

The Hawaii-based Longline Logbook Summary Report April–June 2011¹

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 2011 (Q2-2011). 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 2011 and most, but not all, Q2-2011 data from trips that began late in the second quarter and continued into the third quarter of 2011. Therefore, the Q2-2011 summary statistics reported here are preliminary.

During Q2-2011, 122 vessels were active in the Hawaii-based fleet, the same number of vessels as in Q2-2010 (Table 1, Fig. 1). They made 378 longline trips (12 more than in Q2-2010), including 343 using deep-set gear to target tuna (29 more than in Q2-2010) and 35 using shallow-set gear to target swordfish (15 less than in Q2-2010; Fig. 2). During Q2-2011, the fleet deployed 9.7 million hooks, 600,000 more than in Q2-2010 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ) (73% of the total hooks set), followed by the EEZ of the main Hawaiian Islands (MHI) (13%), the Northwestern Hawaiian Islands (NWHI) EEZ (9%), 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) (5%).

In Q2-2011, the Hawaii longline fleet caught 32,416 bigeye tuna (Fig. 4); 79% 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, the same as in Q2-2010 (Fig. 5). The albacore catch and CPUE on tuna-targeted trips in Q2-2011 were 4,714 fish and 0.50 fish per 1000 hooks, respectively (Figs. 6-7). The yellowfin tuna catch and CPUE on tuna-targeted trips in Q2-2011 were 7,818 fish and 0.83 fish per 1000 hooks, respectively (Figs. 8-9).

The Q2-2011 swordfish catch was 5,522 fish, 8% lower than the swordfish catch in Q2-2010 (Fig. 10). In Q2-2011, swordfish CPUE on shallow-set swordfish-targeted trips was 8.7 fish per 1000 hooks, 14% higher than in Q2-2010 (Fig. 11).

The striped marlin catch in Q2-2011 was 3,475 fish, and the CPUE on tuna-targeted trips was 0.33 fish per 1000 hooks, a 3-fold increase in catch and CPUE from Q2-2010 (Figs. 12-13). The blue marlin catch in Q2-2011 was 1,595 fish with a CPUE of 0.16 fish per 1000 hooks on tuna-targeted trips (Figs. 14-15).

¹ PIFSC Data Report DR-11-010
Issued 25 August 2011

The fleet caught 14,370 sharks in Q2-2011, of which 450 (3%) were kept. Blue shark comprised 82% of the total shark catch (11,812 fish) (Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q2-2011 was 3.9 fish per 1000 hooks, 25% lower than Q2-2010 (Fig. 17).

In Q2-2011, the Hawaii longline catch of other key pelagic species included 18,582 mahimahi (Fig. 18) with a CPUE of 1.5 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 3,308 moonfish (Fig. 20) with a CPUE of 0.36 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 6,885 pomfret (Fig. 22) with a CPUE of 0.74 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 4,401 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. Q2-2011 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. Q2-2011 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, 8/10/2011 9:35:59AM].

Report Coverage					Number of vessels active	122
Time Period	2nd Quarter 2011				Number of trips	378
Fishing Area	All Areas				Number of sets	4,428
Trip Types	All Trip Types				Number of hooks set	9,744,615

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,595	1,584	11	0.16
Striped marlin	3,475	3,410	65	0.36
Shortbill spearfish	3,036	3,011	25	0.31
Swordfish	5,522	4,767	755	0.57
Other billfishes	94	88	6	0.01
Total	13,722	12,860	862	1.41
Sharks				
Blue shark	11,812	107	11,705	1.21
Mako sharks	836	227	609	0.09
Thresher sharks	1,310	105	1,205	0.13
Oceanic whitetip shark	274	10	264	0.03
Silky shark	29	1	28	0.00
Other sharks	109	0	109	0.01
Total	14,370	450	13,920	1.47
Tunas				
Albacore	4,714	4,672	42	0.48
Bigeye tuna	32,416	31,801	615	3.33
Yellowfin tuna	7,818	7,723	95	0.80
Bluefin tuna	2	2	0	0.00
Skipjack tuna	4,842	4,737	105	0.50
Other tunas	16	16	0	0.00
Total	49,808	48,951	857	5.11
Other PMUS				
Mahimahi	18,582	17,883	699	1.91
Moonfish	3,308	3,296	12	0.34
Wahoo	4,401	4,383	18	0.45
Oilfish	10,157	9,929	228	1.04
Pomfret	6,885	6,816	69	0.71
Total	43,333	42,307	1,026	4.45
Total PMUS	121,233	104,568	16,665	12.44
Total Non-PMUS	1,630	1,441	189	0.17
Total All Species	122,863	106,009	16,854	12.61

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active		72
Time Period	2nd Quarter 2011	Number of trips		114
Fishing Area	Main Hawaiian Islands EEZ	Number of sets		599
Trip Types	All Trip Types	Number of hooks set		1,269,181

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	197	196	1	0.16
Striped marlin	291	283	8	0.23
Shortbill spearfish	488	488	0	0.38
Swordfish	550	475	75	0.43
Other billfishes	11	7	4	0.01
Total	1,537	1,449	88	1.21
Sharks				
Blue shark	1,708	8	1,700	1.35
Mako sharks	80	58	22	0.06
Thresher sharks	130	18	112	0.10
Oceanic whitetip shark	38	5	33	0.03
Silky shark	4	1	3	0.00
Other sharks	27	0	27	0.02
Total	1,987	90	1,897	1.57
Tunas				
Albacore	713	704	9	0.56
Bigeye tuna	2,236	2,185	51	1.76
Yellowfin tuna	2,369	2,340	29	1.87
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,005	993	12	0.79
Other tunas	1	1	0	0.00
Total	6,324	6,223	101	4.98
Other PMUS				
Mahimahi	1,586	1,557	29	1.25
Moonfish	346	345	1	0.27
Wahoo	499	493	6	0.39
Oilfish	1,038	1,015	23	0.82
Pomfret	786	761	25	0.62
Total	4,255	4,171	84	3.35
Total PMUS	14,103	11,933	2,170	11.11
Total Non-PMUS	1,043	1,006	37	0.82
Total All Species	15,146	12,939	2,207	11.93

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active		63	
Time Period	2nd Quarter 2011	Number of trips		86	
Fishing Area	Northwestern Hawaiian Islands EEZ	Number of sets		465	
Trip Types	All Trip Types	Number of hooks set		899,949	

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	202	199	3	0.22
Striped marlin	725	702	23	0.81
Shortbill spearfish	314	309	5	0.35
Swordfish	1,811	1,488	323	2.01
Other billfishes	8	8	0	0.01
Total	3,060	2,706	354	3.40
Sharks				
Blue shark	1,551	12	1,539	1.72
Mako sharks	178	35	143	0.20
Thresher sharks	34	4	30	0.04
Oceanic whitetip shark	71	0	71	0.08
Silky shark	1	0	1	0.00
Other sharks	16	0	16	0.02
Total	1,851	51	1,800	2.06
Tunas				
Albacore	372	370	2	0.41
Bigeye tuna	2,518	2,384	134	2.80
Yellowfin tuna	522	517	5	0.58
Bluefin tuna	0	0	0	0.00
Skipjack tuna	339	338	1	0.38
Other tunas	0	0	0	0.00
Total	3,751	3,609	142	4.17
Other PMUS				
Mahimahi	3,552	3,355	197	3.95
Moonfish	317	316	1	0.35
Wahoo	267	263	4	0.30
Oilfish	1,248	1,163	85	1.39
Pomfret	380	376	4	0.42
Total	5,764	5,473	291	6.40
Total PMUS	14,426	11,839	2,587	16.03
Total Non-PMUS	90	77	13	0.10
Total All Species	14,516	11,916	2,600	16.13

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active		34
Time Period	2nd Quarter 2011	Number of trips		43
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ	Number of sets		196
Trip Types	All Trip Types	Number of hooks set		456,774

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	139	139	0	0.30
Striped marlin	167	165	2	0.37
Shortbill spearfish	151	150	1	0.33
Swordfish	59	59	0	0.13
Other billfishes	8	8	0	0.02
Total	524	521	3	1.15
Sharks				
Blue shark	510	0	510	1.12
Mako sharks	18	1	17	0.04
Thresher sharks	44	4	40	0.10
Oceanic whitetip shark	66	2	64	0.14
Silky shark	11	0	11	0.02
Other sharks	9	0	9	0.02
Total	658	7	651	1.44
Tunas				
Albacore	695	693	2	1.52
Bigeye tuna	2,160	2,129	31	4.73
Yellowfin tuna	827	816	11	1.81
Bluefin tuna	0	0	0	0.00
Skipjack tuna	383	342	41	0.84
Other tunas	0	0	0	0.00
Total	4,065	3,980	85	8.90
Other PMUS				
Mahimahi	123	123	0	0.27
Moonfish	65	65	0	0.14
Wahoo	362	362	0	0.79
Oilfish	288	279	9	0.63
Pomfret	650	649	1	1.42
Total	1,488	1,478	10	3.26
Total PMUS	6,735	5,986	749	14.74
Total Non-PMUS	3	3	0	0.01
Total All Species	6,738	5,989	749	14.75

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active	
Time Period	2nd Quarter 2011		107
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ	Number of trips	196
Trip Types	All Trip Types	Number of sets	1,260
		Number of hooks set	2,625,904

