

The Hawaii-based Longline Logbook Summary Report July–September 2010¹

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 third quarter of 2010 (Q3-2010). 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 third quarter of 2010 and most, but not all, Q3-2010 data from trips that began late in the third quarter and continued into the fourth quarter of 2010. Therefore, the Q3-2010 summary statistics reported here are preliminary.

During Q3-2010, 117 vessels were active in the Hawaii-based fleet, 1 less than in Q3-2009 (Table 1, Fig. 1). They made 385 longline trips (32 more than in Q3-2009), including 376 using deep-set gear to target tuna (30 more than in Q3-2009) and 9 using shallow-set gear to target swordfish (2 more than in Q3-2009; Fig. 2). During Q3-2010, the fleet deployed 10.3 million hooks, 1.2 million more than in Q3-2009 (Fig. 3). They fished mainly on the high seas outside the U.S. EEZ (89% of the total hooks set), followed by the Exclusive Economic Zone (EEZ) of the main Hawaiian Islands (MHI) (9%), the Northwestern Hawaiian Islands (NWHI) EEZ (2%) 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) (<1%).

In Q3-2010, the Hawaii longline fleet caught 33,712 bigeye tuna (Fig. 4); 95% were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.3 fish per 1000 hooks, about the same as in Q3-2009 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q3-2010 were at their highest levels in 5 years with 2,746 fish caught and a CPUE of 0.27 fish per 1000 hooks (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q3-2010 were 3,720 fish and 0.36 fish per 1000 hooks, respectively (Figs. 8-9).

The Q3-2010 swordfish catch was 1,578 fish, or close to the swordfish catch in Q3-2009 (Fig. 10). In Q3-2010, swordfish CPUE on shallow-set swordfish-targeted trips was 8.0 fish per 1000 hooks, 28% lower than in Q3-2009 (Fig. 11).

The striped marlin catch in Q3-2010 was 1,025 fish, and the CPUE on tuna-targeted trips was 0.10 fish per 1000 hooks (Figs. 12-13). The blue marlin catch in Q3-2010 was 991 fish with a CPUE of 0.10 fish per 1000 hooks on tuna-targeted trips (Figs. 14-15).

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The fleet caught 14,923 sharks in Q3-2010, of which 306 (2%) were kept. Blue shark comprised 87% of the total shark catch (12,960 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q3-2010 was 11.7 fish per 1000 hooks (Fig. 17).

In Q3-2010, the Hawaii longline catch of other key pelagic species included a record 54,526 mahimahi (Fig. 18) and a record Q3 high mahimahi CPUE of 5.3 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 6,699 moonfish (Fig. 20) with a CPUE of 0.65 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 7,297 pomfret (Fig. 22) with a CPUE of 0.72 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 2,571 wahoo (Fig. 24) with a CPUE of 0.25 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. Q3-2010 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. Q3-2010 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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active		
Time Period	3rd Quarter 2010	117		
Fishing Area	All Areas	Number of trips 385		
Trip Types	All Trip Types	Number of sets 4,550		
		Number of hooks set 10,274,687		

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	991	983	8	0.10
Striped marlin	1,025	1,018	7	0.10
Shortbill spearfish	2,408	2,393	15	0.23
Swordfish	1,578	1,475	103	0.15
Other billfishes	176	173	3	0.02
Total	6,178	6,042	136	0.60
Sharks				
Blue shark	12,960	37	12,923	1.26
Mako sharks	878	238	640	0.09
Thresher sharks	912	29	883	0.09
Oceanic whitetip shark	71	1	70	0.01
Silky shark	2	0	2	0.00
Other sharks	100	1	99	0.01
Total	14,923	306	14,617	1.45
Tunas				
Albacore	2,746	2,728	18	0.27
Bigeye tuna	33,712	33,197	515	3.28
Yellowfin tuna	3,720	3,659	61	0.36
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,196	2,170	26	0.21
Other tunas	12	12	0	0.00
Total	42,386	41,766	620	4.13
Other PMUS				
Mahimahi	54,526	52,892	1,634	5.31
Moonfish	6,699	6,642	57	0.65
Wahoo	2,571	2,558	13	0.25
Oilfish	7,411	7,293	118	0.72
Pomfret	7,297	7,262	35	0.71
Total	78,504	76,647	1,857	7.64
Total PMUS	141,991	124,761	17,230	13.82
Total Non-PMUS	763	508	255	0.07
Total All Species	142,754	125,269	17,485	13.89

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, 12/1/2010 2:42:42PM].

Report Coverage					Number of vessels active	58
Time Period	3rd Quarter 2010				Number of trips	91
Fishing Area	Main Hawaiian Islands EEZ				Number of sets	451
Trip Types	All Trip Types				Number of hooks set	885,593

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	196	195	1	0.22
Striped marlin	105	105	0	0.12
Shortbill spearfish	248	248	0	0.28
Swordfish	117	109	8	0.13
Other billfishes	12	12	0	0.01
Total	678	669	9	0.77
Sharks				
Blue shark	1,423	11	1,412	1.61
Mako sharks	21	5	16	0.02
Thresher sharks	30	7	23	0.03
Oceanic whitetip shark	10	0	10	0.01
Silky shark	0	0	0	0.00
Other sharks	12	0	12	0.01
Total	1,496	23	1,473	1.69
Tunas				
Albacore	393	392	1	0.44
Bigeye tuna	1,470	1,462	8	1.66
Yellowfin tuna	1,594	1,588	6	1.80
Bluefin tuna	0	0	0	0.00
Skipjack tuna	489	485	4	0.55
Other tunas	0	0	0	0.00
Total	3,946	3,927	19	4.46
Other PMUS				
Mahimahi	856	850	6	0.97
Moonfish	215	214	1	0.24
Wahoo	481	479	2	0.54
Oilfish	282	272	10	0.32
Pomfret	375	374	1	0.42
Total	2,209	2,189	20	2.49
Total PMUS	8,329	6,808	1,521	9.40
Total Non-PMUS	414	412	2	0.47
Total All Species	8,743	7,220	1,523	9.87

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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active		26
Time Period	3rd Quarter 2010	Number of trips		31
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		85
Trip Types	All Trip Types	Number of hooks set		184,020

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	18	18	0	0.10
Striped marlin	34	34	0	0.18
Shortbill spearfish	23	23	0	0.12
Swordfish	26	26	0	0.14
Other billfishes	0	0	0	0.00
Total	101	101	0	0.55
Sharks				
Blue shark	309	0	309	1.68
Mako sharks	13	4	9	0.07
Thresher sharks	1	0	1	0.01
Oceanic whitetip shark	1	0	1	0.01
Silky shark	0	0	0	0.00
Other sharks	0	0	0	0.00
Total	324	4	320	1.76
Tunas				
Albacore	58	58	0	0.32
Bigeye tuna	87	87	0	0.47
Yellowfin tuna	285	271	14	1.55
Bluefin tuna	0	0	0	0.00
Skipjack tuna	35	35	0	0.19
Other tunas	0	0	0	0.00
Total	465	451	14	2.53
Other PMUS				
Mahimahi	93	93	0	0.51
Moonfish	120	120	0	0.65
Wahoo	115	113	2	0.62
Oilfish	65	65	0	0.35
Pomfret	72	72	0	0.39
Total	465	463	2	2.53
Total PMUS	1,355	1,019	336	7.36
Total Non-PMUS	14	13	1	0.08
Total All Species	1,369	1,032	337	7.44

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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active		6
Time Period	3rd Quarter 2010	Number of trips		6
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		29
Trip Types	All Trip Types	Number of hooks set		66,260

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	18	18	0	0.27
Striped marlin	25	25	0	0.38
Shortbill spearfish	21	21	0	0.32
Swordfish	3	3	0	0.05
Other billfishes	1	1	0	0.02
Total	68	68	0	1.03
Sharks				
Blue shark	205	0	205	3.09
Mako sharks	0	0	0	0.00
Thresher sharks	50	0	50	0.75
Oceanic whitetip shark	16	0	16	0.24
Silky shark	0	0	0	0.00
Other sharks	4	0	4	0.06
Total	275	0	275	4.15
Tunas				
Albacore	13	13	0	0.20
Bigeye tuna	217	214	3	3.27
Yellowfin tuna	26	26	0	0.39
Bluefin tuna	0	0	0	0.00
Skipjack tuna	65	63	2	0.98
Other tunas	0	0	0	0.00
Total	321	316	5	4.84
Other PMUS				
Mahimahi	1	1	0	0.02
Moonfish	5	5	0	0.08
Wahoo	22	21	1	0.33
Oilfish	4	4	0	0.06
Pomfret	101	99	2	1.52
Total	133	130	3	2.01
Total PMUS	797	514	283	12.03
Total Non-PMUS	0	0	0	0.00
Total All Species	797	514	283	12.03

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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active		71
Time Period	3rd Quarter 2010	Number of trips		116
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of sets		565
Trip Types	All Trip Types	Number of hooks set		1,135,873

