Atlantic Sturgeon: Management Action to Reduce Bycatch in Monkfish and Spiny Dogfish Gillnet Fisheries

Joint Action of the NEFMC and MAFMC

March 5, 2024 Joint Advisory Panel Meeting

New England Fishery Management Council

MID-ATLANTIC FISHERY MANAGEMENT COUNCIL

For Today

1. Review alternatives (and why)

2. Review impact analyses

3. Review FMAT/PDT recommendations

4. Develop AP recommendations – preferred alternatives

   Process: No motions but staff will note instances of general support or consensus for Committee consideration

Summary: Why this Action?

Last (2021) Biological Opinion (BiOp): develop an action plan to reduce bycatch of Atlantic sturgeon in these fisheries by 2024

Action plan – these matter and should be considered

1. gillnet profile
2. soak time
3. “areas of focus” (season and location/depth)
4. 2021 BiOp focused on gear > 6.5 inches but action plan said: “fisheries managers may find it appropriate and necessary to include [smaller mesh fisheries] in any actions taken to reduce Atlantic sturgeon bycatch.”

Summary: Why this Action?

Action plan:

“Fisheries managers should take care to apply these recommendations such that they balance reduction in Atlantic sturgeon bycatch with the continued successful operation of the fisheries under consideration.”

Summary: Why this Action?

New Biological Opinion (BiOp) reinitiated and under development - bycatch takes exceeded 2021's BiOp Incidental Take Statement (ITS = take allowance)

Mortality also increased in recent years

New BiOp will consider all new info (including 2024 sturgeon assessment and this action) to determine if other measures are necessary.

More anticipated reduction now = less chance for a jeopardy finding and less chance of more stringent measures in near future...

(which could be Council-led or NMFS-led)

Summary: Why this Action?

Questions about the “why?”

Summary: Alternatives

1. The Council previously endorsed evaluation of 4 packages of action alternatives (Alts 2-5) to facilitate analyses/comparisons.

2. Alts 2-4 use time/area closures and time/area gear restrictions.

3. Alt 5 uses only time/area gear restrictions.

Summary: Impacts

1. Benefits to sturgeon from time/area closures were less than anticipated due to the model predicting more diffuse spatial risk of fishery interactions than expected.

2. Amount of gear impacted appeared relatively low on a coast-wide basis but may still have high regional impacts.

3. Costs to industry from gear restrictions could be substantial but allow more flexibility for industry to adapt practices and keep fishing.

Summary: FMAT/PDT Recommendations

1. Of the options available, Alt 5, the gear-only package currently appears most reasonable. A partial exemption from the Delmarva overnight soak prohibition for gear less than 5.25” appears supported by observer data (analyses ongoing)

2. Generally, more research needs to be done to understand sturgeon bycatch and how to reduce sturgeon interactions.

3. Recognized the need to avoid shifting fishing effort from any time/area closures to important North Atlantic Right Whale habitat.

Note: Endangered Species Act (ESA) may require additional measures in the future to reduce sturgeon interactions.

Staff Note

1. Reviews of bycatch methodology (SBRM) have previously recommended considering sturgeon when setting observer coverage levels…

   2018 3-year review

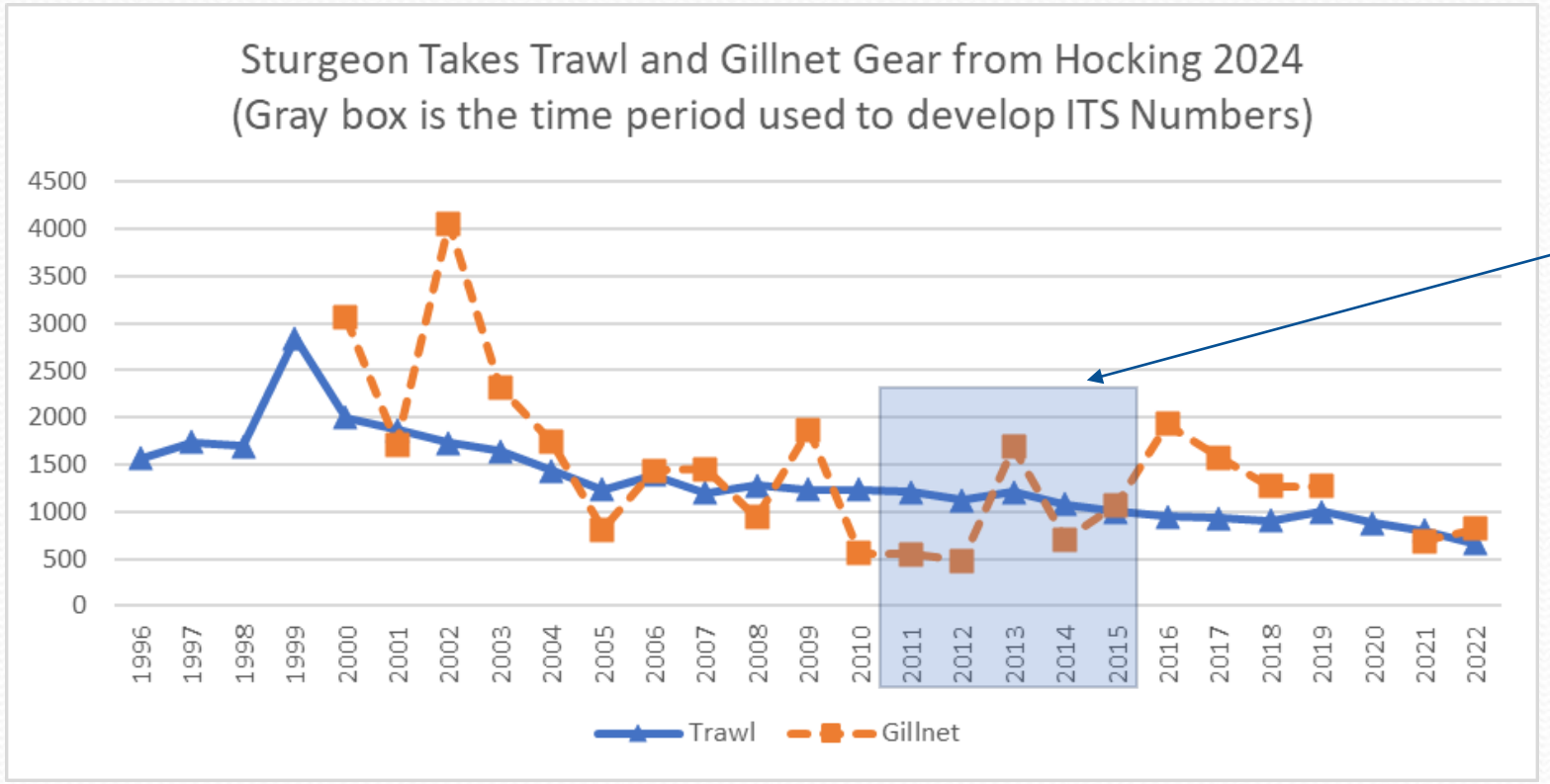
   2020 3-year review

   2023 3-year review

Atlantic Sturgeon Population Status

- Coastwide Atlantic sturgeon population is made up of five distinct population segments (DPSs): (1) Gulf of Maine (GOM), (2) New York Bight, (3) Chesapeake Bay, (4) Carolina and (5) South Atlantic.
- All are listed as endangered under ESA except GOM DPS which is listed as threatened
- 2017 assessment report (ASMFC):
  - Slight positive trend coastwide for Atlantic sturgeon since the 1998 moratorium with variable signs of recovery by DPS.
  - Atlantic sturgeon is depleted coastwide
- Next assessment:
  - Assessment update scheduled for spring 2024, peer review expected summer 2024

Atlantic Sturgeon Bycatch



ITS 2011-2015 base years [updated based on Hocking 2024]

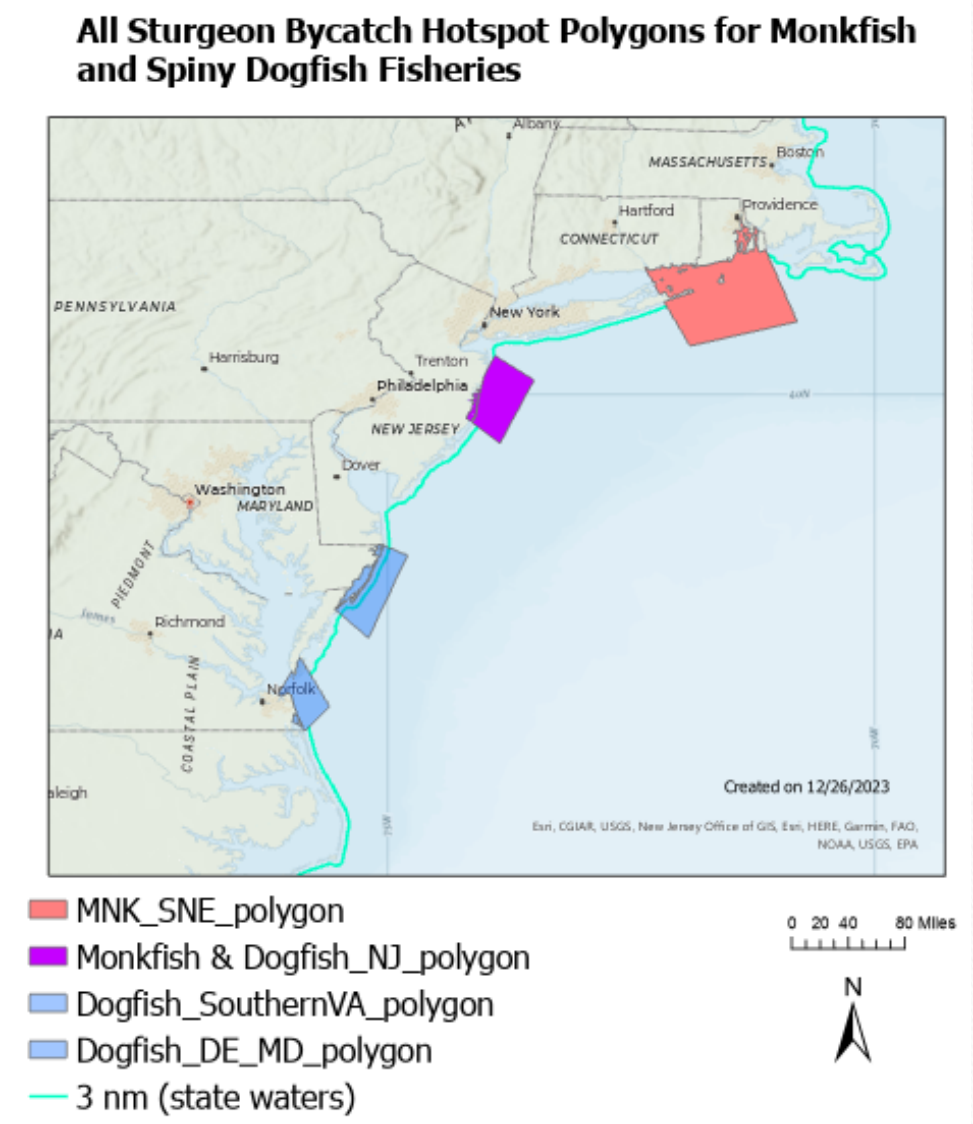
not the original numbers for 2021 Biological Opinion

