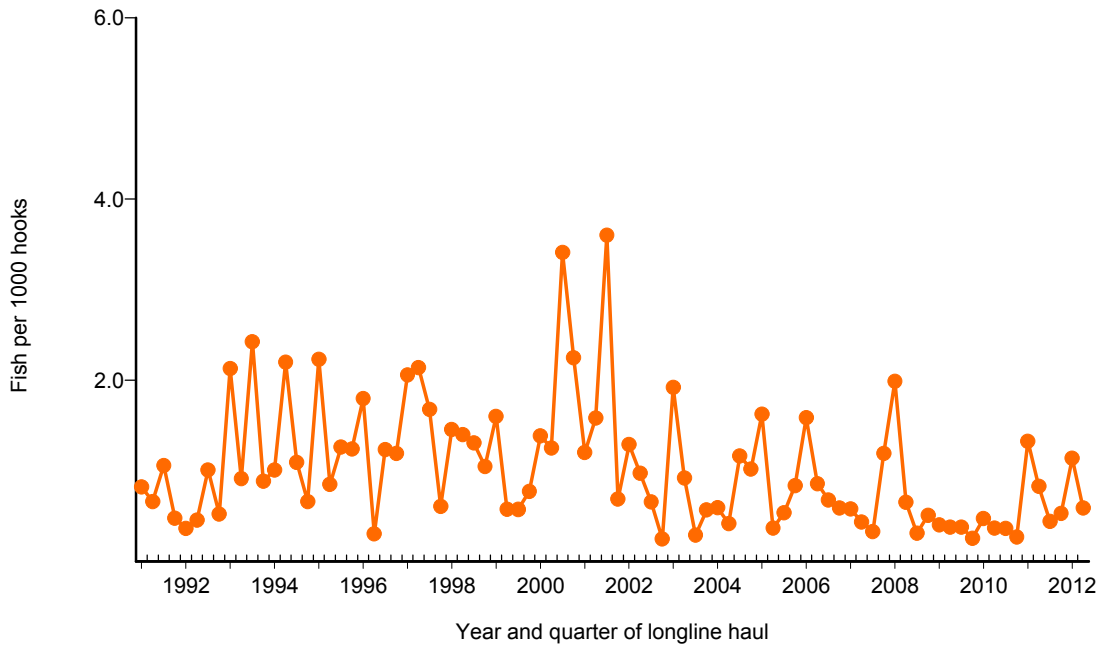


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:26AM]

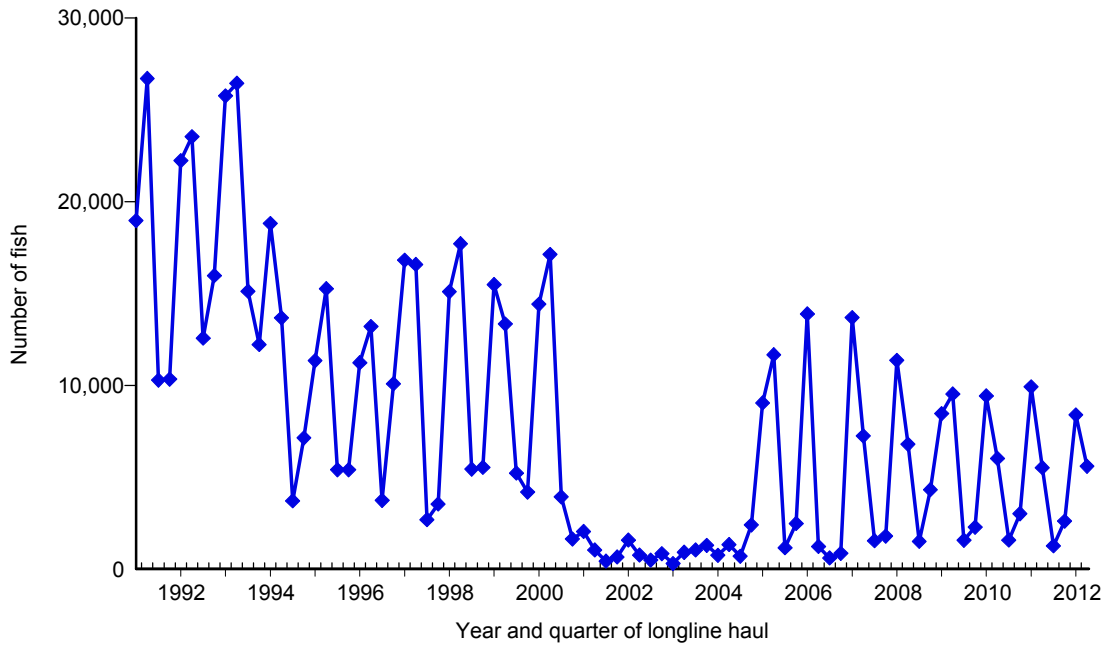


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:51AM]

