

## **The Hawaii - California Longline Limited-entry Fishery Annual Report for 1 January - 31 December, 2016<sup>1</sup>**

Fisheries Research and Monitoring Division (FRMD),  
Pacific Islands Fisheries Science Center (PIFSC), NOAA Fisheries  
NOAA Inouye Regional Center, 1845 Wasp Boulevard, Building 176, Honolulu, HI  
96818

This annual report for the period 1 January - 31 December, 2016, contains summary data summaries of fishing effort and catch statistics as reported on longline log sheets for the Hawaii - California longline limited-entry fishery. Data in this report originate from the PIFSC Information Management System (Oracle) table `LLDS_REPORT_STATS_RFMO_HC`, representing data received as of 15 March 2018. Catch and effort statistics are based on date of longline haul. When a statistic (number of vessels, trips) involves dates of haul in two summary periods (i.e., years, semi-annual, quarters), the item is counted in both summary periods. Thus, a trip total is for “partial and completed” trips. As such, these statistics are not additive (i.e., sum of four quarters is not the total for the year, etc.).

The following tables show fishery statistics for the stated time period, area, and set type, and includes effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, the table includes the number of fish caught, kept, and released, and the catch per unit effort (CPUE), measured as the number of fish caught per 1,000 hooks.

Additional figures graph catch numbers and effort for important species for the stated time period, area, and set type, for years 2000-2016.

---

<sup>1</sup>PIFSC Data Report DR-19-025. Issued 06 March 2019  
<https://doi.org/10.25923/xv7f-hj25>

**Table 1.** For the period 1 January - 31 December, 2016, Hawaii and California longline limited-entry fishery annual statistics for all fishing areas and all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

**Report Coverage**

Time Period 1 January - 31 December, 2016  
 Set Types All sets  
 Fishing Area All Areas

Number of vessels active	142
Number of trips (partial or completed)	1,526
Number of sets	20,118
Number of hooks set	51,916,559

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 hooks
<b>PMUS</b>				
<b>Billfish PMUS</b>				
Blue marlin	6,356	6,279	77	0.12
Striped marlin	11,917	11,729	188	0.23
Shortbill spearfish	24,187	23,848	339	0.47
Swordfish	14,848	13,814	1,034	0.29
Other billfishes	874	863	11	0.02
<b>Total</b>	<b>58,182</b>	<b>56,533</b>	<b>1,649</b>	<b>1.12</b>
<b>Shark PMUS</b>				
Blue shark	83,488	6	83,482	1.61
Mako sharks	5,382	840	4,542	0.10
Thresher sharks	10,616	47	10,569	0.20
Oceanic whitetip shark	1,133	0	1,133	0.02
Silky shark	351	0	351	0.01
Other Sharks	964	3	961	0.02
<b>Total</b>	<b>101,934</b>	<b>896</b>	<b>101,038</b>	<b>1.96</b>
<b>Tuna PMUS</b>				
Albacore	9,912	9,891	21	0.19
Bigeye tuna	222,090	218,208	3,882	4.28
Yellowfin tuna	46,771	45,936	835	0.90
Bluefin tuna	5	4	1	0.00
Skipjack tuna	30,881	30,334	547	0.59
Other tunas	6	6	0	0.00
<b>Total</b>	<b>309,665</b>	<b>304,379</b>	<b>5,286</b>	<b>5.96</b>
<b>Other PMUS</b>				
Mahimahi	49,628	49,319	309	0.96
Moonfish	24,623	24,510	113	0.47
Wahoo	30,256	30,151	105	0.58
Oilfish	28,401	25,542	2,859	0.55
Pomfret	81,708	81,328	380	1.57
<b>Total</b>	<b>214,616</b>	<b>210,850</b>	<b>3,766</b>	<b>4.13</b>
<b>Total PMUS</b>	<b>684,397</b>	<b>572,658</b>	<b>111,739</b>	<b>13.18</b>
<b>Total Non-PMUS</b>	<b>6,821</b>	<b>1,046</b>	<b>5,775</b>	<b>0.13</b>
<b>Total All Species</b>	<b>691,218</b>	<b>573,704</b>	<b>117,514</b>	<b>13.31</b>

**Table 2.** For the period 1 January - 31 December, 2016, Hawaii longline limited-entry fishery annual statistics for fishing within the U.S. EEZ (Main Hawaiian Islands, Northwest Hawaiian Islands, or the Pacific Remote Islands, and with all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

**Report Coverage**

Time Period 1 January - 31 December, 2016  
 Set Types All sets  
 Fishing Area Inside U.S. EEZ

Number of vessels active	131
Number of trips (partial or completed)	704
Number of sets	4,995
Number of hooks set	12,665,388