Atlantic Sturgeon Bycatch

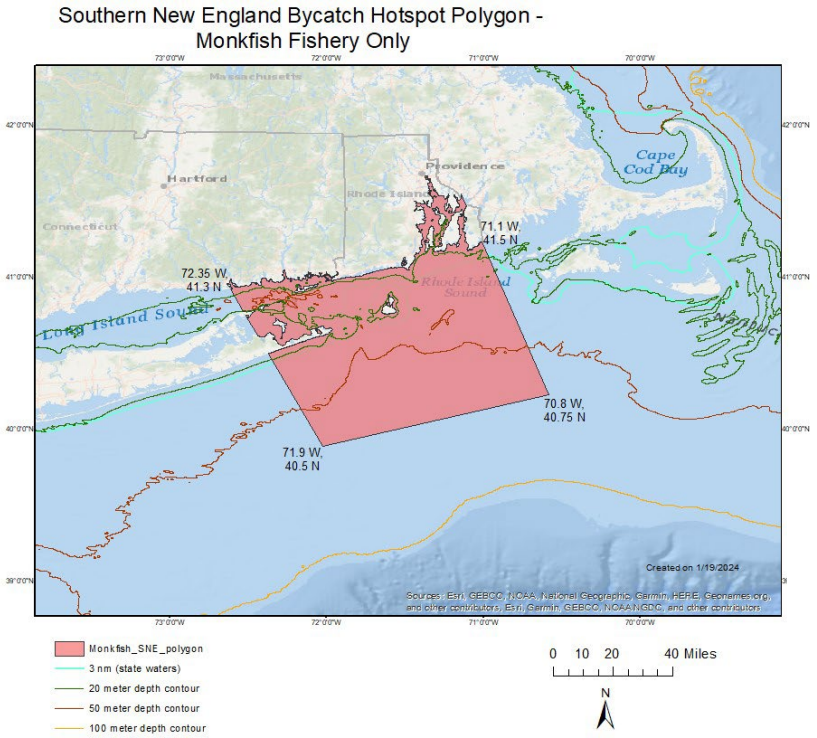
- Since recent bycatch exceeded Incidental Take Statement numbers, NMFS conducting new Biological Opinion → expected January 2025
- Will consider new assessment and management actions
- May trigger need for more bycatch reduction (?)
- BREP testing low-profile gear from MA to VA (see document #7 for proposal description)

Sturgeon Alternative Packages

- Alternative 1: No action.
- Alternative 2: Higher impacts; time/area closures and gear restriction measures.
- Alternative 3: Intermediate; subset of Alt 2.
- Alternative 4: Lower impacts; subset of Alt 2.
- Alternative 5: Only gear restriction measures.
  - Potential sub-alternative exemptions from dogfish overnight soak prohibitions for vessels using <5.25”

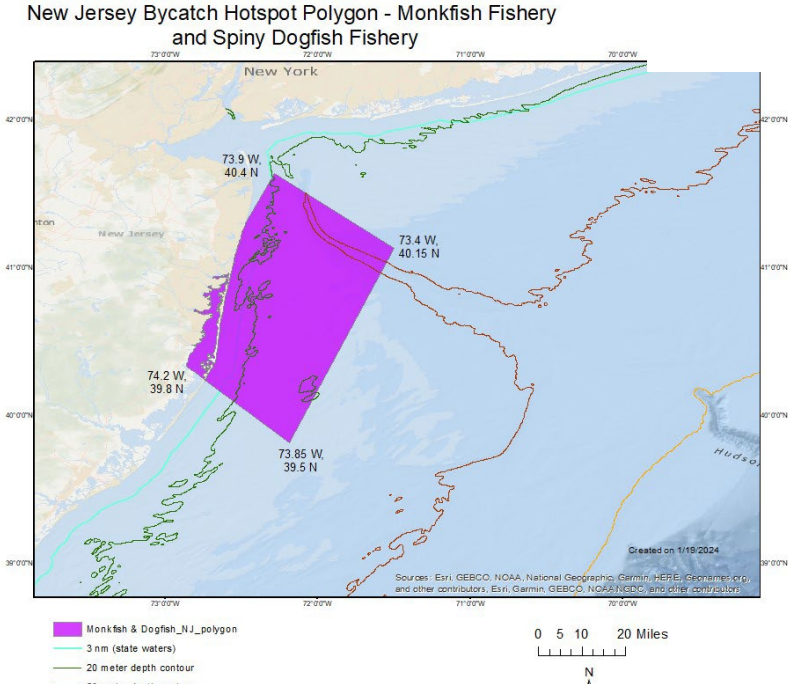


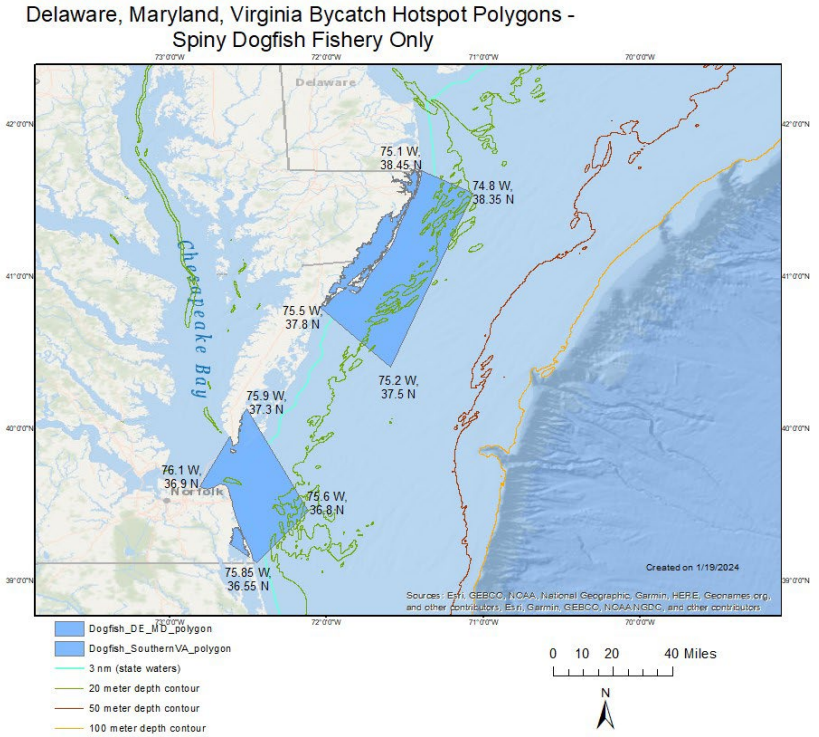
Sturgeon Bycatch Polygons



Southern New England: Monkfish only

New Jersey: Monkfish & Spiny Dogfish
(polygon is the same across both fisheries given sturgeon are caught throughout this area)