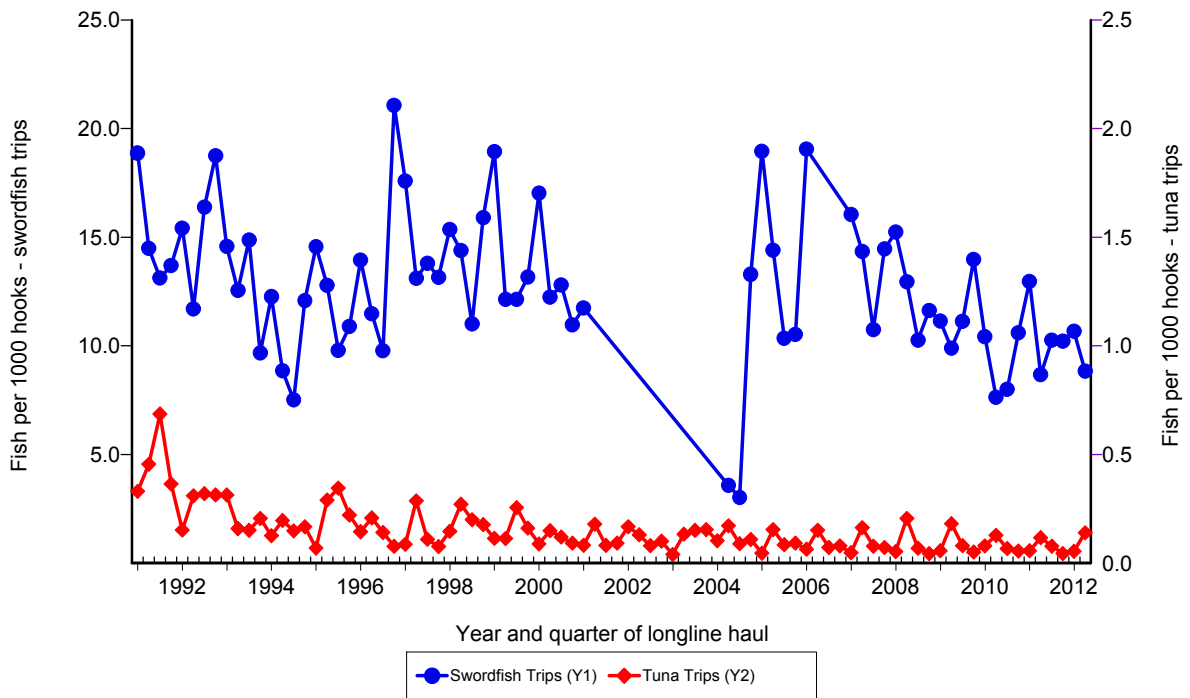


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:58:51AM]

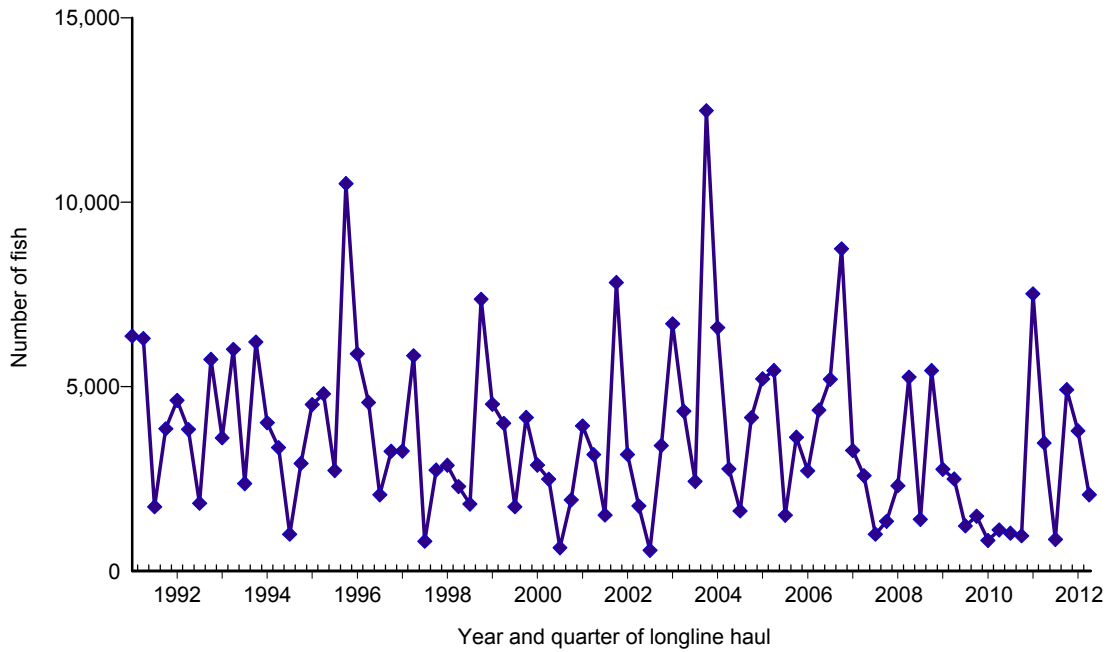


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:59:16AM]