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 hooks
<b>PMUS</b>				
<b>Billfish PMUS</b>				
Blue marlin	1,884	1,861	23	0.15
Striped marlin	3,991	3,977	14	0.32
Shortbill spearfish	7,231	7,172	59	0.57
Swordfish	2,405	2,173	232	0.19
Other billfishes	274	274	0	0.02
<b>Total</b>	<b>15,785</b>	<b>15,457</b>	<b>328</b>	<b>1.25</b>
<b>Shark PMUS</b>				
Blue shark	21,645	0	21,645	1.71
Mako sharks	1,162	180	982	0.09
Thresher sharks	1,475	8	1,467	0.12
Oceanic whitetip shark	395	0	395	0.03
Silky shark	165	0	165	0.01
Other Sharks	240	0	240	0.02
<b>Total</b>	<b>25,082</b>	<b>188</b>	<b>24,894</b>	<b>1.98</b>
<b>Tuna PMUS</b>				
Albacore	1,661	1,658	3	0.13
Bigeye tuna	45,272	44,197	1,075	3.57
Yellowfin tuna	13,687	13,397	290	1.08
Bluefin tuna	0	0	0	0.00
Skipjack tuna	8,901	8,672	229	0.70
Other tunas	0	0	0	0.00
<b>Total</b>	<b>69,521</b>	<b>67,924</b>	<b>1,597</b>	<b>5.49</b>
<b>Other PMUS</b>				
Mahimahi	9,162	9,114	48	0.72
Moonfish	2,319	2,307	12	0.18
Wahoo	5,792	5,771	21	0.46
Oilfish	6,433	5,711	722	0.51
Pomfret	15,810	15,715	95	1.25
<b>Total</b>	<b>39,516</b>	<b>38,618</b>	<b>898</b>	<b>3.12</b>
<b>Total PMUS</b>	<b>149,904</b>	<b>122,187</b>	<b>27,717</b>	<b>11.84</b>
<b>Total Non-PMUS</b>	<b>952</b>	<b>680</b>	<b>272</b>	<b>0.08</b>
<b>Total All Species</b>	<b>150,856</b>	<b>122,867</b>	<b>27,989</b>	<b>11.91</b>

**Table 3.** For the period 1 January - 31 December, 2016, Hawaii and California longline limited-entry fisheries annual statistics for fishing outside the U.S. EEZ and with all fishing categories (set types), including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

**Report Coverage**

Time Period 1 January - 31 December, 2016  
 Set Types All sets  
 Fishing Area Outside U.S. EEZ

Number of vessels active	142
Number of trips (partial or completed)	1,345
Number of sets	15,123
Number of hooks set	39,251,171

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 hooks
<b>PMUS</b>				
<b>Billfish PMUS</b>				
Blue marlin	4,472	4,418	54	0.11
Striped marlin	7,926	7,752	174	0.20
Shortbill spearfish	16,956	16,676	280	0.43
Swordfish	12,443	11,641	802	0.32
Other billfishes	600	589	11	0.02
<b>Total</b>	<b>42,397</b>	<b>41,076</b>	<b>1,321</b>	<b>1.08</b>
<b>Shark PMUS</b>				
Blue shark	61,843	6	61,837	1.58
Mako sharks	4,220	660	3,560	0.11
Thresher sharks	9,141	39	9,102	0.23
Oceanic whitetip shark	738	0	738	0.02
Silky shark	186	0	186	0.00
Other Sharks	724	3	721	0.02
<b>Total</b>	<b>76,852</b>	<b>708</b>	<b>76,144</b>	<b>1.96</b>
<b>Tuna PMUS</b>				
Albacore	8,251	8,233	18	0.21
Bigeye tuna	176,818	174,011	2,807	4.50
Yellowfin tuna	33,084	32,539	545	0.84
Bluefin tuna	5	4	1	0.00
Skipjack tuna	21,980	21,662	318	0.56
Other tunas	6	6	0	0.00
<b>Total</b>	<b>240,144</b>	<b>236,455</b>	<b>3,689</b>	<b>6.12</b>
<b>Other PMUS</b>				
Mahimahi	40,466	40,205	261	1.03
Moonfish	22,304	22,203	101	0.57
Wahoo	24,464	24,380	84	0.62
Oilfish	21,968	19,831	2,137	0.56
Pomfret	65,898	65,613	285	1.68
<b>Total</b>	<b>175,100</b>	<b>172,232</b>	<b>2,868</b>	<b>4.46</b>
<b>Total PMUS</b>	<b>534,493</b>	<b>450,471</b>	<b>84,022</b>	<b>13.62</b>
<b>Total Non-PMUS</b>	<b>5,869</b>	<b>366</b>	<b>5,503</b>	<b>0.15</b>
<b>Total All Species</b>	<b>540,362</b>	<b>450,837</b>	<b>89,525</b>	<b>13.77</b>

**Table 4.** For the period 1 January - 31 December, 2016, Hawaii and California longline limited-entry fisheries annual statistics for all fishing areas and with shallow set type, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

**Report Coverage**

Time Period 1 January - 31 December, 2016  
 Set Types Shallow sets  
 Fishing Area All Areas

Number of vessels active	13
Number of trips (partial or completed)	46
Number of sets	727
Number of hooks set	785,885

