



## Spiny Dogfish Fishery Information Document

May 3, 2024

This Fishery Information Document provides an overview of the biology, stock condition, management system, and fishery performance for spiny dogfish (*Squalus acanthias*) with an emphasis on recent data. Data sources for Fishery Information Documents are generally from unpublished National Marine Fisheries Service (NMFS) survey, dealer, vessel trip report (VTR), permit, Marine Recreational Information Program (MRIP), and Catch Accounting and Monitoring System (CAMS) databases and should be considered preliminary. For more resources, including previous Fishery Information Documents, please visit <http://www.mafmc.org/dogfish>.

### Key Facts

- 2023 fishing year landings were about 36% lower than the previous year and 2023 landings were the lowest since 2007.
- The 2023 fishing year quota was about 12.0 million pounds (59% lower than 2022).
- 2024 specifications are pending but the Councils adopted spiny dogfish specifications for 2024-2026, including a 10.7-million-pound commercial quota for 2024.

### Basic Biology

Spiny dogfish is the most abundant shark in the western north Atlantic and ranges from Labrador to Florida, being most abundant from Nova Scotia to Cape Hatteras, North Carolina. Migrations are believed to primarily occur 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 spiny dogfish 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: <https://www.fisheries.noaa.gov/region/new-england-mid-atlantic#science>.<sup>1</sup>

### Status of the Stock

Based on the 2023 Management Track Assessment, the spiny dogfish stock was neither overfished nor experiencing overfishing in 2022. Despite being at relatively low historical abundance, the stock was slightly above its biomass target. However, reduced productivity has lowered sustainable catches.

## Management System and Fishery Performance

### *Management*

The Council established management of spiny dogfish in 2000 and the management unit includes all federal East Coast waters. Quotas are set based on the current science and Council's risk policy to avoid overfishing and rebuild stocks if/when necessary.

Access to the fishery is not limited, but a federal permit must be obtained to fish in federal waters and there are various permit conditions (e.g. trip limit and reporting). There is a federal trip limit of 7,500 pounds (increased from 6,000 for the 2022 fishing year). Some states mirror the federal trip limit, but states can set their own trip limits. The annual quota has been allocated to states through the Atlantic States Marine Fisheries Commission (<http://www.asafc.org/species/spiny-dogfish>).

In April 2024 the Council took final action on a joint framework action with the New England Fishery Management Council (NEFMC) to reduce the bycatch of Atlantic sturgeon in the monkfish and spiny dogfish gillnet fisheries. For federal vessels targeting spiny dogfish, the Council approved overnight soak prohibitions during months of high sturgeon interactions within bycatch hotspot polygons in the New Jersey and Delaware, Maryland, and Virginia regions. In addition, they approved an exemption from the overnight soak prohibition for vessels using a mesh size less than 5.25 inches in the Delaware, Maryland, and Virginia hotspot polygons. For federal vessels targeting monkfish in state and federal waters, the Council approved a year-round low-profile gear requirement in the New Jersey bycatch hotspot polygon. The Council also agreed to write a letter to the Northeast Fisheries Science Center (NEFSC) observer program to recommend the development of a sturgeon tagging program for both live discards and dead discards for all the fisheries and gear types where sturgeon interactions occur. The NEFMC approved the same alternatives during their meeting the following week. The Councils will submit the framework to the Secretary of Commerce for review and rulemaking. Visit <https://www.mafmc.org/actions/sturgeon-bycatch-framework> for additional information and updates. Implementation is expected in late 2024 or early 2025.

*Commercial Fishery (Recreational catch comprises a relatively low portion of fishing mortality)*

Figure 1 and Table 1 illustrate spiny dogfish landings for the 2000-2023 fishing years relative to the quotas in those years. The Advisory Panel has previously noted that the fishery is subject to strong market constraints given weak demand. 2023 fishing year landings were about 36% lower than the previous year and 2023 landings were the lowest since 2007. Figure 2 provides inflation-adjusted spiny dogfish ex-vessel prices in "2023 dollars."

Figure 3 illustrates preliminary landings from the 2023 and 2022 fishing years relative to the current quota. The last data point is typically the most incomplete.