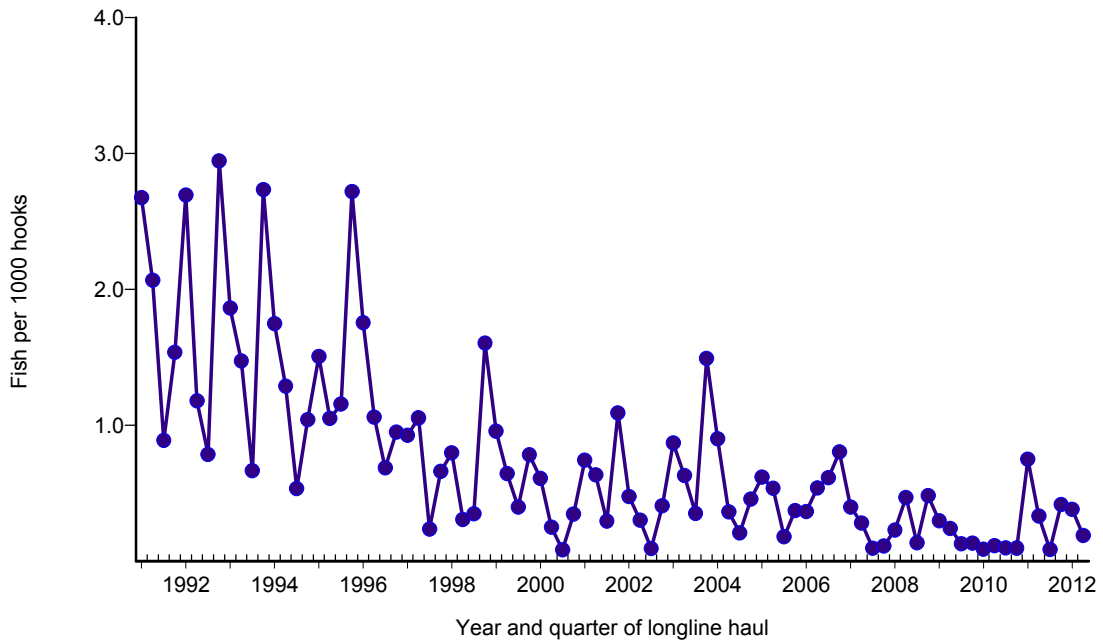


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:59:16AM]

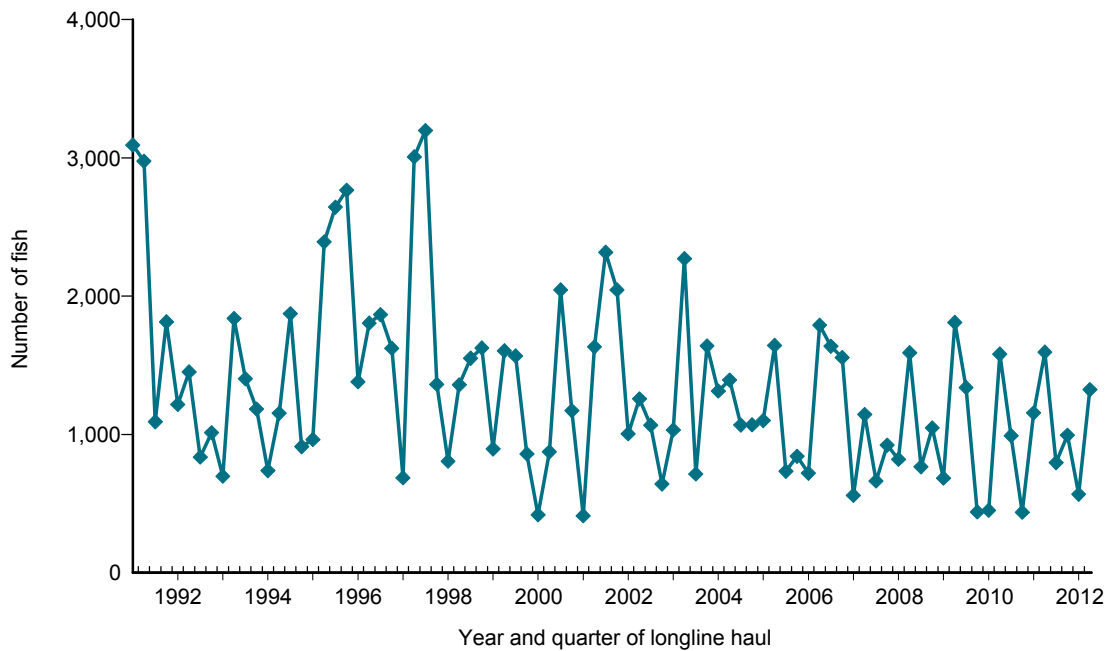


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:59:41AM]