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 hooks
<b>PMUS</b>				
<b>Billfish PMUS</b>				
Blue marlin	95	91	4	0.12
Striped marlin	329	297	32	0.42
Shortbill spearfish	160	132	28	0.20
Swordfish	9,730	9,011	719	12.38
Other billfishes	7	7	0	0.01
<b>Total</b>	<b>10,321</b>	<b>9,538</b>	<b>783</b>	<b>13.13</b>
<b>Shark PMUS</b>				
Blue shark	10,874	0	10,874	13.84
Mako sharks	895	112	783	1.14
Thresher sharks	88	1	87	0.11
Oceanic whitetip shark	22	0	22	0.03
Silky shark	0	0	0	0.00
Other Sharks	57	0	57	0.07
<b>Total</b>	<b>11,936</b>	<b>113</b>	<b>11,823</b>	<b>15.19</b>
<b>Tuna PMUS</b>				
Albacore	59	56	3	0.08
Bigeye tuna	941	869	72	1.20
Yellowfin tuna	301	285	16	0.38
Bluefin tuna	0	0	0	0.00
Skipjack tuna	20	18	2	0.03
Other tunas	0	0	0	0.00
<b>Total</b>	<b>1,321</b>	<b>1,228</b>	<b>93</b>	<b>1.68</b>
<b>Other PMUS</b>				
Mahimahi	1,134	1,106	28	1.44
Moonfish	271	225	46	0.34
Wahoo	39	38	1	0.05
Oilfish	575	300	275	0.73
Pomfret	18	15	3	0.02
<b>Total</b>	<b>2,037</b>	<b>1,684</b>	<b>353</b>	<b>2.59</b>
<b>Total PMUS</b>	<b>25,615</b>	<b>12,563</b>	<b>13,052</b>	<b>32.59</b>
<b>Total Non-PMUS</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0.00</b>
<b>Total All Species</b>	<b>25,616</b>	<b>12,563</b>	<b>13,053</b>	<b>32.60</b>

**Table 5.** For the period 1 January - 31 December, 2016, Hawaii and California longline limited-entry fisheries annual statistics for all fishing areas and with deep set type, including effort (number of vessels, trips, sets, and hooks set), and for each listed species, organized by pelagic management unit species (PMUS) groups of billfish, shark, tuna, and other, along with the number of fish caught, kept, and released, and the catch per unit effort (CPUE, number per 1,000 hooks, calculated as the sum of fish caught divided by the sum of hooks set). Data Source: PIFSC Information Management System, Longline Logbook Data.

**Report Coverage**

Time Period 1 January - 31 December, 2016  
 Set Types Deep sets  
 Fishing Area All Areas

Number of vessels active	142
Number of trips (partial or completed)	1,480
Number of sets	19,391
Number of hooks set	51,130,674

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE Number Caught per 1000 hooks
<b>PMUS</b>				
<b>Billfish PMUS</b>				
Blue marlin	6,261	6,188	73	0.12
Striped marlin	11,588	11,432	156	0.23
Shortbill spearfish	24,027	23,716	311	0.47
Swordfish	5,118	4,803	315	0.10
Other billfishes	867	856	11	0.02
<b>Total</b>	<b>47,861</b>	<b>46,995</b>	<b>866</b>	<b>0.94</b>
<b>Shark PMUS</b>				
Blue shark	72,614	6	72,608	1.42
Mako sharks	4,487	728	3,759	0.09
Thresher sharks	10,528	46	10,482	0.21
Oceanic whitetip shark	1,111	0	1,111	0.02
Silky shark	351	0	351	0.01
Other Sharks	907	3	904	0.02
<b>Total</b>	<b>89,998</b>	<b>783</b>	<b>89,215</b>	<b>1.76</b>
<b>Tuna PMUS</b>				
Albacore	9,853	9,835	18	0.19
Bigeye tuna	221,149	217,339	3,810	4.33
Yellowfin tuna	46,470	45,651	819	0.91
Bluefin tuna	5	4	1	0.00
Skipjack tuna	30,861	30,316	545	0.60
Other tunas	6	6	0	0.00
<b>Total</b>	<b>308,344</b>	<b>303,151</b>	<b>5,193</b>	<b>6.03</b>
<b>Other PMUS</b>				
Mahimahi	48,494	48,213	281	0.95
Moonfish	24,352	24,285	67	0.48
Wahoo	30,217	30,113	104	0.59
Oilfish	27,826	25,242	2,584	0.54
Pomfret	81,690	81,313	377	1.60
<b>Total</b>	<b>212,579</b>	<b>209,166</b>	<b>3,413</b>	<b>4.16</b>
<b>Total PMUS</b>	<b>658,782</b>	<b>560,095</b>	<b>98,687</b>	<b>12.88</b>
<b>Total Non-PMUS</b>	<b>6,820</b>	<b>1,046</b>	<b>5,774</b>	<b>0.13</b>
<b>Total All Species</b>	<b>665,602</b>	<b>561,141</b>	<b>104,461</b>	<b>13.02</b>