Tables 2-4 provide information on landings in the 2021-2023 fishing years by state, season, and gear type. The seasonal periods were changed since the last document to maintain data confidentiality. Table 5 provides information on the numbers of participating vessels that have at least one federal permit. State-only vessels are not included, but the table should still illustrate overall trends in participation.

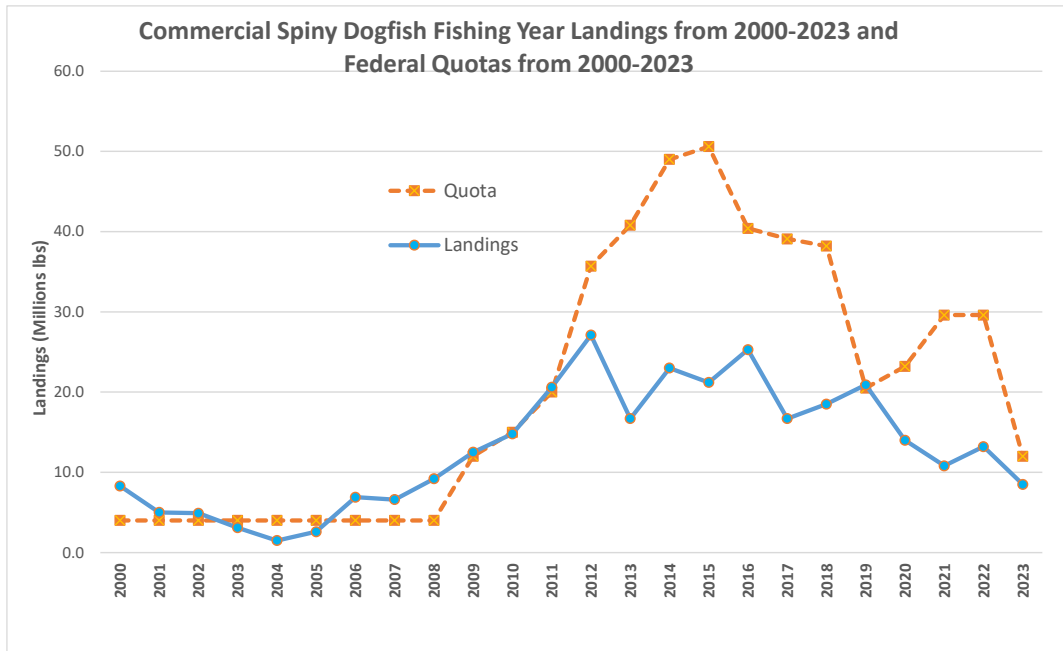


Figure 1. Annual spiny dogfish landings and federal quotas 2000-2023

Source: NMFS CAMS queried 5/1/2024 (likely some additional state landings for 2023 will be added)

Table 1. Annual spiny dogfish landings and federal quotas 2000-2023

Source: NMFS CAMS queried 5/1/2024 (likely some additional state landings for 2023 will be added)

Fishing year	Fed Quota (M lb)	Landings (M lb)
2000	4.0	8.3
2001	4.0	5
2002	4.0	4.9
2003	4.0	3.1
2004	4.0	1.5
2005	4.0	2.6
2006	4.0	6.9
2007	4.0	6.6
2008	4.0	9.2
2009	12.0	12.5
2010	15.0	14.8
2011	20.0	20.6
2012	35.7	27.1
2013	40.8	16.7
2014	49.0	23
2015	50.6	21.2
2016	40.4	25.3
2017	39.1	16.7
2018	38.2	18.5
2019	20.5	20.9
2020	23.2	14
2021	29.6	10.8
2022	29.6	13.2
2023	12.0	8.5