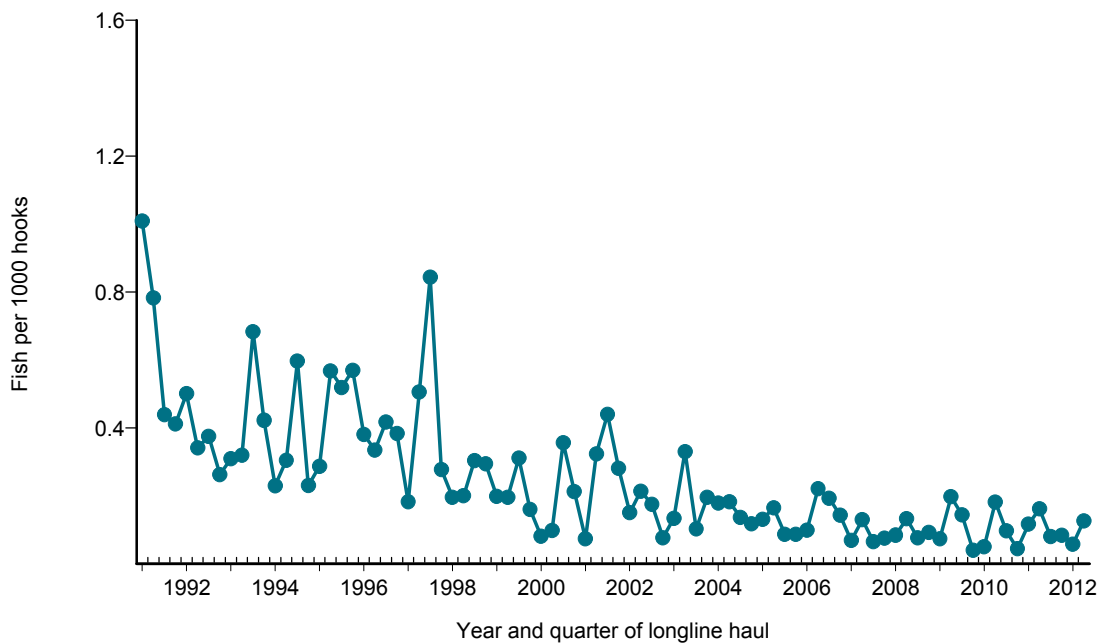


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 6:59:41AM]

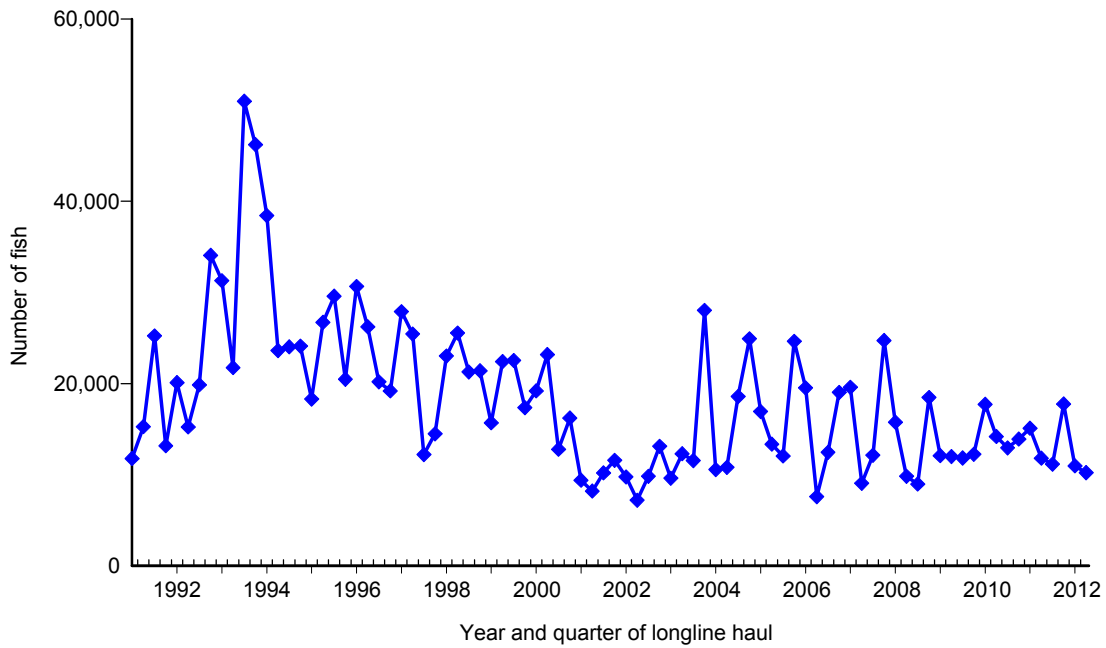


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 7:00:06AM]