## Active Vessels

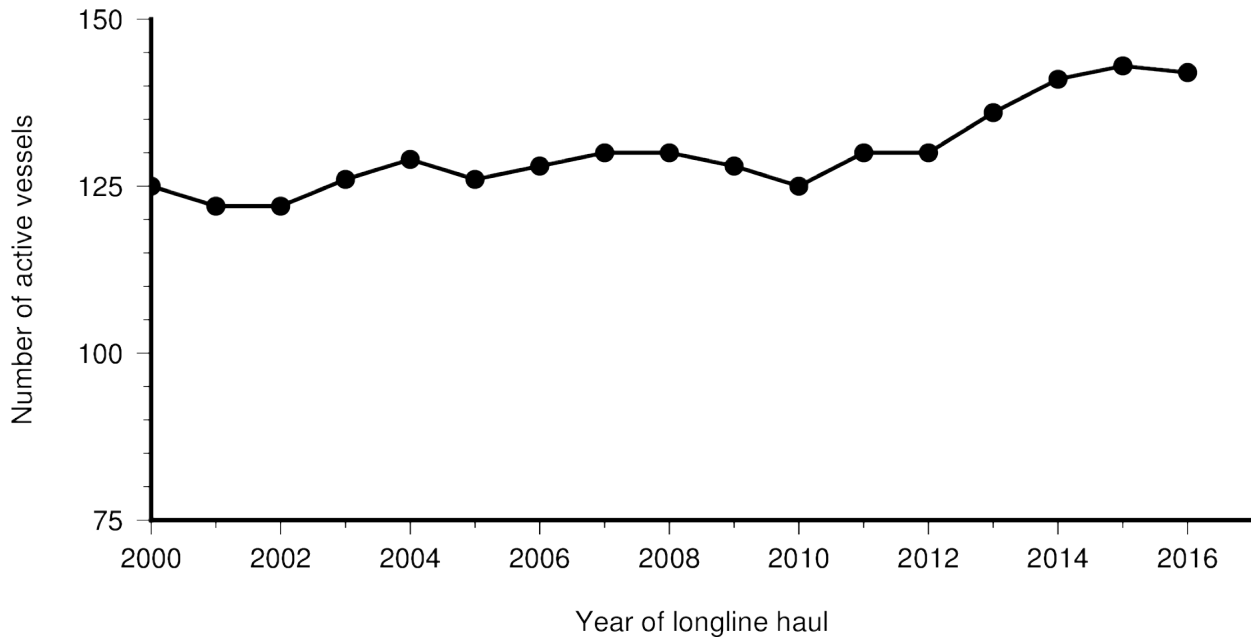


Figure 1: Number of active longline vessels based in Hawaii and California, by year, 2000-2016.

