

The Hawaii-based Longline Logbook Summary Report April–June 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 second quarter of 2010 (Q2-2010). 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 second quarter of 2010 and most, but not all, Q2-2010 data from trips that began late in the second quarter and continued into the third quarter of 2010. Therefore, the Q2-2010 summary statistics reported here are preliminary.

During Q2-2010, 122 vessels were active in the Hawaii-based fleet, 1 less vessel than in Q2-2009 (Table 1, Fig. 1). They made 364 longline trips (as in Q2-2009), including 314 using deep-set gear to target tuna (3 more than in Q2-2009) and 50 using shallow-set gear to target swordfish (3 less than in Q2-2009; Fig. 2). During Q2-2010, the fleet deployed 9.08 million hooks, 200,000 less than in Q2-2009 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ; 74% of the total hooks set), followed by the EEZ of the 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%), the main Hawaiian Islands (MHI) EEZ (9%), and the Northwestern Hawaiian Islands (NWHI) EEZ (8%).

In Q2-2010, the Hawaii longline fleet caught 29,851 bigeye tuna (Fig. 4); this total represents the catch on deep and shallow sets in all fishing areas. Seventy-four percent of the bigeye were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.5 fish per 1000 hooks, 40% higher than the Q2-2009 CPUE of 2.5 fish per 1000 hooks (Fig. 5). The total albacore catch and the albacore CPUE on tuna-targeted trips in Q2-2010 were at their highest levels in 4 years with 4,002 fish caught and a CPUE of 0.47 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q2-2010 were 3,189 fish and 0.37 fish per 1000 hooks, respectively (Figs. 8-9).

The Q2-2010 swordfish catch was 6,027 fish, 37% lower than in Q2-2009 (Fig. 10). In Q2-2010, the swordfish CPUE on shallow-set swordfish-targeted trips was 7.6 fish per 1000 hooks, 23% lower than in Q2-2009 (Fig. 11).

The striped marlin catch in Q2-2010 was 1,116 fish, and the CPUE on tuna-targeted trips was 0.11 fish per 1000 hooks; both were record lows (Figs. 12-13). The Q2-2010 blue marlin catch and CPUE on tuna-targeted trips were 1,581 fish and 0.18 fish per 1000 hooks, respectively (Figs. 14-15).

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The fleet caught 18,937 sharks in Q2-2010, of which 353 (2%) were kept. Blue shark comprised 75% of the total shark catch (14,195 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q2-2010 was 5.2 fish per 1000 hooks (Fig. 17).

In Q2-2010, the Hawaii longline catch of other key pelagic species included 6,534 mahimahi (Fig. 18) with a CPUE of 0.62 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 3,348 moonfish (Fig. 20) with a CPUE of 0.40 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 13,560 pomfret (Fig. 22) with a CPUE of 1.6 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 3,986 wahoo (Fig. 24) with a CPUE of 0.47 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. Q2-2010 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. Q2-2010 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, 8/24/2010 1:18:56PM].

Report Coverage					Number of vessels active	122
Time Period	2nd Quarter 2010				Number of trips	364
Fishing Area	All Areas				Number of sets	4,283
Trip Types	All Trip Types				Number of hooks set	9,076,532

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,581	1,566	15	0.17
Striped marlin	1,116	1,113	3	0.12
Shortbill spearfish	1,995	1,988	7	0.22
Swordfish	6,027	5,748	279	0.66
Other billfishes	86	82	4	0.01
Total	10,805	10,497	308	1.19
Sharks				
Blue shark	14,195	29	14,166	1.56
Mako sharks	643	204	439	0.07
Thresher sharks	3,427	89	3,338	0.38
Oceanic whitetip shark	369	24	345	0.04
Silky shark	44	0	44	0.00
Other sharks	259	7	252	0.03
Total	18,937	353	18,584	2.09
Tunas				
Albacore	4,002	3,981	21	0.44
Bigeye tuna	29,851	29,401	450	3.29
Yellowfin tuna	3,189	3,104	85	0.35
Bluefin tuna	2	2	0	0.00
Skipjack tuna	5,346	5,239	107	0.59
Other tunas	2	2	0	0.00
Total	42,392	41,729	663	4.67
Other PMUS				
Mahimahi	6,534	6,352	182	0.72
Moonfish	3,348	3,342	6	0.37
Wahoo	3,986	3,971	15	0.44
Oilfish	7,631	7,540	91	0.84
Pomfret	13,560	13,487	73	1.49
Total	35,059	34,692	367	3.86
Total PMUS	107,193	87,271	19,922	11.81
Total Non-PMUS	844	433	411	0.09
Total All Species	108,037	87,704	20,333	11.90

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, 8/24/2010 1:18:56PM].

Report Coverage		Number of vessels active			70
Time Period	2nd Quarter 2010	Number of trips			102
Fishing Area	Main Hawaiian Islands EEZ	Number of sets			455
Trip Types	All Trip Types	Number of hooks set			785,728

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	58	57	1	0.07
Striped marlin	120	120	0	0.15
Shortbill spearfish	226	226	0	0.29
Swordfish	1,030	1,007	23	1.31
Other billfishes	6	6	0	0.01
Total	1,440	1,416	24	1.83
Sharks				
Blue shark	1,507	0	1,507	1.92
Mako sharks	92	48	44	0.12
Thresher sharks	63	10	53	0.08
Oceanic whitetip shark	31	10	21	0.04
Silky shark	6	0	6	0.01
Other sharks	16	4	12	0.02
Total	1,715	72	1,643	2.18
Tunas				
Albacore	233	232	1	0.30
Bigeye tuna	1,236	1,192	44	1.57
Yellowfin tuna	246	242	4	0.31
Bluefin tuna	0	0	0	0.00
Skipjack tuna	566	559	7	0.72
Other tunas	0	0	0	0.00
Total	2,281	2,225	56	2.90
Other PMUS				
Mahimahi	842	822	20	1.07
Moonfish	170	170	0	0.22
Wahoo	267	266	1	0.34
Oilfish	662	662	0	0.84
Pomfret	421	414	7	0.54
Total	2,362	2,334	28	3.01
Total PMUS	7,798	6,047	1,751	9.92
Total Non-PMUS	386	248	138	0.49
Total All Species	8,184	6,295	1,889	10.42

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, 8/24/2010 1:18:56PM].

Report Coverage		Number of vessels active		38
Time Period	2nd Quarter 2010	Number of trips		50
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		428
Trip Types	All Trip Types	Number of hooks set		734,491

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	81	80	1	0.11
Striped marlin	242	239	3	0.33
Shortbill spearfish	70	69	1	0.10
Swordfish	2,345	2,206	139	3.19
Other billfishes	4	4	0	0.01
Total	2,742	2,598	144	3.73
Sharks				
Blue shark	1,478	0	1,478	2.01
Mako sharks	169	57	112	0.23
Thresher sharks	46	1	45	0.06
Oceanic whitetip shark	63	9	54	0.09
Silky shark	0	0	0	0.00
Other sharks	3	0	3	0.00
Total	1,759	67	1,692	2.39
Tunas				
Albacore	637	635	2	0.87
Bigeye tuna	1,782	1,753	29	2.43
Yellowfin tuna	198	197	1	0.27
Bluefin tuna	2	2	0	0.00
Skipjack tuna	244	244	0	0.33
Other tunas	0	0	0	0.00
Total	2,863	2,831	32	3.90
Other PMUS				
Mahimahi	457	450	7	0.62
Moonfish	460	460	0	0.63
Wahoo	224	223	1	0.30
Oilfish	848	832	16	1.15
Pomfret	261	260	1	0.36
Total	2,250	2,225	25	3.06
Total PMUS	9,614	7,721	1,893	13.09
Total Non-PMUS	12	10	2	0.02
Total All Species	9,626	7,731	1,895	13.11

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, 8/24/2010 1:18:56PM].

Report Coverage		Number of vessels active		46
Time Period	2nd Quarter 2010	Number of trips		59
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		361
Trip Types	All Trip Types	Number of hooks set		872,283

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	215	208	7	0.25
Striped marlin	70	70	0	0.08
Shortbill spearfish	129	129	0	0.15
Swordfish	117	111	6	0.13
Other billfishes	19	19	0	0.02
Total	550	537	13	0.63
Sharks				
Blue shark	846	5	841	0.97
Mako sharks	34	9	25	0.04
Thresher sharks	363	9	354	0.42
Oceanic whitetip shark	108	2	106	0.12
Silky shark	29	0	29	0.03
Other sharks	100	0	100	0.11
Total	1,480	25	1,455	1.70
Tunas				
Albacore	516	516	0	0.59
Bigeye tuna	4,623	4,510	113	5.30
Yellowfin tuna	947	923	24	1.09
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,306	1,272	34	1.50
Other tunas	0	0	0	0.00
Total	7,392	7,221	171	8.47
Other PMUS				
Mahimahi	31	31	0	0.04
Moonfish	74	74	0	0.08
Wahoo	328	327	1	0.38
Oilfish	497	496	1	0.57
Pomfret	1,198	1,195	3	1.37
Total	2,128	2,123	5	2.44
Total PMUS	11,550	9,906	1,644	13.24
Total Non-PMUS	3	1	2	0.00
Total All Species	11,553	9,907	1,646	13.24

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, 8/24/2010 1:18:56PM].