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	538	534	4	0.20
Striped marlin	1,183	1,150	33	0.45
Shortbill spearfish	953	947	6	0.36
Swordfish	2,420	2,022	398	0.92
Other billfishes	27	23	4	0.01
Total	5,121	4,676	445	1.95
Sharks				
Blue shark	3,769	20	3,749	1.44
Mako sharks	276	94	182	0.11
Thresher sharks	208	26	182	0.08
Oceanic whitetip shark	175	7	168	0.07
Silky shark	16	1	15	0.01
Other sharks	52	0	52	0.02
Total	4,496	148	4,348	1.71
Tunas				
Albacore	1,780	1,767	13	0.68
Bigeye tuna	6,914	6,698	216	2.63
Yellowfin tuna	3,718	3,673	45	1.42
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,727	1,673	54	0.66
Other tunas	1	1	0	0.00
Total	14,140	13,812	328	5.38
Other PMUS				
Mahimahi	5,261	5,035	226	2.00
Moonfish	728	726	2	0.28
Wahoo	1,128	1,118	10	0.43
Oilfish	2,574	2,457	117	0.98
Pomfret	1,816	1,786	30	0.69
Total	11,507	11,122	385	4.38
Total PMUS	35,264	29,758	5,506	13.43
Total Non-PMUS	1,136	1,086	50	0.43
Total All Species	36,400	30,844	5,556	13.86

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active	
Time Period	2nd Quarter 2011		120
Fishing Area	Outside U.S. EEZ	Number of trips	336
Trip Types	All Trip Types	Number of sets	3,168
		Number of hooks set	7,118,711

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,057	1,050	7	0.15
Striped marlin	2,292	2,260	32	0.32
Shortbill spearfish	2,083	2,064	19	0.29
Swordfish	3,102	2,745	357	0.44
Other billfishes	67	65	2	0.01
Total	8,601	8,184	417	1.21
Sharks				
Blue shark	8,043	87	7,956	1.13
Mako sharks	560	133	427	0.08
Thresher sharks	1,102	79	1,023	0.15
Oceanic whitetip shark	99	3	96	0.01
Silky shark	13	0	13	0.00
Other sharks	57	0	57	0.01
Total	9,874	302	9,572	1.39
Tunas				
Albacore	2,934	2,905	29	0.41
Bigeye tuna	25,502	25,103	399	3.58
Yellowfin tuna	4,100	4,050	50	0.58
Bluefin tuna	2	2	0	0.00
Skipjack tuna	3,115	3,064	51	0.44
Other tunas	15	15	0	0.00
Total	35,668	35,139	529	5.01
Other PMUS				
Mahimahi	13,321	12,848	473	1.87
Moonfish	2,580	2,570	10	0.36
Wahoo	3,273	3,265	8	0.46
Oilfish	7,583	7,472	111	1.07
Pomfret	5,069	5,030	39	0.71
Total	31,826	31,185	641	4.47
Total PMUS	85,969	74,810	11,159	12.08
Total Non-PMUS	494	355	139	0.07
Total All Species	86,463	75,165	11,298	12.15

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active		19
Time Period	2nd Quarter 2011	Number of trips		35
Fishing Area	All Areas	Number of sets		490
Trip Types	Swordfish Targeted Trips	Number of hooks set		513,239

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	104	101	3	0.20
Striped marlin	410	379	31	0.80
Shortbill spearfish	122	116	6	0.24
Swordfish	4,449	3,729	720	8.67
Other billfishes	1	1	0	0.00
Total	5,086	4,326	760	9.91
Sharks				
Blue shark	2,000	7	1,993	3.90
Mako sharks	177	33	144	0.34
Thresher sharks	28	3	25	0.05
Oceanic whitetip shark	71	3	68	0.14
Silky shark	1	0	1	0.00
Other sharks	16	0	16	0.03
Total	2,293	46	2,247	4.47
Tunas				
Albacore	96	76	20	0.19
Bigeye tuna	380	347	33	0.74
Yellowfin tuna	173	166	7	0.34
Bluefin tuna	0	0	0	0.00
Skipjack tuna	19	19	0	0.04
Other tunas	0	0	0	0.00
Total	668	608	60	1.30
Other PMUS				
Mahimahi	4,555	4,091	464	8.88
Moonfish	15	13	2	0.03
Wahoo	20	16	4	0.04
Oilfish	1,406	1,241	165	2.74
Pomfret	11	9	2	0.02
Total	6,007	5,370	637	11.70
Total PMUS	14,054	10,350	3,704	27.38
Total Non-PMUS	14	11	3	0.03
Total All Species	14,068	10,361	3,707	27.41

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, 8/10/2011 9:35:59AM].

Report Coverage		Number of vessels active		118
Time Period	2nd Quarter 2011	Number of trips		343
Fishing Area	All Areas	Number of sets		3,938
Trip Types	Tuna Targeted Trips	Number of hooks set		9,231,376

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	1,491	1,483	8	0.16
Striped marlin	3,065	3,031	34	0.33
Shortbill spearfish	2,914	2,895	19	0.32
Swordfish	1,073	1,038	35	0.12
Other billfishes	93	87	6	0.01
Total	8,636	8,534	102	0.94
Sharks				
Blue shark	9,812	100	9,712	1.06
Mako sharks	659	194	465	0.07
Thresher sharks	1,282	102	1,180	0.14
Oceanic whitetip shark	203	7	196	0.02
Silky shark	28	1	27	0.00
Other sharks	93	0	93	0.01
Total	12,077	404	11,673	1.31
Tunas				
Albacore	4,618	4,596	22	0.50
Bigeye tuna	32,036	31,454	582	3.47
Yellowfin tuna	7,645	7,557	88	0.83
Bluefin tuna	2	2	0	0.00
Skipjack tuna	4,823	4,718	105	0.52
Other tunas	16	16	0	0.00
Total	49,140	48,343	797	5.32
Other PMUS				
Mahimahi	14,027	13,792	235	1.52
Moonfish	3,293	3,283	10	0.36
Wahoo	4,381	4,367	14	0.47
Oilfish	8,751	8,688	63	0.95
Pomfret	6,874	6,807	67	0.74
Total	37,326	36,937	389	4.04
Total PMUS	107,179	94,218	12,961	11.61
Total Non-PMUS	1,616	1,430	186	0.18
Total All Species	108,795	95,648	13,147	11.79

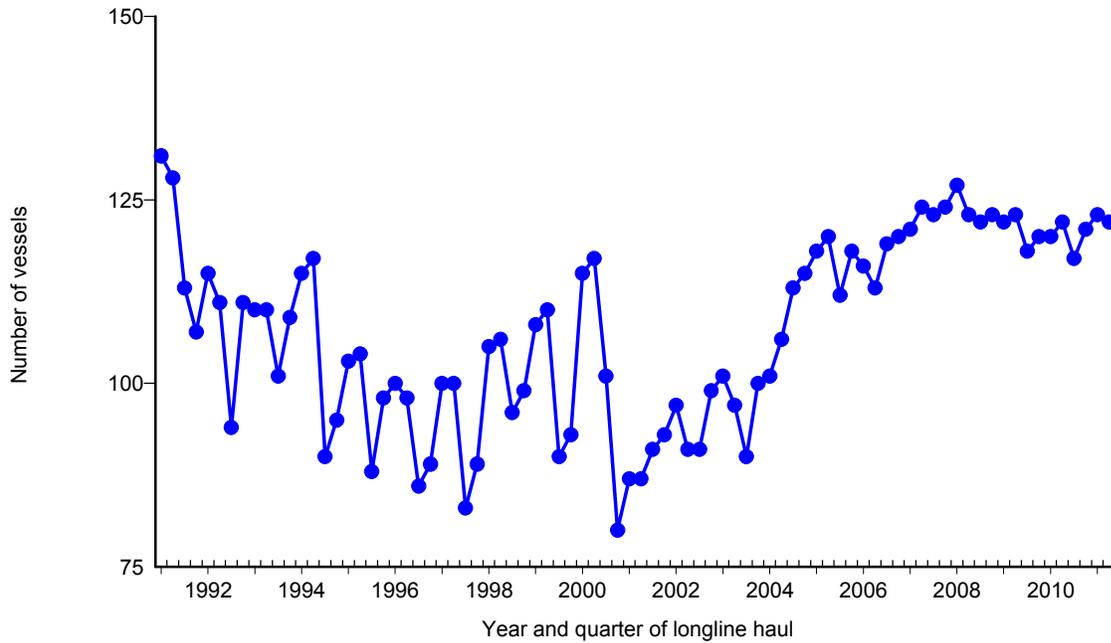


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:24:33AM]