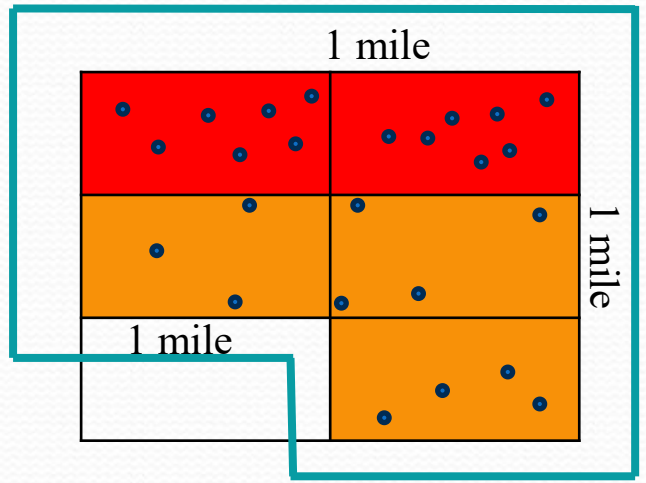
DE/MD/VA: Spiny Dogfish only

How FMAT/PDT developed sturgeon bycatch polygon areas

1. Fine-scale 2017-2019 & 2021-2022 sturgeon catch data

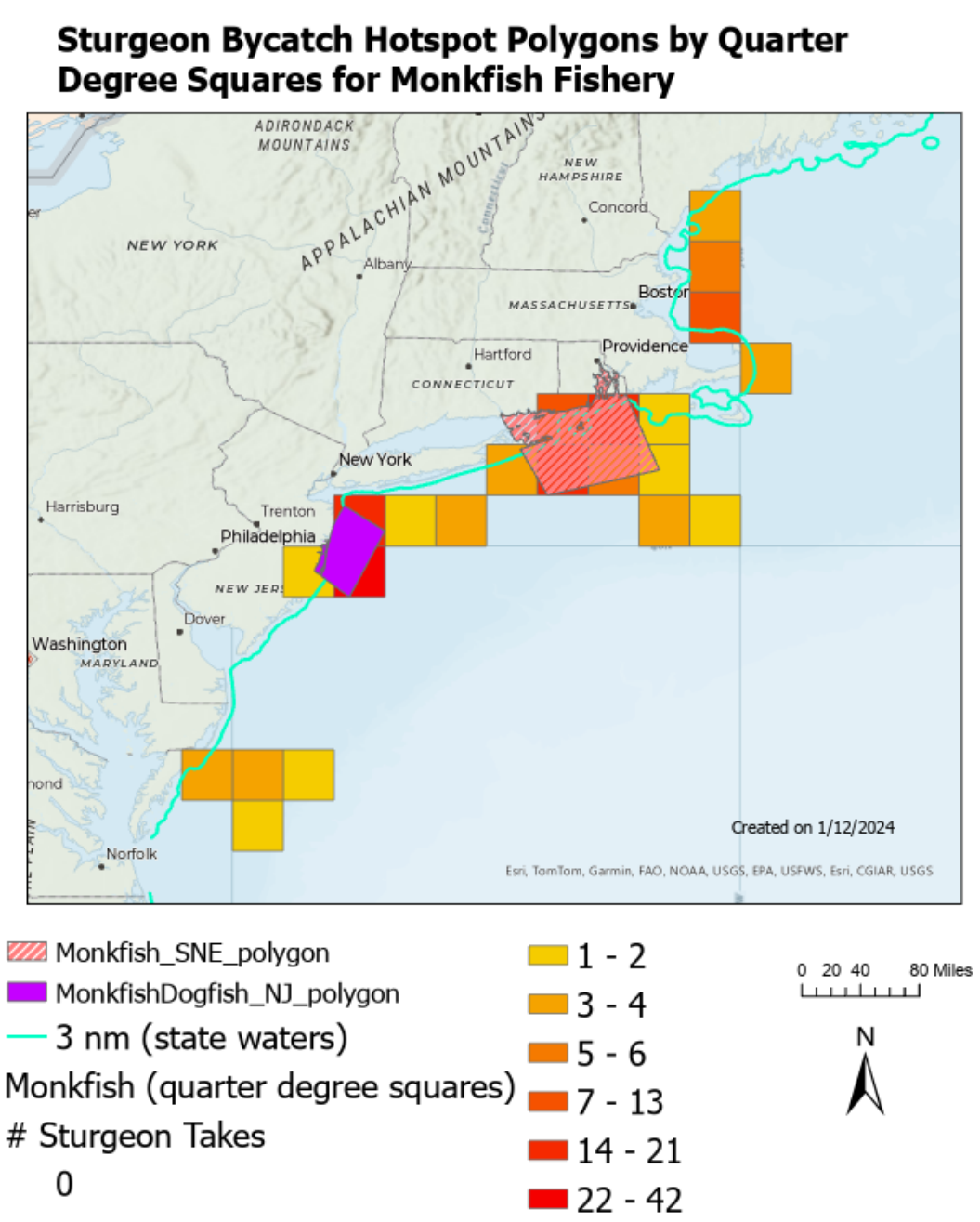
2. Buffers around ten-minute squares (TMS) with medium and higher takes or individual takes in low take TMSs

Example:



Sturgeon Bycatch Hotspots - Monkfish

- Sturgeon hotspots shown as quarter degree squares due to data confidentiality
- Key: the polygons do not align with the shaded quarter degree squares because they are based on 10-min squares + buffer
- Alternative polygons overlaid



Source: 2017-2019 and 2021-2022 observer data

Sturgeon Bycatch Hotspots – Spiny Dogfish

- Sturgeon hotspots shown as quarter degree squares due to data confidentiality
- Key: the polygons do not align with the shaded quarter degree squares because they are based on 10-min squares + buffer
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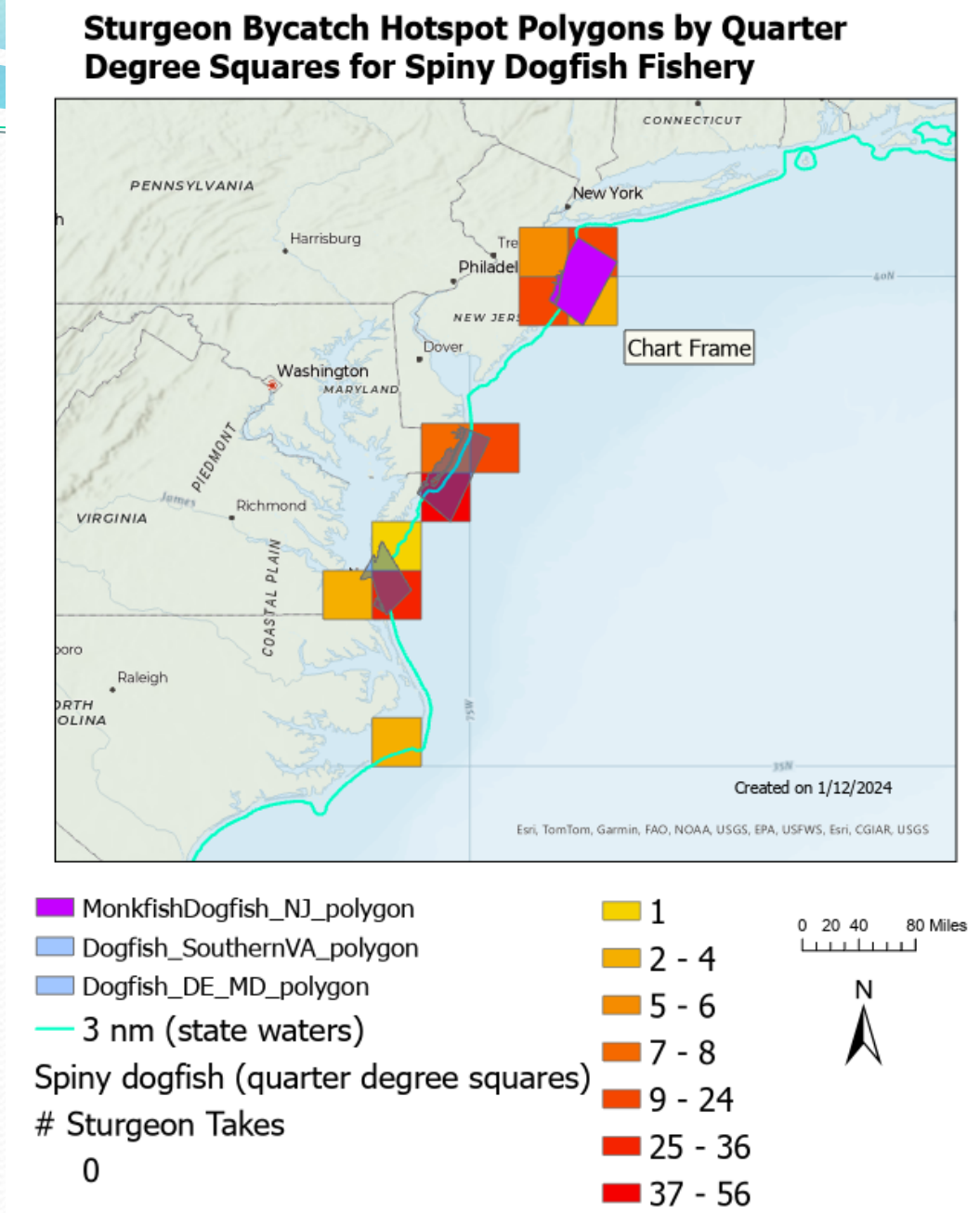


Source: 2017-2019 and 2021-2022 observer data

Questions about how polygon areas “hotspots” were developed?

Or ?s about other intro materials?

Alternative 1 – No Action

- Violates ESA - Would not satisfy 2021 Biological Opinion's mandate to reduce sturgeon interactions in large-mesh gillnet fisheries

- If Councils choose Alt. 1 No Action → NMFS would take action under ESA rule-making process

Alternative 2: High Impact Sturgeon Package (most time/area closures & gear restrictions)

Federal vessels targeting monkfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
Southern New England	Closure	April 1 – May 31 & Dec. 1 – Dec. 31	~40% of observed takes in monkfish fishery
New Jersey	Closure	May 1 – May 31 & Oct. 15 – Dec. 31	~30% of observed takes in monkfish fishery
	Low-profile gillnet gear	June 1 – Oct. 14 & Jan. 1 – April 30 (when area is not closed)	

Federal vessels targeting spiny dogfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
New Jersey	Closure	May 1 – May 31 & Oct. 15 – Dec. 31	~25% of observed takes in spiny dogfish fishery
DE / MD / VA	Closure	Nov. 1 – March 31	~59% of observed takes in dog. fishery

Alternative 3: Intermediate Impact Sturgeon Package (subset of time/area closures, gear restrictions)

Federal vessels targeting monkfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
Southern New England	Closure	May 1 – May 31 & Dec. 1 – Dec. 31	~37% of observed takes in monkfish fishery
New Jersey	Closure	Dec. 1 – Dec. 31	~17% of observed takes in monkfish fishery
	Low-profile gillnet gear	Jan. 1 – Nov. 30 (when area is not closed)	

Federal vessels targeting spiny dogfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
New Jersey	Closure	Nov. 1 – Dec. 31	~16% of observed takes in spiny dogfish fishery
	Overnight soak prohibition	May 1 – May 31	
DE / MD / VA	Closure	Dec. 1 – Feb. 28	~44% of observed takes

Alternative 4: Low Impact Sturgeon Package (less time/area closures & gear restrictions)

Federal vessels targeting monkfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
Southern New England	Closure	Dec. 1 – Dec. 31	~19% of observed takes in monkfish fishery
New Jersey	Closure	Nov. 1 – Nov. 30	No takes in monkfish fishery but substantial takes in dogfish fishery
	Low-profile gillnet gear	Dec. 1 – Dec. 31	

Federal vessels targeting spiny dogfish in federal & state waters

Which polygon?	Type of measure?	When?	Why?
New Jersey	Closure	Nov. 1 – Nov. 30	< ~16% of observed takes in spiny dogfish fishery
	Overnight soak prohibition	Dec. 1 – Dec. 31 & May 1 – May 31	
DE / MD / VA	Closure	Dec. 1 – Jan. 31	~38% of observed takes in dog. fishery

Alternative 5: Gear-Only Sturgeon Package (Monkfish low-profile gear; Spiny dogfish overnight soak prohibition)

