

## CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE UPDATE ON LANDINGS OF TUNA, SWORDFISH AND OTHER PELAGICS

### **CDFW Summary of HMS Landings Data Improvement**

The California Department of Fish and Wildlife (CDFW) has developed a programmatic approach to enhance the accuracy of highly migratory species (HMS) commercial landings data sets, with the goal of maintaining and providing the most accurate and comprehensive landings data. CDFW has developed an automated error checking protocol that flags landings information containing potential errors. The protocol incorporates state and federal regulations, common reporting issues and data caveats, license and permitting lists, as well as fishing practices to flag outliers within the Commercial Fishery Information System (CFIS) database. Flagged records are then compared to hard copy landing receipts submitted to CDFW and errors are corrected within CFIS.

CDFW has used this program to identify and code landings made with deep-set buoy gear (DSBG) prior to development of gear-specific DSBG codes. Also, all commercial landings for the 2016 calendar year have been checked and corrected. Data from the current year will be addressed next, with monthly updates moving forward. Staff will then transition focus to data from 2002-2015, validating with digitally archived landing receipts.

Additionally, the California Fish and Game Commission has proposed regulations to implement an electronic landing receipt system. The electronic receipts will be submitted through the federal, web-based E-Tix system maintained by Pacific States Marine Fisheries Commission. CDFW's goal is to phase out the use of paper landing receipts and transition to E-Tix application. E-tix will be available for voluntary use in all commercial fisheries beginning July 2018, with mandatory use required in July 2019. CDFW is confident that instating this new system will further refine accuracy and expedite reporting of California commercial landings data

### **Update on Pacific Bluefin Tuna**

#### Commercial Landings

As of 11/02/17, 480.37 metric tons (mt) of Pacific Bluefin Tuna (PBF) have been landed in California ports. Consistent with recent years, the purse seine fleet in southern California landed more than 96 percent of the commercial PBF catch. As reported in the September 2017 joint [NMFS-CDFW report](#) to the Council, the 2017 425 mt annual catch limit was met, then quickly exceeded in August after more than 270 mt were landed in five days. CDFW is working with NFMS to ensure that the 2017-2018 catch limit of 600 mt is not exceeded.

In addition to portside sampling, CDFW continually monitored commercial PBF landings through in-season collection and tracking of landing receipts with voluntary cooperation from commercial markets and fishery participants. CDFW provided weekly updates to NMFS, then communicated updates daily based on landing receipt collections as catches approached the annual catch limit. As noted above, the transition to electronic reporting via the E-tix system will further enhance our

ability to track landings after July 2018. CDFW encourages the voluntary use of E-tix for all HMS landings as soon as it is linked to the CFIS database, which is slated for July 2018.

CDFW Commercial Biological Sampling

Throughout 2017, CDFW staff visited major southern California ports to collect PBF biological samples. During the peak of the 2017 PBF season, CDFW sampled five commercial purse seine landings and collected biological data from 110 individual PBF (e.g., fork length, weight and fin clips for genetic testing) as well as fin clips from an additional 11 fish. Fork lengths of sampled fish ranged from 640 mm to 1,415 mm (average 861 mm) and individual weights ranged from 2.5kg to 23.8kg (average 6.2 kg). Fin clips were collected for the close-kin mark recapture study which is a joint effort conducted by the Southwest Fisheries Science Center in collaboration with other domestic and international partners.

CDFW Recreational Monitoring

*CPFV Catch*

CDFW monitored catch of recreationally caught PBF taken by the commercial passenger fishing vessel (CPFV) fleet by examining CPFV logbook data. CPFV logbook records indicate the sport fishery began encountering PBF in significant numbers in April 2017 and catch appears to have peaked in August, similar to 2016 (Table 1). This was also reflected in online anecdotal fish reports. Preliminary logbook data are currently available through September 2017.

**Table 1. Number of Pacific Bluefin Tuna reported caught by California CPFVs each month in 2017 based on CDFW logbook data.**

Log Month	Total Kept	Total PBF Kept		
		US	US/Mexico	Mexico
Jan				
Feb	1			1
Mar	38		26	12
Apr	444		119	325
May	748		140	608
Jun	334	3	118	213
Jul	433	228	53	152
Aug	3,992	2,427	301	1,264
Sept	2,585	2,015	143	427
<b>Total</b>	<b>8,778</b>	<b>4,822</b>	<b>900</b>	<b>3,056</b>

*Data source: CDFW Marine Logs System (MLS), extracted 10/12/17. Area of fishing is determined by CDFW fishing block; US/Mex includes those blocks straddling the border of the U.S. and Mexico EEZ.*

### Private Boat Catch

The California Recreational Fishery Survey (CRFS) produces estimates of marine sport fish catch and effort by fishing mode. CRFS estimates of catch and effort for PBF were generated for private boats fishing in U.S. and Mexican waters and landing in California at public launch ramps and private access sites such as marinas. As of the end of August 2017, CRFS estimated 304 fish were caught and kept in U.S. waters by private recreational boats, with an additional 316 caught and kept from Mexican waters, for a total estimate of 620 PBF kept by private boaters in California (August estimates are preliminary) compared to 1,707 PBF in 2016.