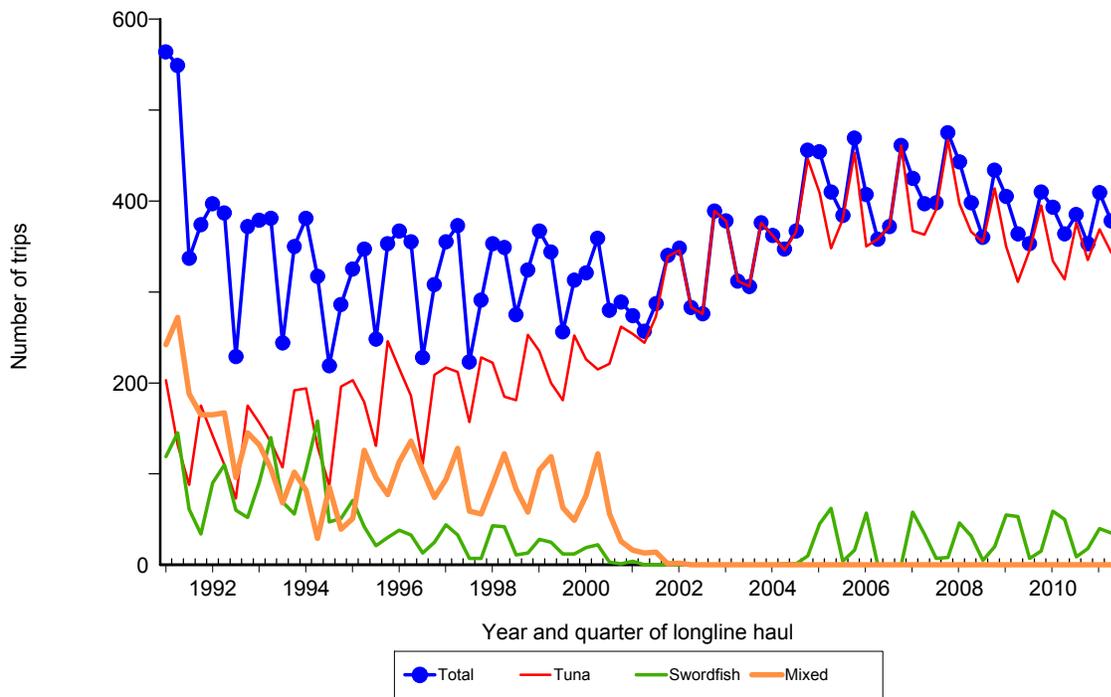


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:24:33AM]

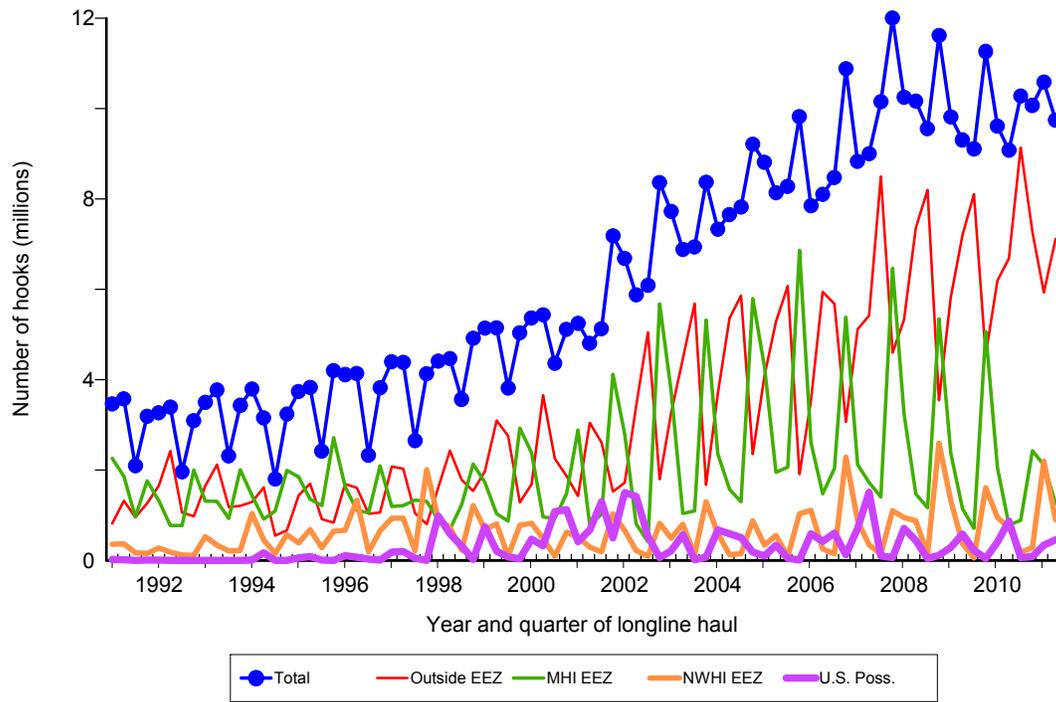


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:25:29AM]

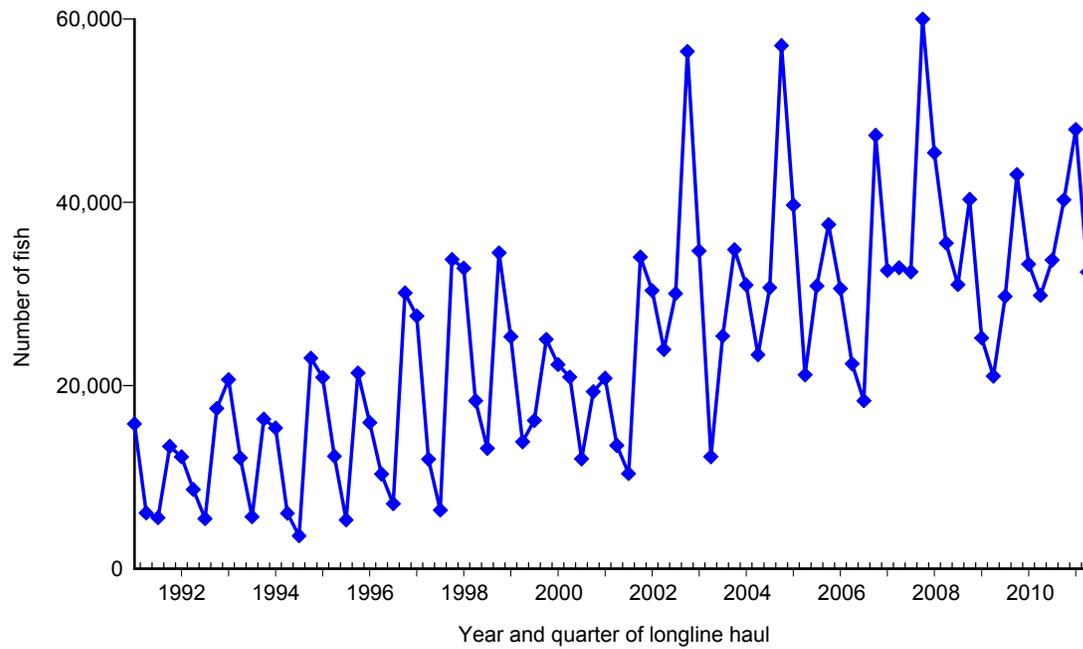


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:25:51AM]

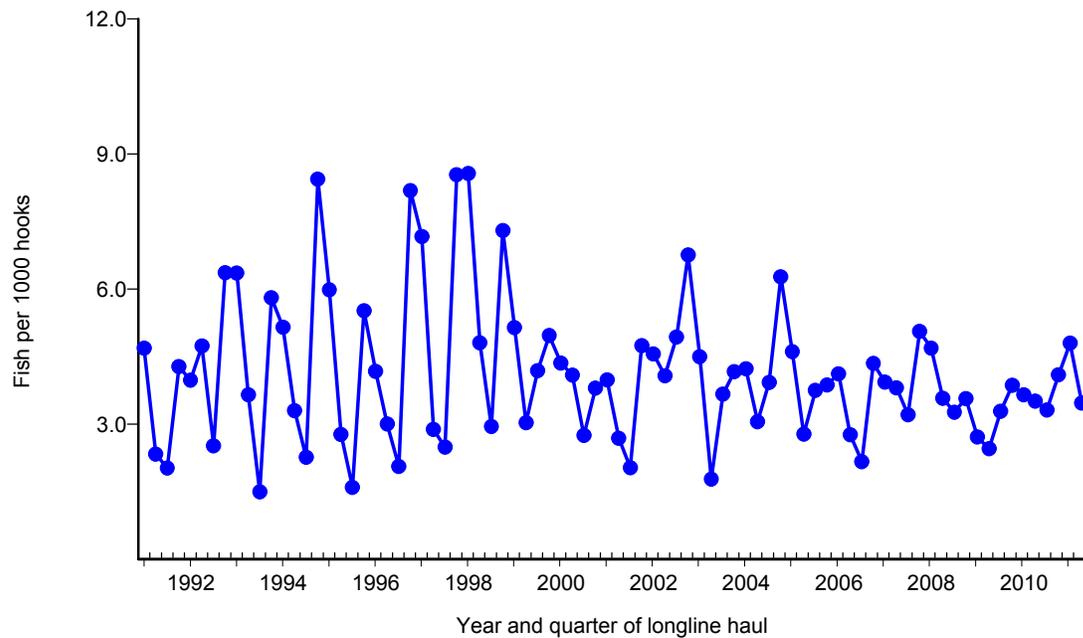


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:25:51AM]