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	232	231	1	0.20
Striped marlin	164	164	0	0.14
Shortbill spearfish	292	292	0	0.26
Swordfish	146	138	8	0.13
Other billfishes	13	13	0	0.01
Total	847	838	9	0.75
Sharks				
Blue shark	1,937	11	1,926	1.71
Mako sharks	34	9	25	0.03
Thresher sharks	81	7	74	0.07
Oceanic whitetip shark	27	0	27	0.02
Silky shark	0	0	0	0.00
Other sharks	16	0	16	0.01
Total	2,095	27	2,068	1.84
Tunas				
Albacore	464	463	1	0.41
Bigeye tuna	1,774	1,763	11	1.56
Yellowfin tuna	1,905	1,885	20	1.68
Bluefin tuna	0	0	0	0.00
Skipjack tuna	589	583	6	0.52
Other tunas	0	0	0	0.00
Total	4,732	4,694	38	4.17
Other PMUS				
Mahimahi	950	944	6	0.84
Moonfish	340	339	1	0.30
Wahoo	618	613	5	0.54
Oilfish	351	341	10	0.31
Pomfret	548	545	3	0.48
Total	2,807	2,782	25	2.47
Total PMUS	10,481	8,341	2,140	9.23
Total Non-PMUS	428	425	3	0.38
Total All Species	10,909	8,766	2,143	9.60

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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active	
Time Period	3rd Quarter 2010		116
Fishing Area	Outside U.S. EEZ	Number of trips	360
Trip Types	All Trip Types	Number of sets	3,985
		Number of hooks set	9,138,814

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	759	752	7	0.08
Striped marlin	861	854	7	0.09
Shortbill spearfish	2,116	2,101	15	0.23
Swordfish	1,432	1,337	95	0.16
Other billfishes	163	160	3	0.02
Total	5,331	5,204	127	0.58
Sharks				
Blue shark	11,023	26	10,997	1.21
Mako sharks	844	229	615	0.09
Thresher sharks	831	22	809	0.09
Oceanic whitetip shark	44	1	43	0.00
Silky shark	2	0	2	0.00
Other sharks	84	1	83	0.01
Total	12,828	279	12,549	1.40
Tunas				
Albacore	2,282	2,265	17	0.25
Bigeye tuna	31,938	31,434	504	3.49
Yellowfin tuna	1,815	1,774	41	0.20
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,607	1,587	20	0.18
Other tunas	12	12	0	0.00
Total	37,654	37,072	582	4.12
Other PMUS				
Mahimahi	53,576	51,948	1,628	5.86
Moonfish	6,359	6,303	56	0.70
Wahoo	1,953	1,945	8	0.21
Oilfish	7,060	6,952	108	0.77
Pomfret	6,749	6,717	32	0.74
Total	75,697	73,865	1,832	8.28
Total PMUS	131,510	116,420	15,090	14.39
Total Non-PMUS	335	83	252	0.04
Total All Species	131,845	116,503	15,342	14.43

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, 12/1/2010 2:42:42PM].

Report Coverage		Number of vessels active		7
Time Period	3rd Quarter 2010	Number of trips		9
Fishing Area	All Areas	Number of sets		109
Trip Types	Swordfish Targeted Trips	Number of hooks set		112,712

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	5	4	1	0.04
Striped marlin	35	34	1	0.31
Shortbill spearfish	14	13	1	0.12
Swordfish	902	848	54	8.00
Other billfishes	0	0	0	0.00
Total	956	899	57	8.48
Sharks				
Blue shark	1,320	0	1,320	11.71
Mako sharks	104	2	102	0.92
Thresher sharks	8	0	8	0.07
Oceanic whitetip shark	9	0	9	0.08
Silky shark	0	0	0	0.00
Other sharks	3	0	3	0.03
Total	1,444	2	1,442	12.81
Tunas				
Albacore	19	16	3	0.17
Bigeye tuna	23	20	3	0.20
Yellowfin tuna	16	16	0	0.14
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2	2	0	0.02
Other tunas	0	0	0	0.00
Total	60	54	6	0.53
Other PMUS				
Mahimahi	620	612	8	5.50
Moonfish	59	19	40	0.52
Wahoo	2	2	0	0.02
Oilfish	141	123	18	1.25
Pomfret	1	0	1	0.01
Total	823	756	67	7.30
Total PMUS	3,283	1,711	1,572	29.13
Total Non-PMUS	3	1	2	0.03
Total All Species	3,286	1,712	1,574	29.15

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, 12/1/2010 2:42:42PM].

Report Coverage					Number of vessels active	115
Time Period	3rd Quarter 2010				Number of trips	376
Fishing Area	All Areas				Number of sets	4,441
Trip Types	Tuna Targeted Trips				Number of hooks set	10,161,975

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	986	979	7	0.10
Striped marlin	990	984	6	0.10
Shortbill spearfish	2,394	2,380	14	0.24
Swordfish	676	627	49	0.07
Other billfishes	176	173	3	0.02
Total	5,222	5,143	79	0.51
Sharks				
Blue shark	11,640	37	11,603	1.15
Mako sharks	774	236	538	0.08
Thresher sharks	904	29	875	0.09
Oceanic whitetip shark	62	1	61	0.01
Silky shark	2	0	2	0.00
Other sharks	97	1	96	0.01
Total	13,479	304	13,175	1.33
Tunas				
Albacore	2,727	2,712	15	0.27
Bigeye tuna	33,689	33,177	512	3.32
Yellowfin tuna	3,704	3,643	61	0.36
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,194	2,168	26	0.22
Other tunas	12	12	0	0.00
Total	42,326	41,712	614	4.17
Other PMUS				
Mahimahi	53,906	52,280	1,626	5.30
Moonfish	6,640	6,623	17	0.65
Wahoo	2,569	2,556	13	0.25
Oilfish	7,270	7,170	100	0.72
Pomfret	7,296	7,262	34	0.72
Total	77,681	75,891	1,790	7.64
Total PMUS	138,708	123,050	15,658	13.65
Total Non-PMUS	760	507	253	0.07
Total All Species	139,468	123,557	15,911	13.72

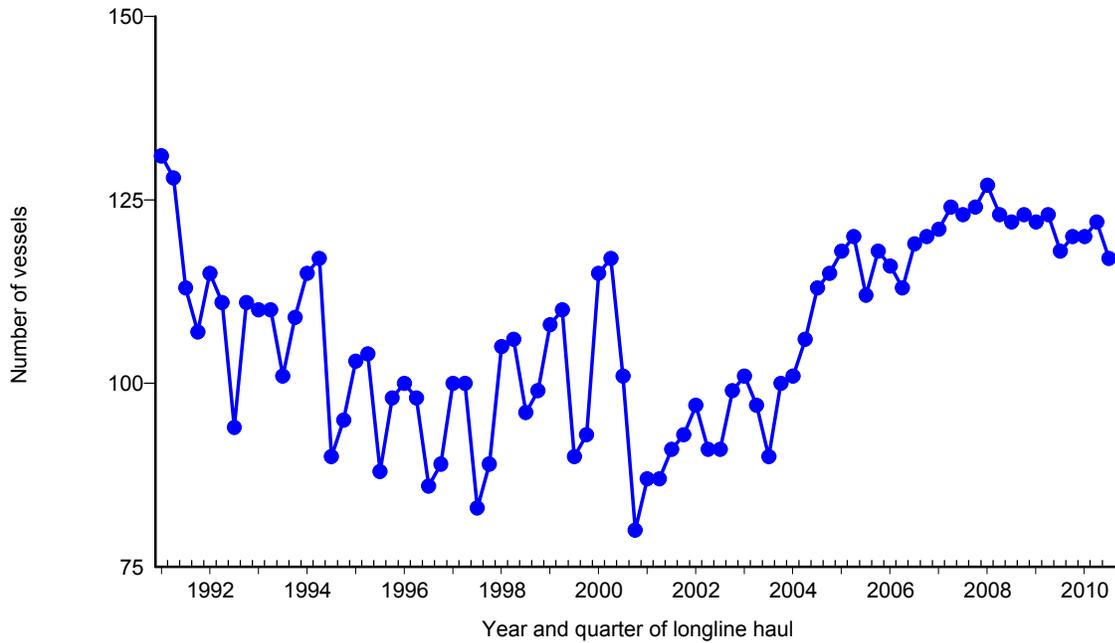


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:29:14PM]