**Table 2. Pacific Bluefin Tuna CRFS estimates of number of fish taken by private and rental boats by month, in 2017.**

Month	Total Estimated PBF Kept		
	Total Kept	US	Mexico
Jan			
Feb			
Mar			
Apr	19		19
May	29		29
Jun	39		39
Jul	134	123	11
Aug*	399	181	218
<b>Total</b>	<b>620</b>	<b>304</b>	<b>316</b>

\* August data are preliminary

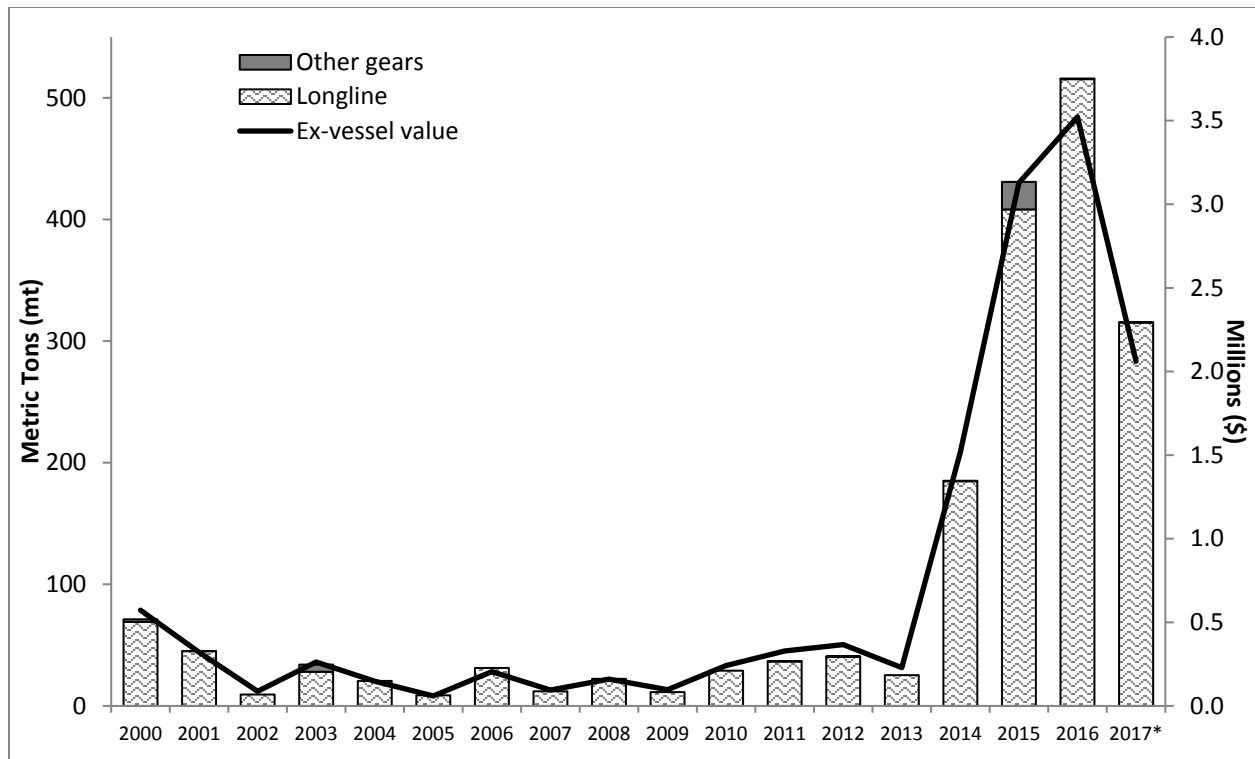
*Data source: CRFS Data Portal, extracted 10/12/17. Area of fishing is determined by CDFW fishing block; where majority of fishing trip occurred.*

### Update on Other Highly Migratory Species

As a result of recent changes in oceanic conditions, fisheries, and market demands, CDFW has observed changes in the composition and quantities of pelagic species being landed. Notably, there has been a significant increase in commercial landings from the Hawaiian high-seas pelagic longline fleet of Bigeye Tuna (BET), Swordfish, and Opah.

#### Bigeye Tuna

Landings of BET in California have increased substantially over the last four years, mainly from Hawaiian pelagic longline vessels landing into California ports (Figure 1). While pelagic longline is not an authorized fishing gear inside the U.S. Exclusive Economic Zone (EEZ) off the West Coast, Hawaiian and High Seas-permitted vessels with California commercial fishing licenses can fish outside the EEZ and make landings in California ports. In 2016, BET was 9<sup>th</sup> in value among California's top ten fisheries, moving from 10<sup>th</sup> in 2015 ([CDFW 2016 'By the Numbers'](#)). Most landings occur in San Francisco, Los Angeles and San Diego.