Report Coverage		Number of vessels active		103	
Time Period	2nd Quarter 2010	Number of trips		190	
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of sets		1,244	
Trip Types	All Trip Types	Number of hooks set		2,392,502	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	354	345	9	0.15
Striped marlin	432	429	3	0.18
Shortbill spearfish	425	424	1	0.18
Swordfish	3,492	3,324	168	1.46
Other billfishes	29	29	0	0.01
Total	4,732	4,551	181	1.98
Sharks				
Blue shark	3,831	5	3,826	1.60
Mako sharks	295	114	181	0.12
Thresher sharks	472	20	452	0.20
Oceanic whitetip shark	202	21	181	0.08
Silky shark	35	0	35	0.01
Other sharks	119	4	115	0.05
Total	4,954	164	4,790	2.07
Tunas				
Albacore	1,386	1,383	3	0.58
Bigeye tuna	7,641	7,455	186	3.19
Yellowfin tuna	1,391	1,362	29	0.58
Bluefin tuna	2	2	0	0.00
Skipjack tuna	2,116	2,075	41	0.88
Other tunas	0	0	0	0.00
Total	12,536	12,277	259	5.24
Other PMUS				
Mahimahi	1,330	1,303	27	0.56
Moonfish	704	704	0	0.29
Wahoo	819	816	3	0.34
Oilfish	2,007	1,990	17	0.84
Pomfret	1,880	1,869	11	0.79
Total	6,740	6,682	58	2.82
Total PMUS	28,962	23,674	5,288	12.11
Total Non-PMUS	401	259	142	0.17
Total All Species	29,363	23,933	5,430	12.27

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, 8/24/2010 1:18:56PM].

Report Coverage					Number of vessels active	118
Time Period	2nd Quarter 2010				Number of trips	319
Fishing Area	Outside U.S. EEZ				Number of sets	3,039
Trip Types	All Trip Types				Number of hooks set	6,684,030

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,227	1,221	6	0.18
Striped marlin	684	684	0	0.10
Shortbill spearfish	1,570	1,564	6	0.23
Swordfish	2,535	2,424	111	0.38
Other billfishes	57	53	4	0.01
Total	6,073	5,946	127	0.91
Sharks				
Blue shark	10,364	24	10,340	1.55
Mako sharks	348	90	258	0.05
Thresher sharks	2,955	69	2,886	0.44
Oceanic whitetip shark	167	3	164	0.02
Silky shark	9	0	9	0.00
Other sharks	140	3	137	0.02
Total	13,983	189	13,794	2.09
Tunas				
Albacore	2,616	2,598	18	0.39
Bigeye tuna	22,210	21,946	264	3.32
Yellowfin tuna	1,798	1,742	56	0.27
Bluefin tuna	0	0	0	0.00
Skipjack tuna	3,230	3,164	66	0.48
Other tunas	2	2	0	0.00
Total	29,856	29,452	404	4.47
Other PMUS				
Mahimahi	5,204	5,049	155	0.78
Moonfish	2,644	2,638	6	0.40
Wahoo	3,167	3,155	12	0.47
Oilfish	5,624	5,550	74	0.84
Pomfret	11,680	11,618	62	1.75
Total	28,319	28,010	309	4.24
Total PMUS	78,231	63,597	14,634	11.70
Total Non-PMUS	443	174	269	0.07
Total All Species	78,674	63,771	14,903	11.77

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, 8/24/2010 1:18:56PM].

Report Coverage		Number of vessels active		27
Time Period	2nd Quarter 2010	Number of trips		50
Fishing Area	All Areas	Number of sets		651
Trip Types	Swordfish Targeted Trips	Number of hooks set		649,021

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	50	48	2	0.08
Striped marlin	152	150	2	0.23
Shortbill spearfish	27	27	0	0.04
Swordfish	4,952	4,717	235	7.63
Other billfishes	1	1	0	0.00
Total	5,182	4,943	239	7.98
Sharks				
Blue shark	3,362	9	3,353	5.18
Mako sharks	255	83	172	0.39
Thresher sharks	37	8	29	0.06
Oceanic whitetip shark	61	15	46	0.09
Silky shark	6	0	6	0.01
Other sharks	13	0	13	0.02
Total	3,734	115	3,619	5.75
Tunas				
Albacore	46	32	14	0.07
Bigeye tuna	284	262	22	0.44
Yellowfin tuna	101	101	0	0.16
Bluefin tuna	2	2	0	0.00
Skipjack tuna	10	10	0	0.02
Other tunas	0	0	0	0.00
Total	443	407	36	0.68
Other PMUS				
Mahimahi	1,301	1,228	73	2.00
Moonfish	16	14	2	0.02
Wahoo	64	63	1	0.10
Oilfish	1,141	1,074	67	1.76
Pomfret	30	28	2	0.05
Total	2,552	2,407	145	3.93
Total PMUS	11,911	7,872	4,039	18.35
Total Non-PMUS	16	12	4	0.02
Total All Species	11,927	7,884	4,043	18.38

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, 8/24/2010 1:18:56PM].

Report Coverage					Number of vessels active	111
Time Period	2nd Quarter 2010				Number of trips	314
Fishing Area	All Areas				Number of sets	3,632
Trip Types	Tuna Targeted Trips				Number of hooks set	8,427,511

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,531	1,518	13	0.18
Striped marlin	964	963	1	0.11
Shortbill spearfish	1,968	1,961	7	0.23
Swordfish	1,075	1,031	44	0.13
Other billfishes	85	81	4	0.01
Total	5,623	5,554	69	0.67
Sharks				
Blue shark	10,833	20	10,813	1.29
Mako sharks	388	121	267	0.05
Thresher sharks	3,390	81	3,309	0.40
Oceanic whitetip shark	308	9	299	0.04
Silky shark	38	0	38	0.00
Other sharks	246	7	239	0.03
Total	15,203	238	14,965	1.80
Tunas				
Albacore	3,956	3,949	7	0.47
Bigeye tuna	29,567	29,139	428	3.51
Yellowfin tuna	3,088	3,003	85	0.37
Bluefin tuna	0	0	0	0.00
Skipjack tuna	5,336	5,229	107	0.63
Other tunas	2	2	0	0.00
Total	41,949	41,322	627	4.98
Other PMUS				
Mahimahi	5,233	5,124	109	0.62
Moonfish	3,332	3,328	4	0.40
Wahoo	3,922	3,908	14	0.47
Oilfish	6,490	6,466	24	0.77
Pomfret	13,530	13,459	71	1.61
Total	32,507	32,285	222	3.86
Total PMUS	95,282	79,399	15,883	11.31
Total Non-PMUS	828	421	407	0.10
Total All Species	96,110	79,820	16,290	11.40

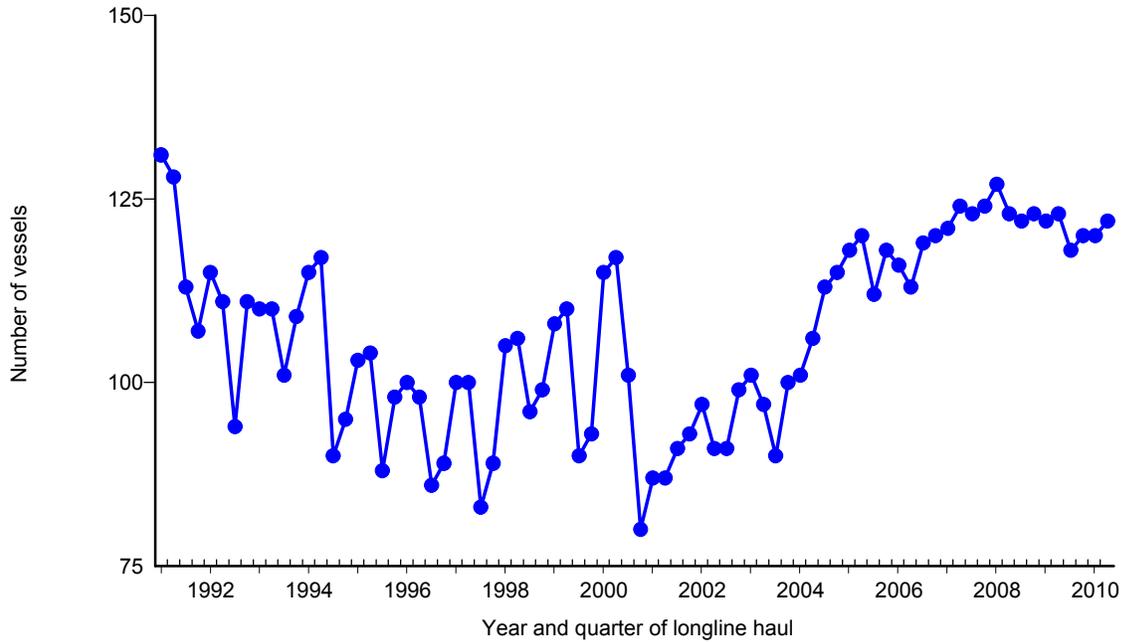


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:42:56PM]