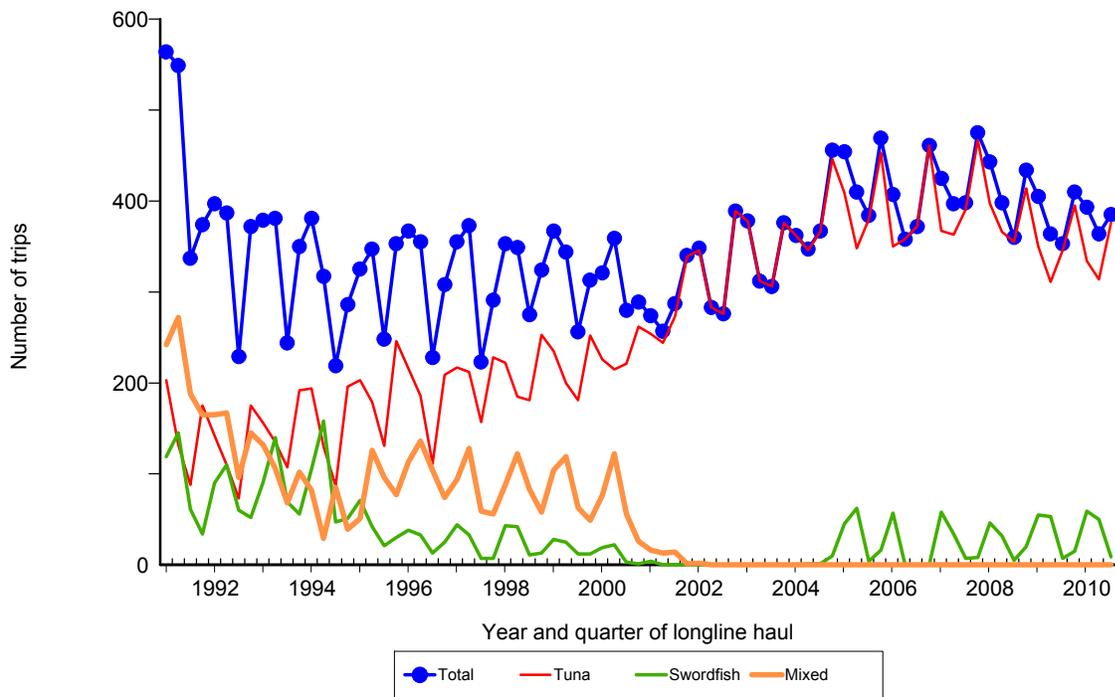


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:29:14PM]

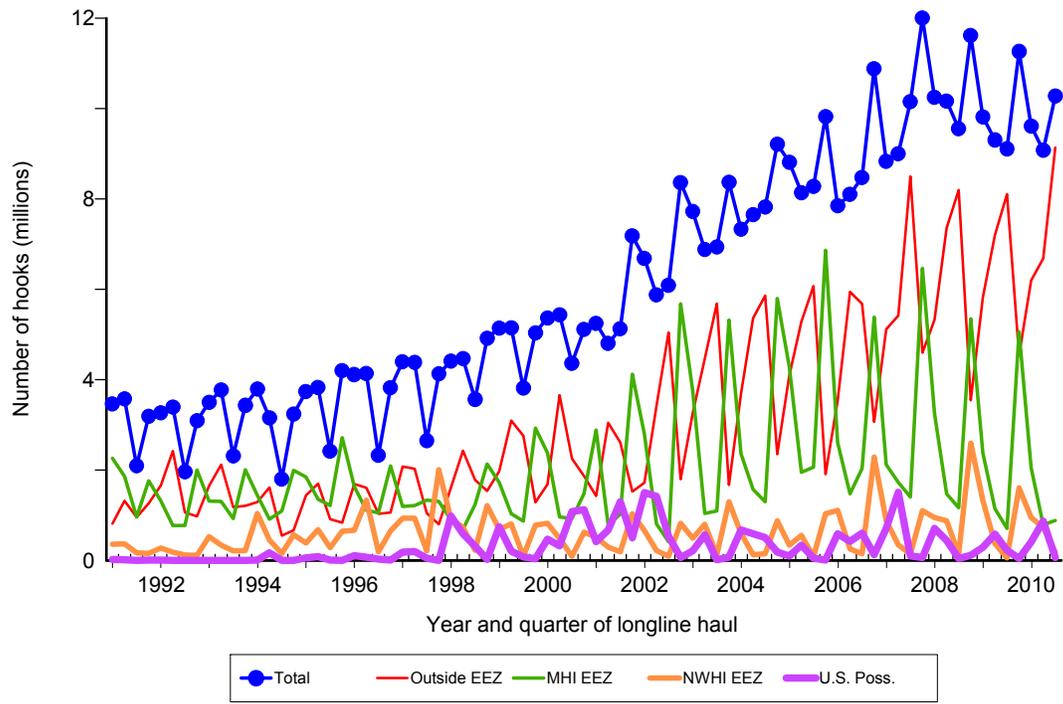


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:29:25PM]

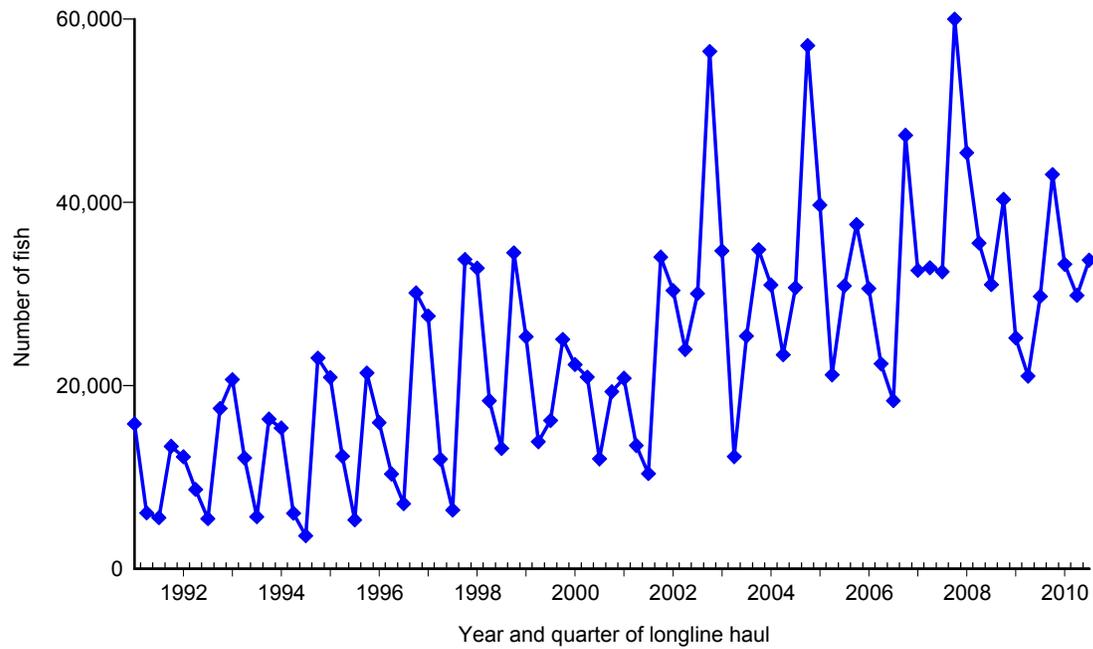


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:29:49PM]

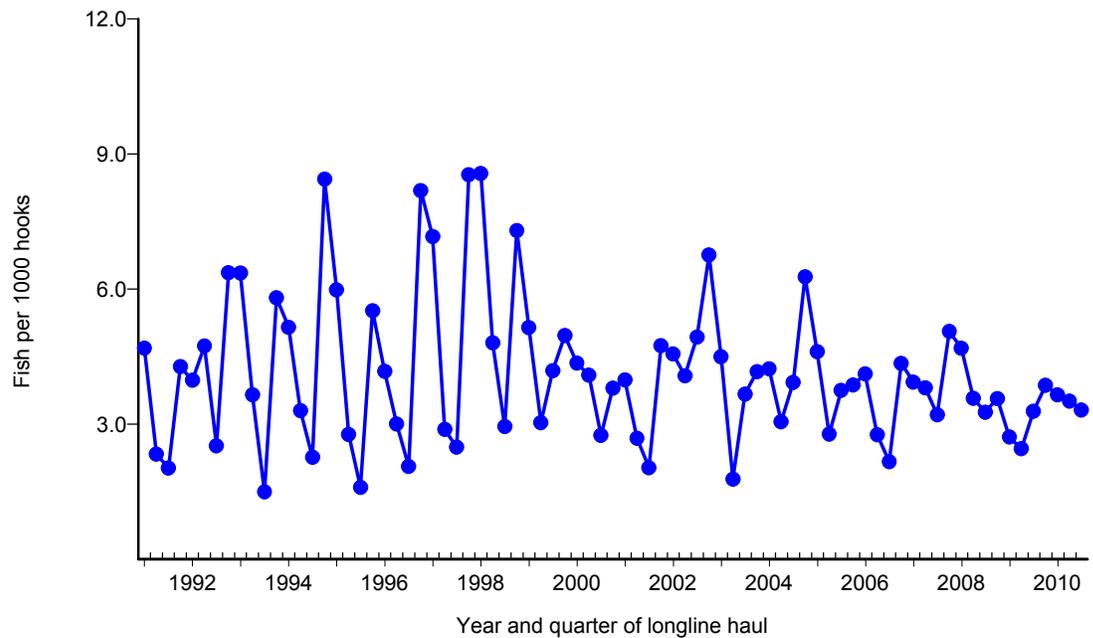


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:29:49PM]

