

Spiny Dogfish Advisory Panel (AP) Informational Document - August 2018
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****Note - Data Sources for the following are generally from unpublished standard NMFS databases unless noted...everything should be considered preliminary at this point.**

Basic Biology

Spiny dogfish (*Squalus acanthias*) is a coastal shark with populations on the continental shelves of northern and southern temperate zones throughout the world. It is the most abundant shark in the western north Atlantic and ranges from Labrador to Florida, but is most abundant from Nova Scotia to Cape Hatteras, North Carolina. Its major migrations on the northwest Atlantic shelf are north and south, but it also migrates inshore and offshore seasonally in response to changes in water temperature. Spiny dogfish have a long life, late maturation, a long gestation period, and relatively low fecundity, making them generally vulnerable to depletion. Fish, squid, and ctenophores dominate the stomach contents of spiny dogfish collected during the Northeast Fisheries Science Center (NEFSC) bottom trawl surveys but they are opportunistic and have been found to consume a wide variety of prey. More detailed life history information can be found in the essential fish habitat (EFH) source document for spiny dogfish at: <http://www.nefsc.noaa.gov/publications/tm/tm203/tm203.pdf>.

Status of the Stock

Reports on “Stock Status,” including Stock Assessment Workshop (SAW) reports and peer-review reports are available online at the NEFSC website: <http://www.nefsc.noaa.gov/nefsc/saw/>. An assessment update in 2015 found that the stock is not overfished nor subject to overfishing. A data update that did not re-run the assessment model but includes the 2017 spring survey is available at <http://www.mafmc.org/ssc-meetings/2017/september-13>. The point estimate of mature female biomass from the 2017 spring survey was the lowest in the time series. We are awaiting a new stock assessment update from the NEFSC that will also incorporate 2018 data.

Regulatory Summary

Spiny Dogfish regulations are summarized at <https://www.greateratlantic.fisheries.noaa.gov/sustainable/species/sdogfish/index.html>. We are currently in multi-year regulations from May 2016-April 2019 (see Table 1 below), and the Council will need to set new specifications for May 1, 2019 and beyond. The SSC (<http://www.mafmc.org/ssc>) meets September 11, 2018 to set the upper bound on catches, and then the Council will meet in October 2018 to set specifications. Spiny dogfish is jointly managed and the New England Fishery Management Council will meet in December to set specifications.

Table 1. May 2016 to April 2019 Spiny Dogfish Specifications

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	64,414,664	29,218	na	na	na	na
New ABCs	Council Risk Policy	52,066,572	23,617	50,805,528	23,045	49,901,633	22,635
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC – Canadian Landings	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
ACL	= Domestic ABC	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
Mgmt Uncert. Buffer	Ave pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgmt uncertainty	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
U.S. Discards	=3 year average 12-13-14	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT – Discards	40,429,105	18,338	39,168,060	17,766	38,264,165	17,356
U.S. Rec Landings	= 2014 estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL – Rec Landings	40,360,761	18,307	39,099,717	17,735	38,195,822	17,325

OFL = Overfishing Level; ABC = Acceptable Biological Catch; ACL = Annual Catch Limit; ACT = Annual Catch Target; TAL = Total Allowable Landings; Rec = Recreational; Comm = Commercial.

Fishery Performance

At the onset of the domestic commercial fishery in the early 1990's, population biomass for the Northwest Atlantic stock of spiny dogfish was at its highest estimated level (approx. 1.2 billion lb). A large scale unregulated fishery developed and quickly depleted the stock of mature female spiny dogfish such that in 1997 a stock assessment showed that the stock was overfished (NEFSC 1997). The Spiny Dogfish FMP was developed in 1998 and implemented in 2000 in order to halt further depletion of mature female spiny dogfish and allow the stock to recover to a sustainable level. Because the directed commercial fishery concentrated on mature females, rebuilding required elimination of that directed fishery. In 2010 NMFS communicated the rebuilt status of the stock to the Councils.

The current (May 1, 2016 – April 30 2019) quotas are derived from the recommendations of the Council's Scientific and Statistical Committee (SSC) for Acceptable Biological Catch (ABC), and how various components of fishing mortality are handled by the spiny dogfish fishery management plan, as described in the table above. The SSC uses the best available scientific information (the NEFSC spiny dogfish assessment) to set ABC consistent with the Council's risk policy to avoid overfishing and achieve optimum yield. The trip limit is 6,000 pounds in Federal waters; individual states may set different possession limits.