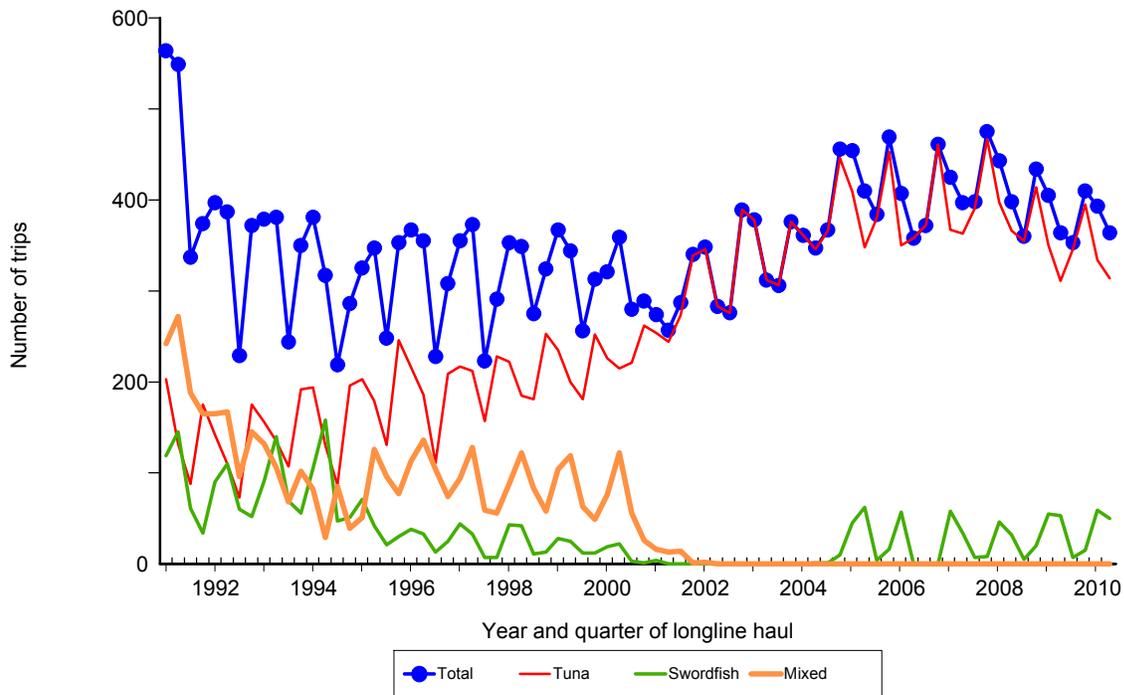


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:42:56PM]

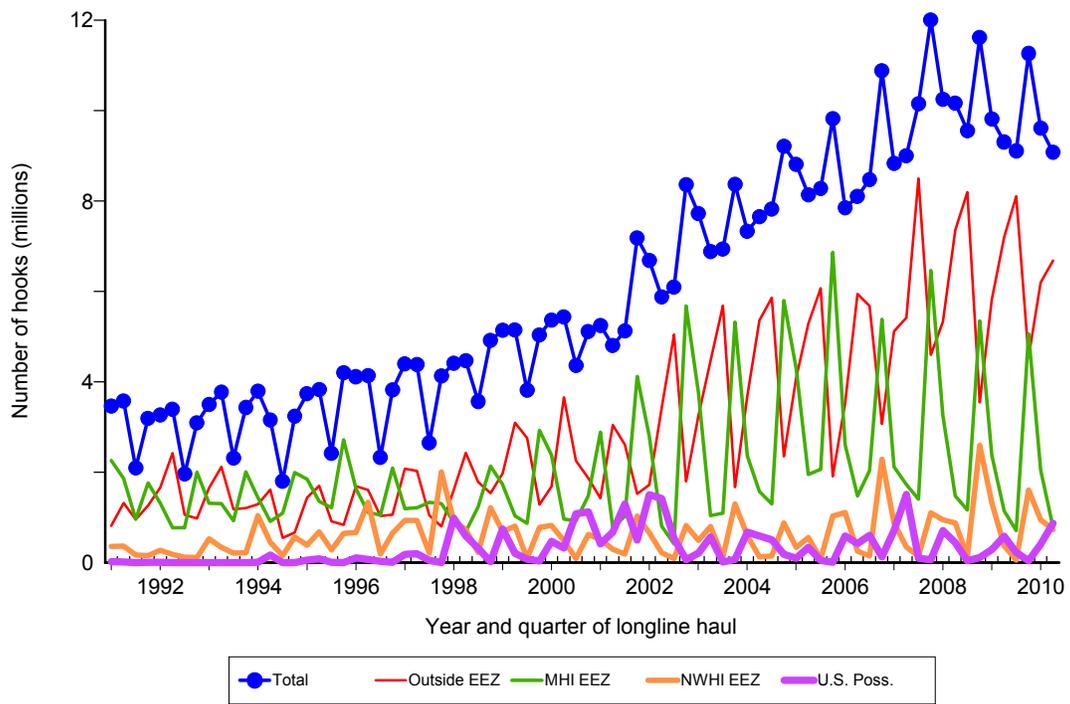


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:44:42PM]

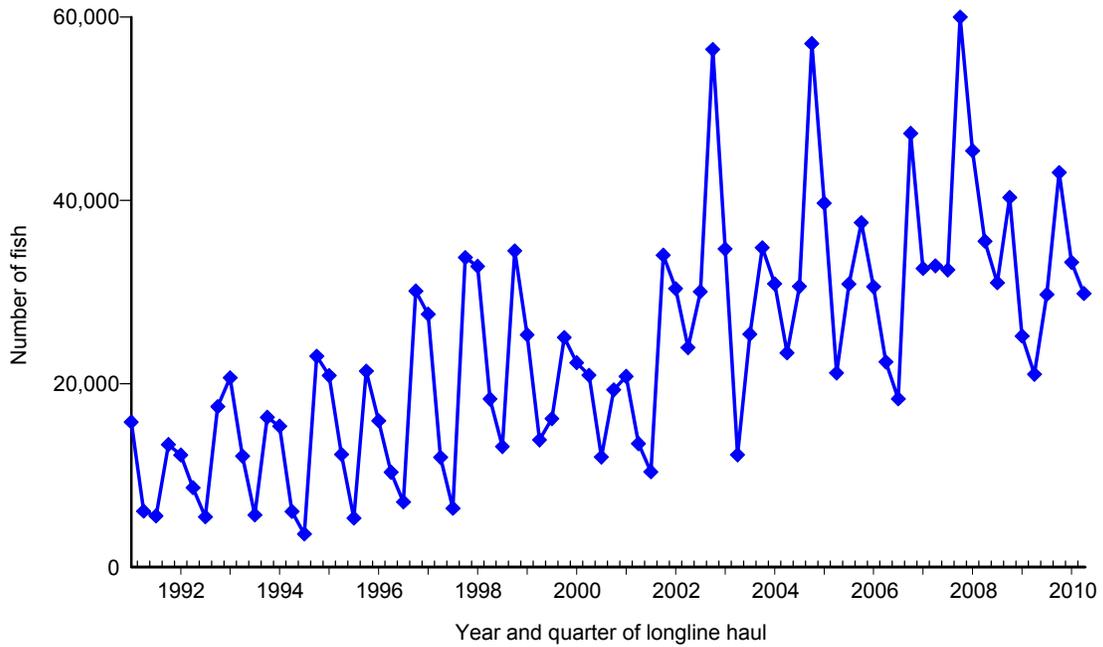


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:45:05PM]

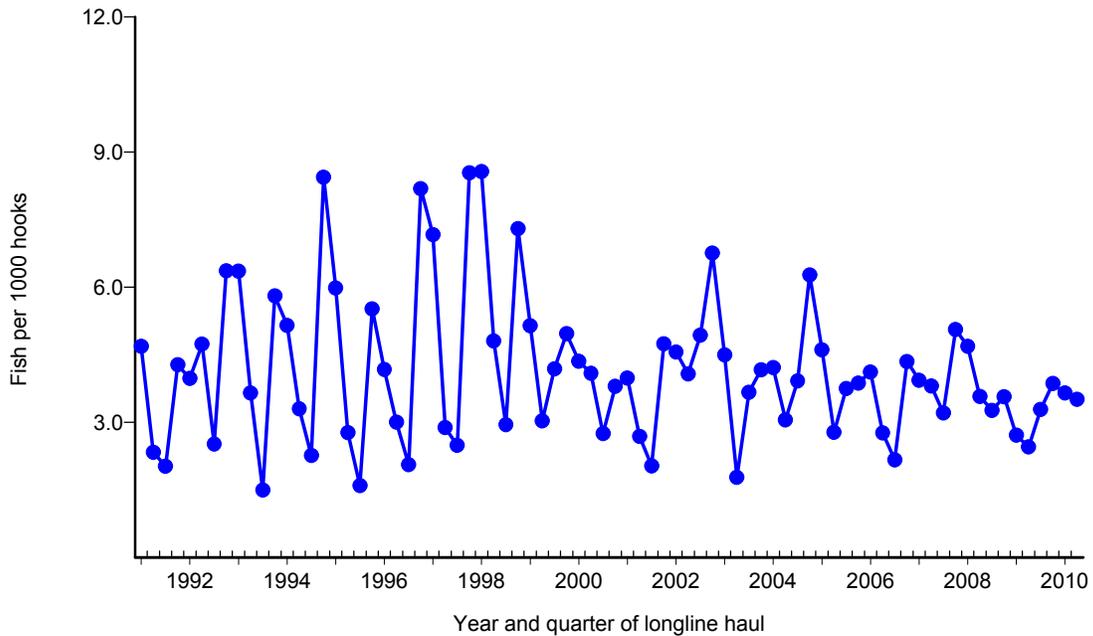


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:45:05PM]