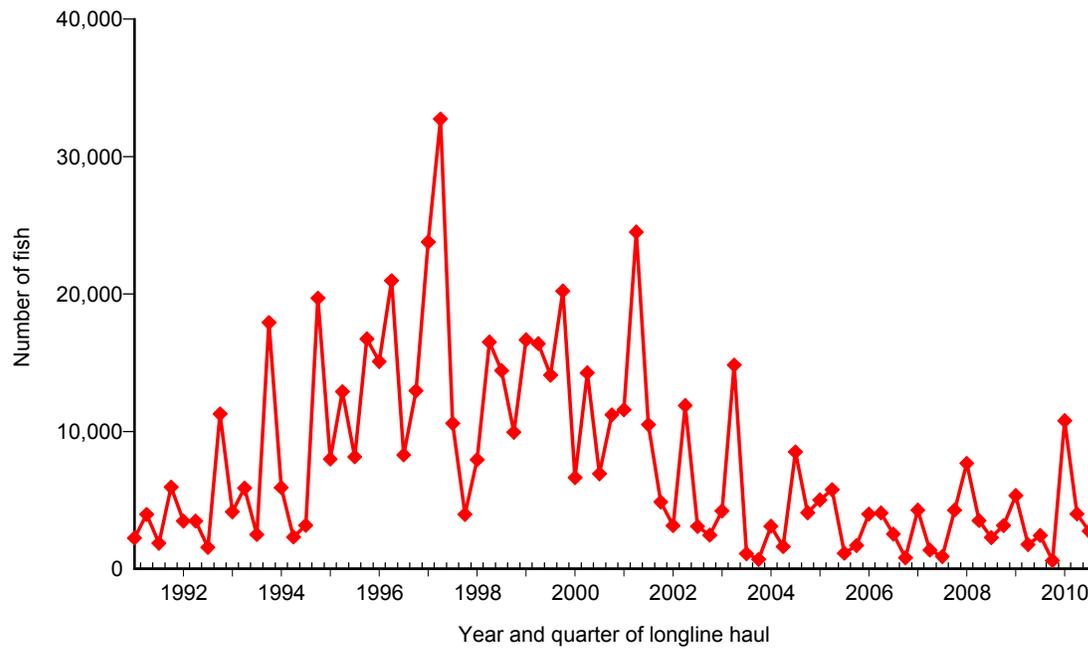


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:30:13PM]

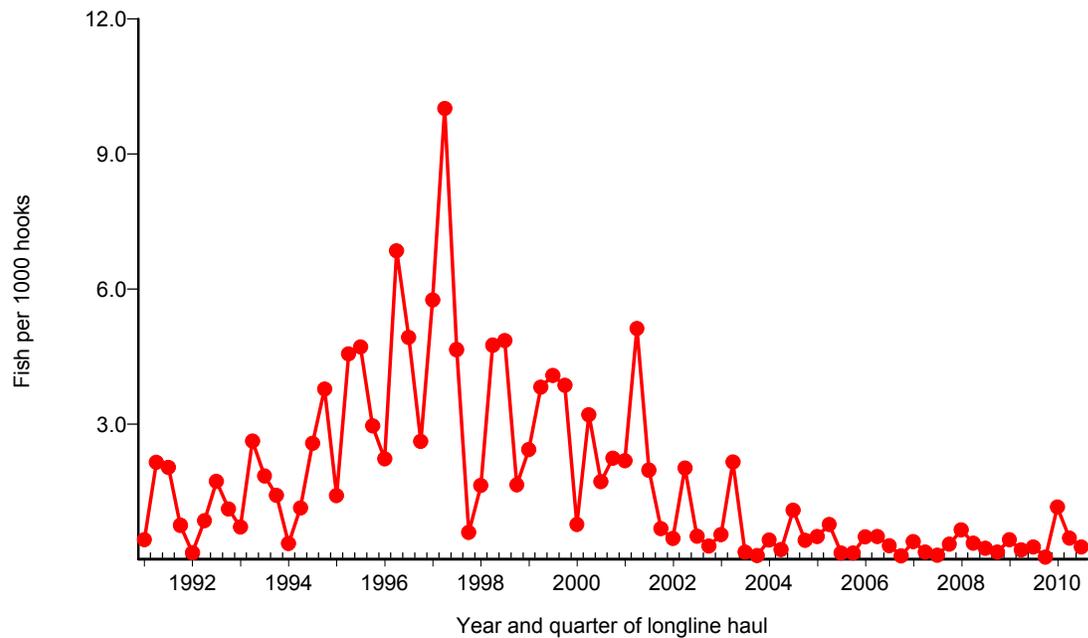


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:30:13PM]

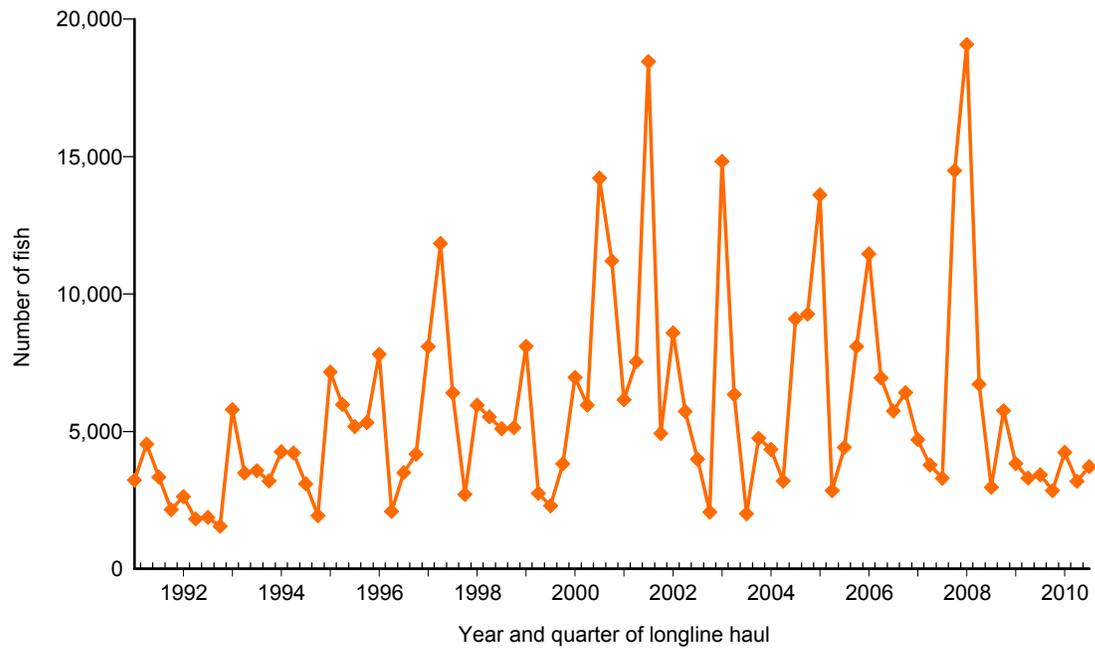


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:30:36PM]

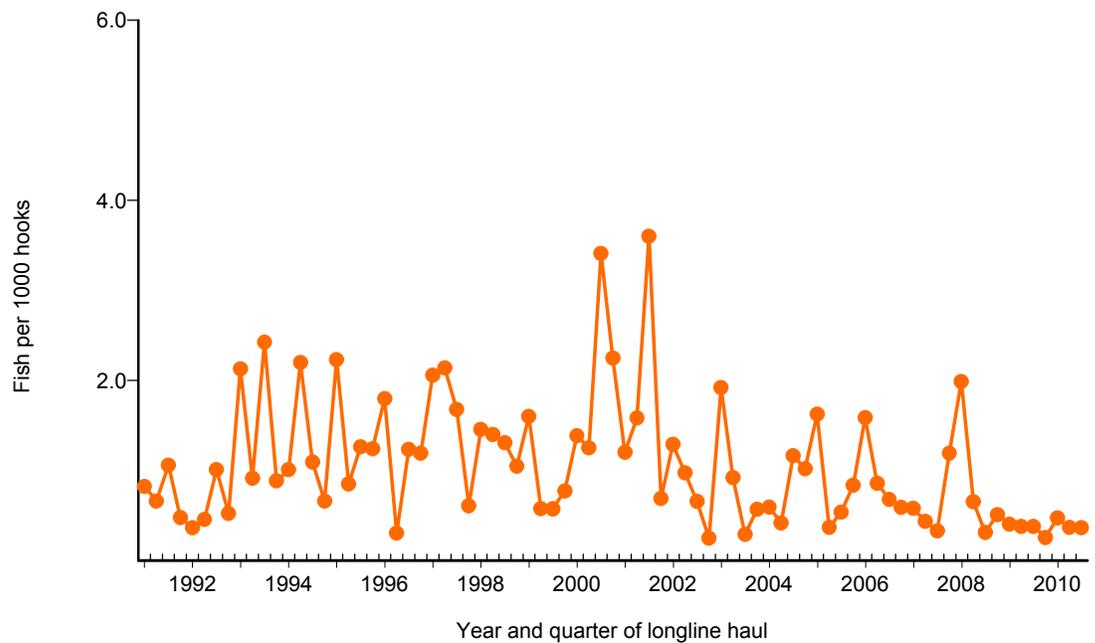


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:30:36PM]