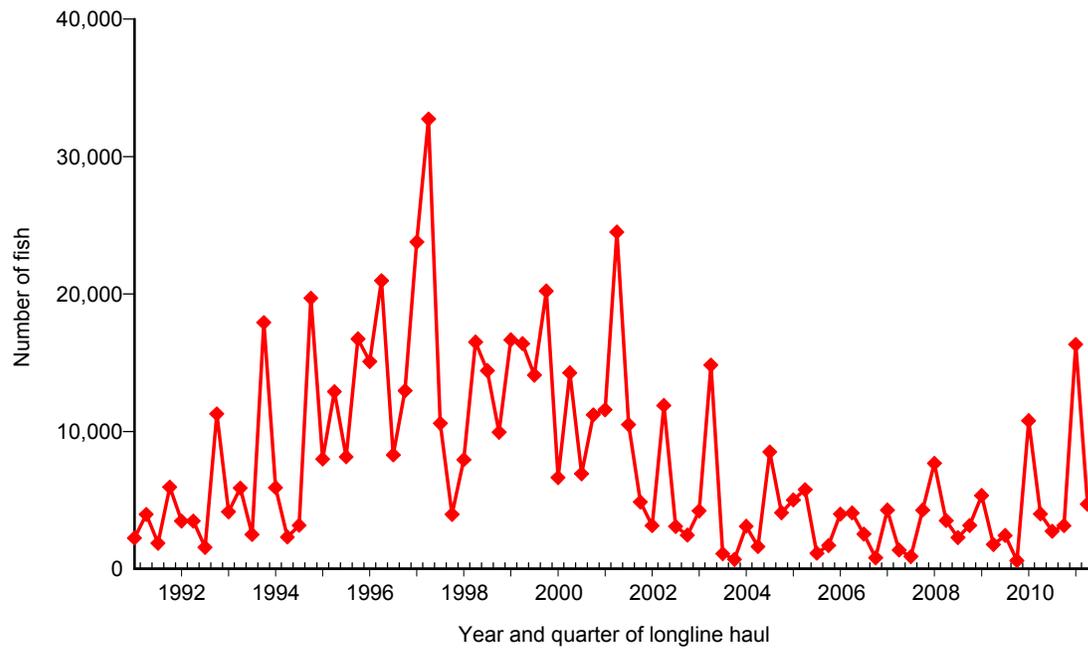


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:26:20AM]

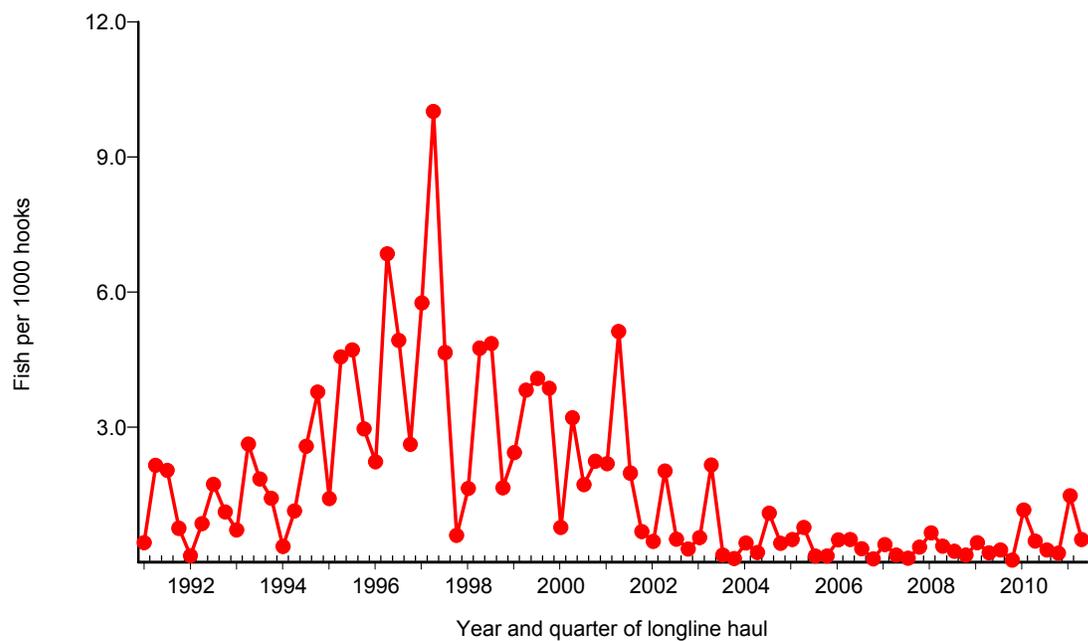


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:26:20AM]

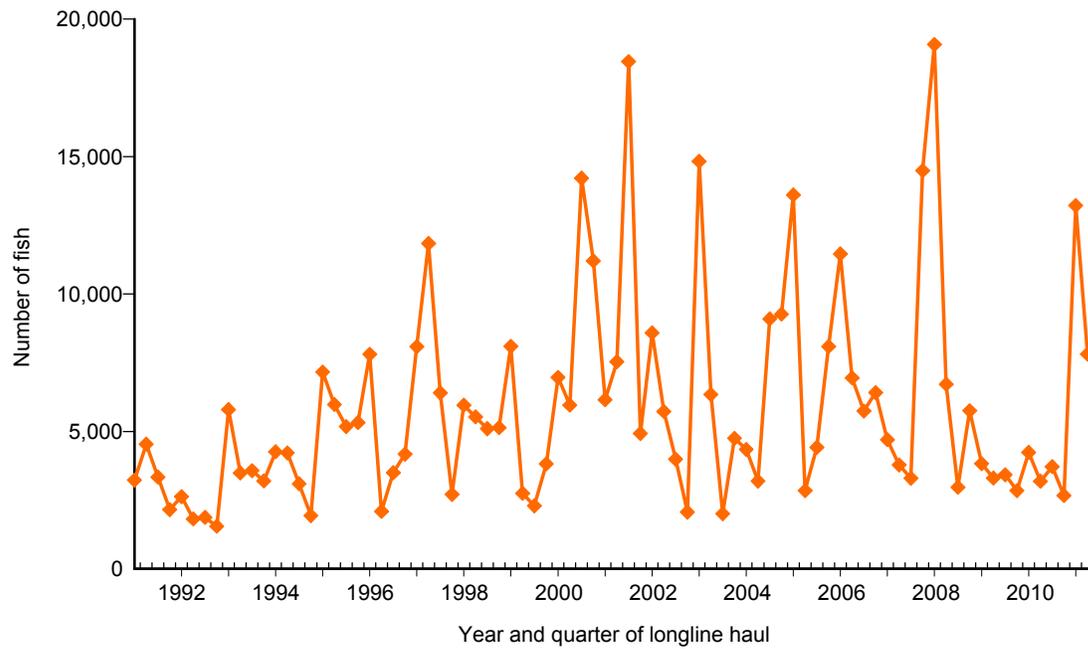


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:26:45AM]

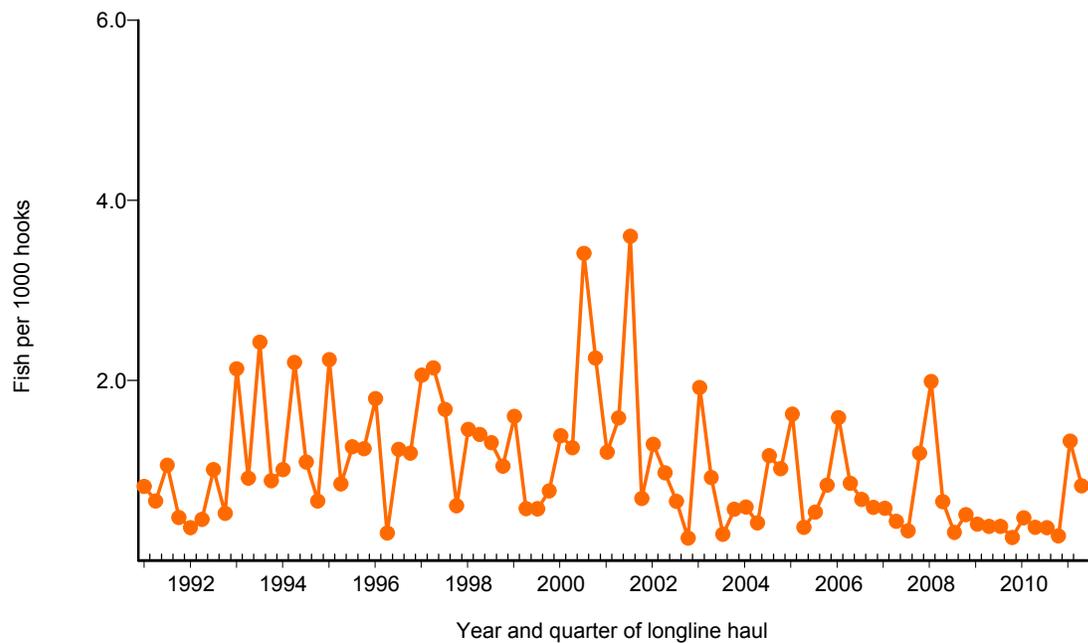


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:26:45AM]