## Trips

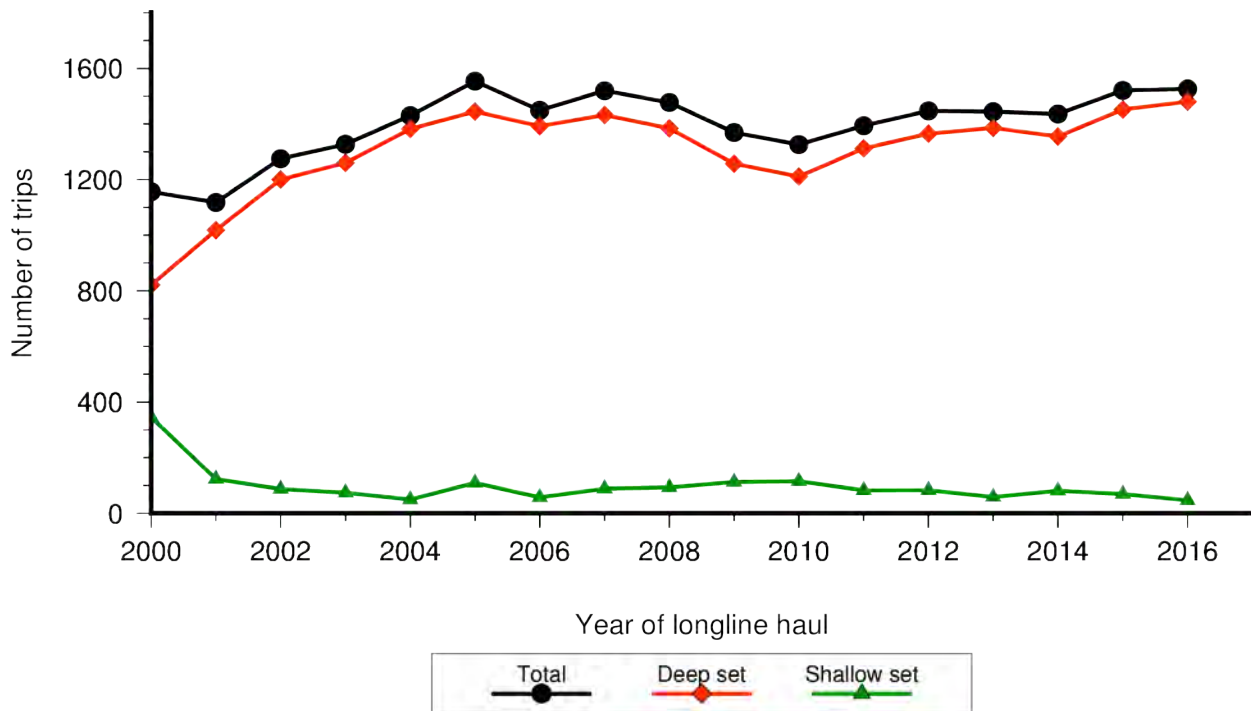


Figure 2: Number of active longline vessels based in Hawaii and California, by year, 2000-2016.

## Sets

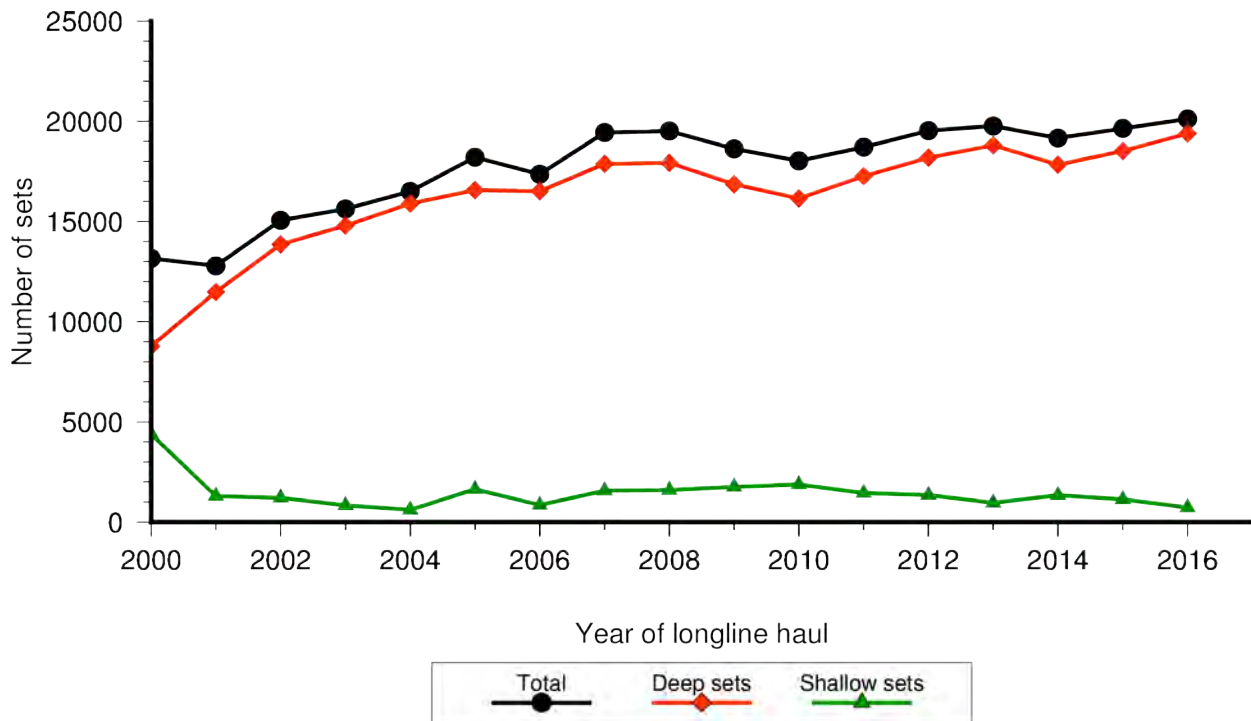


Figure 3: Number of fishing sets by vessels based in Hawaii and California, by year, 2000-2016.