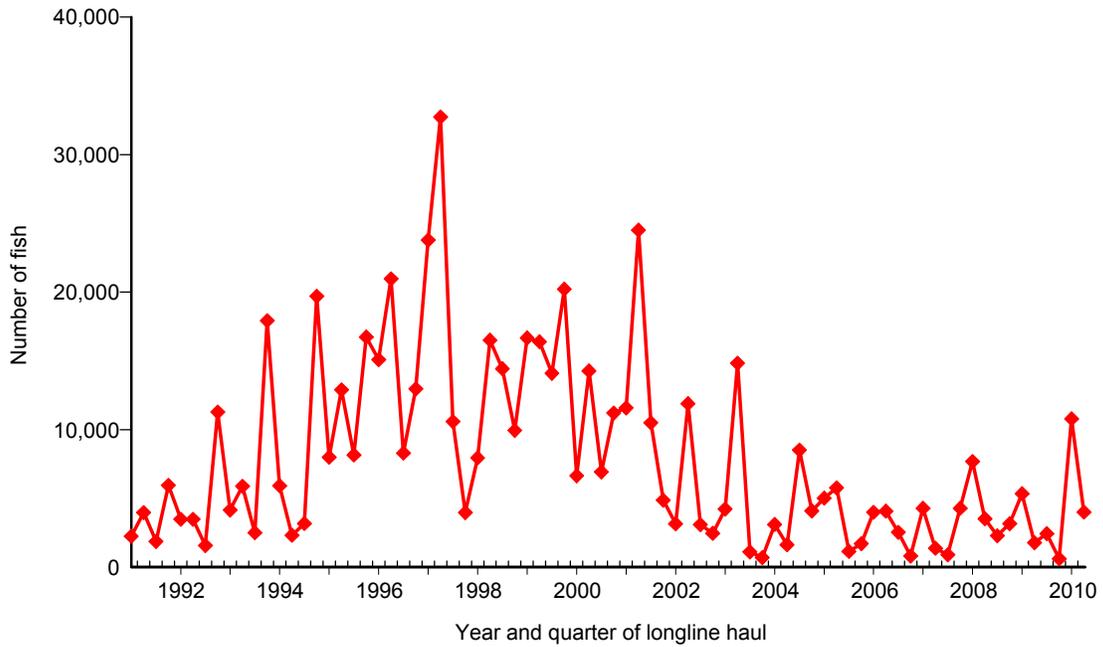


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:45:33PM]

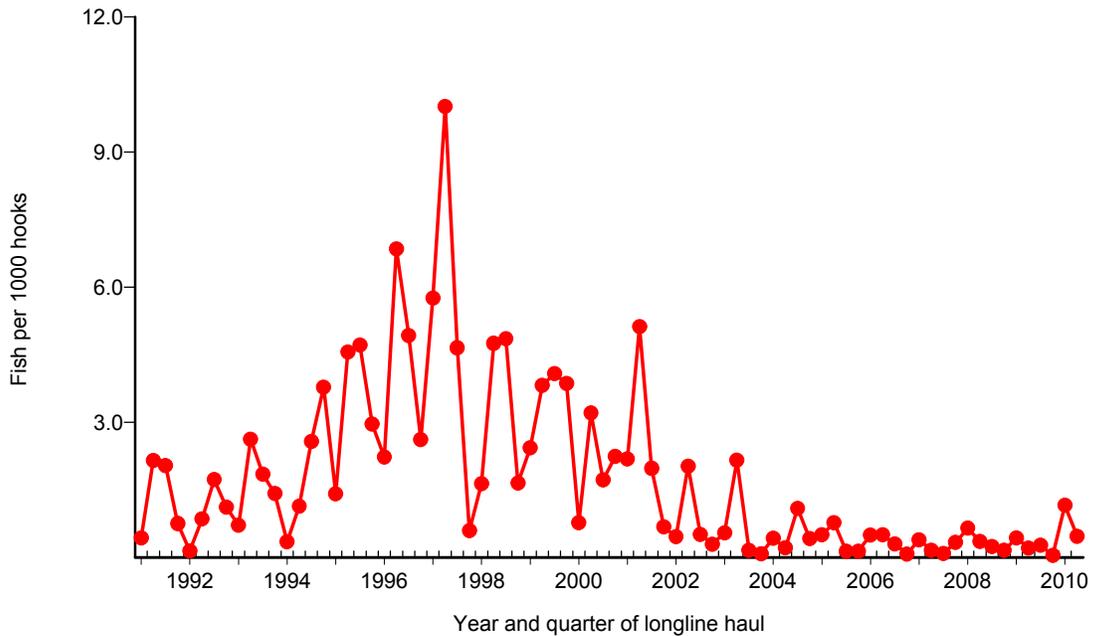


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:45:33PM]

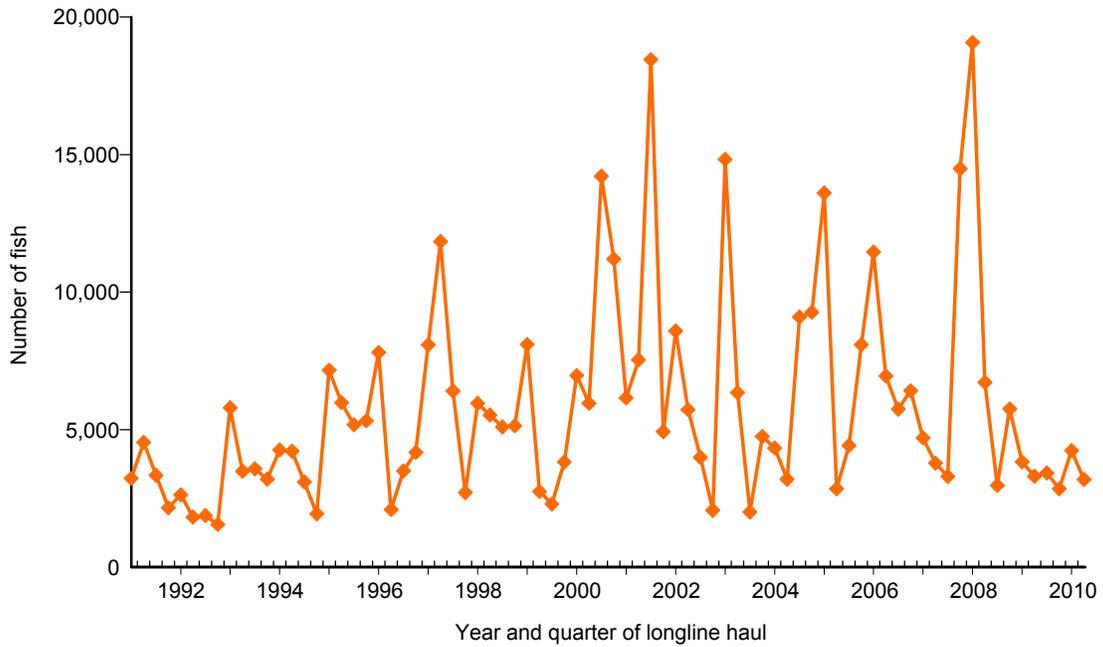


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:00PM]

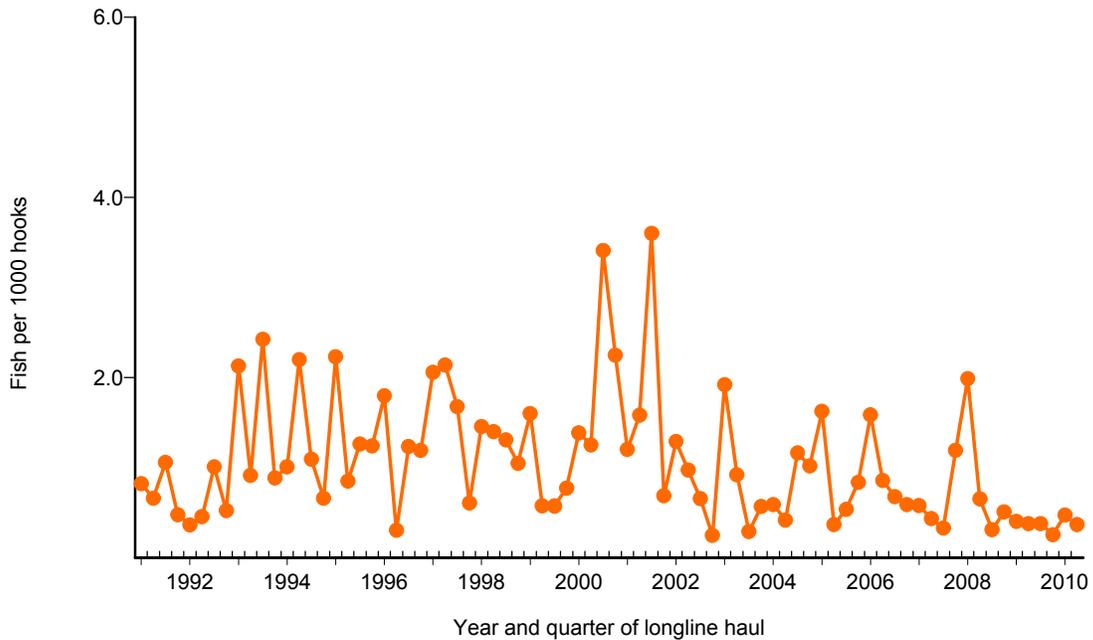


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:00PM]