Federal vessels targeting monkfish in federal & state waters

Which polygon?	Type of measure?	When?
New Jersey	Low-profile gillnet gear	Year-round

Federal vessels targeting spiny dogfish in federal & state waters

Which polygon?	Type of measure?	When?
New Jersey	Overnight soak prohibition	May 1 – May 31 & Nov. 1 – Nov. 30
DE / MD / VA	Overnight soak prohibition	Nov. 1 – March 31

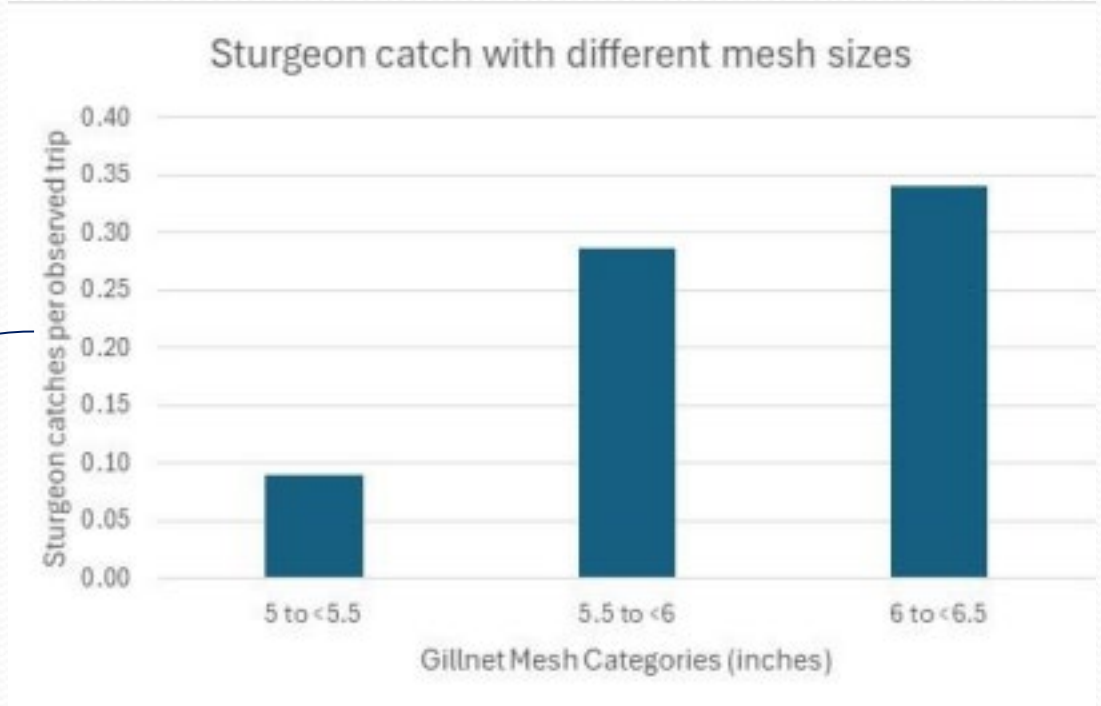
Alternative 5: Potential Sub-Alternatives

Added by MAFMC in Feb

For vessels using < 5.25” gillnet mesh, would be exempt from overnight soak prohibition:

- Sub-alternative 5a: NJ polygon exemption
  - *PDT/FMAT Rec: too few trips to evaluate any potential exemptions*

- Sub-alternative 5b: DE/MD/VA polygon exemption
  - *PDT/FMAT Rec: evaluating observer data; could exempt smaller mesh in months with lower sturgeon takes per observed trip and NOT exempt month with highest rate of sturgeon takes*



Mesh Category (inches)	Sturgeon catches	Observed Trips	Sturgeon catch per observed trip
5 to <5.5	25	278	0.09
5.5 to <6	41	143	0.29
6 to <6.5	58	170	0.34

Rationale for Low-Profile Gillnet Gear Monkfish Fishery

- Several studies testing various iterations of this gear including Fox, et al. 2019:
  - Sturgeon bycatch reduced by ~76% when using low-profile gear in NJ
  - No significant difference in monkfish catch rates off NJ
  - Significantly fewer monkfish caught off NY
  - No significant difference in winter skate catch off NJ or NY
- Proposed delayed requirement until Jan. 1, 2026 to allow gear to be produced & to allow Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements

Fox, et al. 2019	**Mesh Size (in.)**	**Net Height (# Mesh)**	**Tie Down Length (ft)**	**Tie Down Spacing (ft)**	**Hanging Ratio**	**Net Length (ft)**	**Twine Diameter (mm)**	**Sturgeon Catch (#)**
Control	12	12	4	24	0.5	300	0.90	25
Experimental	13	8	2	12	0.5	300	0.81	6

Sturgeon Impacts re: Prohibition of Overnight Soaks (8pm – 5am); Spiny Dogfish Fishery

- Required during times of documented high sturgeon bycatch
- Reduces time the gear is in the water
- Also reduces discard mortality (earliest sturgeon 'dead' condition occurred at 16 hr soak time)
- More enforceable compared to a limit of ≥24 hours
- May be feasible for overall fishery but may vary by fisherman and region

Figure 39. Observed Atlantic sturgeon caught in gillnet gear >=5- <7-inch mesh and <5-inch mesh with spiny dogfish as the target species (sturgeon condition as alive, dead, or unknown) for 2017-2019 and 2021-2022. ***Data source: Observer data pulled Jan. 2024.***

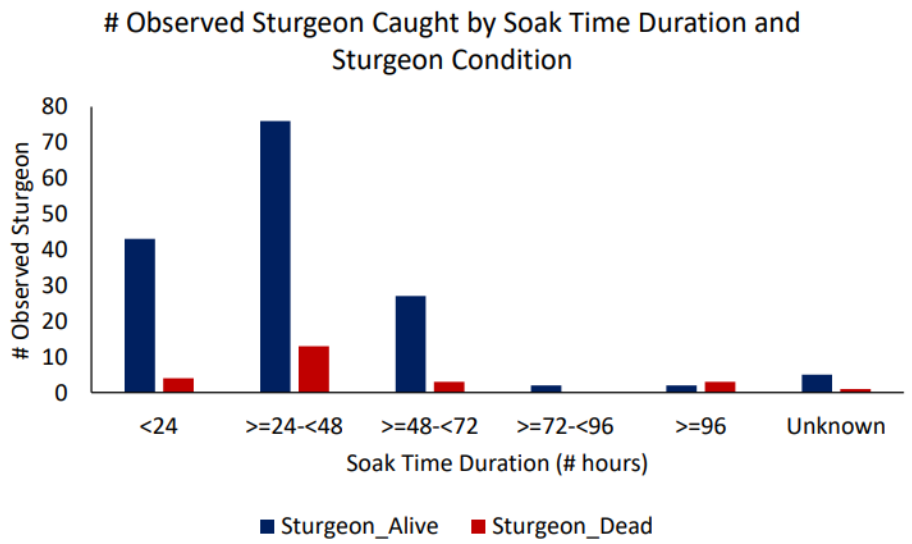


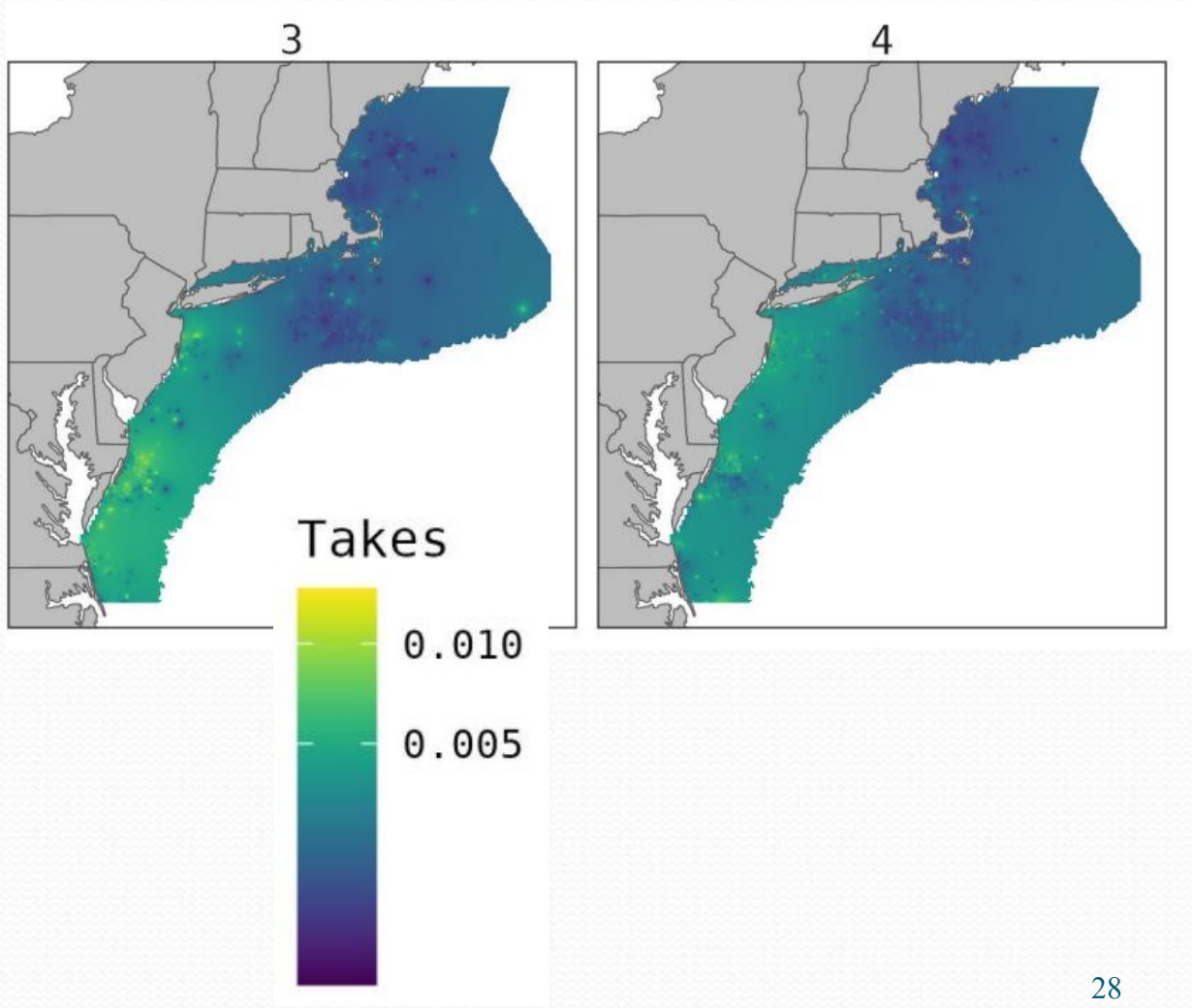
Table 45. Number of sturgeon caught alive and dead based on soak time duration in gillnet gear >=5-<7-inch mesh and <5-inch mesh with spiny dogfish as the target species. ***Data source: observer data pulled Jan. 2024.***