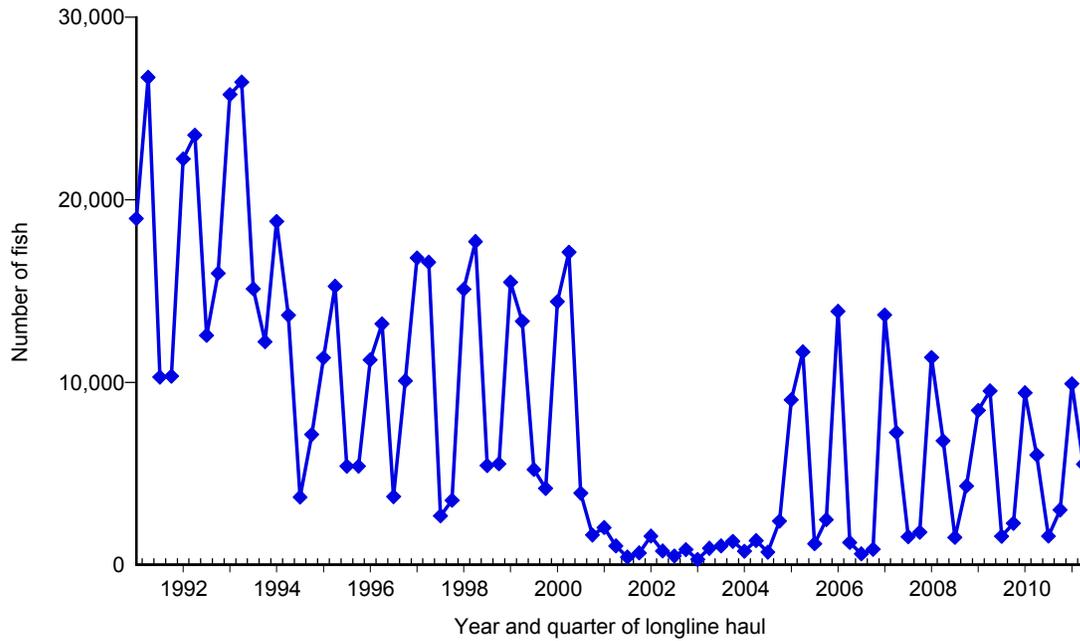


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:27:11AM]

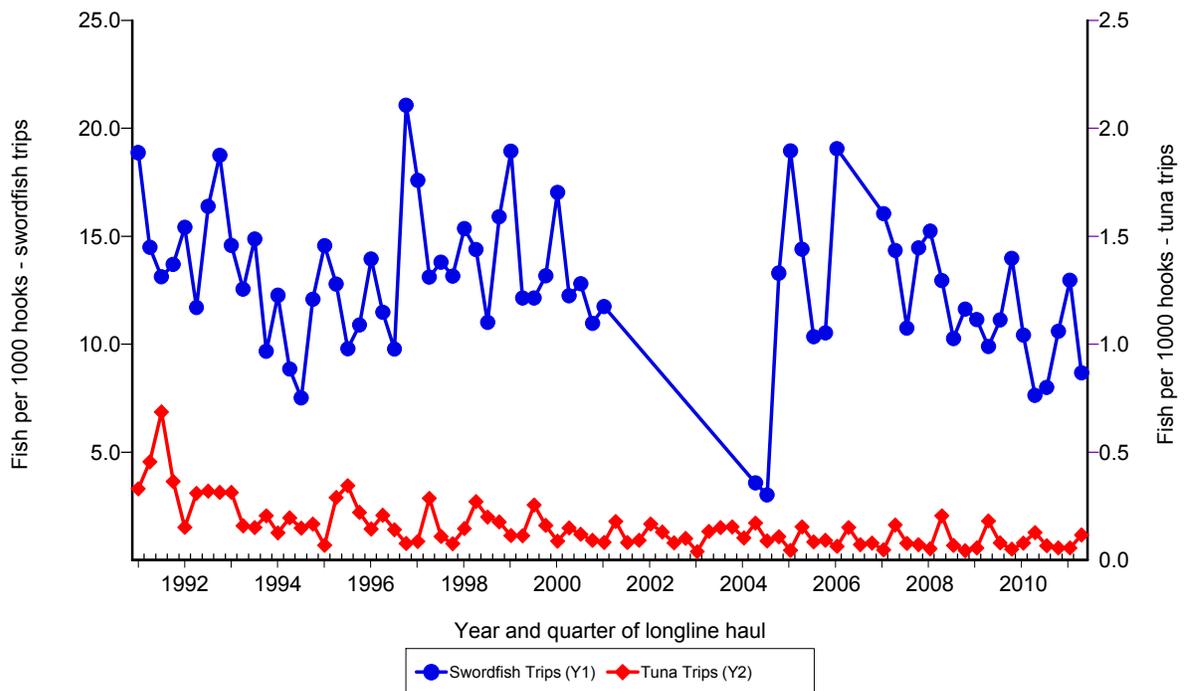


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:27:11AM]

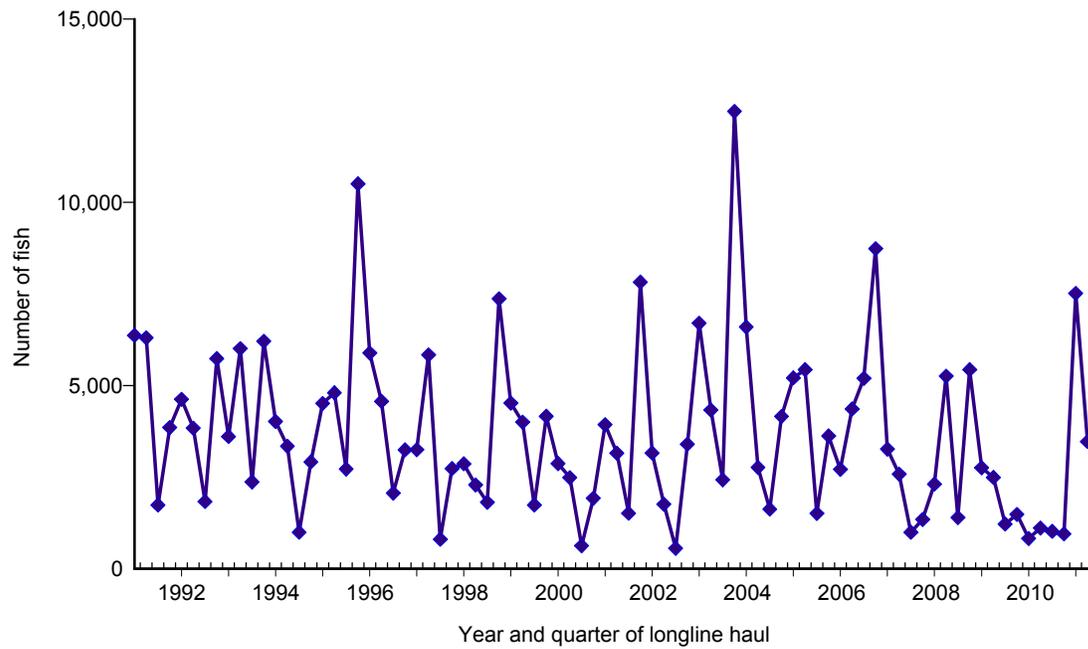


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:27:38AM]

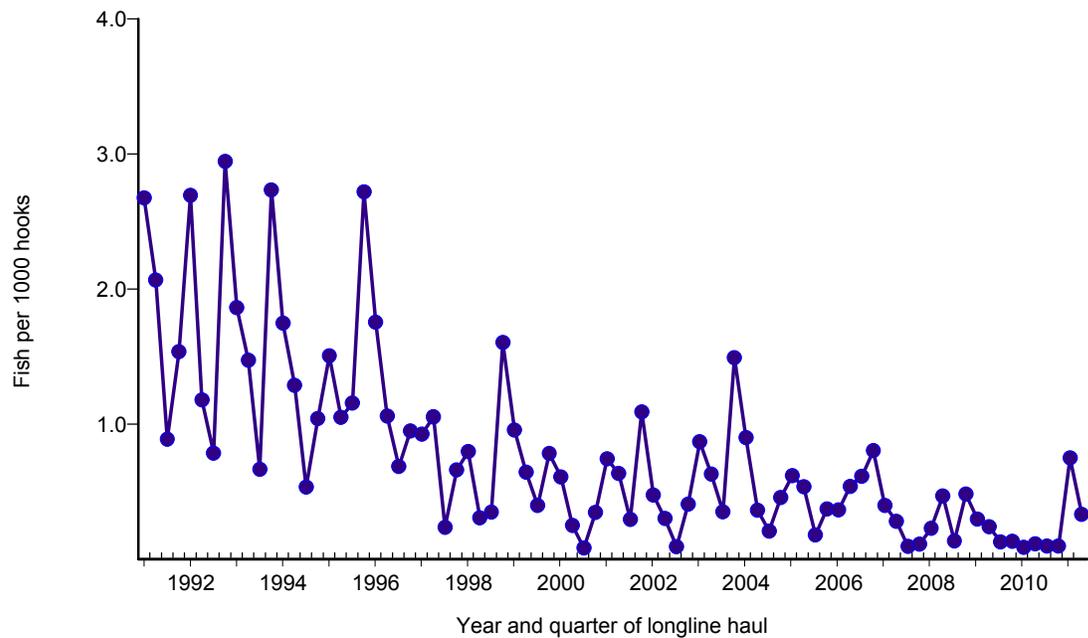


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:27:38AM]