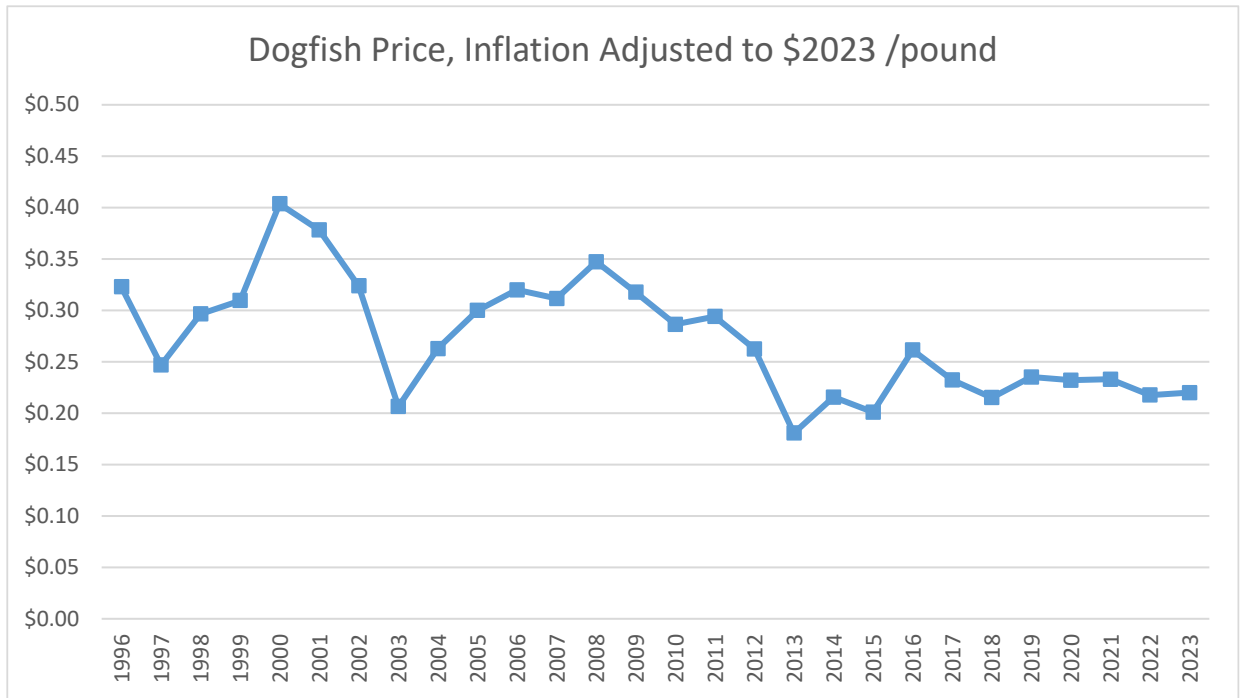


Figure 2. 1995-2023 fishing years' average prices of spiny dogfish in 2023 dollars per landed pound (adjusted to "2023 dollars" using the GDP deflator).  
 Source: NMFS CAMS queried 5/2/2024

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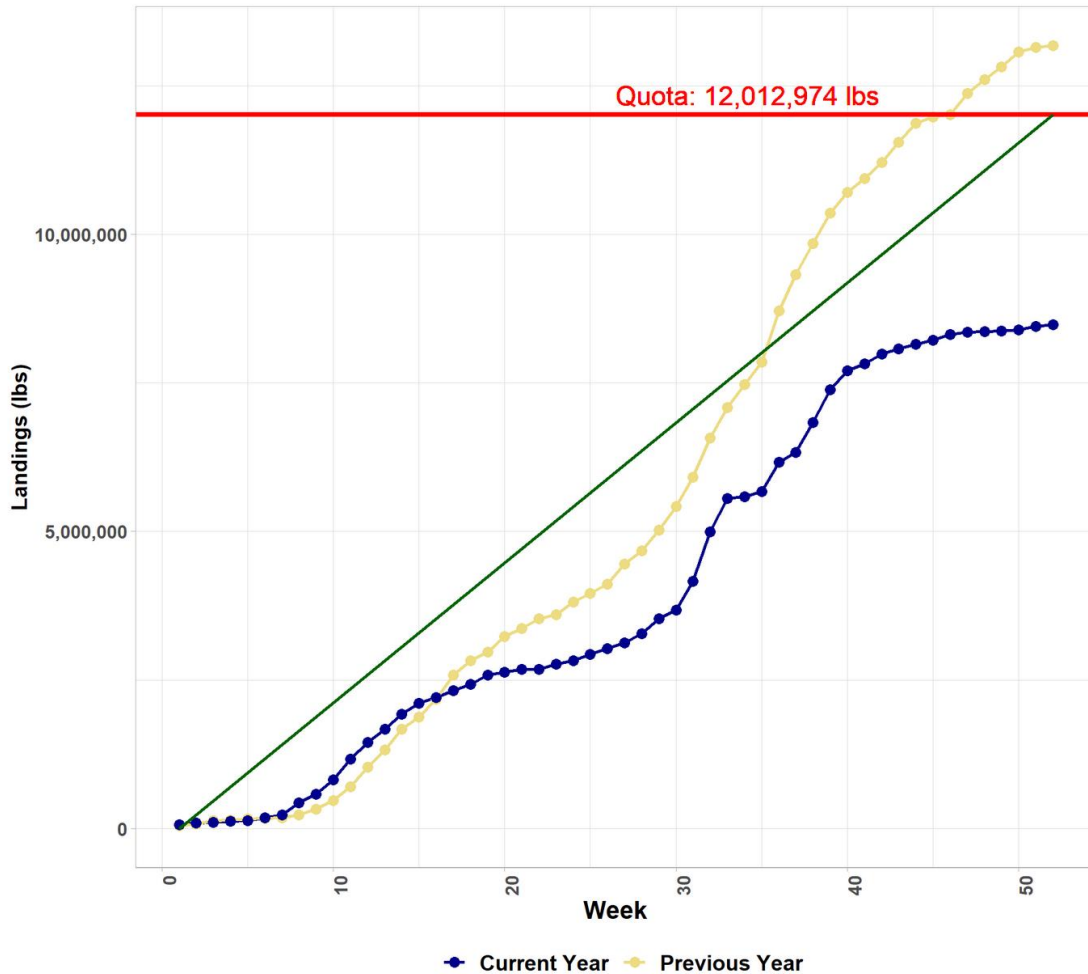