Soak Time Duration	# Sturgeon Caught Alive	# Sturgeon Caught Dead	Total # of Sturgeon Caught	% Dead Sturgeon
<24	43	4	47	9%
>=24	112	20	132	15%

Analyses by GARFO

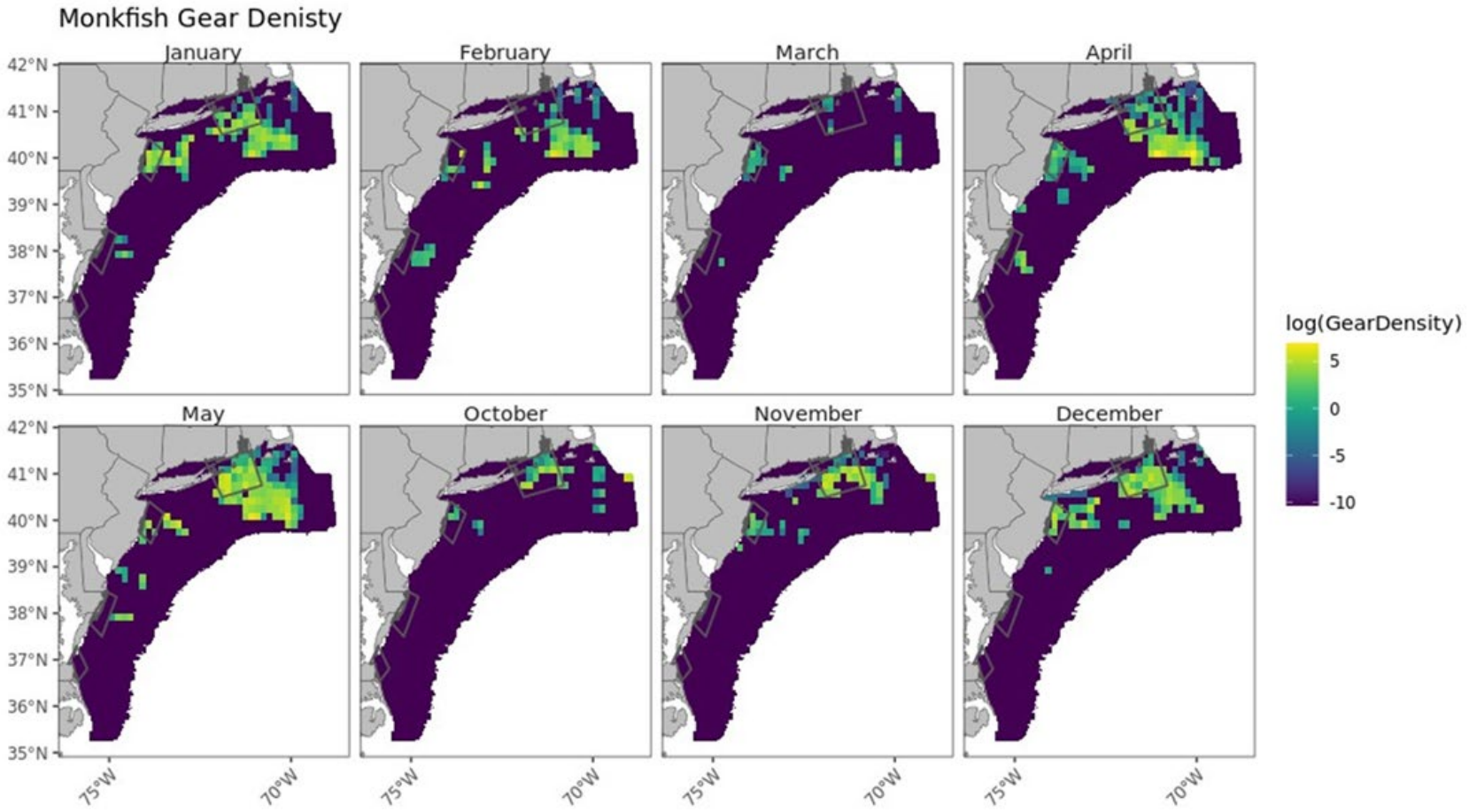
- Adapted the Atlantic Large Whale Take Reduction Team's Decision Support Tool for the Council's sturgeon action
  - **Overall result**: most gear is re-located adjacent to closed areas; some gear eliminated (more eliminated if a 20-mile max. relocation used)
  - Low overall change in sturgeon catch – the model that estimates catch has sturgeon bycatch risk less concentrated
    - Literature suggests focused risk
    - But data spot checked

Example: March and April expected takes per days fished.



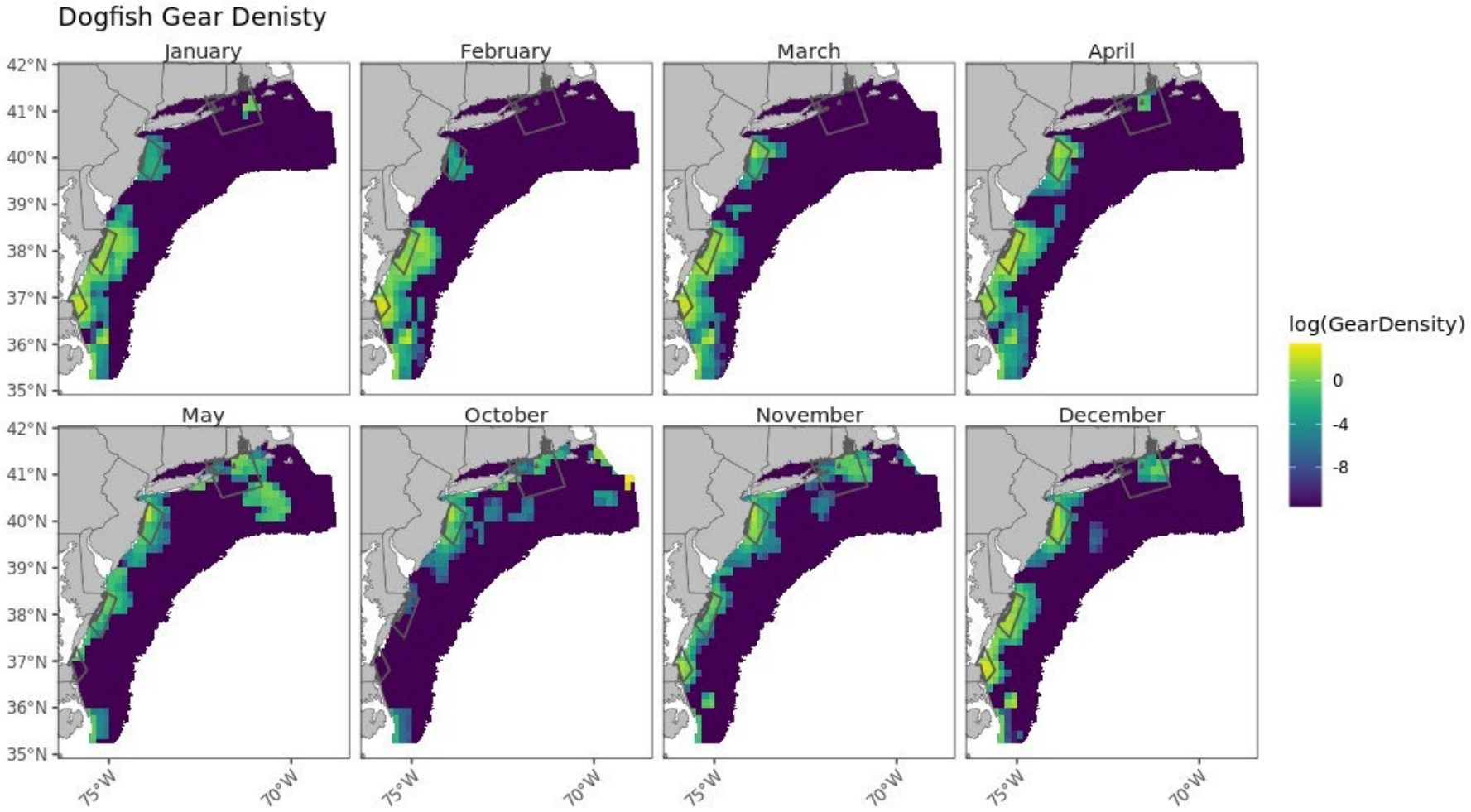
Current gillnet gear density for monkfish