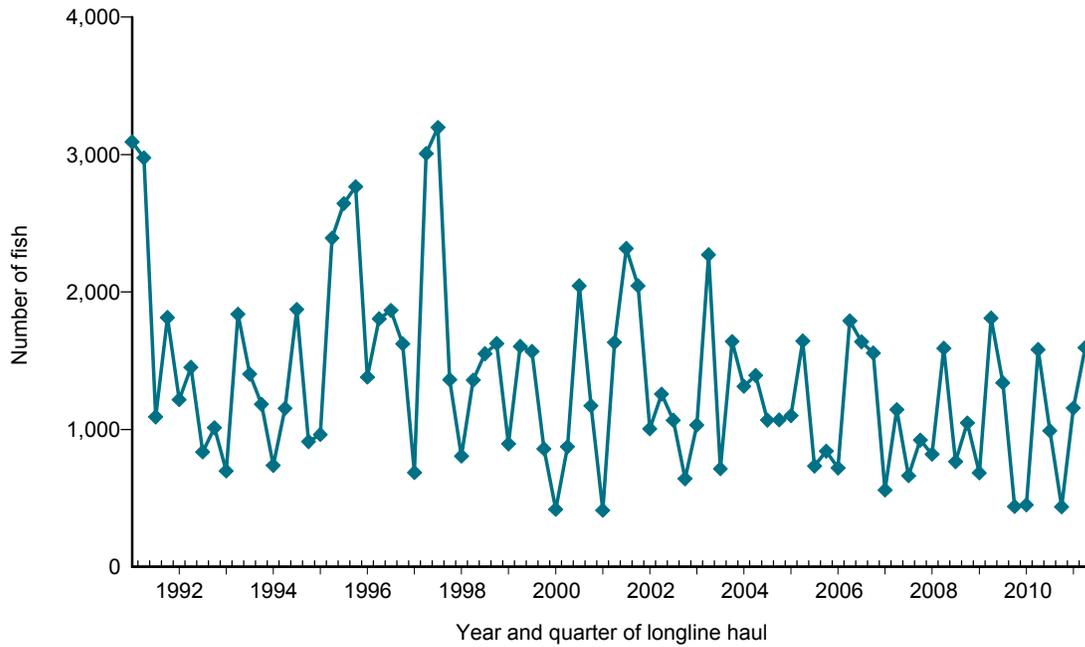


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:04AM]

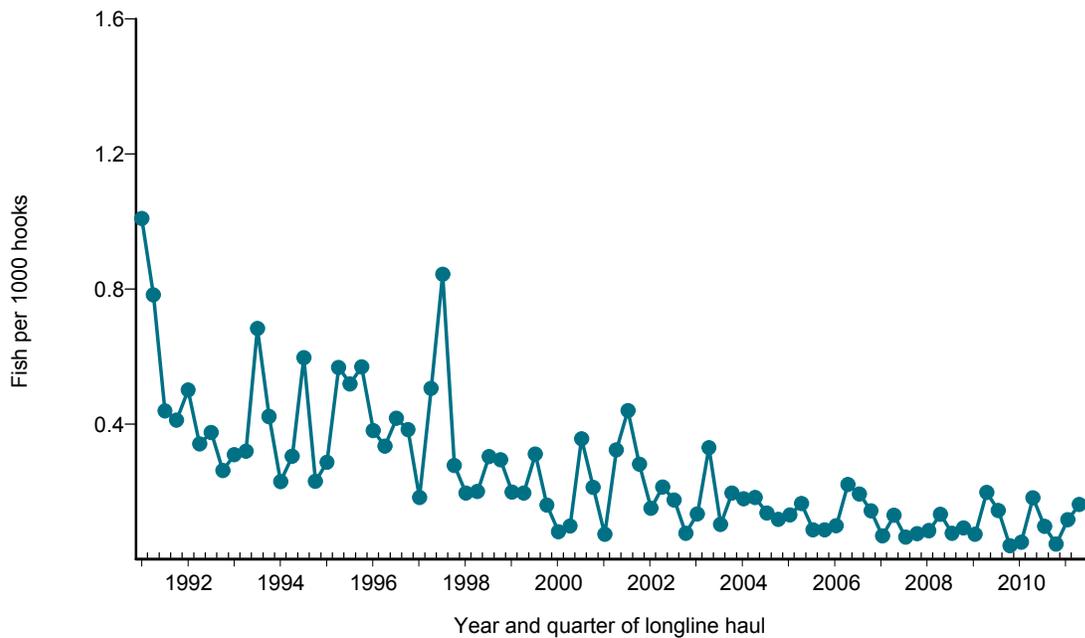


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:04AM]

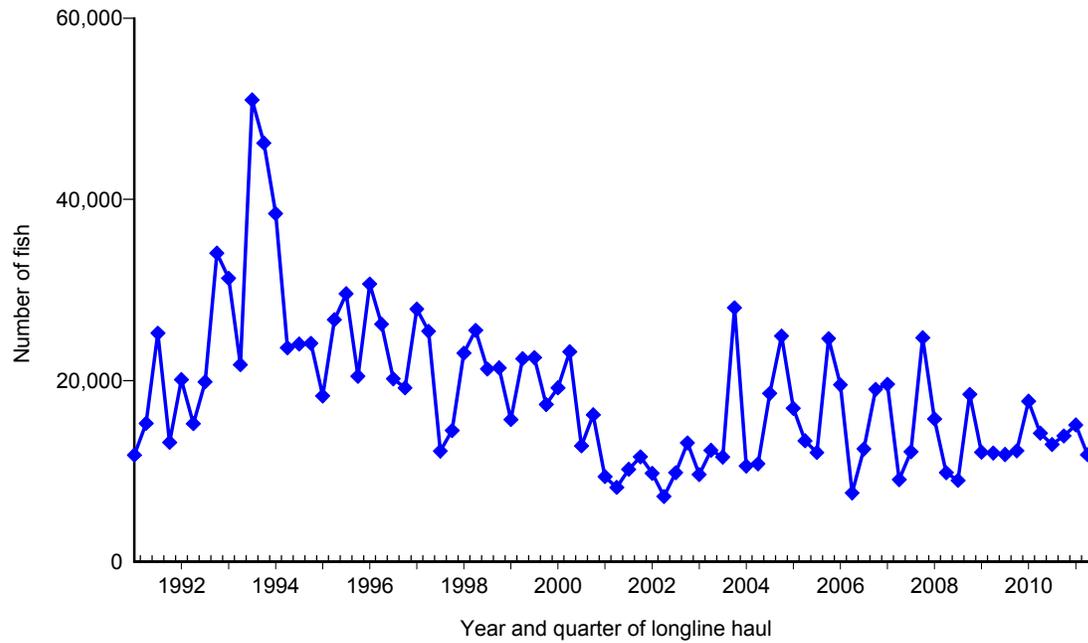


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:29AM]

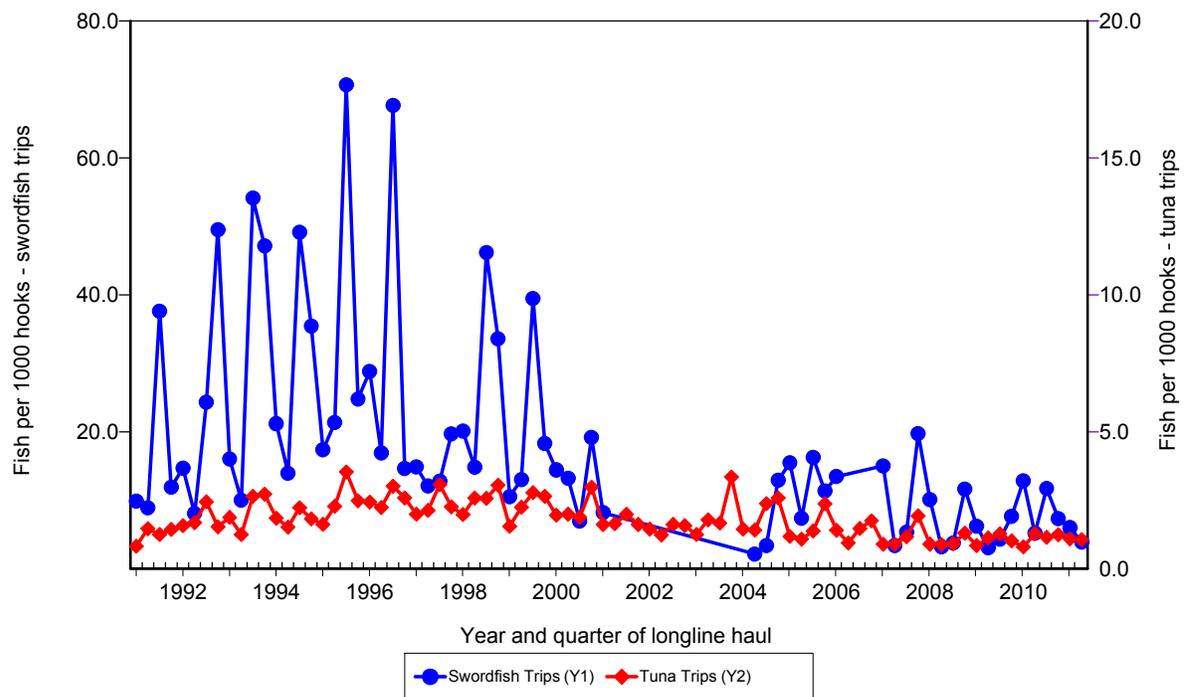


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:29AM]