The following pages provide information on quotas and landings since 2000 (page 3), prices (page 4), the progression of landings for the current and previous fishing years (page 5), landings by state, month, and gear for 2015-2017 (page 6), vessel activity since 2000 (page 7), and an illustration of trip sizes for the 2017 fishery (page 8).

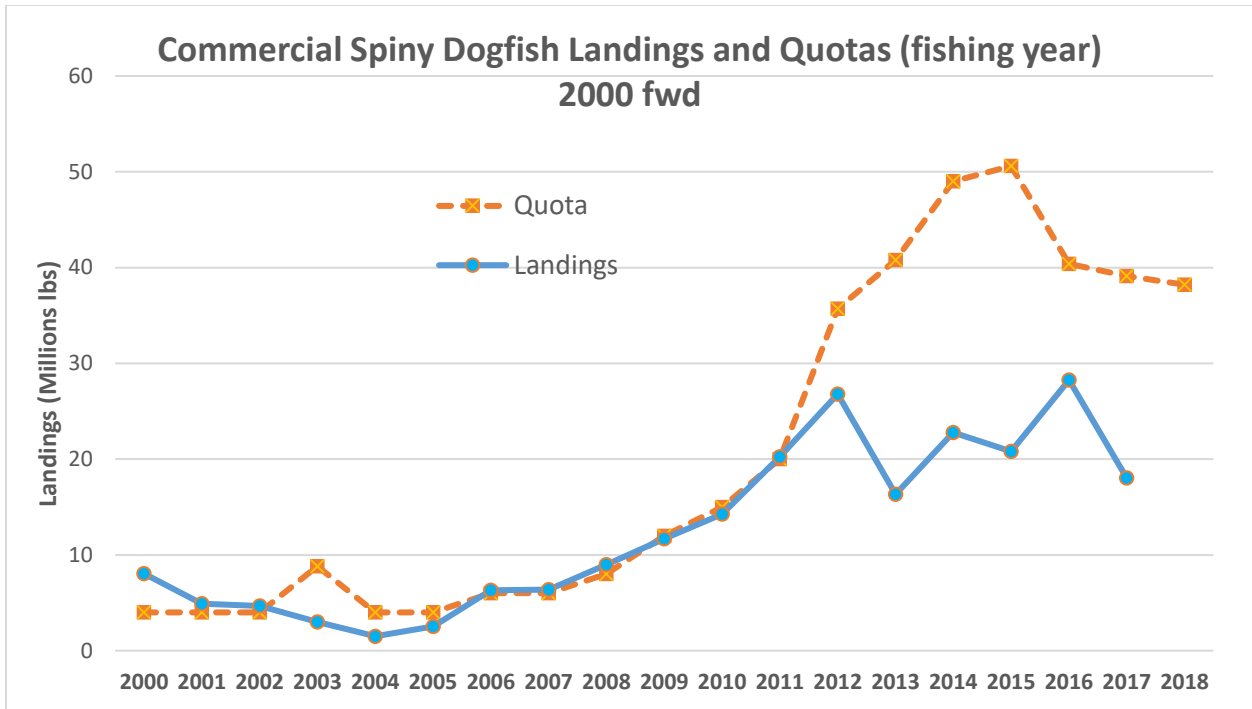


Figure 1. Spiny Dogfish Landings and Quotas 2000-2017. 2017 = May 1, 2017 to April 30, 2018.
 Source: Unpublished NMFS dealer reports

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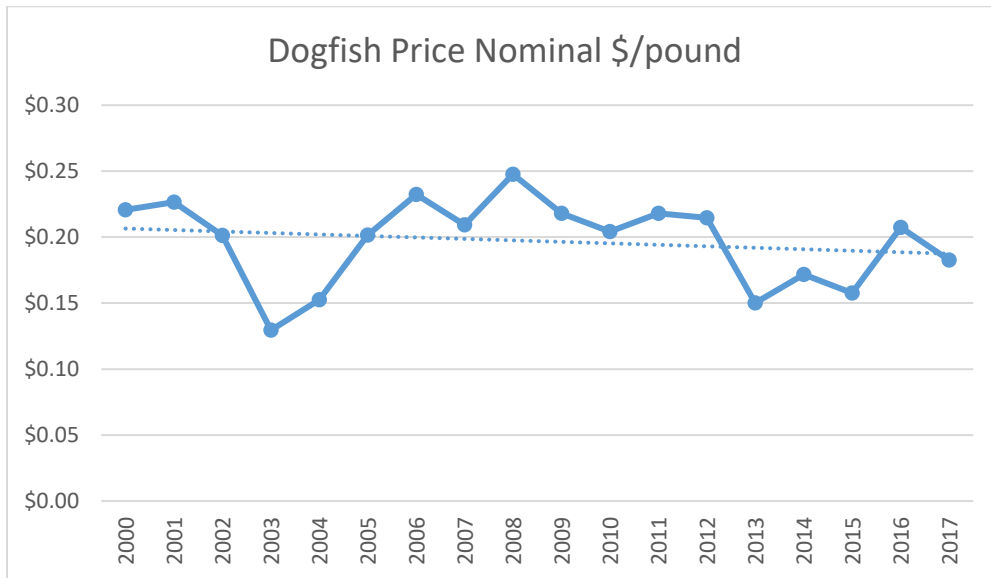