- VTR and VMS data
- 2017-2020
- Compiled by Decision Support Team



Current gillnet gear density for dogfish

- VTR and VMS data
- 2017-2020
- Compiled by Decision Support Team



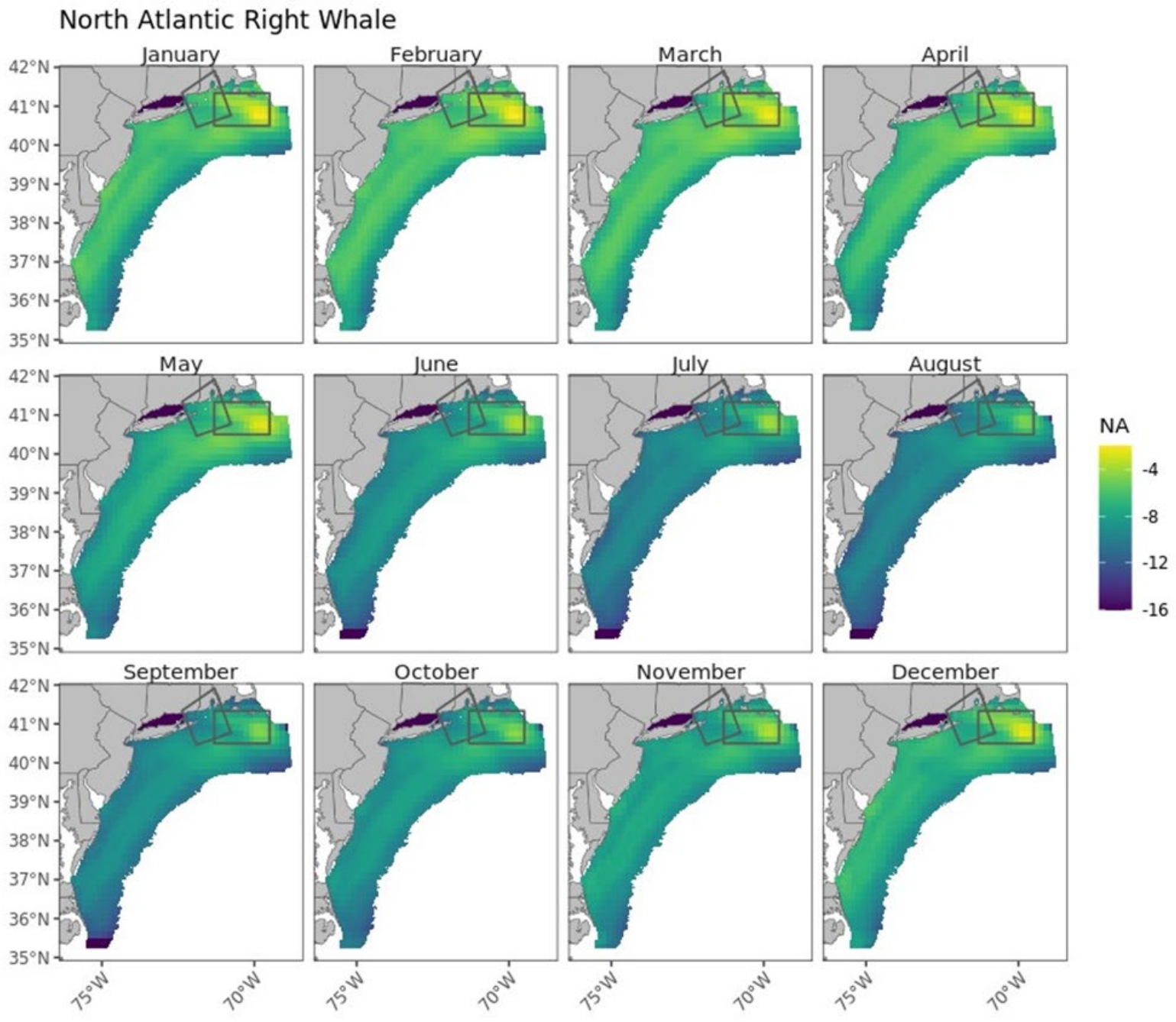
Expected changes in fishing effort

Table 1: Expected percent reduction of Atlantic Sturgeon takes by federally-permitted vessels using gillnet gears under various actions and behavior (max movement distance) scenarios. Action 1 is 'no action' and other alternatives not involving closures are also not listed.

Action	Max Distance Move (nm)	Percent Reduction
2	20	13.00%
2	50	4.20%
3	20	10.60%
3	50	3.20%
4	20	4.10%
4	50	1.90%

DST and Sturgeon risk mapping analyses to evaluate gear modifications are TBD

North Atlantic right whale habitat relative to SNE polygon and South Island Restricted Area



Impacts for monkfish/spiny dogfish, non-target species, and habitat

No measures expected to change status of these resources.

No significant cumulative impacts expected.

Socioeconomic Impacts

- Analyses specific to landings from in/out of the polygon areas ongoing.
- Tables in document show relative importance of recent average monthly catch & revenue near potentially impacted areas

Monkfish

MONTH	MONK SNE Landed Pounds Gillnet Annual Avg 2020-2022 Fishing Years
5	530,195
6	616,634
7	66,342
8	31,666
9	23,452
10	26,698
11	43,071
12	67,025
1	149,362
2	121,083
3	282,140
4	236,462

MONTH	MONK NJ Landed Pounds Gillnet Annual Avg 2020-2022 Fishing Years
5	55,234
6	64,572
7	low and/or CI
8	low and/or CI
9	low and/or CI
10	low and/or CI
11	low and/or CI
12	71,039
1	88,467
2	19,368
3	low and/or CI
4	8,777

Spiny Dogfish

MONTH	Spinys Landed Pounds NJ Gillnet Annual Avg 2020-2022 Fishing Years
5	24,972
6	CI and/or low
7	CI and/or low
8	CI and/or low
9	CI and/or low
10	71,012
11	847,760
12	288,754
1	CI and/or low
2	CI and/or low
3	52,860
4	206,780

MONTH	Spinys Landed Pounds MD-VA Gillnet Annual Avg 2020-2022 Fishing Years
5	CI and/or low
6	CI and/or low
7	CI and/or low
8	CI and/or low
9	CI and/or low
10	CI and/or low
11	415,199
12	1,502,209
1	1,695,121
2	614,223
3	600,705
4	182,369

AP Recommendations

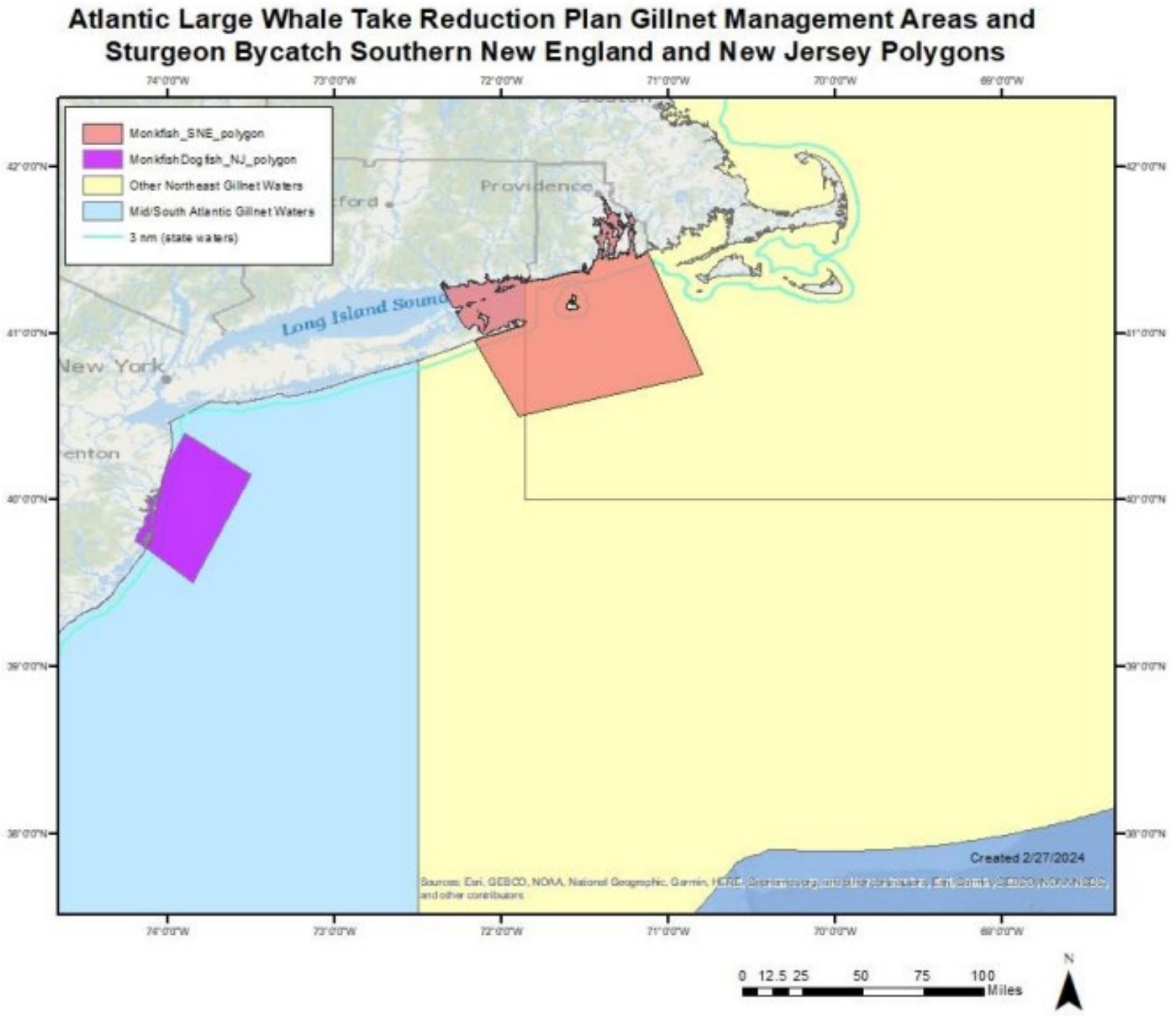
What are your recommendations?