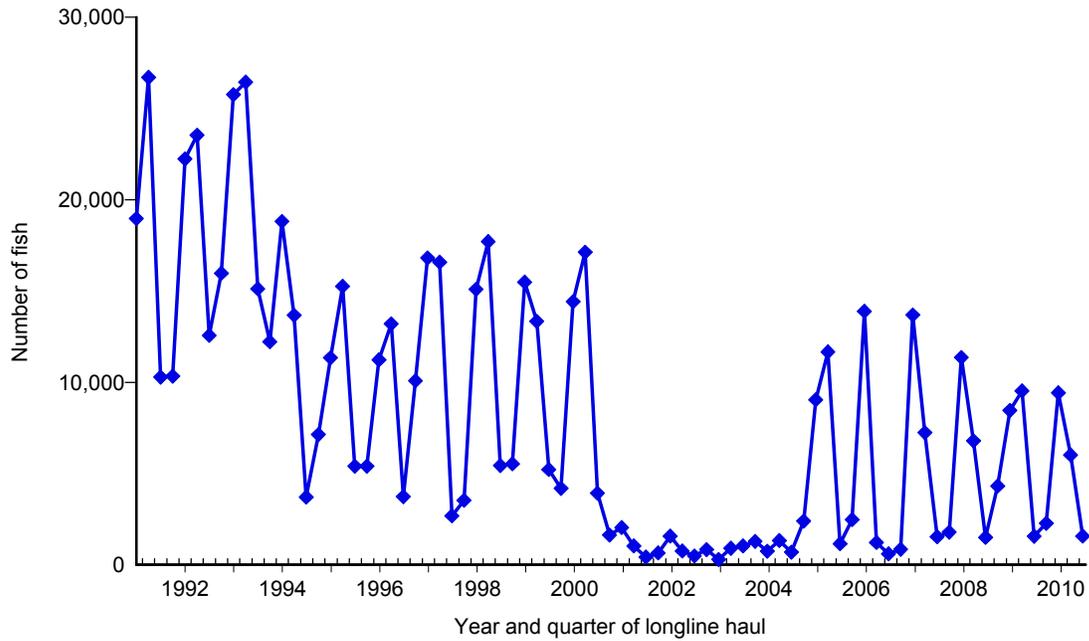


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:00PM]

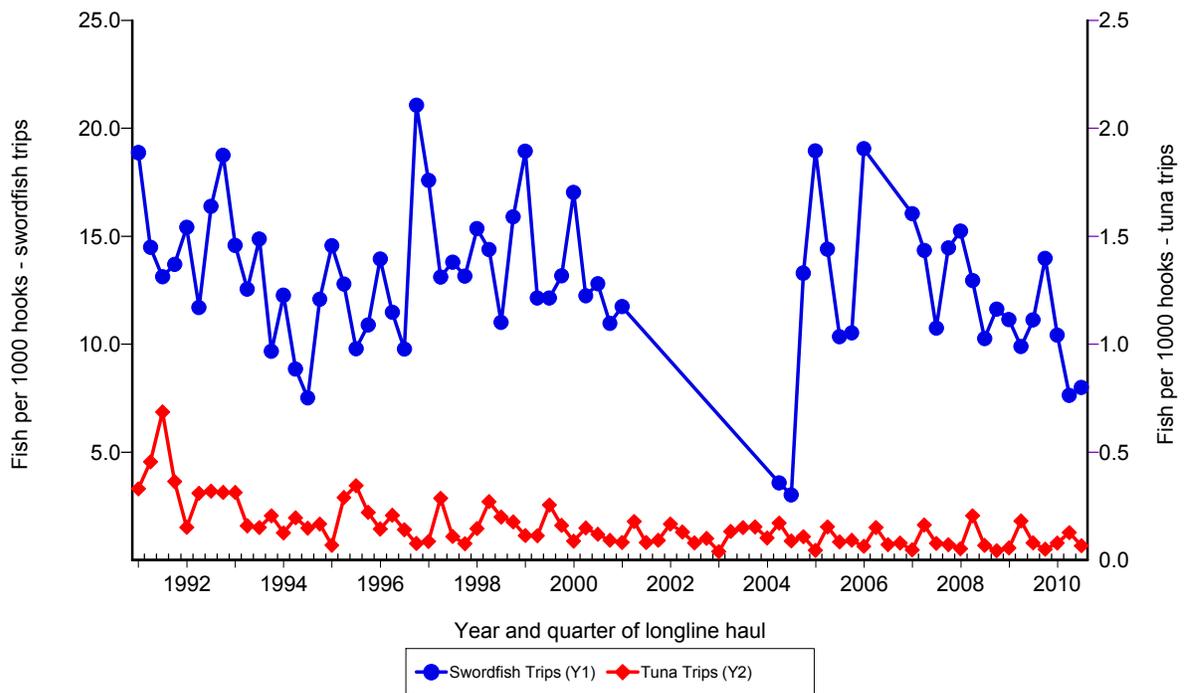


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:00PM]

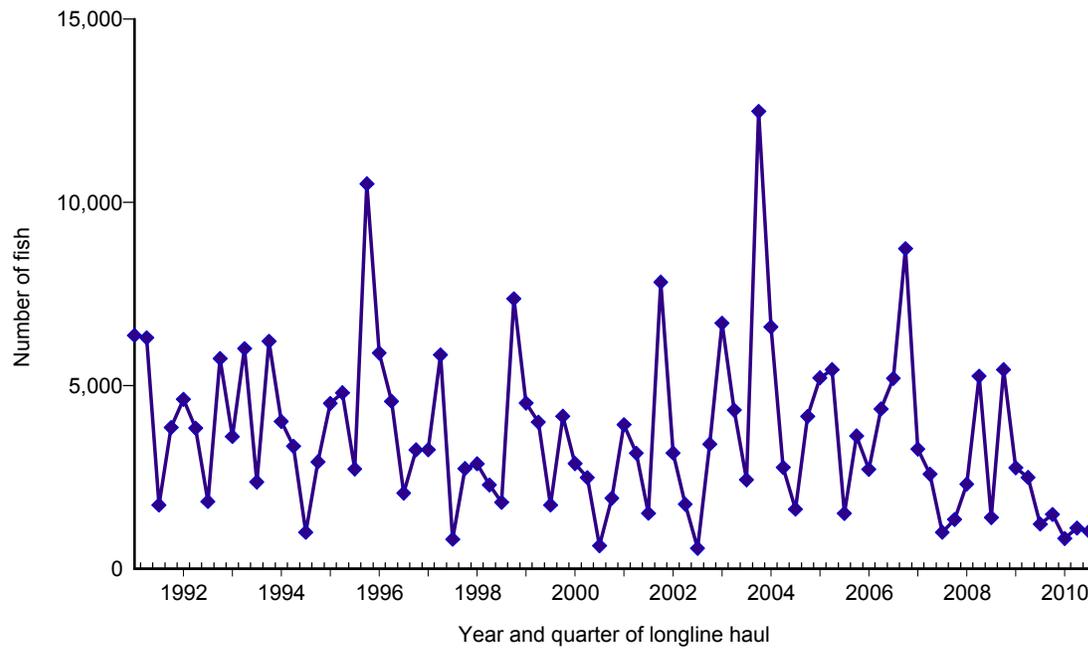


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:24PM]

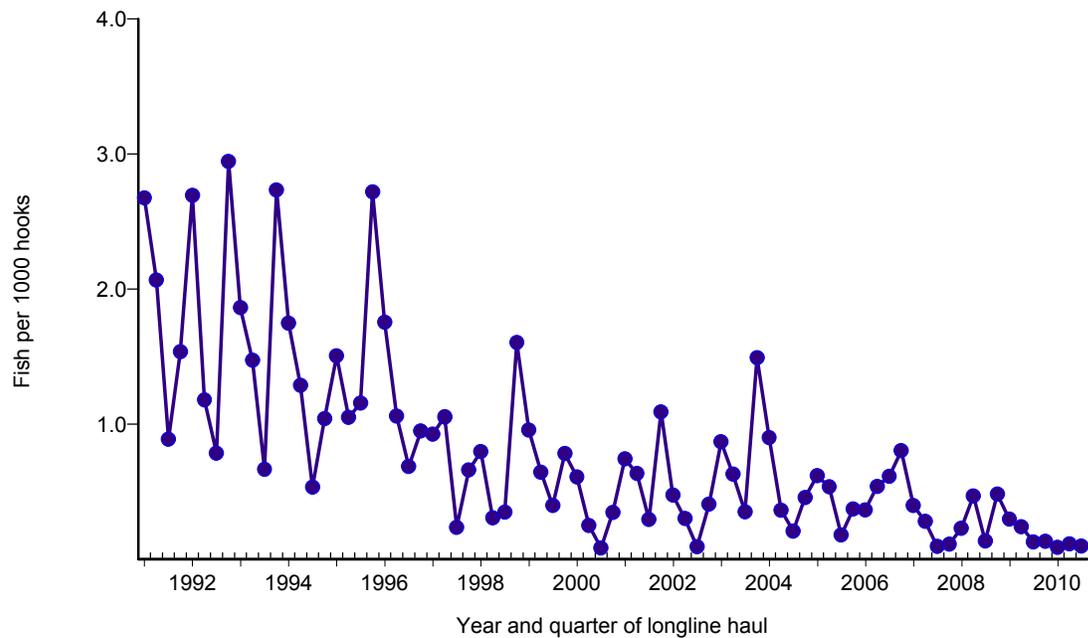


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:24PM]