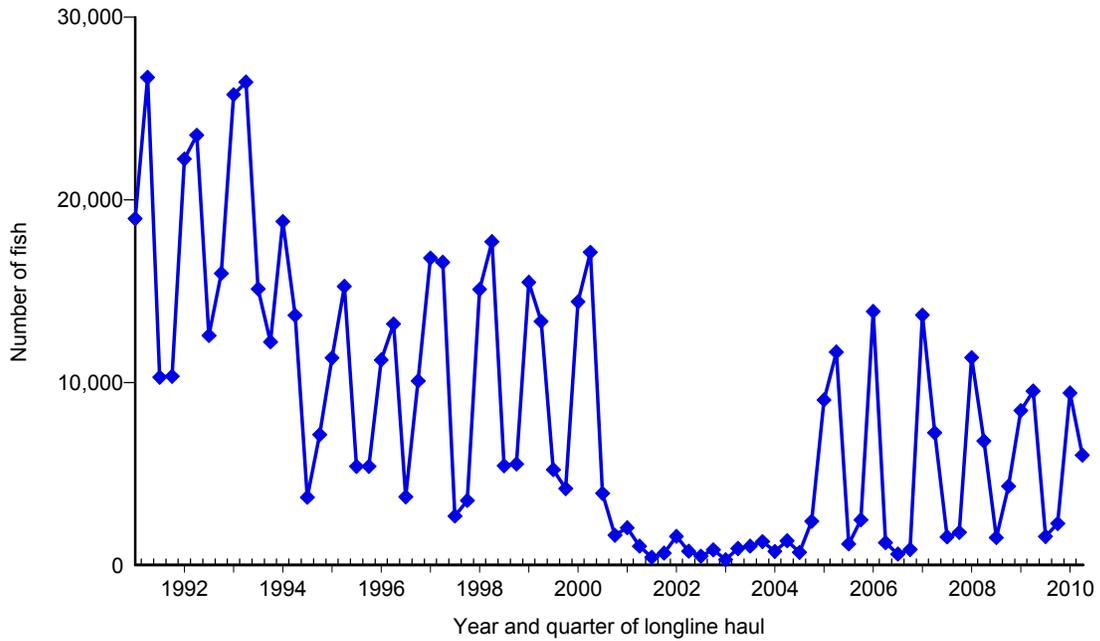


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:28PM]

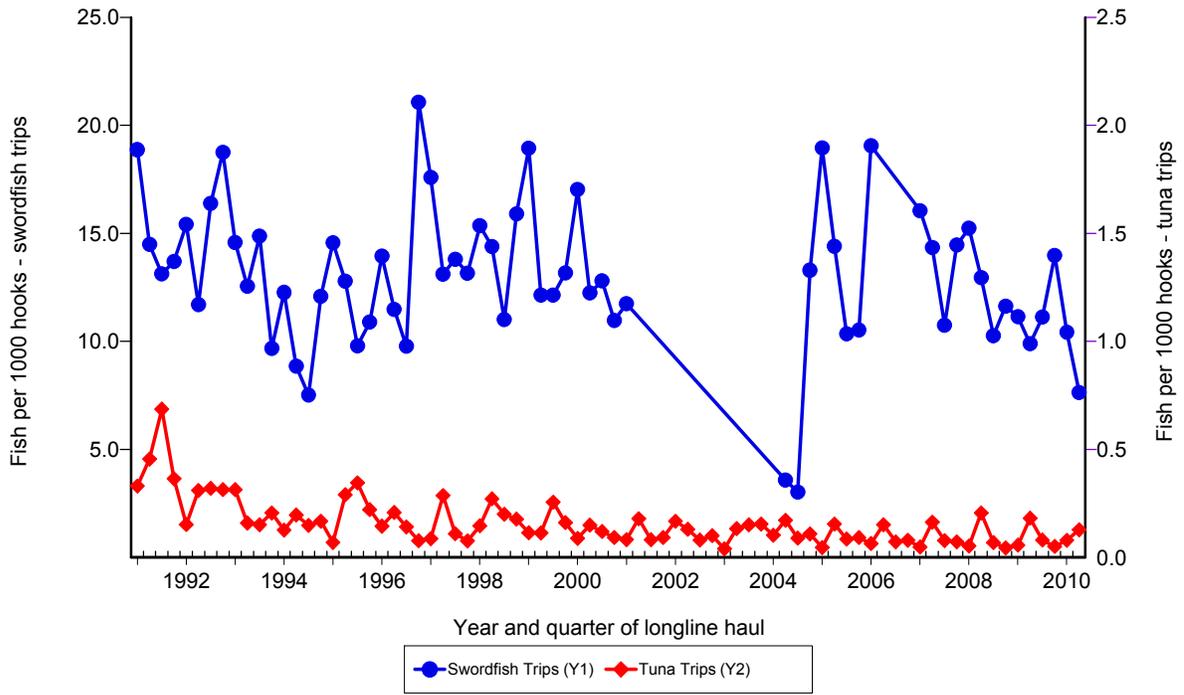


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:28PM]

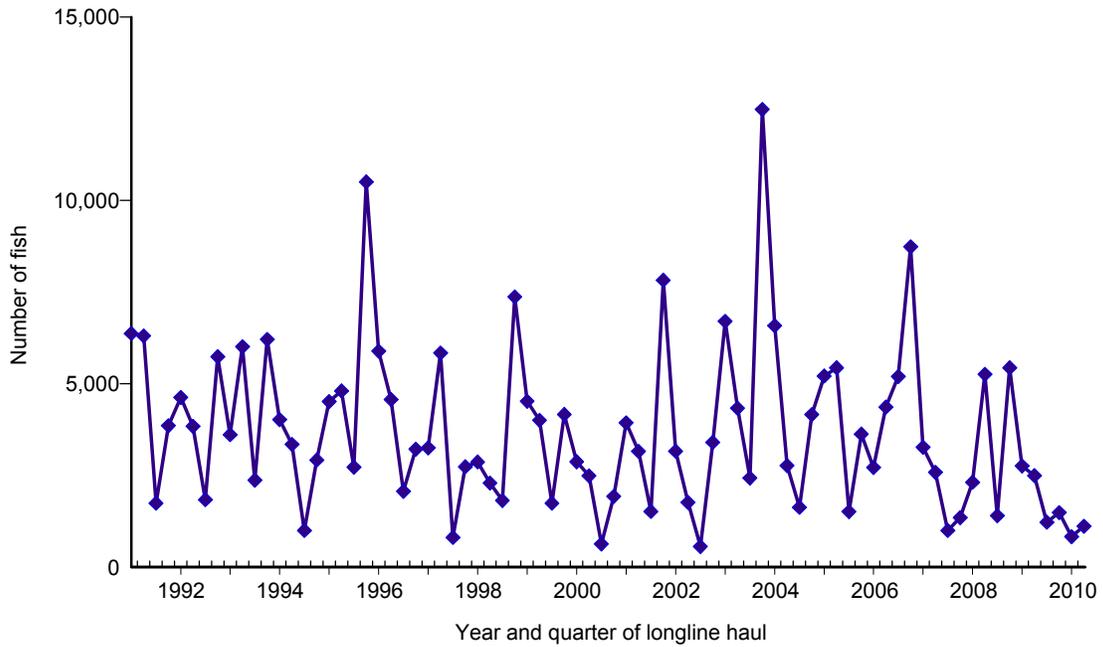


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:57PM]

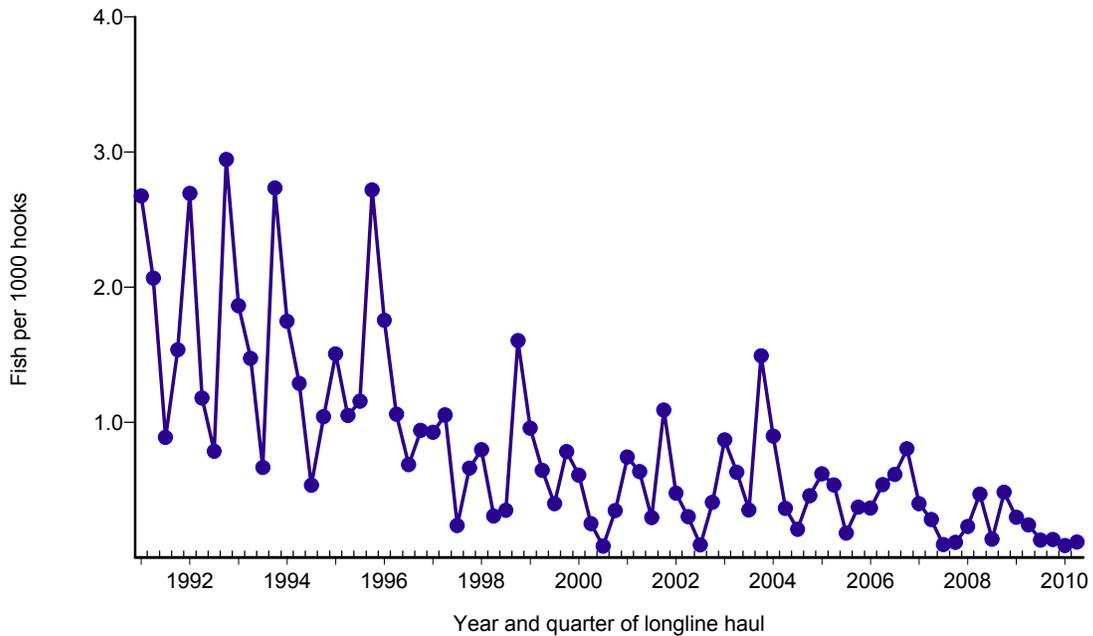


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:46:57PM]

