



Spiny Dogfish AP Fishery Performance Report July 2022

The Mid-Atlantic Fishery Management Council's (Council) Spiny Dogfish Advisory Panel (AP) met via webinar on July 28, 2022 to review the Spiny Dogfish Fishery Information Document and develop the following Fishery Performance Report. The primary purpose of this report is to contextualize catch histories for the Scientific and Statistical Committee (SSC) by providing information about fishing effort, market trends, environmental changes, and other factors. Trigger questions (see below) were posed to the AP to generate discussion of observations in the spiny dogfish fishery. Advisor comments described below are not necessarily consensus or majority statements.

Advisory Panel members attending: James Fletcher, Scott MacDonald, Roger Rulifson, John Whiteside, Sonja Fordham, Kevin Wark, Mark Sanford, Chris Rainone, Sam Martin, Jeremy Hancher

Others attending: Jason Didden, Chris Batsavage, Cynthia Ferrio, Sonny Gwin, Lewis Gillingham, Mark Alexander, Yan Jiao, Geret DePiper, Daniel Salerno, Caitlin Starks, Angel Willey, Willow Patten, Chris Kellogg, Alan Bianchi, Hannah Novotny

Trigger questions:

The AP was presented with the following trigger questions:

1. What factors have influenced recent catch (markets/economy, environment, regulations, other factors)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

Market/Economic Conditions

Critically increased fuel costs and relatively low dogfish availability to some ports have combined to keep 2022 calendar year landings low.

COVID-19 did not have a large impact on this fishery. Similar market issues persist as with previous years – demand has been low but stable recently – market could support more landings than in most recent year if participation/production at the vessel level increases.

Changing the name to Chip Fish would help with marketing/exports. We could sell these in the U.S. if we could change the name (like snakehead). No advisors were opposed but practical challenges were highlighted.

There are no Southern processors – they were “burnt” by previous management and won’t get

back in without quota stability on a decadal timeframe. They would need to know that the quota won't go down for 5-10 years. Southern fishermen have to ship to MA.

Previous reports have noted not having a processor also depresses NY landings.

Developing industrial markets, be it fertilizer, processed export, or pharmaceutical (livers), requires a higher trip limit for trawlers. Expanding use of liver components could increase overall value – several outreach efforts have occurred to pharmaceutical companies with no interest expressed back. Could help develop a market for male dogfish.

Regarding the fin market – there are self-imposed bans by cargo lines that prohibit fin transport even from sustainable sources (i.e. this is beyond our control).

Better opportunities in other fisheries reduce spiny dogfish effort. For example, in Virginia, fishermen have calculated that oysters and shrimp are better opportunities.

Cornell has continued efforts to expand domestic consumption of spiny dogfish and other undervalued/underutilized/lesser-known species through chefs' sampler events, underserved communities/foodbanks, etc. See <https://www.localfish.org/>.

Public Input

Lack of crew has hampered trips in the Gulf of Maine. The Portland Fish Exchange was allowing spiny dogfish landings to try to build market but hasn't been super successful to date.

Environmental Conditions

Environmental conditions are always a factor in terms of dogfish distribution and availability to fishermen.

In VA, early 2022 weather was a neutral factor considering a span of years (neither great nor horrible weather).

Condition of NC inlets makes it very difficult to get product into NC. NC trawl fishermen can't land spiny dogfish in VA due to state regulations. Fish houses continue to go out of business due to low seafood supply.

In NJ/Viking Village, spiny dogfish keep showing up well in the fall. In spring 2022, very poor weather off NJ contributed to very low spring participation (plus greying of the fleet/participants).

Management Issues

Regulations (especially the trip limit) do not allow a male fishery. State regulations do not allow new fishermen to participate. The current regulations are geared to keep price up and production limited and do not allow industrial production.

Raising the trip limit to 10,000 pounds could entice more vessels to participate and allow higher landings once dogfish are located. Vessels won't immediately all land 10,000 pounds but helps with flexibility. More important now with fuel prices and just one fish house left – if we lose the last buyer, what will we do with these fish?

Biomass trends raise the question of whether management is restrictive enough and suggests that management is insufficiently restrictive. The SSC should consider interim advice for current fishing year given trends.

Other Issues

Given the lack of an off-shelf survey and vertical water column usage by dogfish, we don't really know the population size. See Carlson AE, Hoffmayer ER, Tribuzio CA, Sulikowski JA (2014) The Use of Satellite Tags to Redefine Movement Patterns of Spiny Dogfish (*Squalus acanthias*) along the U.S. East Coast: Implications for Fisheries Management. PLoS ONE 9(7): e103384. <https://doi.org/10.1371/journal.pone.0103384>. Also see Garry Wright's thesis that concluded that the NEFSC trawl survey is not accurately representing spiny dogfish biomass.

Allowing dogfish populations to increase has hurt all other fish populations. We need calculations regarding consumption by dogfish of other fish.

You should note the continual nature of embryo development/pupping in the general biological information section.

Bigelow performance issues are doing a disservice to all the fisheries and fishermen. The repeated failure of the Bigelow since 2014 to complete its mission in terms of not fishing at a consistent time and not achieving planned stations eliminates our ability to have good information about spiny dogfish abundance given the dependence on the survey for spiny dogfish. This compounds uncertainty concerns and the Bigelow performance degrades the credibility of the resulting information (individual years and interpreting the time series). We have 2/9 years of full surveys in recent years. This affects all species' management. The Council should call in NEFSC maritime operations manager to account for Bigelow performance.

There is concern whether the NEFSC is continuing wire/net measurements to ensure survey consistency. The timing of the survey is critical for spiny dogfish due to the observed migration patterns and not sampling the same areas consistently reduces the meaningfulness of the resulting data.

High fuel costs adds to trucking costs, which is a substantial issue for this fishery given the processing situation.

Research Priorities

To add fishery value, we should research the value and production of squalamine in spiny dogfish livers for medical use.

The assessment needs to account for the continual pup production observed in females, which is primarily affected by food availability/consumption.

We should conduct research into the purposes of the horn/spine – is it offensive (weakening potential prey), or defensive?

Off the shelf sampling needs to occur to understand biomass. Why can't Bigelow do some deeper sampling? Could we send a drone to monitor?

East Carolina Univ has tagged 43,000 + spiny dogfish – trying to get graduate student to publish. Appears to be an availability gap from years 2-8/10 where if not caught in first few years fish are not caught for a number of years but then eventually show back up in commercial catches.

Updated bycatch mortality information could help us understand biomass trends.

Could there be electromagnetic energy being transferred to the trawl affecting survey catches?

Why are people opting out of this fishery? Greying of the fleet? Costs? Other fisheries? We need to understand the vast drop in participation and what is projected for future trends.

Loss of fish houses is a coast-wide issue – and the loss of infrastructure needs to be addressed to maintain a healthy fishery.

Spiny dogfish fishing could have an environmental justice component as a relatively low-priced seafood.