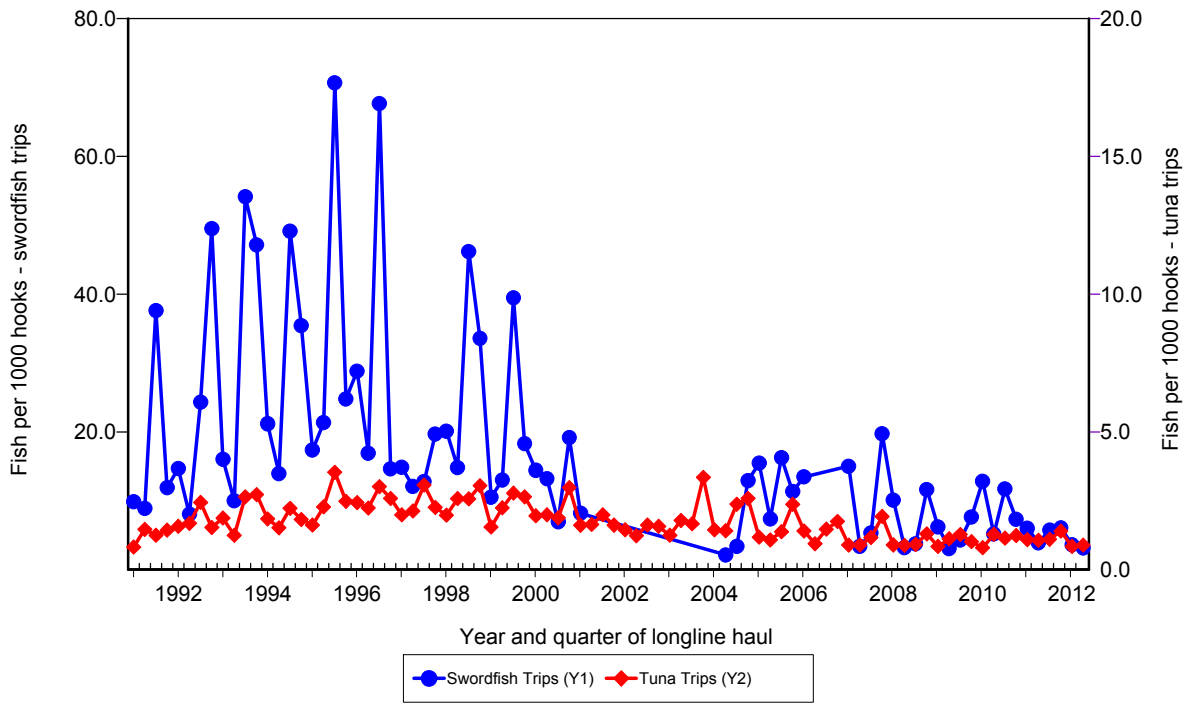


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 7:00:06AM]

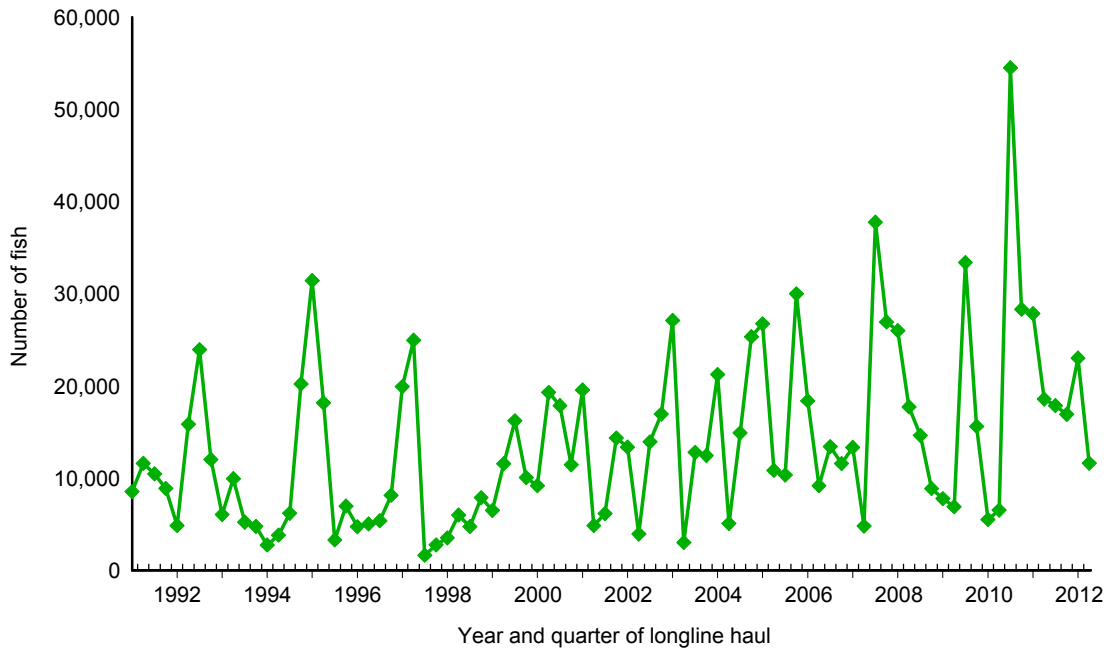


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 7:00:32AM]