Figure 2. U.S. Spiny Dogfish fishing year ex-vessel prices Calendar Year (Nominal)
 Source: Unpublished NMFS dealer reports

Note: Avg. Price since Jan 1, 2018 = 17 cents/pound; (Preliminary)

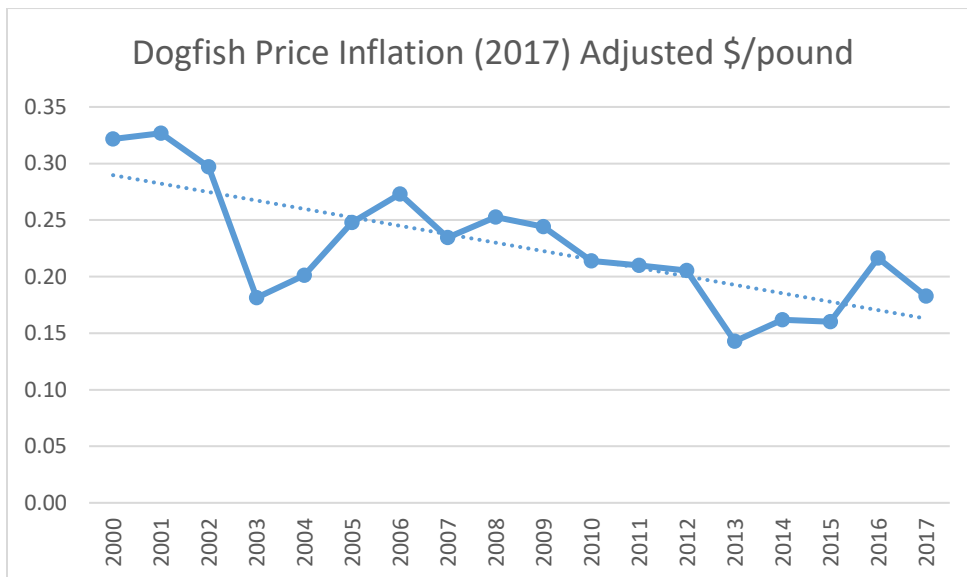


Figure 3. U.S. Spiny Dogfish fishing year ex-vessel prices Calendar Year (Producer Price Index adjusted, 2017 dollars)
 Source: Unpublished NMFS dealer reports