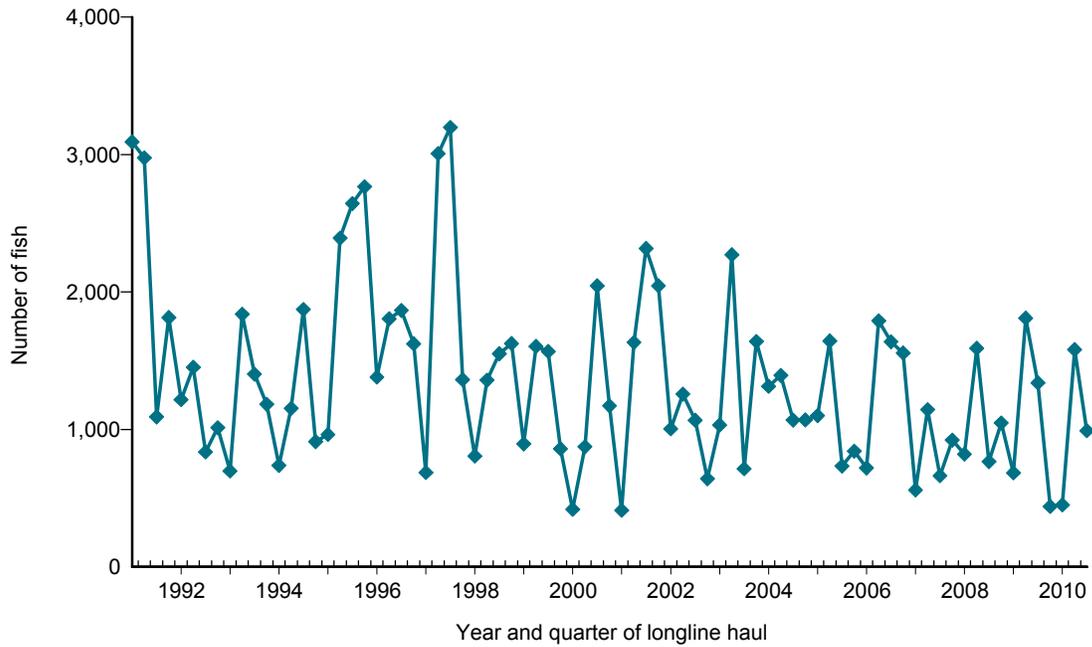


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:48PM]

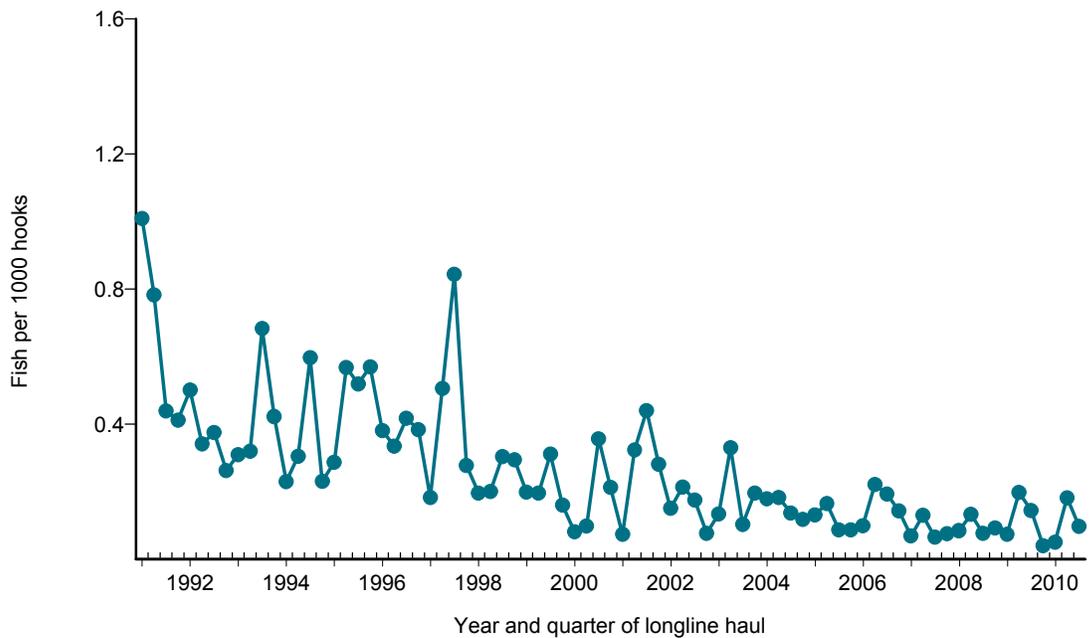


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:31:48PM]

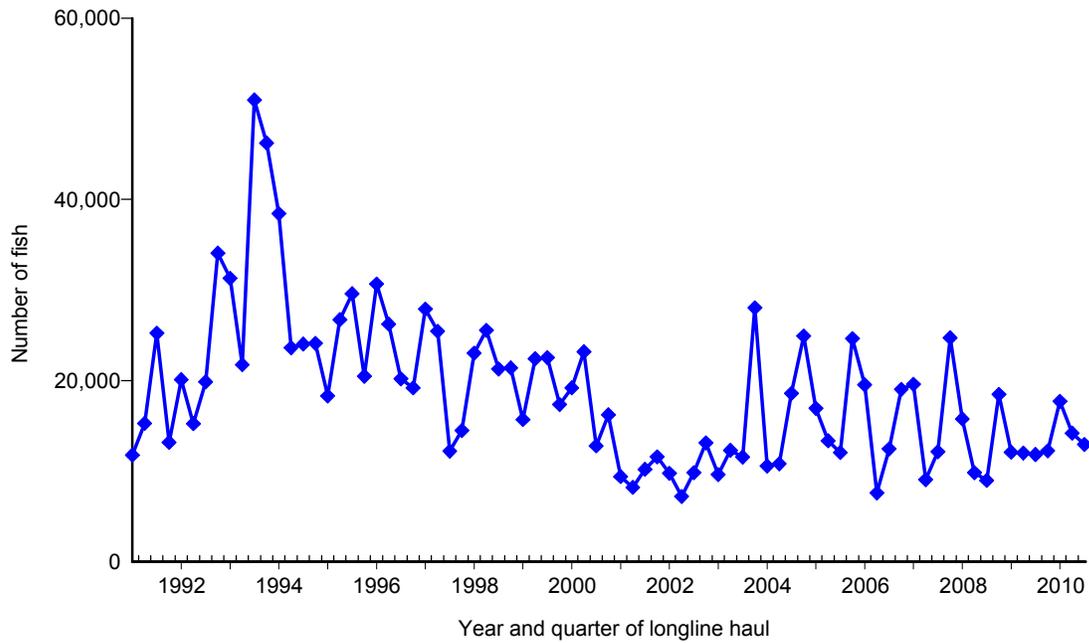


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:32:12PM]

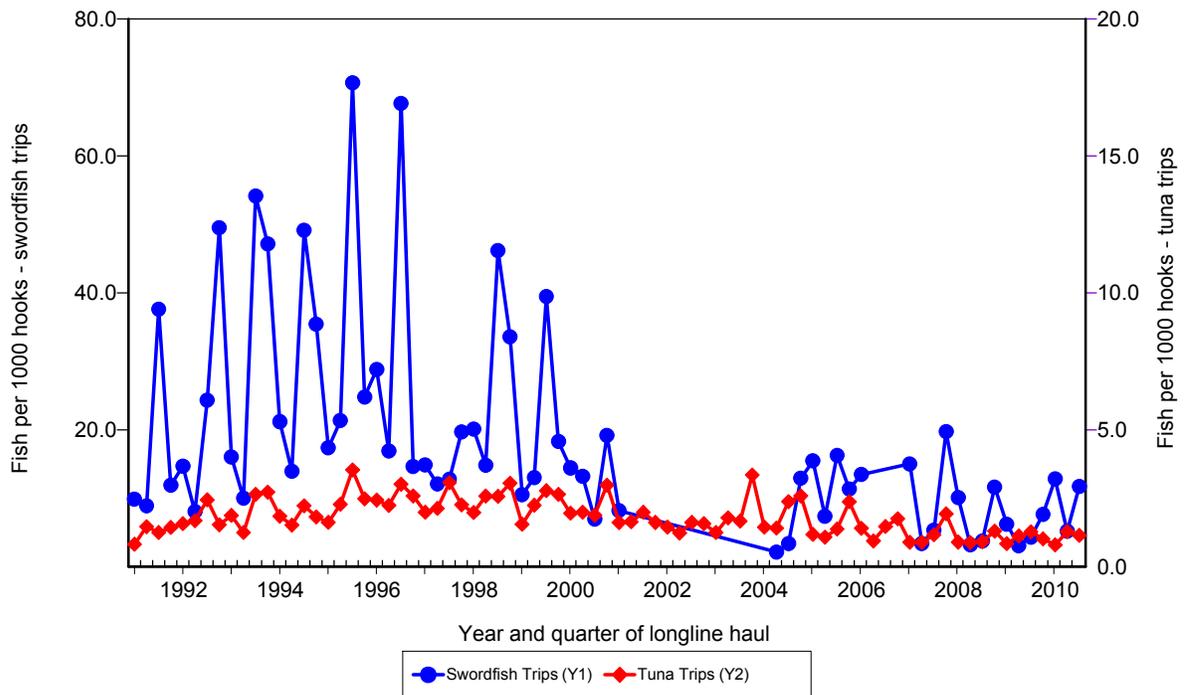


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:32:12PM]