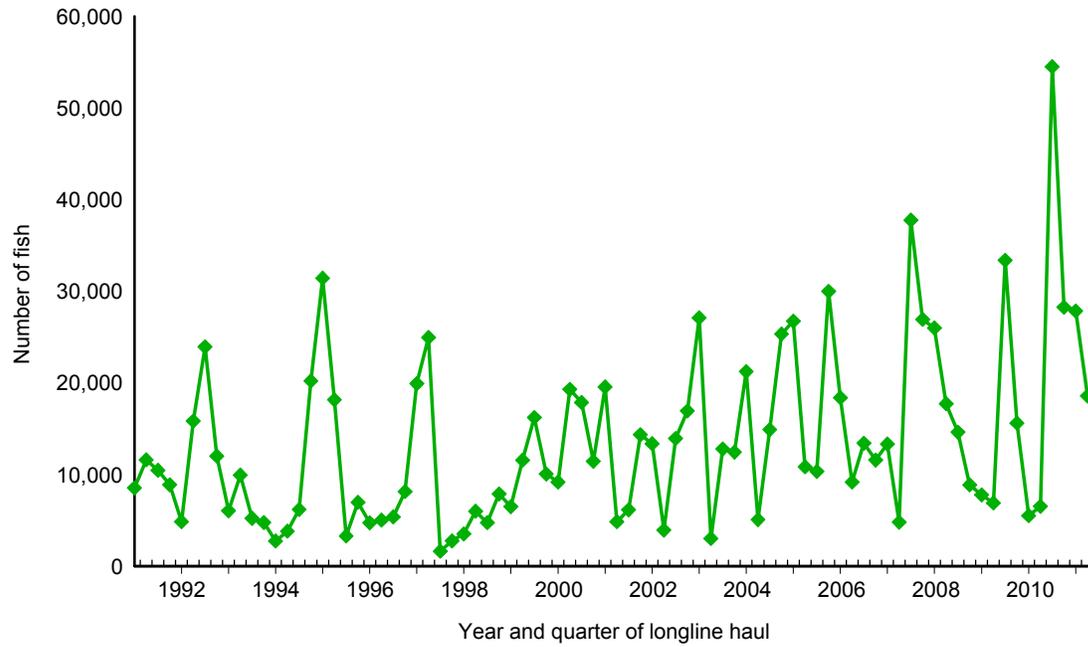


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:57AM]

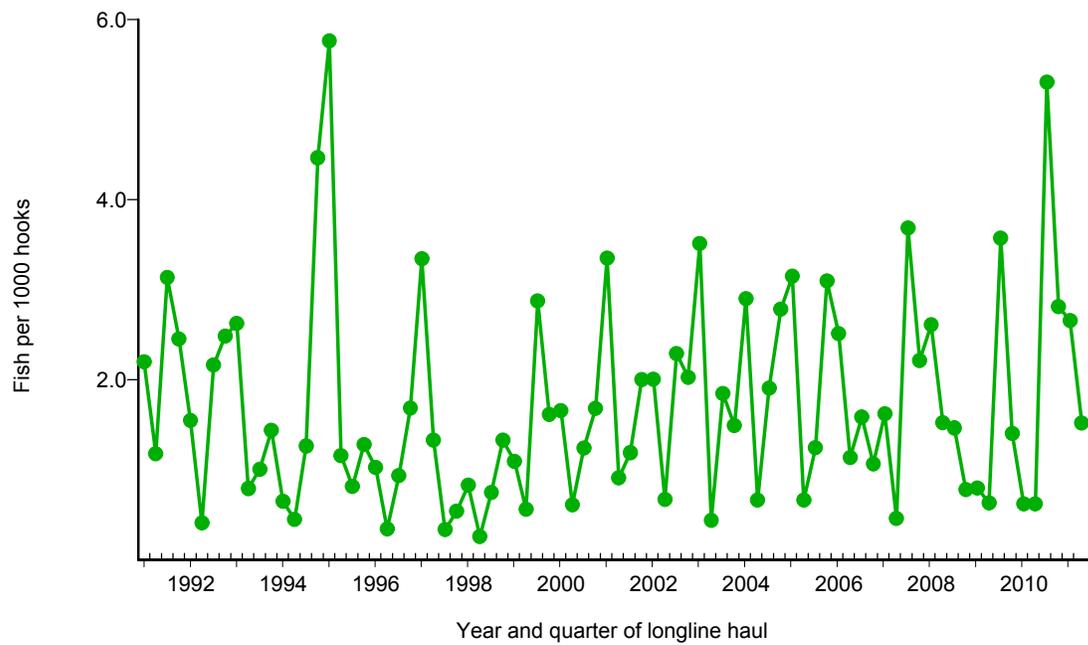


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:28:57AM]

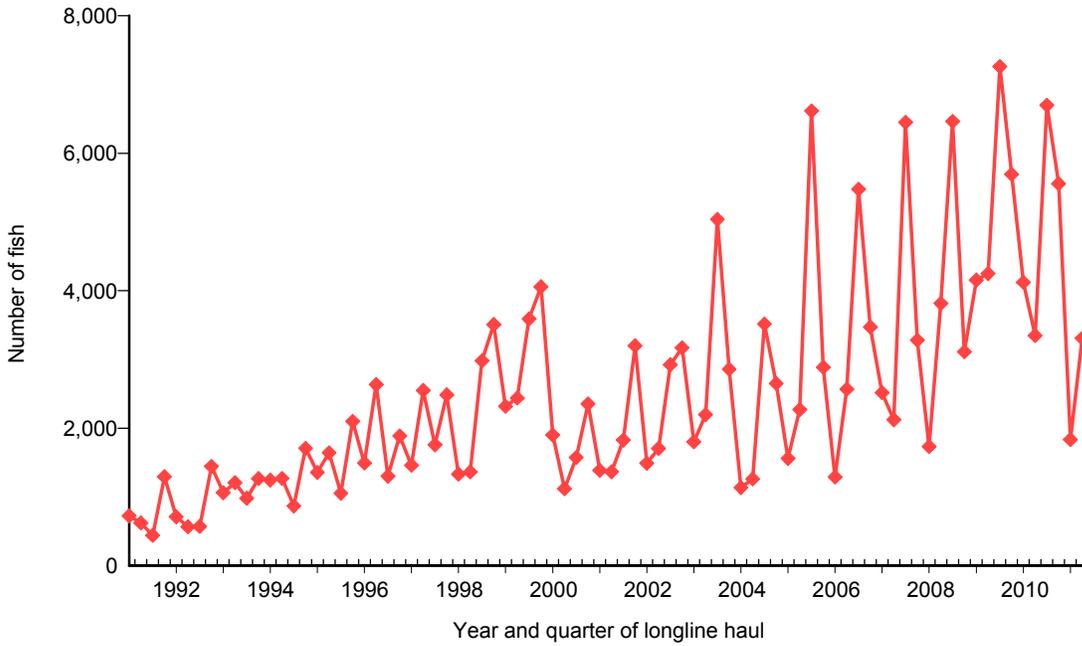


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:29:23AM]

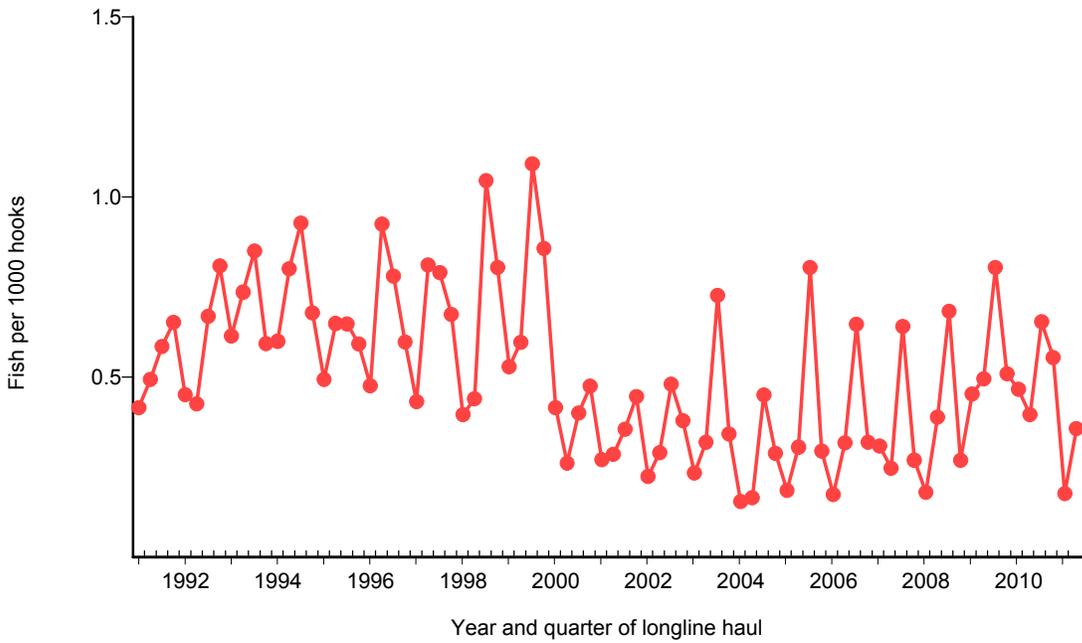


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:29:23AM]