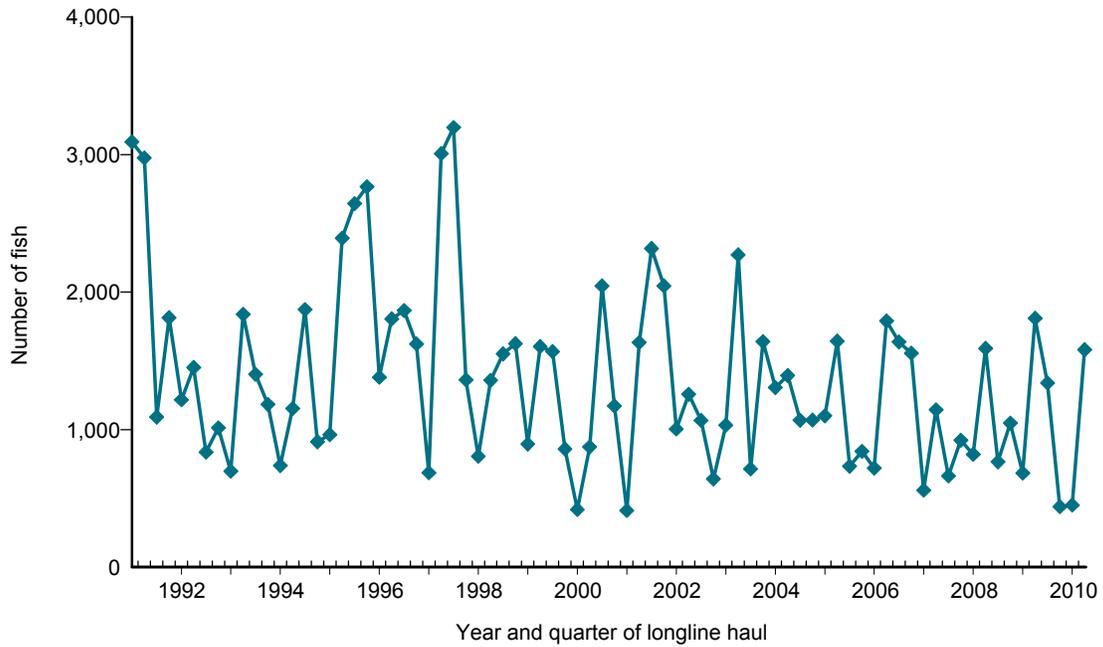


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:47:24PM]

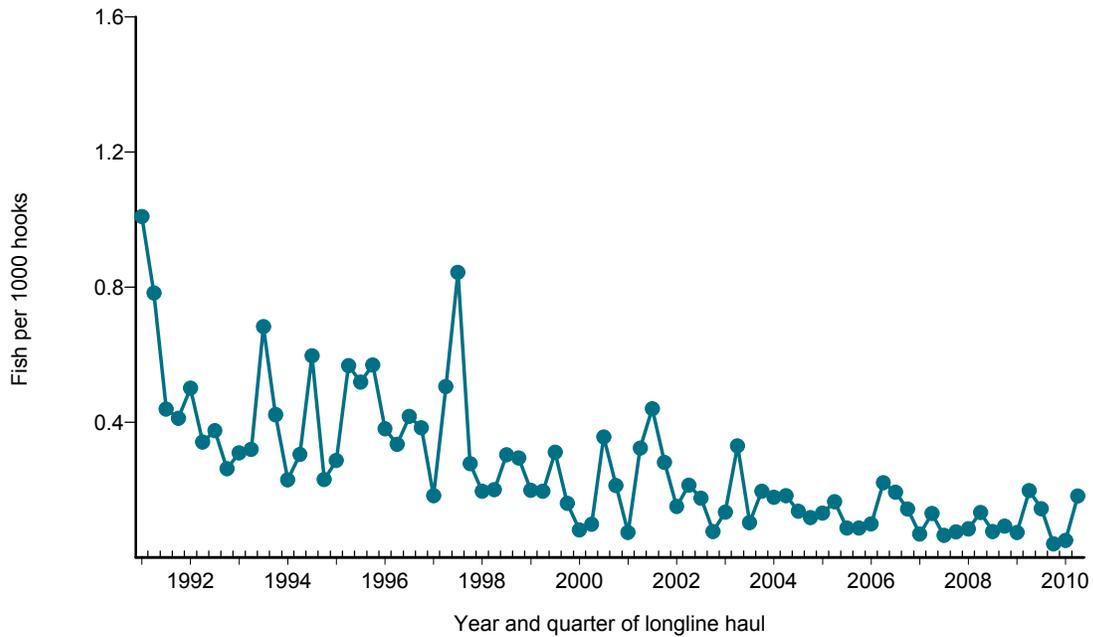


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:47:24PM]

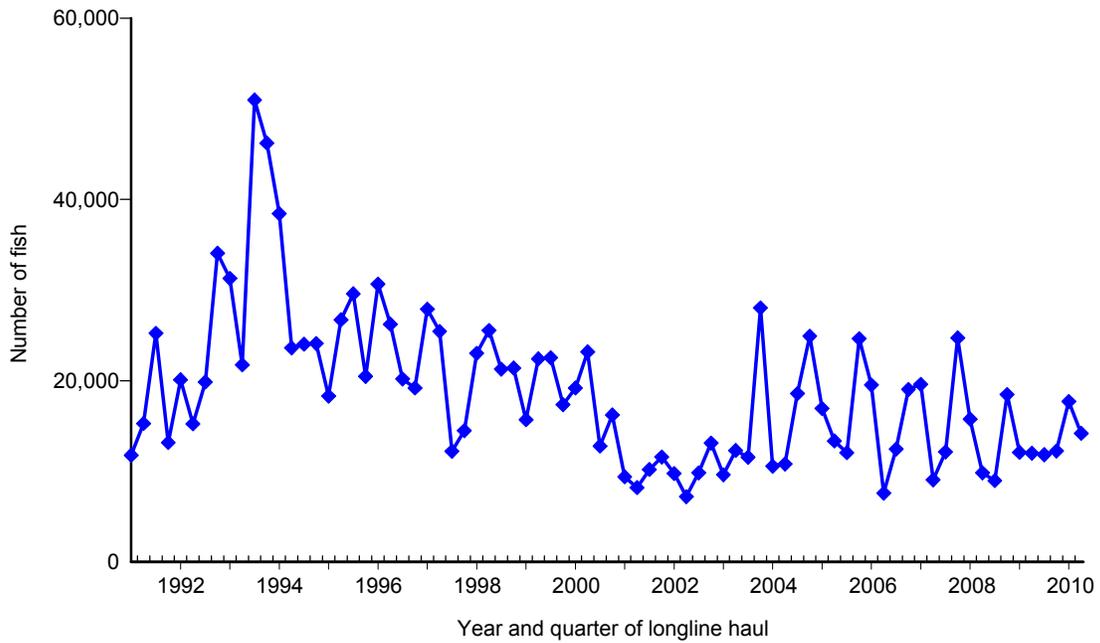


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:47:52PM]

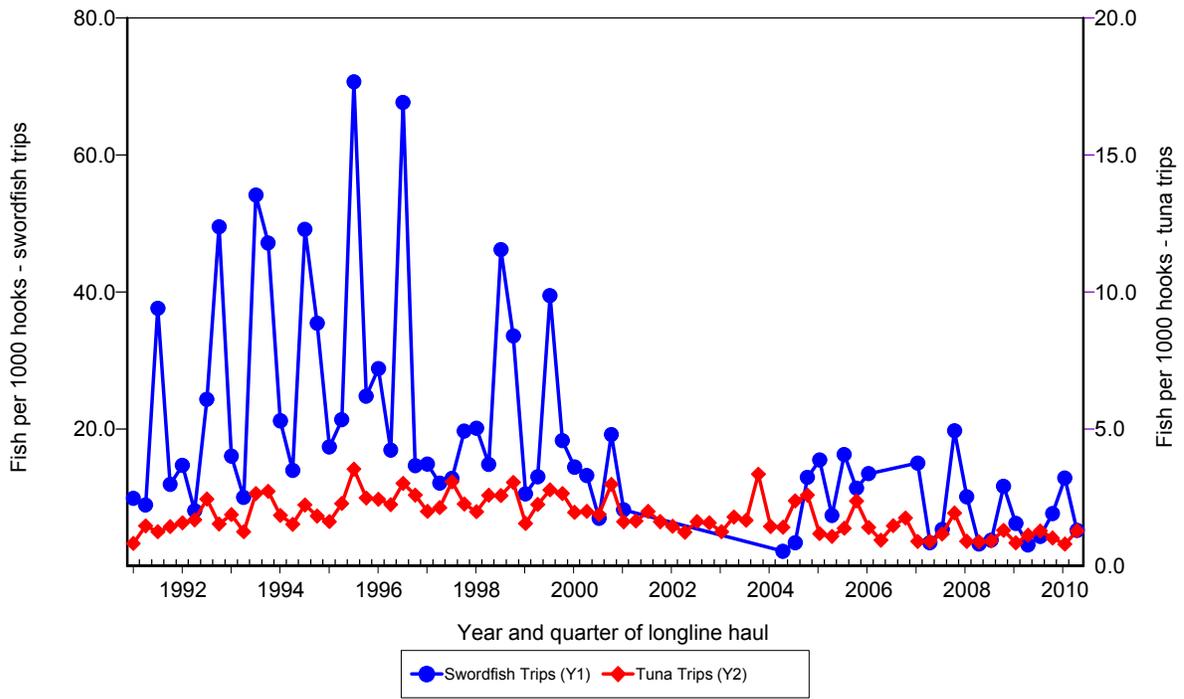


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:47:52PM]