## Hooks Set

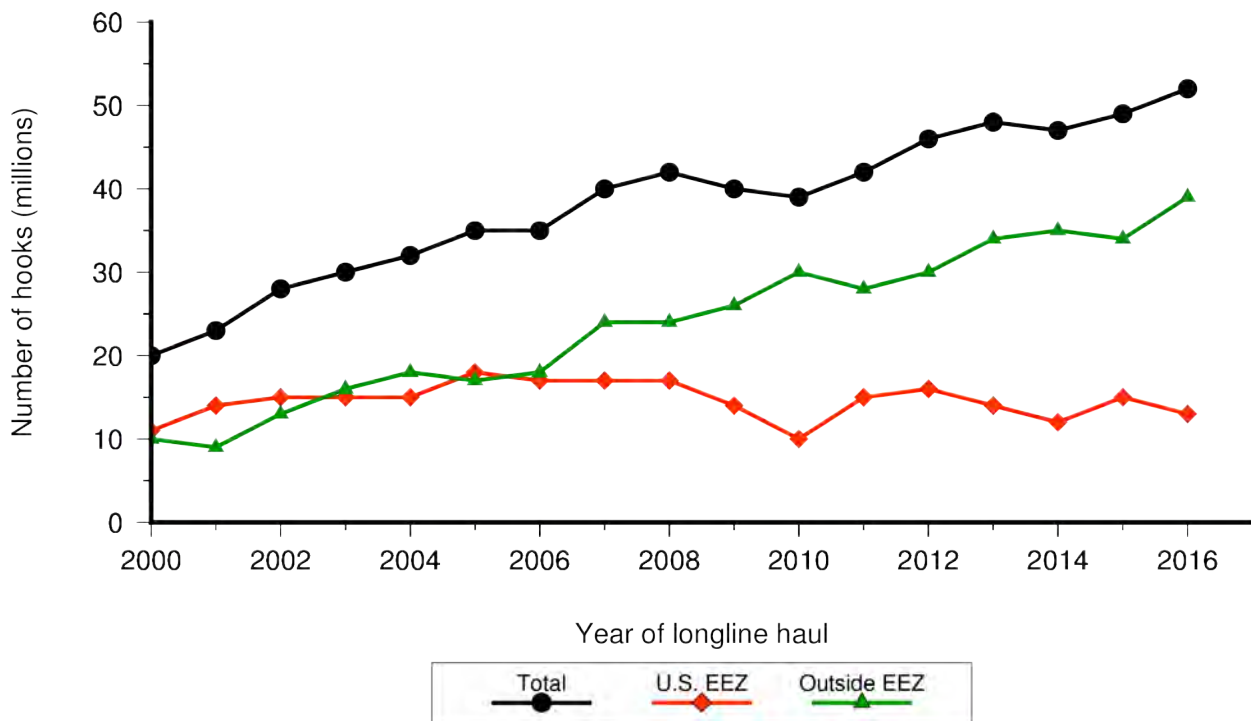


Figure 4: Number of hooks in millions, set by vessels based in Hawaii and California, by year, 2000-2016.



## Tuna Catch

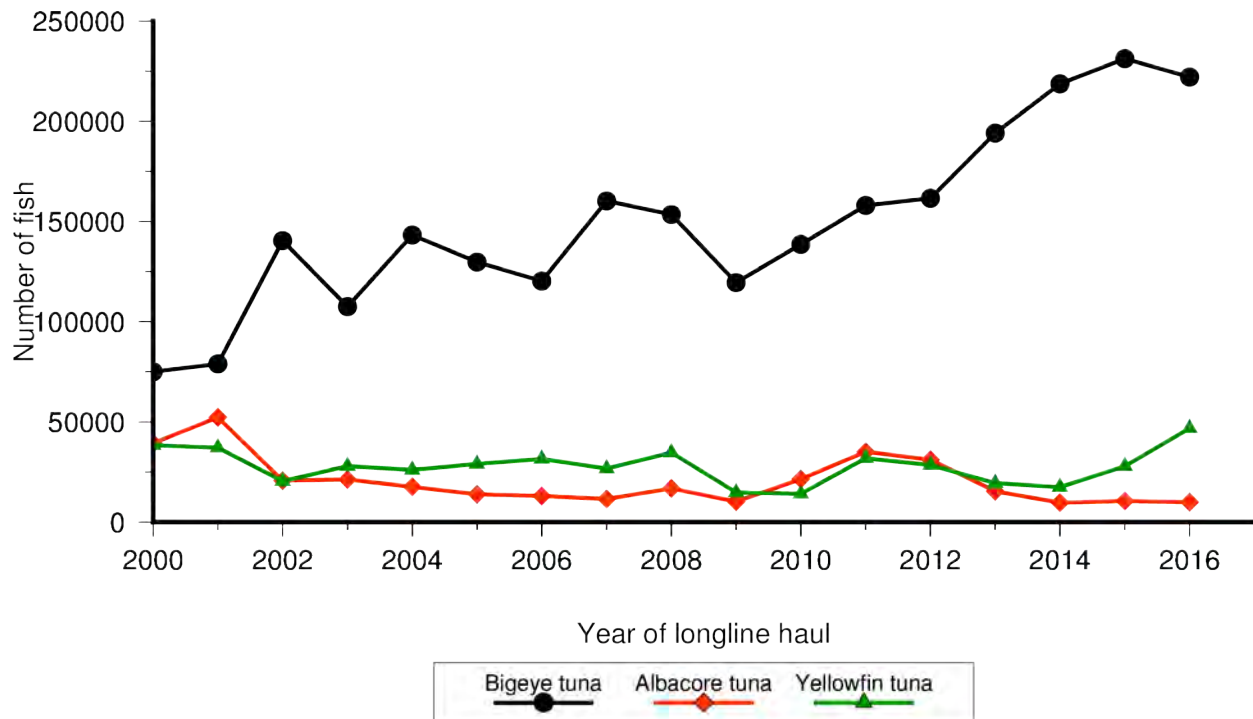


Figure 5: Annual catch (kept + released) of albacore tuna, bigeye tuna, and yellowfin tuna by longline vessels based in Hawaii and California, by year, 2000-2016.