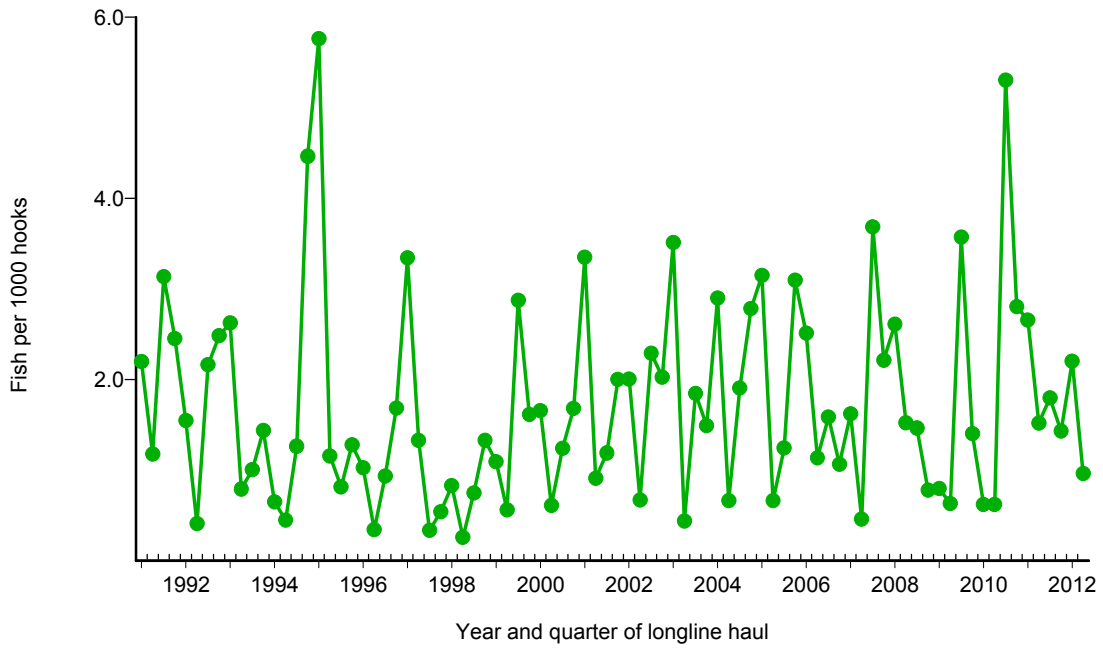


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 7:00:32AM]

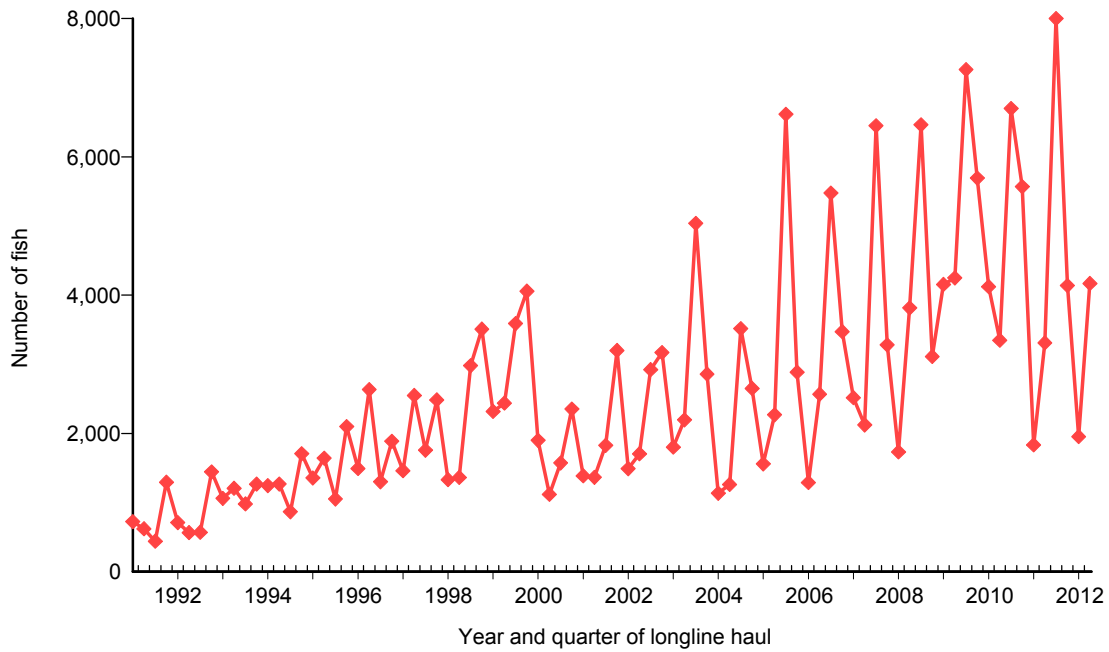


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:33:18AM]

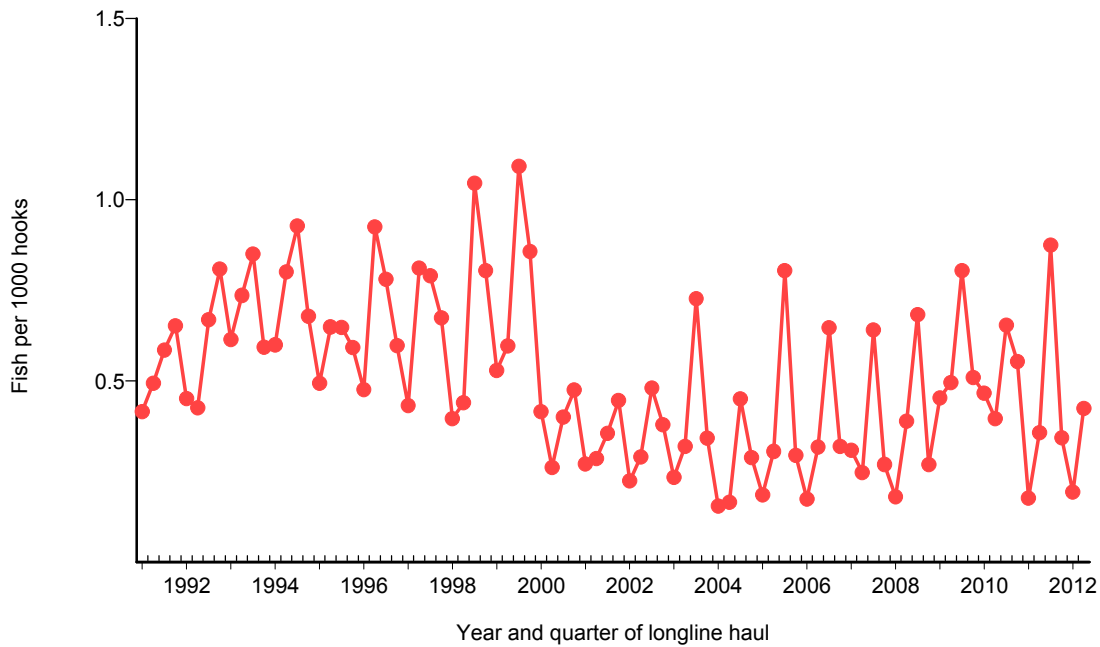


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:33:18AM]