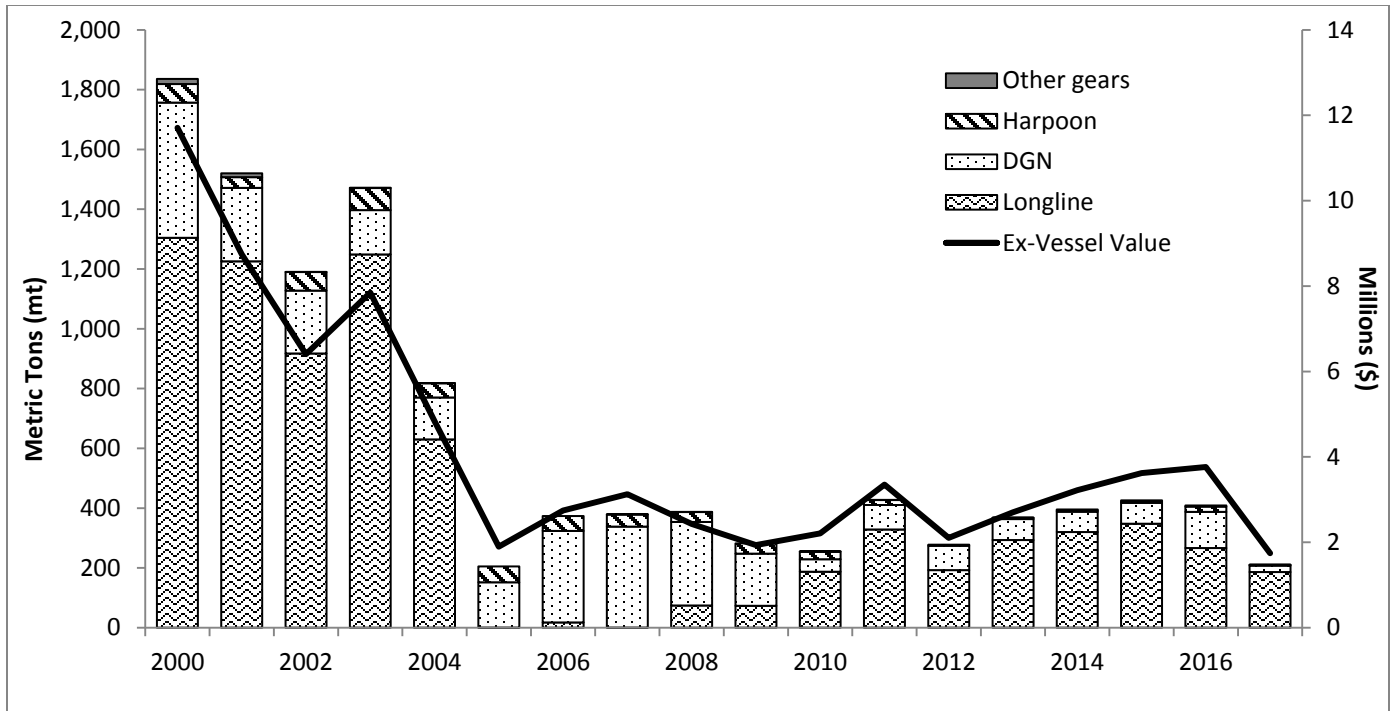


**Figure 1. Bigeye Tuna landings and ex-vessel value into California ports by gear, 2000-2017.**  
 \*Note 2017 data are preliminary.

Data source: CDFW Commercial Fisheries Information System (CFIS) extracted 10/26/17.

### Swordfish

DGN and harpoon-caught Swordfish landings remained relatively stable from 2012 to 2015, with harpoon landings ranging between 3.7 and 4.4mt per year, and DGN landings just under 70mt per year. However, in 2016 total harpoon landings jumped to 17.6 mt and DGN landings increased to 120 mt. There also had been a slight, but steady increase in the landings and value of Swordfish landed into California ports by high-seas longline vessels (Figure 2 and Table 3), but this increase appears to have peaked as landings decreased in 2016 and appear to be in 2017 as well. In 2016, swordfish ex-vessel value for longline, DGN, harpoon, and DSBG was over \$1.9 million, \$1 million, \$292,000 and \$64,000 respectively.