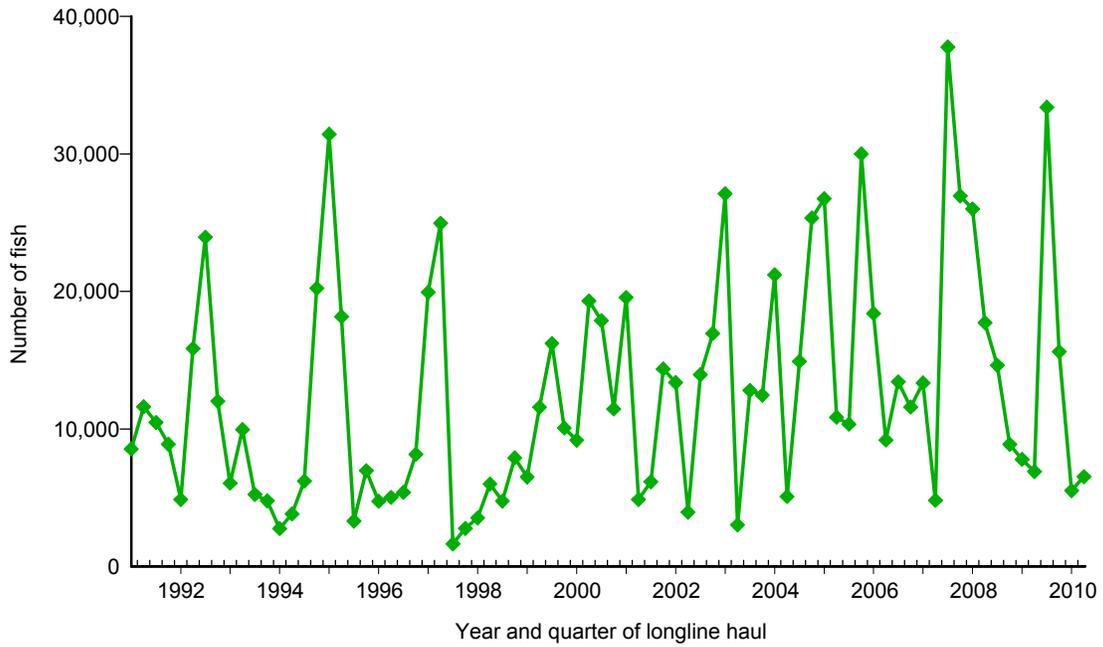


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:48:21PM]

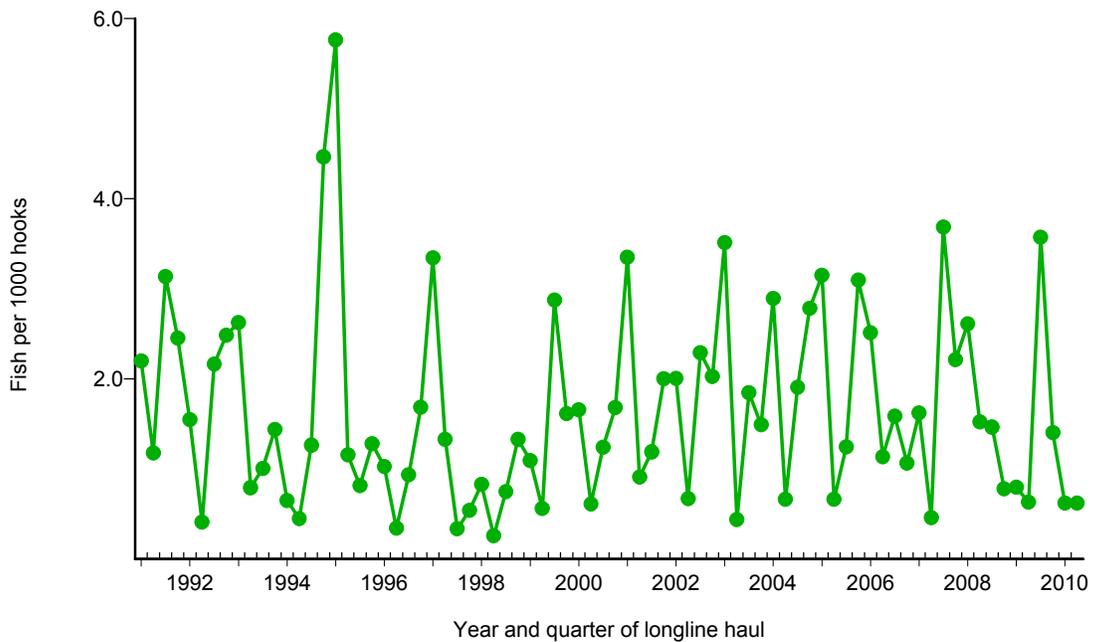


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:48:21PM]

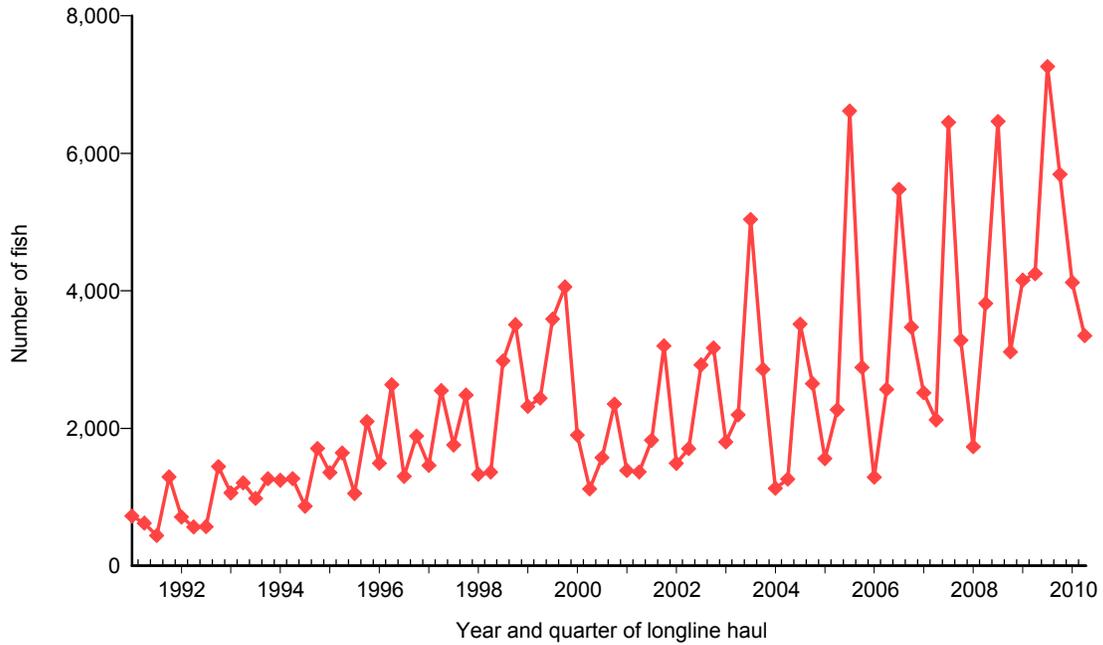


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:48:49PM]

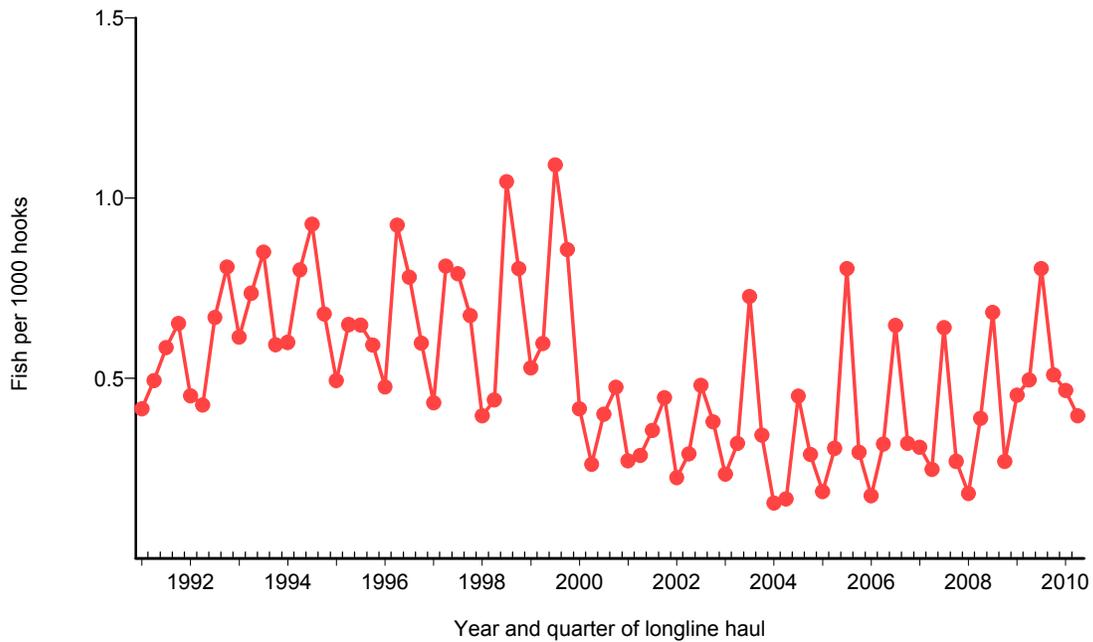


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:48:49PM]