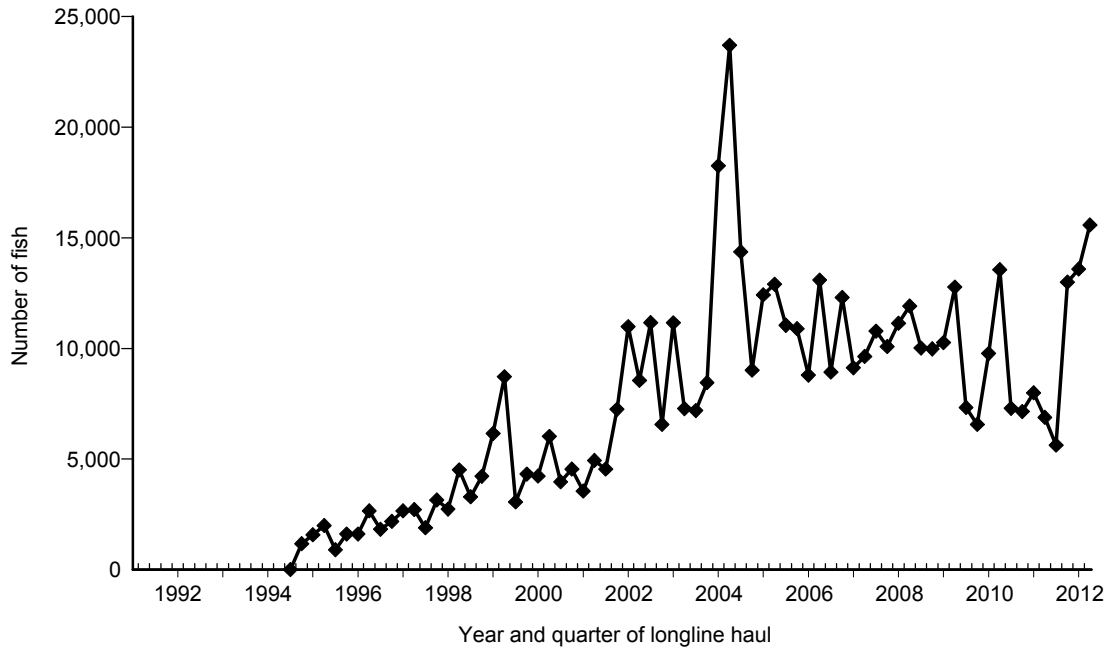


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:35:03AM]

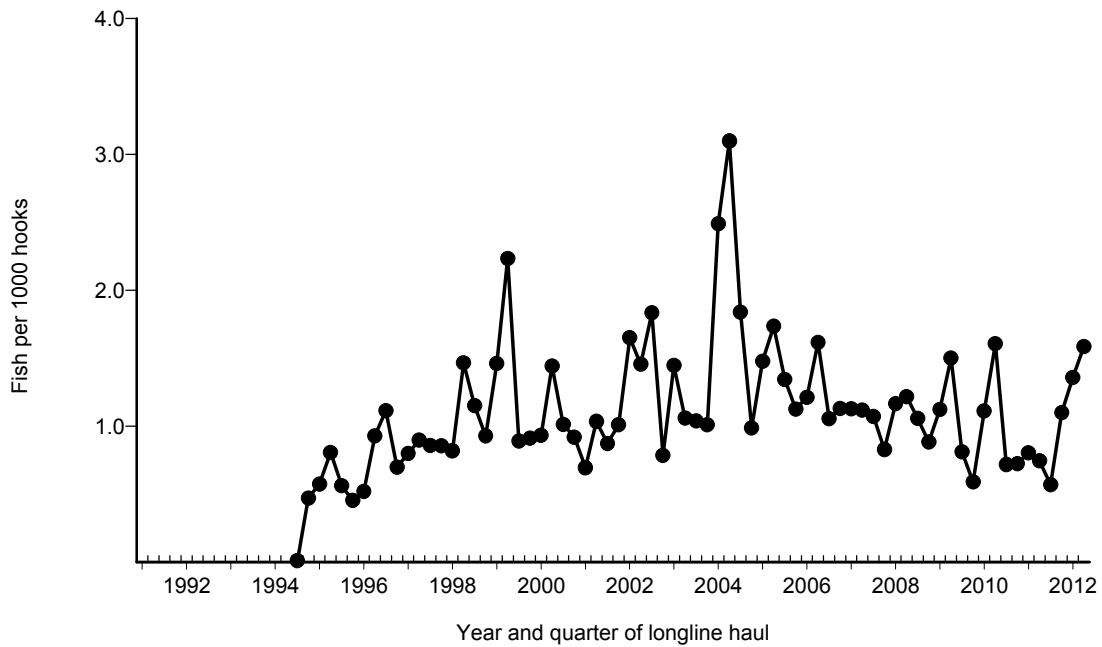


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:35:03AM]