Figure 3. Preliminary Spiny dogfish landings; the 2023 fishing year (Starts May 1) is in blue (through May 2, 2024), and the 2022 fishing year is in yellow-orange.

Source: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/commercial-fishing/quota-monitoring-greater-atlantic-region> .

Table 2. Commercial Spiny Dogfish landings (landed weight – millions of pounds) by state for 2021-2023 fishing years. Source: NMFS CAMS queried 5/2/2024

Year	MA	NJ	Other/CI (including VA)	Total
2021	3.9	1.6	5.3	10.7
2022	3.9	1.7	7.6	13.2
2023	2.8	0.8	4.9	8.5

Table 3. Seasonal Commercial Spiny Dogfish landings (landed weight – millions of pounds) for 2021-2023 fishing years. Source: NMFS CAMS queried 5/2/2024

Year	May-Oct	Nov-April	Total
2021	4.4	6.3	10.7
2022	4.2	8.9	13.2
2023	3.0	5.4	8.5

Table 4. Commercial Spiny Dogfish landings (landed weight – millions of pounds) by gear for 2021-2023 fishing years. NMFS CAMS queried 5/2/2024

Year	GILL NET, SINK	LONGLINE, BOTTOM	Other	Total
2021	8.8	1.0	0.8	10.7
2022	10.9	1.3	1.0	13.2
2023	6.6	1.2	0.7	8.5

Table 5. Participation in fishing years 2000-2023 by federally-permitted vessels. State-only vessels are not included. Source: NMFS unpublished dealer data pre 2021, CAMS data for 2021-2023 accessed 5/3/2024

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	16	10	8	43	77
2001	4	12	10	33	59
2002	2	14	8	31	55
2003	4	5	3	17	29
2004	0	0	0	42	42
2005	0	0	1	67	68
2006	0	4	11	114	129
2007	1	2	21	72	96
2008	0	5	20	119	144
2009	0	11	42	166	219
2010	0	26	54	124	204
2011	1	48	73	135	257
2012	25	55	56	146	282
2013	10	27	45	87	169
2014	27	38	38	81	184
2015	31	33	36	59	159
2016	52	26	14	45	137
2017	28	27	24	32	111
2018	28	26	20	35	109
2019	29	25	21	29	104
2020	23	27	15	22	87
2021	15	27	12	28	82
2022	27	10	17	27	81
2023	14	15	13	22	64

## References

<sup>1</sup> Stehlik, Linda. 2007. Essential Fish Habitat source document: Spiny Dogfish, *Squalus acanthias*, Life History and Habitat Characteristics. NOAA Technical Memorandum NMFS-NE-203; 52 p.

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