**Figure 2. Total Swordfish landings (mt) and ex-vessel value in California ports by gear, 2000-2017\***

\*2017 data are preliminary

Data source: CDFW Commercial Fisheries Information System (CFIS), extracted 10/26/17

Year	DGN	Harpoon	Longline	DSBG	Hook & Line
2011	\$4.63	\$7.38	\$3.47	-	
2012	\$4.76	\$9.94	\$3.05	-	
2013	\$4.59	\$9.25	\$3.16	-	
2014	\$4.41	\$9.02	\$3.28	\$8.26	
2015	\$4.01	\$9.03	\$3.78	\$6.60	
2016	\$4.18	\$7.53	\$3.29	\$7.22	

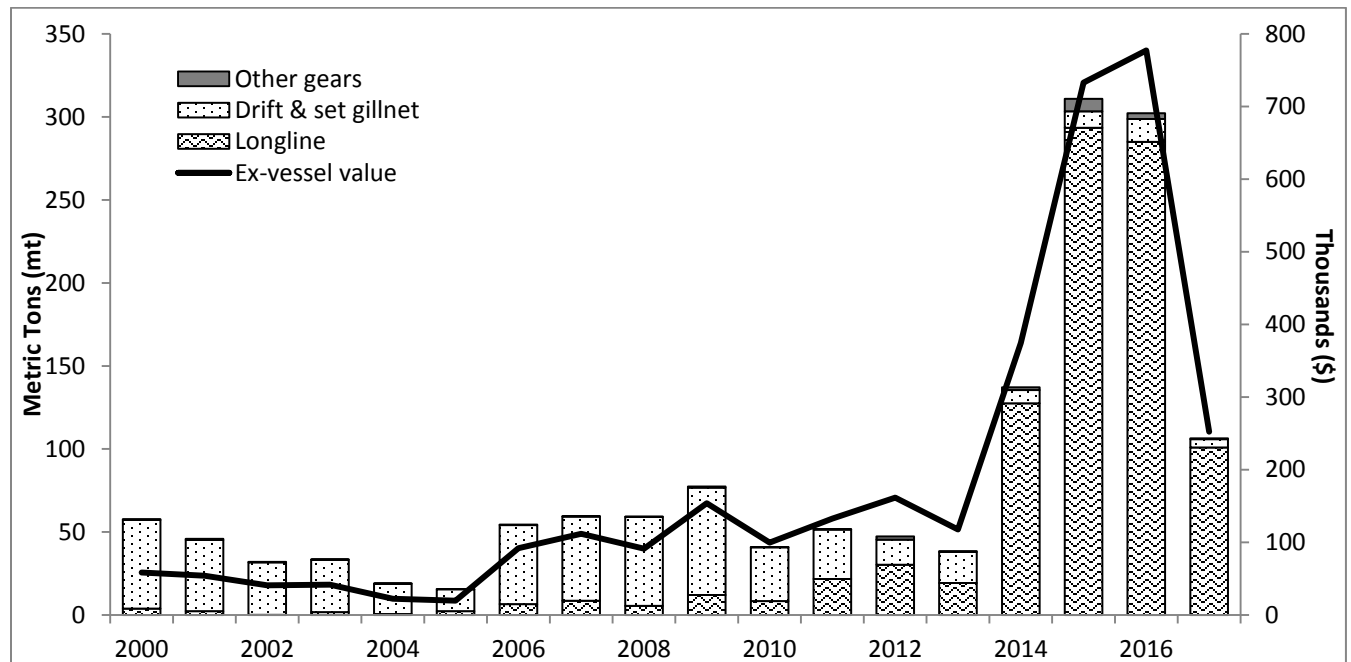
*Deep Set Buoy Gear Experimental Fishery*

The development and testing of DSBG under federal exempted fishing permits (EFPs) has added a new source of Swordfish landings to California markets. Four vessels fishing under an EFP approved in 2015 landed 7.76mt of Swordfish, and six vessels landed 28.1 mt in 2016. So far, in 2017 1.8 mt of Swordfish have been landed by three vessels. In comparison to Swordfish landed by the DGN fleet, DSBG-caught fish receive a higher ex-vessel price per pound, from \$3-\$11 (average \$7/lb), versus an average of \$4/lb for DGN (Table 3). However, DSBG does not bring in the same quantity of fish as DGN. In 2016 and 2017. Data from 2017 are preliminary and DGN fishing effort occurs primarily between November and January of the following year.

Opah

While not a Highly Migratory Species Fishery Management Plan species, one of the main targeted and marketable species caught in the DGN and longline fisheries, as well as by DSBG, is Opah. Opah is a popular food fish and can bring in upwards of \$6/lb at market when available.

Like BET and Swordfish, there have been increases in pelagic longline landings of Opah to California ports since 2014 (Figure 3). These landings largely correspond with the increase in longline landings into California and do not reflect targeted effort on Opah alone.



**Figure 3. Opah landings and ex-vessel value into California ports by gear, 2000-2017\*.**

\* 2017 data are preliminary

Data source: CDFW Commercial Fisheries Information System (CFIS) extracted 10/26/17.