Spiny Dogfish Quota Monitoring Report

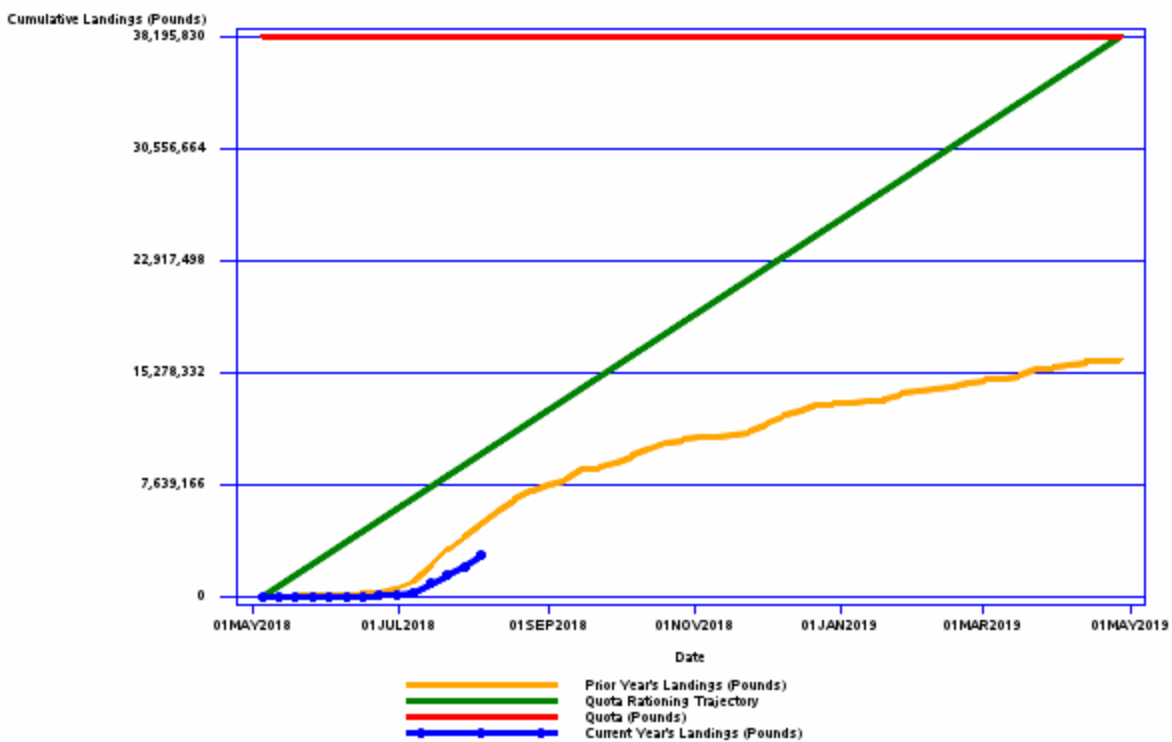


Figure 4. Recent Spiny Dogfish Landings (Blue = 2018-2019 Fishing Year; Orange = 2017-2018 Fishing Year)
 (Data through 8/8/18)

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Table 2. 2015-2017 Calendar Year dogfish landings by state (pounds)

YEAR	CT	MA	MD	ME+NH+ Other	NC	NJ	NY	RI	VA	Total
2015	34,400	7,849,795	1,140,724	944,165	3,835,242	1,910,056	29,835	528,559	2,796,559	19,069,335
2016	33,128	14,365,312	1,381,015	756,283	2,320,523	3,607,489	39,064	670,682	3,495,086	26,668,582
2017	56,429	9,575,485	1,968,561	858,130	378,458	2,376,382	52,355	360,330	8,512,383	24,138,513

Source: unpublished NEFSC dealer reports

Table 3. 2015-2017 Calendar Year dogfish landings by month. (pounds)

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2015	2,149,252	1,879,910	1,042,833	664,004	217,713	188,187	3,051,504	2,879,635	1,859,773	811,894	1,737,913	2,586,717	19,069,335
2016	2,848,995	1,352,475	1,845,163	1,413,103	299,780	1,140,263	3,834,146	4,962,902	3,162,140	2,089,312	1,970,507	1,749,796	26,668,582
2017	2,203,654	2,455,325	2,542,396	1,851,299	165,948	441,465	3,679,307	3,312,798	1,496,306	1,610,354	1,328,813	3,050,848	24,138,513

Source: unpublished NEFSC dealer reports

Table 4. 2015-2017 Calendar Year dogfish landings by gear. (pounds)

YEAR	GILL_NET_SINK_ _OTHER	LONGLINE_ BOTTOM	UNKNOWN	GILL_NET_SET_ST AKE_SEA_BASS	TRAWL_OTTER_ BOTTOM_FISH	HAND_LINE _OTHER	GILL_NET_DRIFT_ _LARGE_PELAGIC	GILL_NET_RUN AROUND	GILL_NET_ OTHER	Other	Total
2015	10,103,553	2,939,522	226,295	3,283,804	846,502	1,228,404	184,228	169,974	25,895	61,158	19,069,335
2016	15,540,703	6,446,262	349,408	1,618,757	975,895	991,391	262,135	311,992	138,640	33,399	26,668,582
2017	12,456,879	4,219,665	5,326,204	284,492	1,013,859	293,776	176,245	104,763	229,833	32,797	24,138,513
Total	38,101,135	13,605,449	5,901,907	5,187,053	2,836,256	2,513,571	622,608	586,729	394,368	127,354	

Source: unpublished NEFSC dealer reports

Table 5. Number of vessels active in various annual landing ranges (pounds per vessel per year). Federally-permitted vessels, calendar year