## Billfish Catch

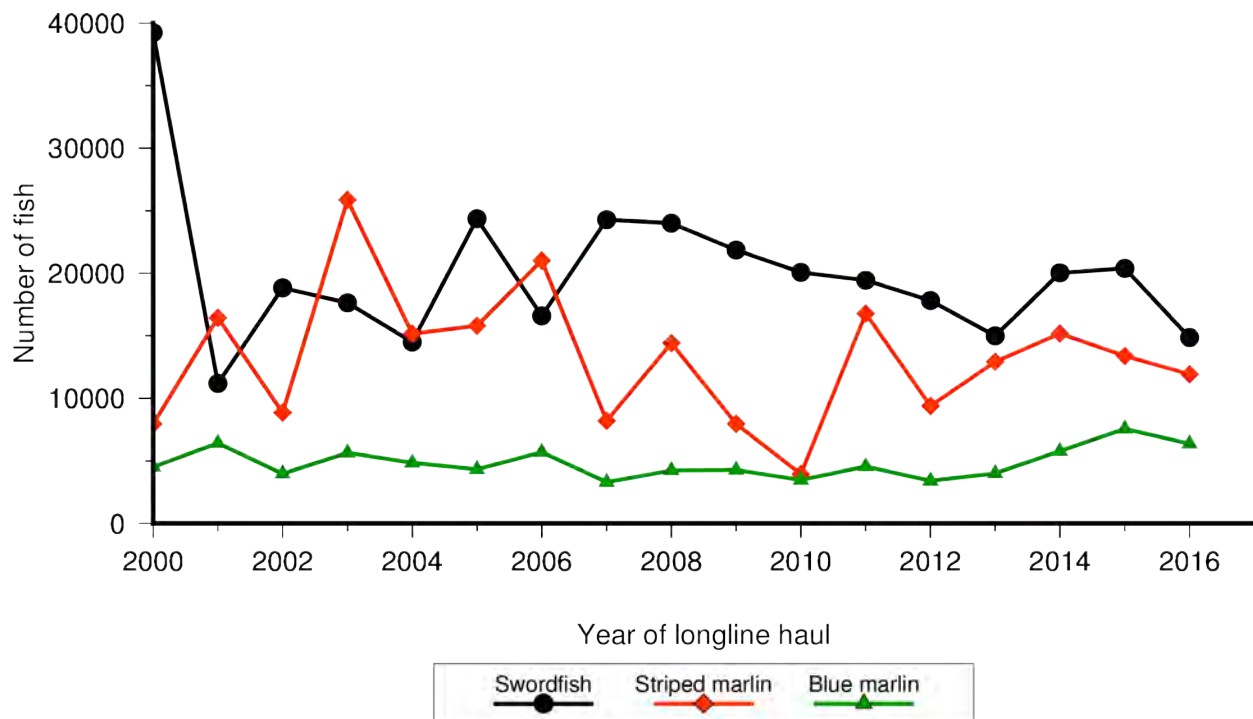


Figure 6: Annual catch (kept + released) of swordfish, striped marlin, and blue marlin by longline vessels based in Hawaii and California, by year, 2000-2016.