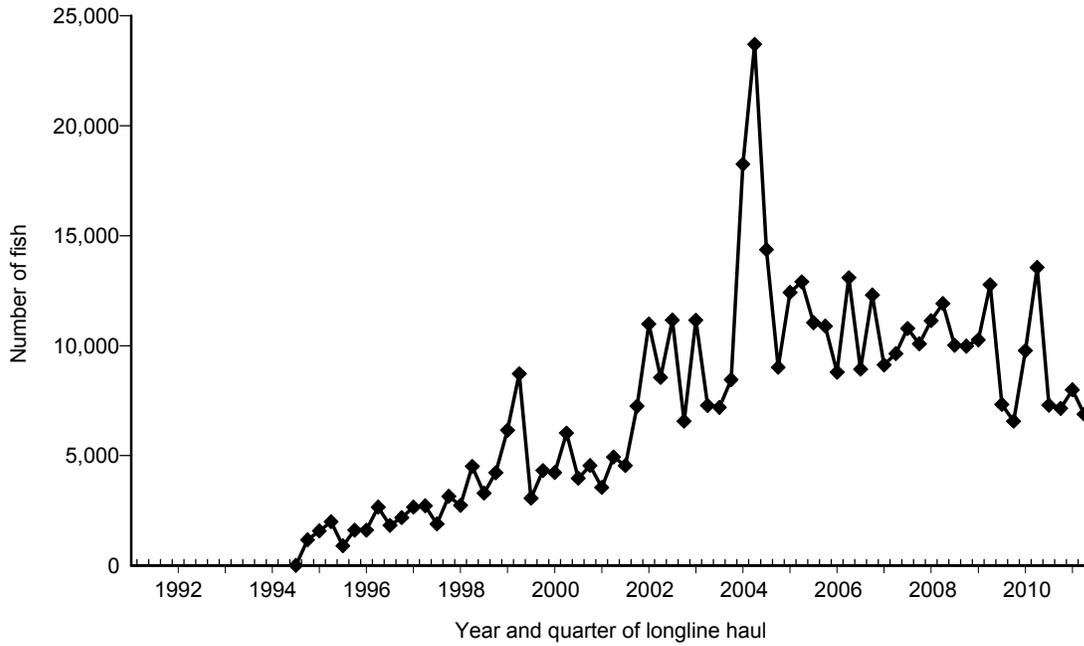


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:29:48AM]

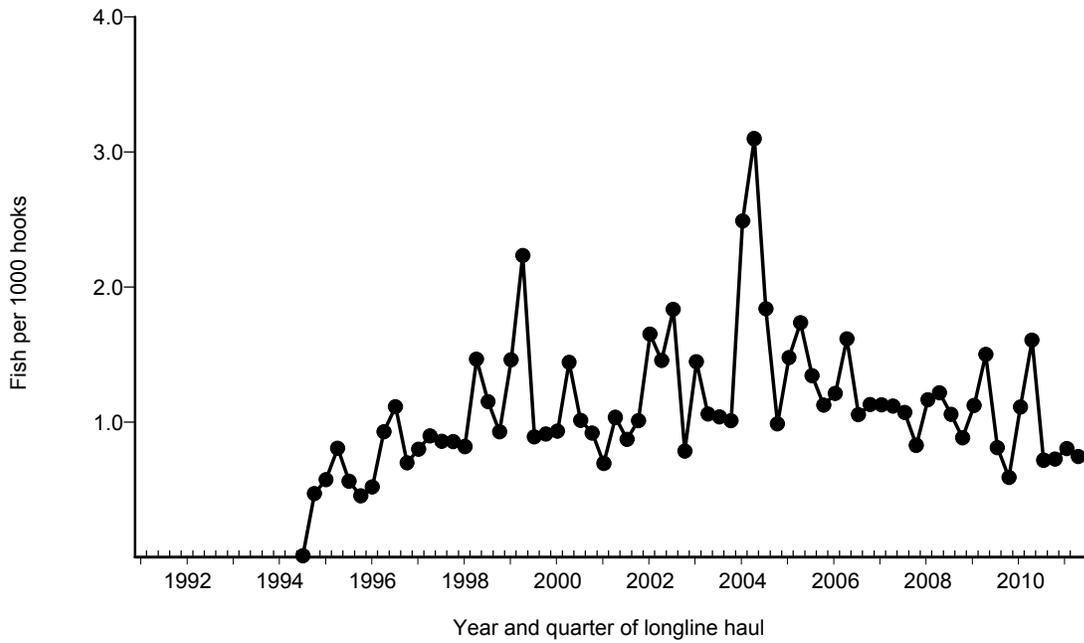


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:29:48AM]

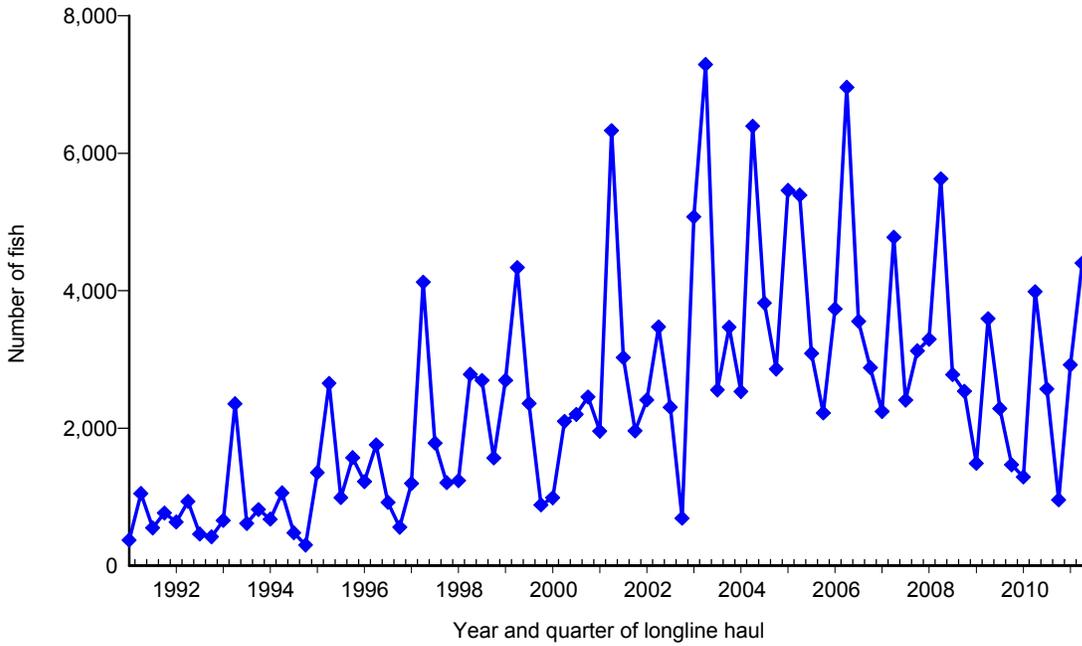


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:30:16AM]

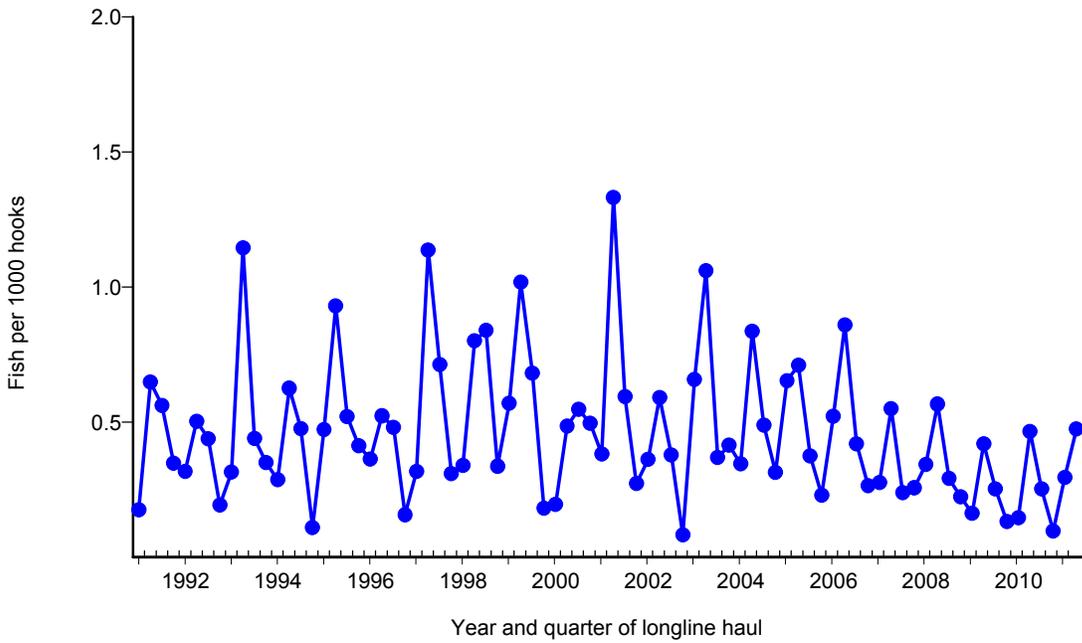


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 8/22/2011 10:30:16AM]