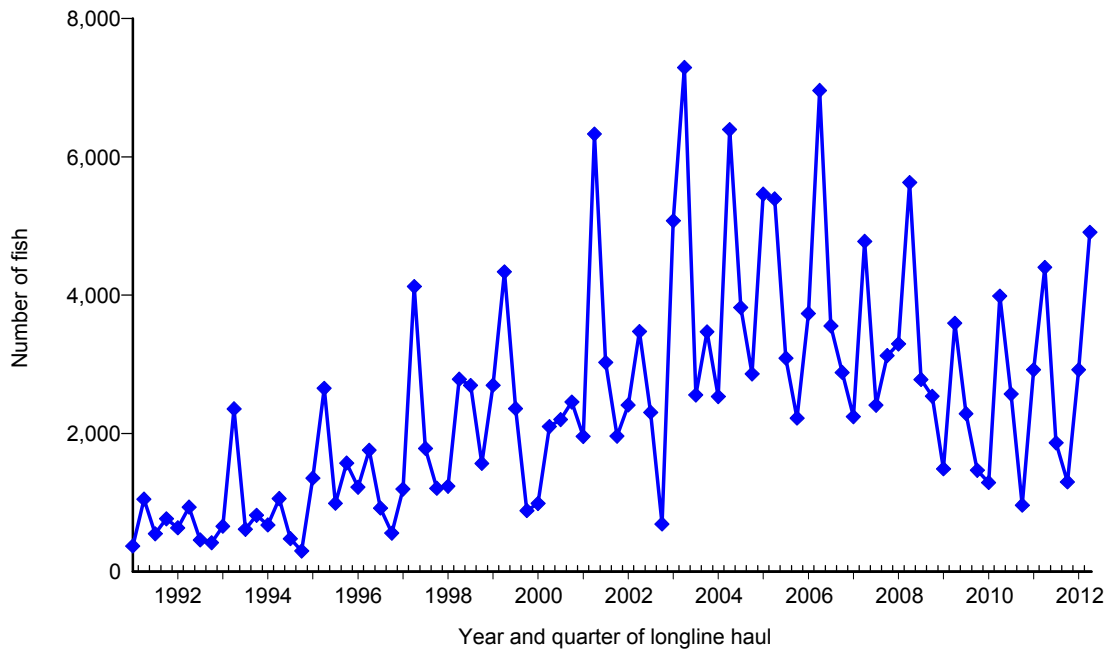


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:35:30AM]

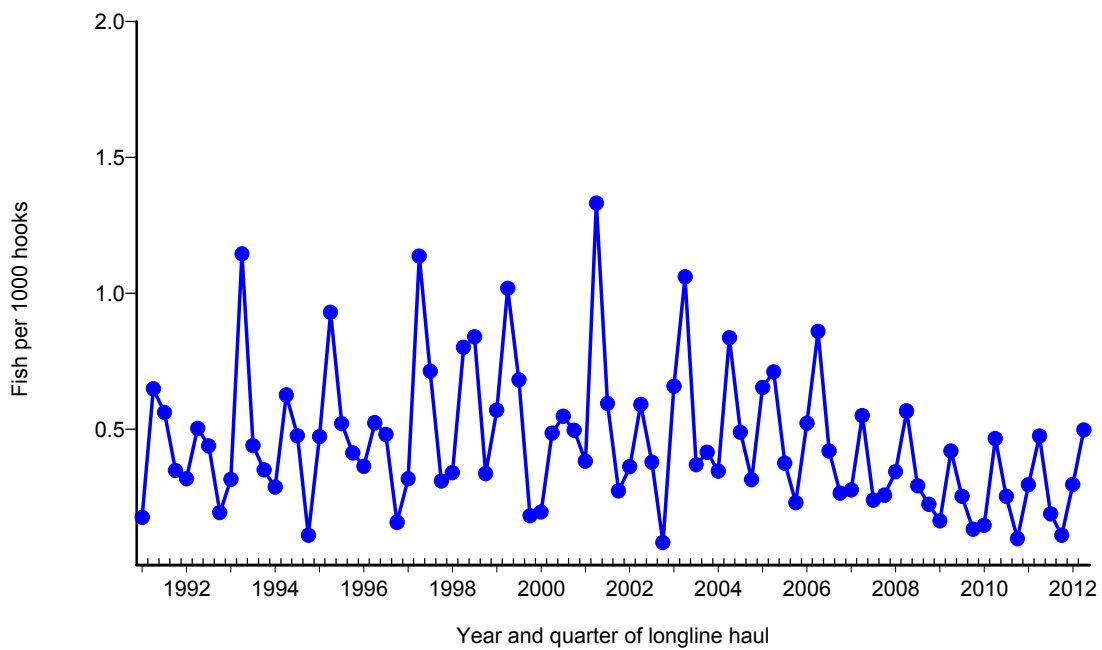


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2012. [PIFSC IMS, Longline Logbook Data, 8/16/2012 8:35:30AM]