YEAR	Vessels 200,000+	Vessels 100,000 - 199,999	Vessels 50,000 - 99,999	Vessels 10,000 - 49,999	Total with at least 10,000 pounds landings
2000	30	24	25	122	201
2001	4	12	11	32	59
2002	2	14	8	31	55
2003	4	5	3	11	23
2004	0	0	0	43	43
2005	0	0	2	65	67
2006	0	0	8	117	125
2007	1	5	17	74	97
2008	0	11	18	107	136
2009	0	11	42	191	244
2010	0	22	42	124	188
2011	2	55	71	140	268
2012	20	40	56	181	297
2013	10	29	43	83	165
2014	29	37	39	88	193
2015	26	26	34	56	142
2016	50	31	27	45	153
2017	39	27	11	43	120

Source: unpublished NEFSC dealer reports

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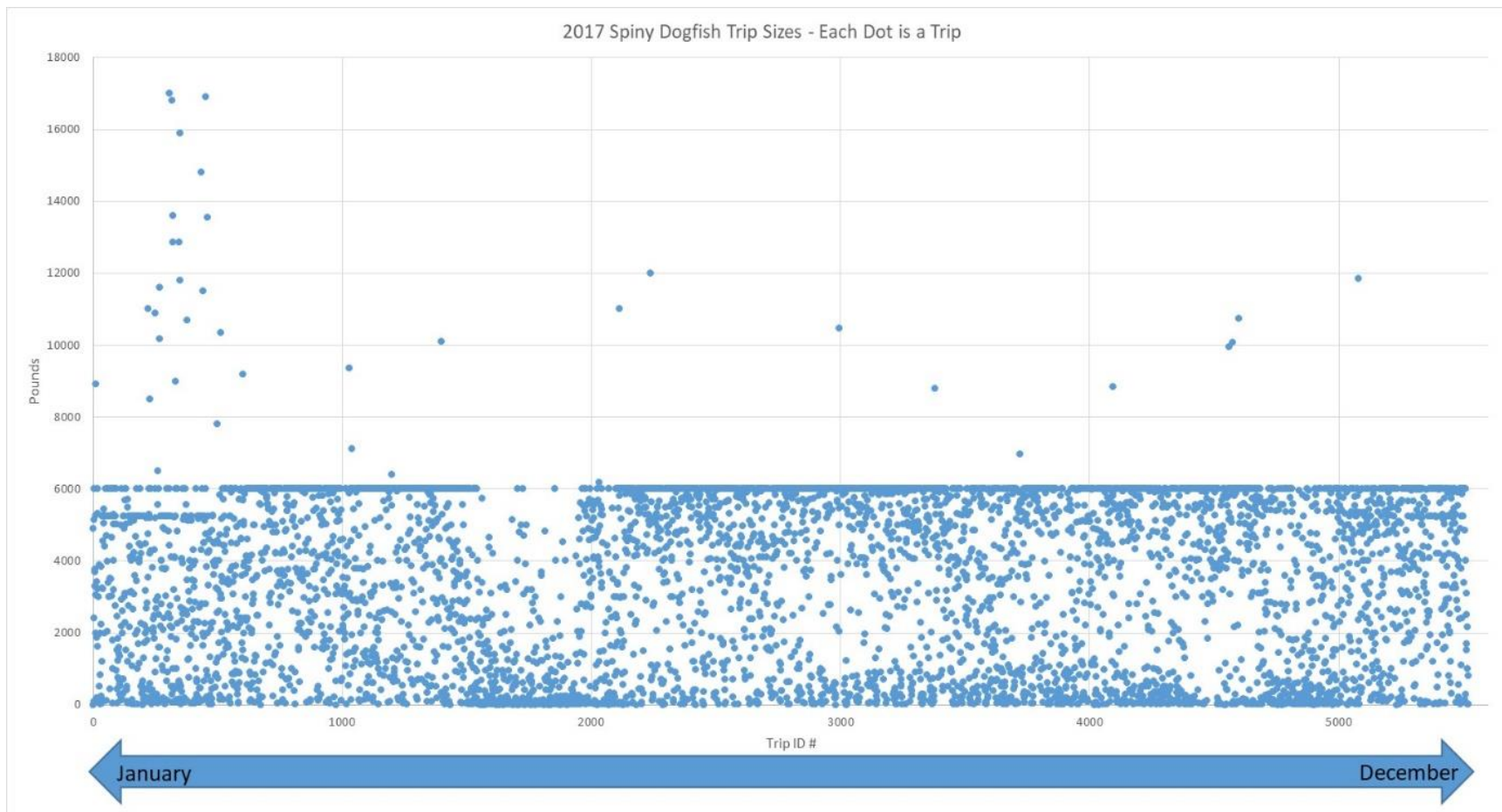


Figure 5. Spiny Dogfish Trip Sizes in 2017 calendar year (5,521 identifiable trips)