Timeline

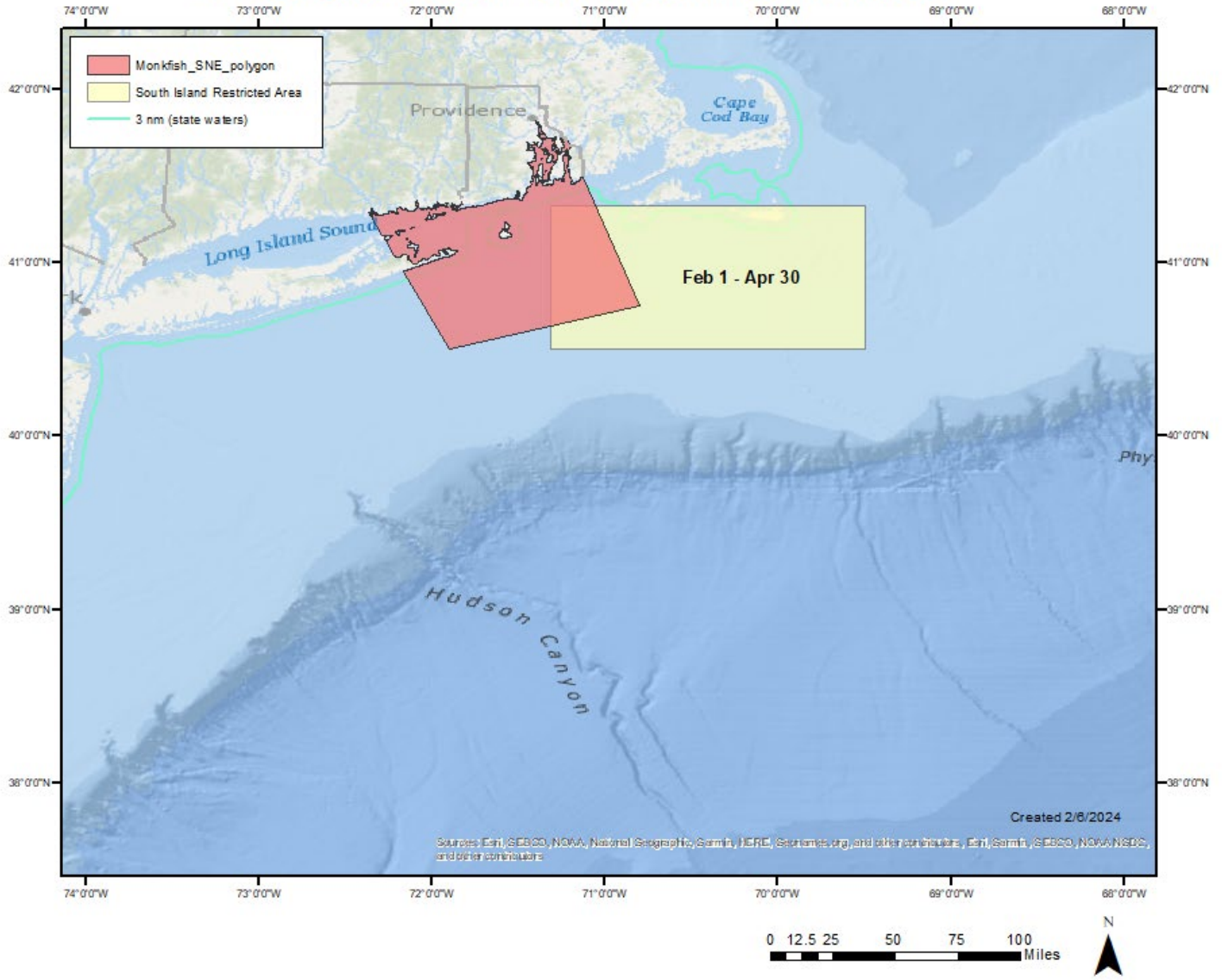
2023	
APR	Formation of FMAT/PDT; **NEFMC - initiates Framework**
APR-JUN	FMAT/PDT and Joint Dogfish and Monkfish Committee develop range of alternatives; Joint Dogfish and Monkfish AP input
JUN	**MAFMC – FMAT/PDT tasking**
JUN	**NEFMC – approves range of alternatives for monkfish only**
SEP	Joint Monkfish/Dogfish Committee with OLE/Coast Guard to refine alternatives
SEP	**NEFMC – progress report, approve refined range of alternatives for monkfish, and range for dogfish**
OCT	**MAFMC – approve range of alternatives for dogfish & monkfish**
Fall	FMAT/PDT continue to refine alternatives and begin analyzing alternatives
Fall	ASMFC meeting on alternatives
2024	
FEB	**NEFMC – review, provide feedback on revised range of sturgeon alternative packages**
FEB	**MAFMC – review, provide feedback on revised range of sturgeon alternative packages**
MAR	Joint AP meeting (March 5th) and joint Committee meeting (March 13th) to select preferred alternatives
APR	**NEFMC and MAFMC final action**
TBD	Staff submits framework to NMFS
TBD	NMFS publishes proposed rule; NMFS publishes final rule/Implementation

Backup Slides

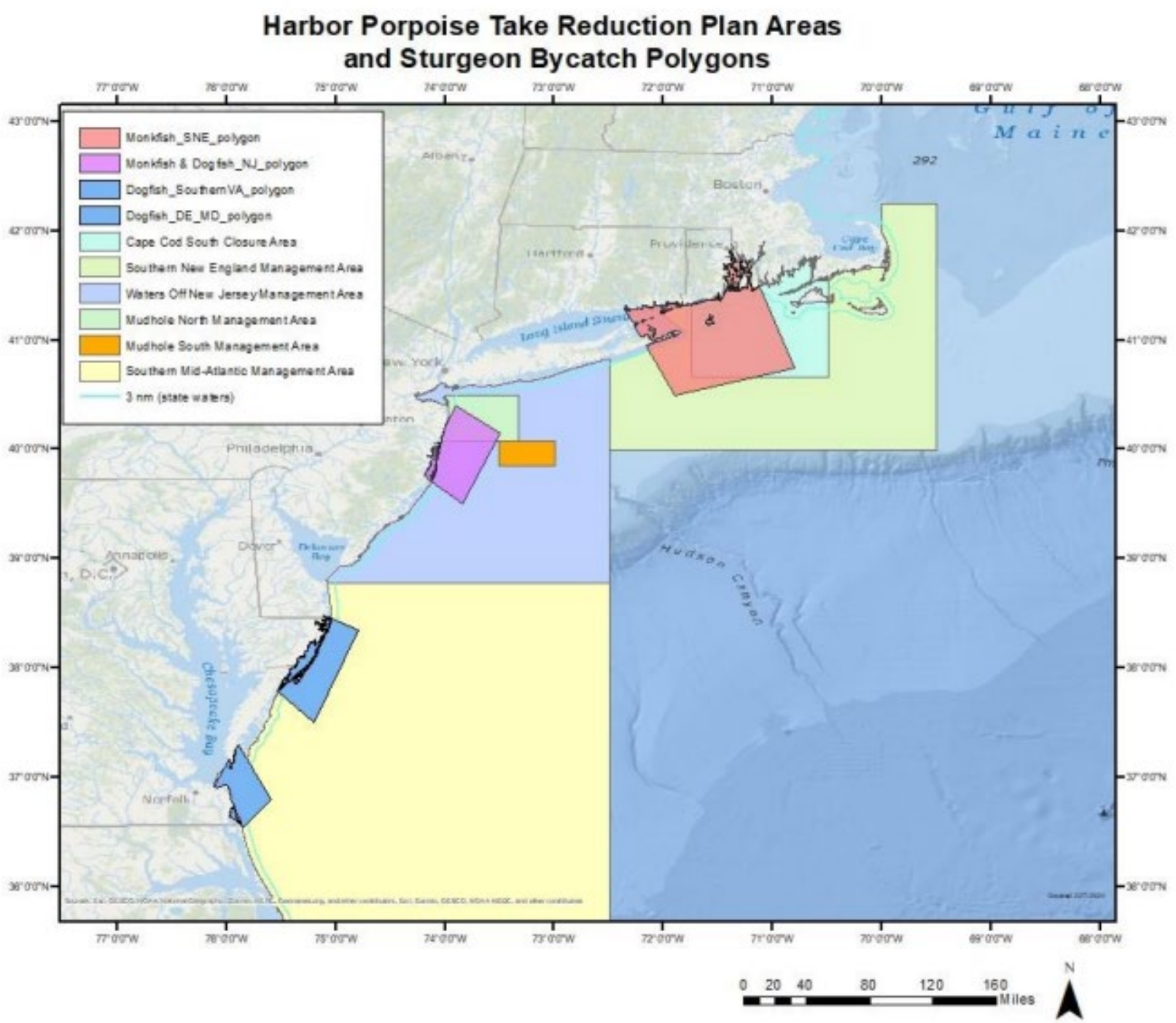
Atlantic Large Whale Take Reduction Plan Gillnet Management Areas



Atlantic Large Whale Take Reduction Plan Potential Gillnet Closure and Sturgeon Bycatch Southern New England Polygon



Harbor Porpoise Take Reduction Plan Areas



Enforcement Info

Received several enforcement questions related to overnight soak prohibition during NEFMC meeting:

- Most federal partners cannot haul gillnet gear → can inspect gear on deck for compliance at sea and at dock

→ rely on state enforcement to haul gear, inspect mesh/gear violations

- Overnight soaks are enforceable

→ overnight soaks are within a 24-hr period at a set interval; OLE can plan effective patrols based on this

- What happens if there is a bad storm and gear cannot be retrieved?

→ cannot guarantee fisherman won't be penalized; recommend communication with Law Enforcement early and often and transparency is taken into consideration; compliance liaison number publicly available

Ongoing BREP proposal

- Dewayne Fox, Kevin Wark
- Bycatch reduction of modified large mesh sink-gillnets in the Atlantic monkfish fishery → work wrapped up in 2023
- Project Objectives:
  1. Compare bycatch rates of sturgeon in two net configurations
  2. Compare catch rates of target species (monkfish, spiny dogfish, winter skate) for each net configuration
  3. Assess harvester feedback of modified net performance
- Difference between other research?
  - Testing low-profile gear in other areas from MA to VA (2 participants in Southern VA and 6 between MD and MA)

FMAT/PDT Recommendations

- Of the options available, Alternative 5 (gear-only package) appears to be the most reasonable.
- Re: 5.25” exemptions: potentially allow exemption for lowest months of sturgeon takes in Delmarva area → still evaluating monthly observer data
- More research needs to be done to understand sturgeon bycatch and how to reduce sturgeon interactions
  - Uncertain if the next Biological Opinion will trigger the need for additional measures regardless of the current action.
- Recognized the need to avoid shifting fishing effort from any time/area closures to important North Atlantic Right Whale habitat.