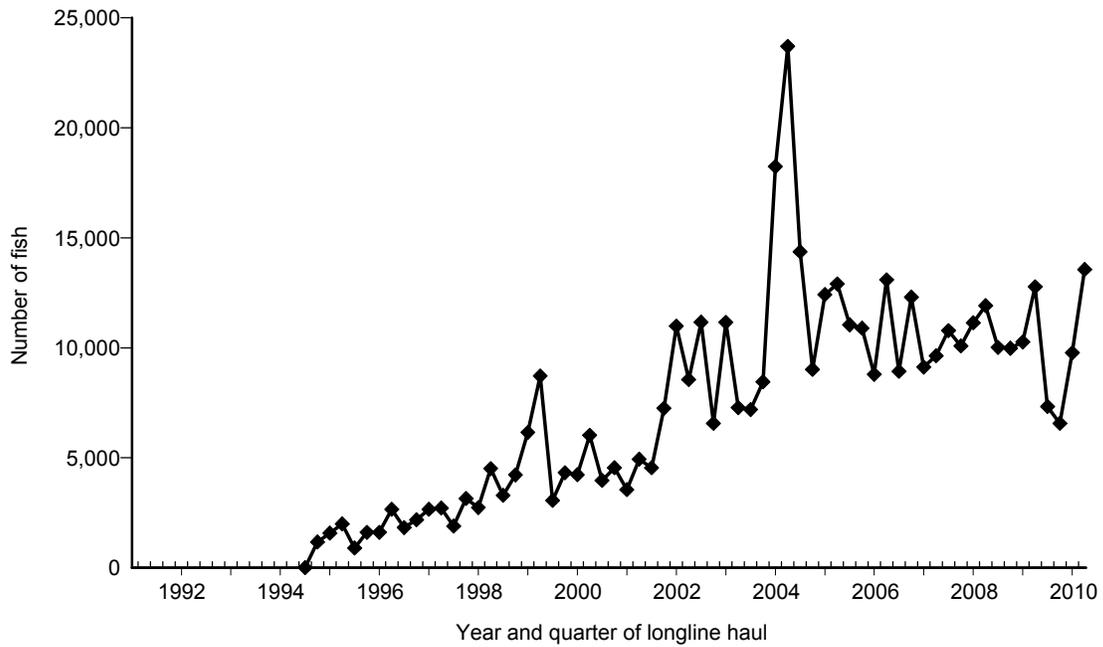


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:49:17PM]

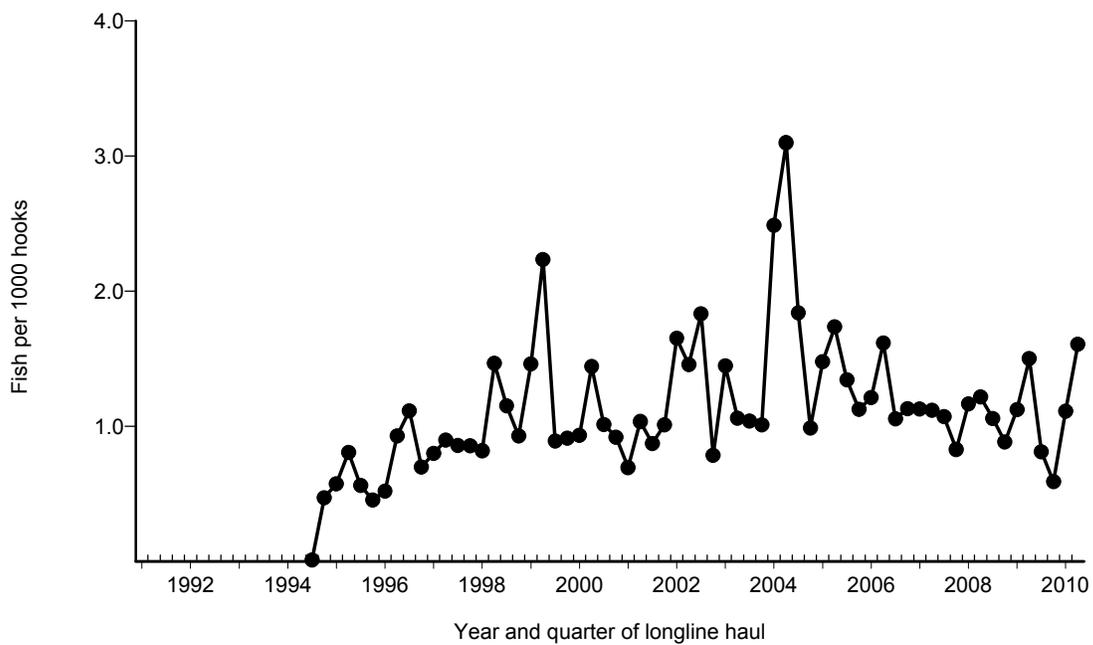


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:49:17PM]

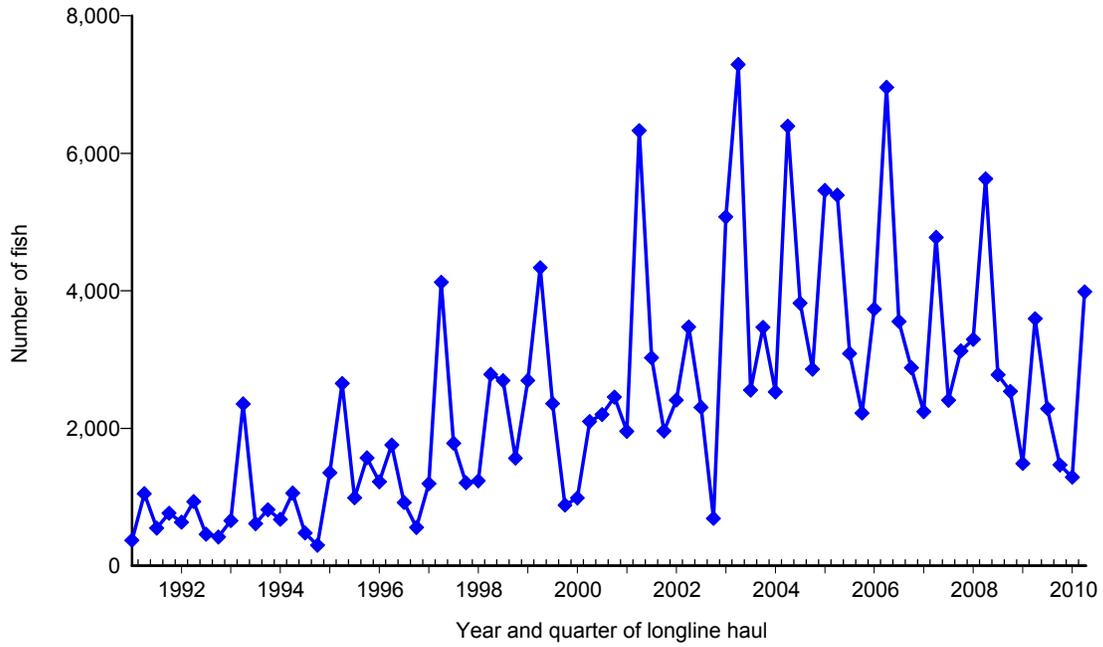


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:49:48PM]

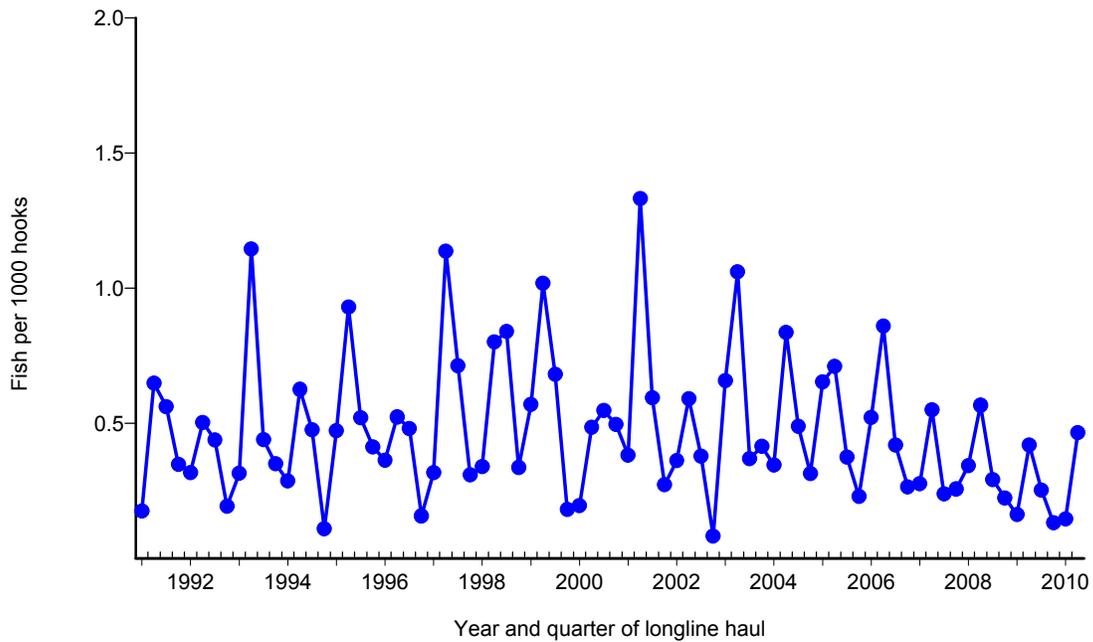


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 8/24/2010 12:49:48PM]