## Shark Catch

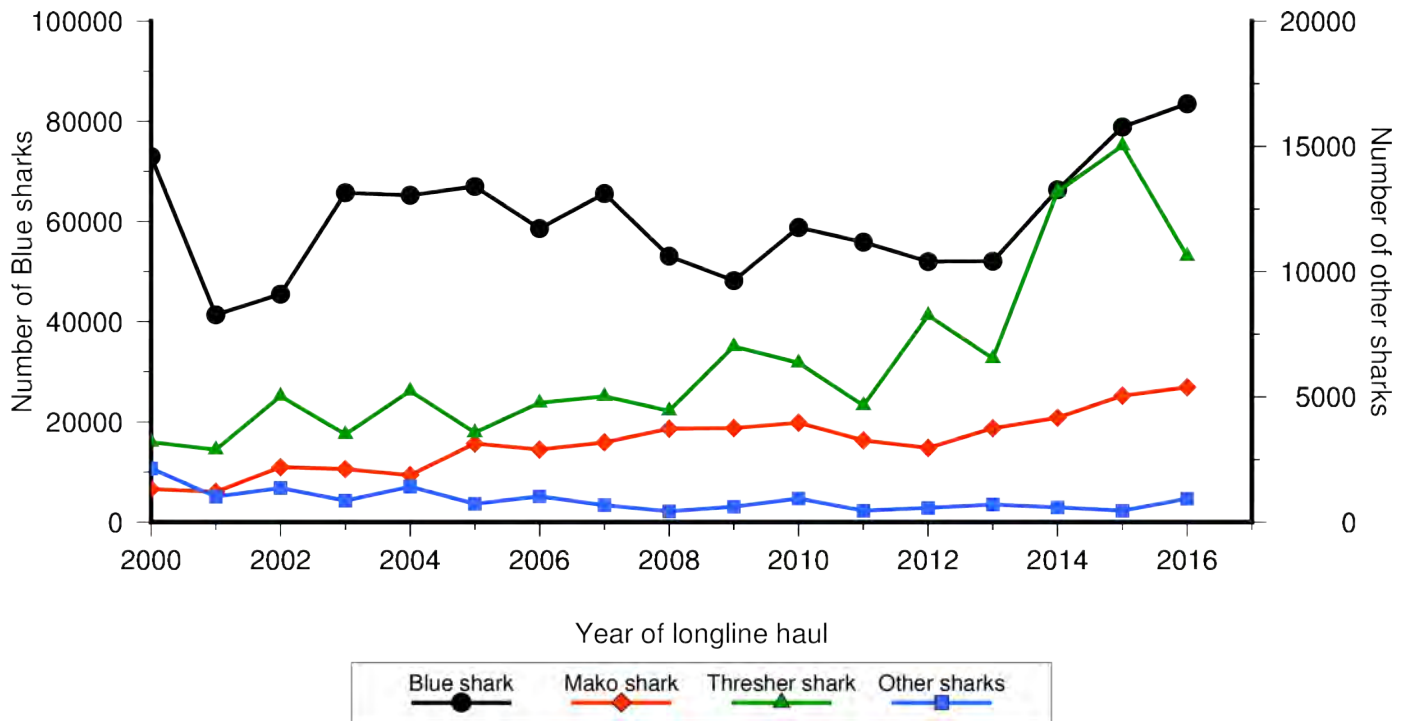


Figure 7: Annual catch (kept + released) of blue shark, mako shark, thresher shark, and other sharks by longline vessels based in Hawaii and California, by year, 2000-2016.

## Other PMUS Catch

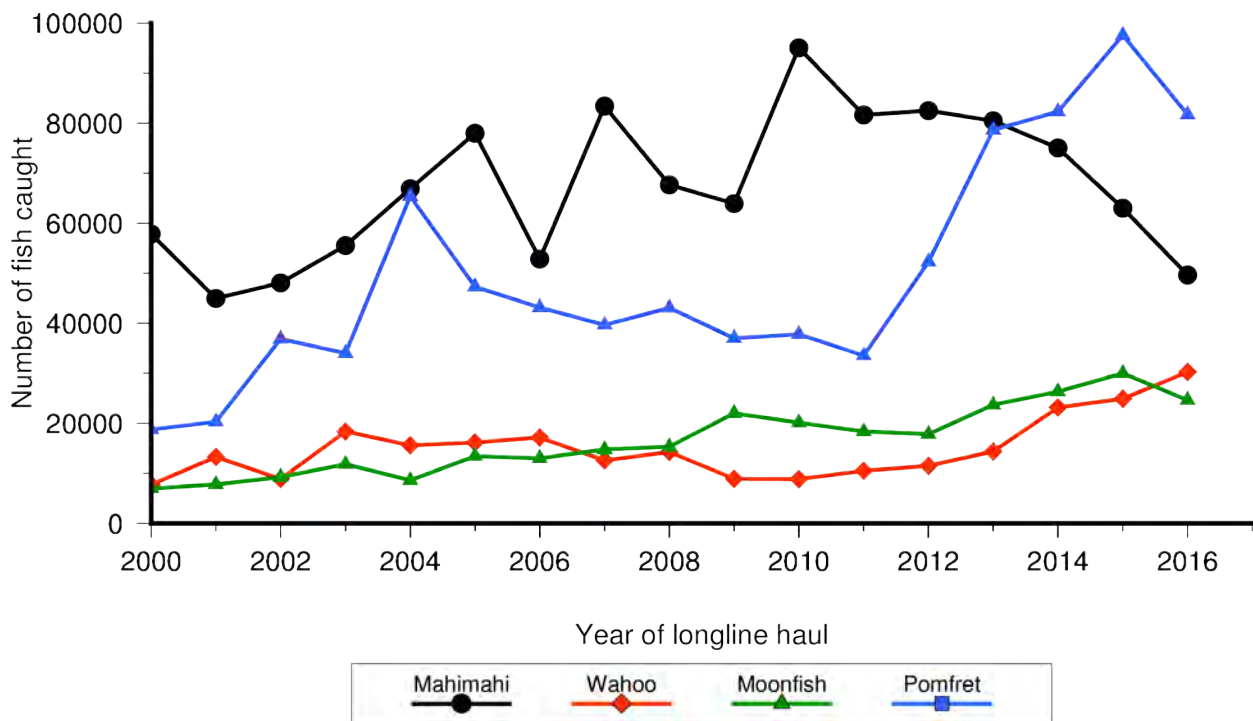


Figure 8: Annual catch (kept + released) of mahimahi, wahoo, moonfish, and pomfret by longline vessels based in Hawaii and California, by year, 2000-2016.