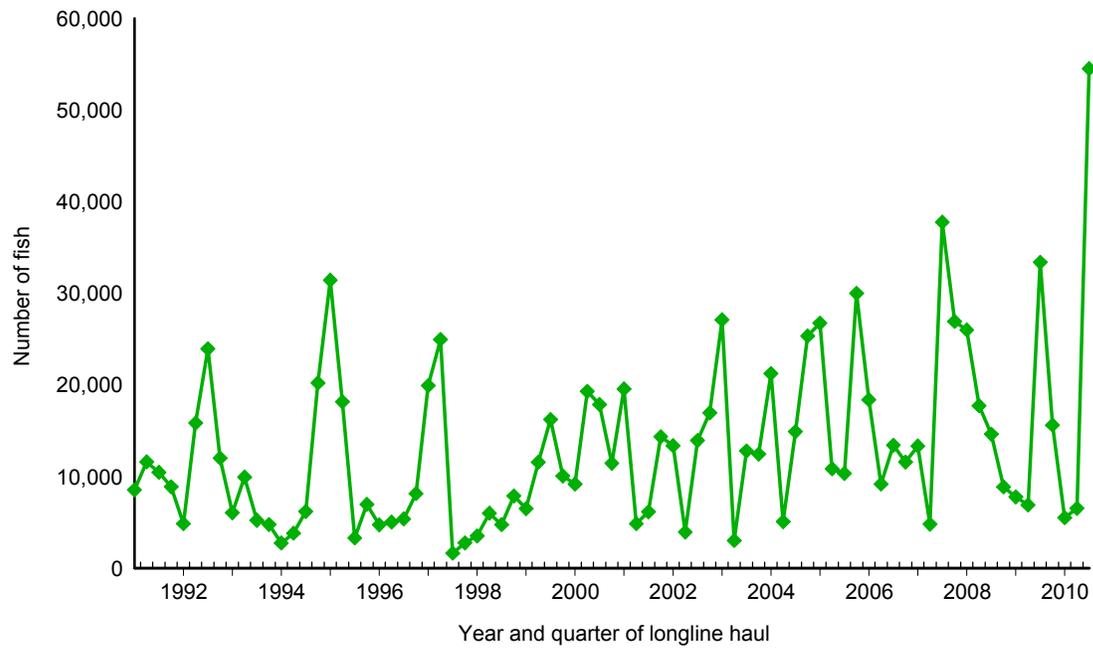


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:32:37PM]

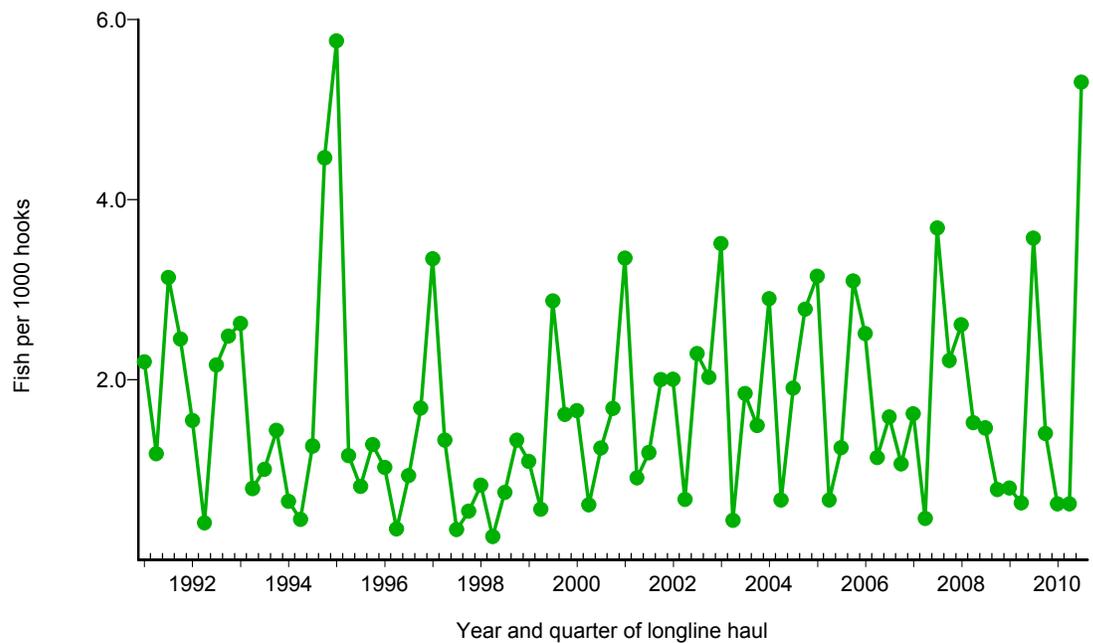


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:32:37PM]

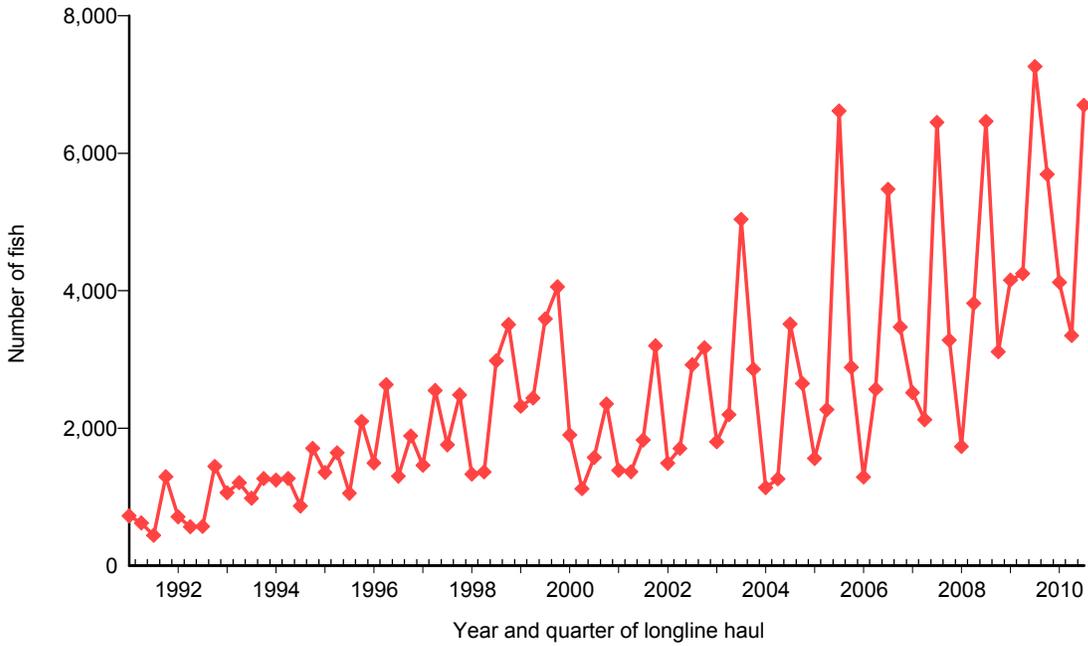


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:01PM]

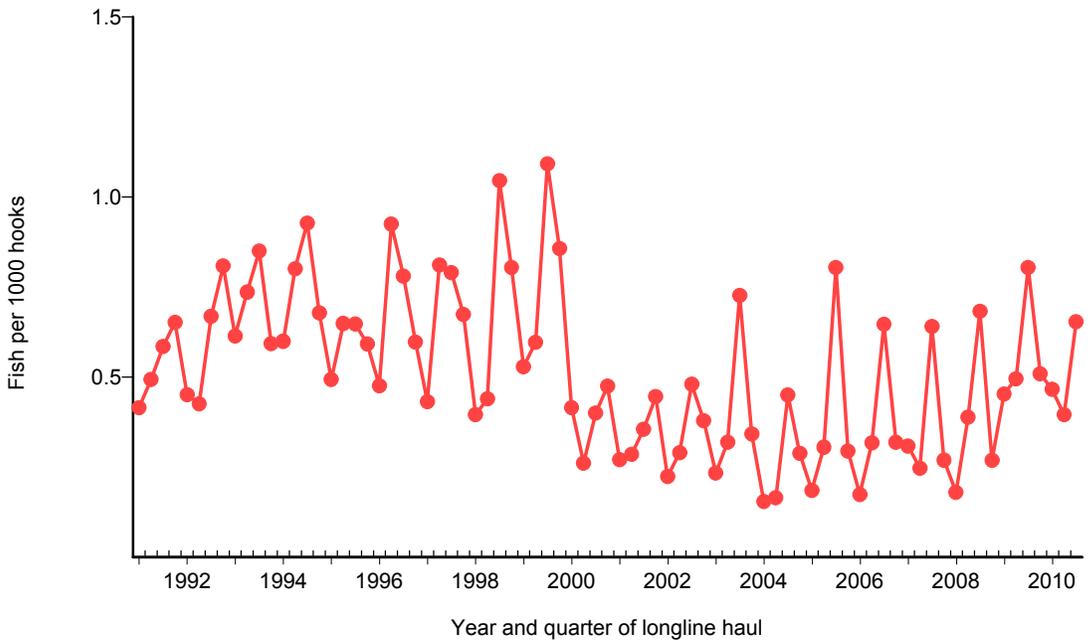


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:01PM]