Extra Slides

How FMAT/PDT developed sturgeon bycatch polygons

1. Sum observed sturgeon takes across 2017-2019 & 2021-2022 by **10-min squares**

2. Shade 10-min squares based on # of observed sturgeon takes

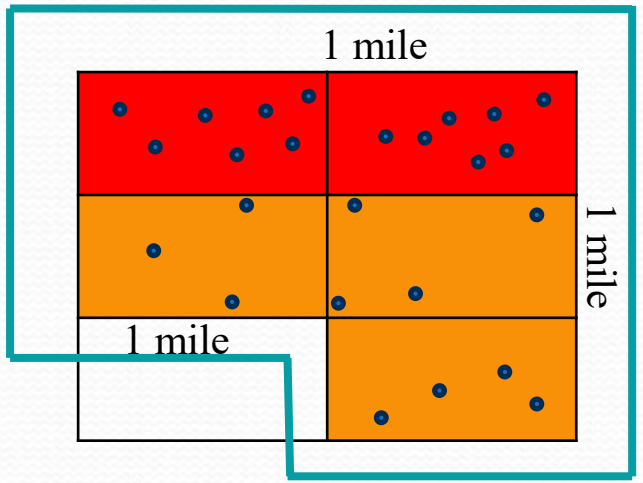
3. Orange/red shading represent area of higher observed takes

4. Polygon boundaries encompass all orange/red shading

5. Polygon buffer either ~1 mi beyond edge of orange/red square OR ~1 mi from location of observed take in yellow square

Clip to shoreline

Example:



Reminder

- 2021 Biological Opinion **still active** – Atlantic sturgeon bycatch must be reduced in Federal large mesh gillnet fisheries by 2024

- Biological Opinion **re-initiated** September 13, 2023 and new consultation required
  - Reason: Sturgeon Incidental Take Statement (ITS) exceeded in the gillnet fisheries
  - Original approach: Consider the joint Council sturgeon bycatch framework action as part of the reinitiated consultation (action becomes the baseline for the new BiOp)

FMAT / PDT Work in December

- Discussed the thousands of potential unique combinations of alternatives originally approved by the Councils in the fall
- Agreed that four packages of time/area closures and gear restrictions create a reasonable range of alternatives for April final action
  - Packages range from high to low impacts re: impacts to fisheries and potential reduction in sturgeon bycatch
  - Recommended use of Decision-Support Tool to estimate impacts of closed areas
- Council staff drafted revised alternatives, rationale, bycatch polygons during the holidays
  - Information sent to FMAT/PDT for their review late Dec/early Jan

Low-profile gillnet definition

Low-profile gillnet gear mentioned below is defined based on research by Fox et al. (2012 and 2019) and He and Jones (2013) in New Jersey:

- Mesh size ranging from 12 to 13 inches,
- Net height ranging from 6 to 8 meshes tall,
- Net length of 300 feet,
- Tie-down length of at least 24 inches to 48 inches max,
- Tie-down spacing of 12 feet,
- Primary hanging ratio of 0.50,
- Twine size 0.81mm, and
- Net is tied at every float to keep float line down.

NOTE: Harbor Porpoise regulations require 0.90 mm minimum twine mesh for large-mesh gillnets in the Mid-Atlantic management areas Jan. – April.

Exemption needed for 0.81 mm twine size for low-profile gillnet gear via work with the Harbor Porpoise Take Reduction Team (see Council letter)

Informal industry meetings to review decision-support tool model results

- Two meetings: Jan. 9th and 17th as requested by FMAT/PDT
  - 5 industry members participated from Southern New England to VA
- Meeting goal: review model results and provide feedback
- Initial feedback:
  - Model simplifies movement; model doesn't allocate gear to historic fishing grounds not recently fished
  - Fishing likely to relocate next to closed areas
  - Does not account for gear conflicts or external factors that may influence future fishing behavior (wind energy, unknown Atlantic Large Whale measures)
  - Underemphasizes effects of closures on regional participants
  - Bycatch reduction is from full gear removal (vs gear relocation)

Additional Reminders

In September:

- Councils considered time/area closures by entire statistical area
  → Removed from consideration given these broad areas are well outside the hotspots and are likely to cause substantial impacts to fishermen
- Councils recommended adding to their research priorities:
  - Explore future use of data loggers as a tool to enforce gillnet soak times
  - Explore use of low-profile gillnet gear in the spiny dogfish fishery and Southern New England region for monkfish as a potential future management tool

NEFMC and MAFMC Letter to NOAA re: Twine Size Changes

Purpose of letter:

- Harbor Porpoise regulations require 0.90 mm for large-mesh gillnets (≥7”) in the Mid-Atlantic management areas during applicable months (January-April)
- Low-profile gillnet gear is 0.81 mm twine size

NEFMC/MAFMC Request:

- Consideration of an exemption of the low-profile gear twine size requirements
- Harbor Porpoise Take Reduction Team meets this spring → Council request can be discussed then

Timing of this process:

- Proposed delay in low-profile gear requirement will allow gear to be produced and for the Harbor Porpoise Take Reduction Team to consider changes to minimum twine size requirements

Observer Coverage

Monkfish Observer Coverage Summary

Stat Area	Polygon Proximity	Monkfish Commercial Trips	Monkfish Observed Trips	% Observer Coverage
539	SNE	882	92	10%
537	SNE	3439	441	13%
613	SNE	2316	260	11%
612	NJ	772	86	11%
615	NJ	1229	136	11%

Data source: unpublished observer data and CAMS trip data from 2017, 2018, 2019, 2021, 2022; accessed January 2024.

Spiny Dogfish Observer Coverage Summary

Stat Area	Polygon Proximity	Spiny Dogfish Commercial Trips	Spiny Dogfish Observed Trips	% Observer Coverage
612	NJ	591	61	10%
615	NJ	369	72	20%
614	NJ	626	105	17%
621	MD/VA	827	102	12%
625	MD/VA	1232	79	6%
631	MD/VA	2633	308	12%

Background

- 2021 Biological Opinion – Atlantic sturgeon bycatch must be reduced in Federal large mesh gillnet fisheries by 2024 (≥ 7")
- Atlantic Sturgeon Bycatch Working Group – formed and produced an action plan that recommended a Council process be used to meet needed reduction

  Potential measures recommended in plan:

  - Modifications to gear
  - Reductions in soak time
  - Focused time/area measures (plan identified hotspot areas)

- Councils agreed to joint dogfish and monkfish action given those fisheries' contribution to bycatch and their joint management

Data Loggers for Enforcement of Soak Times

- Council/GARFO staff spoke with Carrie Upite and Ellen Keane on Aug. 22nd
- Technology has progressed since the 2015 Matzen, et al. paper, cited in the Sturgeon Action Plan
- NMFS had more funding to develop this tool, all effort is planned for implementation on trawl vessels (for possible sea turtle measures)
- Theoretically tech should also apply to gillnet gear, however no initial testing has occurred
  - Would need to figure out how to secure to gear, housing for logger, and how loggers handle longer soaks
  - Data collection frequency tradeoff with data quantity and storage issues
- Not viable to implement on this action timeline --> FMAT/PDT research recommendation

Joint Monkfish Dogfish Committee Discussion

- Questions and concerns with gear restrictions and time/area closures:
  - Shifting effort to other areas
  - Unclear how sturgeon interactions would be reduced (especially short closures)
  - Unclear if low-profile gear is ready for commercial use
  - How, when, and where measures would be applied – need to clarify alternatives
  - Impacts to markets (mostly export species)
  - Desire to have additional AP input on these measures before final action (beyond AP input provided in May to include short closure options, for example)

Questions asked of GARFO:

- Which data were used to prompt reinitiation of BiOp?
- Specific guidance on magnitude of reduction in sturgeon interactions needed?
- Will this Council action be used for basis of new BiOp?

Measure / tool	Joint Committee Input	Enforcement Input Cont.
Soak time restrictions (dogfish)	• Sunrise to sunset provision more substantial impact in winter • Impact varies by region • Want more AP input • VMS likely needed for enforcing soak times greater than 24 hr • Want to avoid immediately resetting gear – does not mitigate bycatch overall • Concerned about flexibility and safety concerns	• Could consider sunrise to sunset provision or 6am to 6pm soak time limit for non-VMS fisheries → Not overly different options → Do not require VMS to enforce • Could be boarding officer-specific if folks doing best to comply with restriction
Short closures	• Unclear how sturgeon interactions would be reduced • Need to evaluate finer scale data & sturgeon migration patterns/time • Concerned about shutting down fisheries • Need to consider timing of closures	• Enforce any closures / gear requirements by hauling gear to confirm mesh size or via gear marking • Simpler closure polygon easier to enforce • Monitor the same way as other closures • Coast Guard only issues violations based on visual siting (e.g., not by VMS tracks)

Action Objectives

- Develop measures that minimize impacts to Atlantic Sturgeon in the monkfish and spiny dogfish gillnet fisheries in federal waters.
- Measures must involve only a minor change that do not alter the basic design, location, scope, duration, or timing of the federal large mesh gillnet fisheries (≥ 7") considered in the Biological Opinion.

Input from Joint AP re-Monkfish (11 advisors) - May

New Jersey: measures apply inshore within 3-6 miles in statistical area 612, 614, 615 in the spring given sturgeon are more nearshore (i.e., change Options B and D to apply more inshore vs stat areas)

- Prefer no measures on low-profile gillnet gear – focus on shorter closure or soak time of 48 – 72 hours, with a preference for 72 hours
- Do not prefer measures by stat areas given they're too large

Southern New England: Delete options for SNE (Options E and F) given the low interactions (not a hotspot relative to further south)

Overarching comments:

- Need better data and science regarding sturgeon and monkfish assessments and state vs. federal sturgeon interactions
- Generally thought the interactions were a state issue vs federal
- Overall decline in gillnet effort so expect a decline in sturgeon interactions

Input from Joint AP re-Dogfish (8 advisors) - May

New Jersey: No overnight soak times (sub-option 1) seemed reasonable for some fishermen given most are day-fishing (i.e., would apply to Options A and B)

Delaware/Maryland/Virginia: preference for 48 – 72-hour soak time (i.e., new options for 48 and 72-hour soak duration); not viable to have no overnight soak time restrictions for this area

Overarching comments/questions:

- Consider smaller areas than by stat area for spring for NJ (Option B) and Delmarva (Option D) - potentially 3-6 miles or 3-9 miles from shore
- Unclear if measures apply to only >= 7" mesh or if measures are being considered for smaller mesh
- Need better data and science regarding sturgeon assessments and state vs. federal sturgeon interactions
- Overall decline in gillnet effort and dogfish quotas so expect a decline in sturgeon interactions