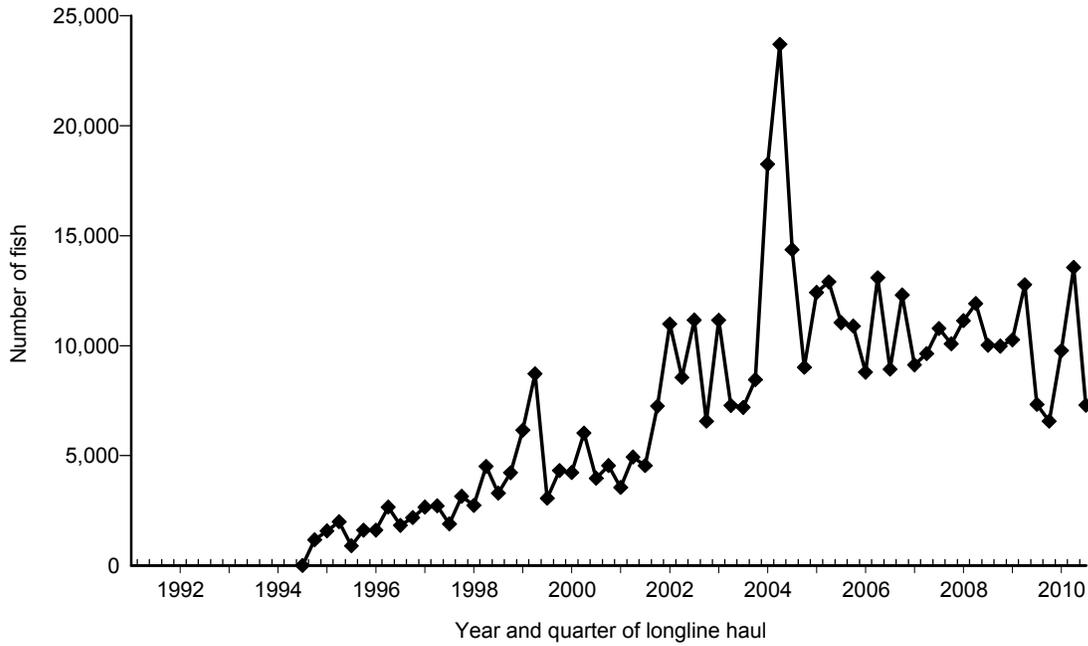


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:24PM]

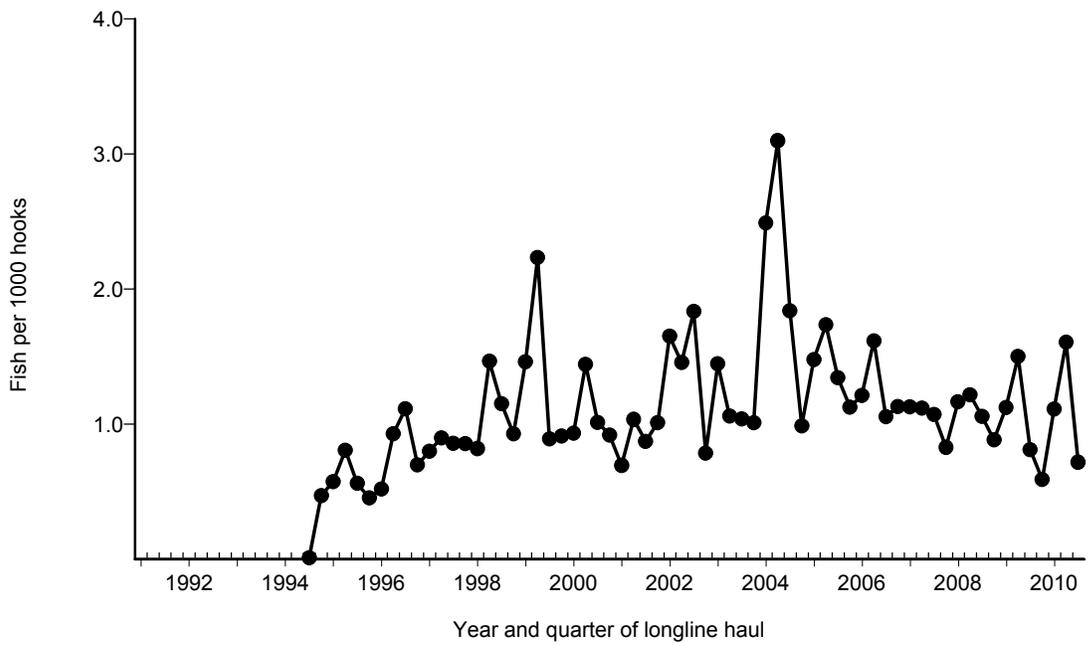


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:24PM]

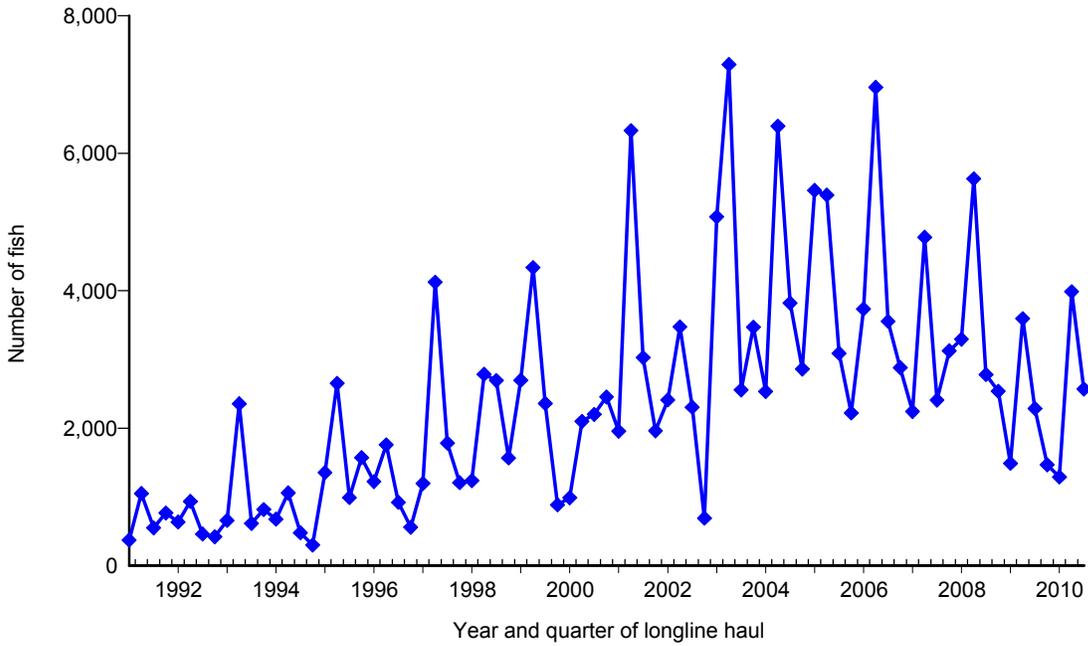


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:50PM]

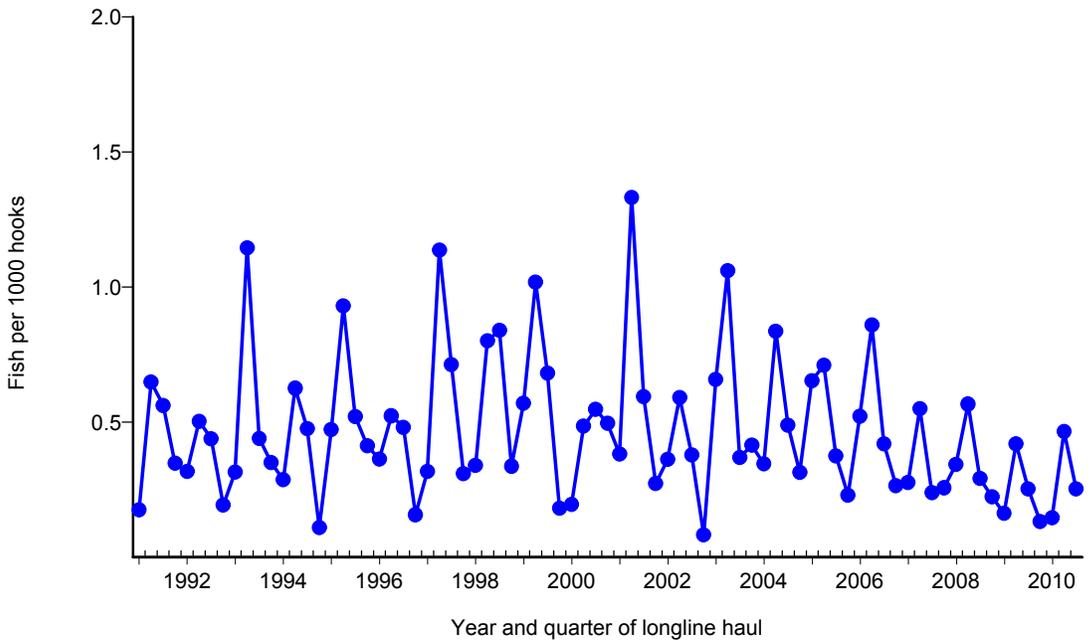


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2010. [PIFSC IMS, Longline Logbook Data, 12/16/2010 1:33:50PM]