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Final Atlantic Highly Migratory Species Essential Fish Habitat 5-Year Review

**Atlantic Highly Migratory Species Advisory Panel Meeting
May 14, 2024**

Outline



Photo Credit: Dave Witting/NOAA Fisheries

- Background
 - Essential fish habitat (EFH)
 - EFH review and update process
- Phase I
 - Summary of public comments
 - Final Atlantic Highly Migratory Species (HMS) EFH 5-Year Review results
- Phase II
 - Methodology
 - Next steps
 - Request for information





Background

Photo credit: Rodrigo Friscione/NOAA



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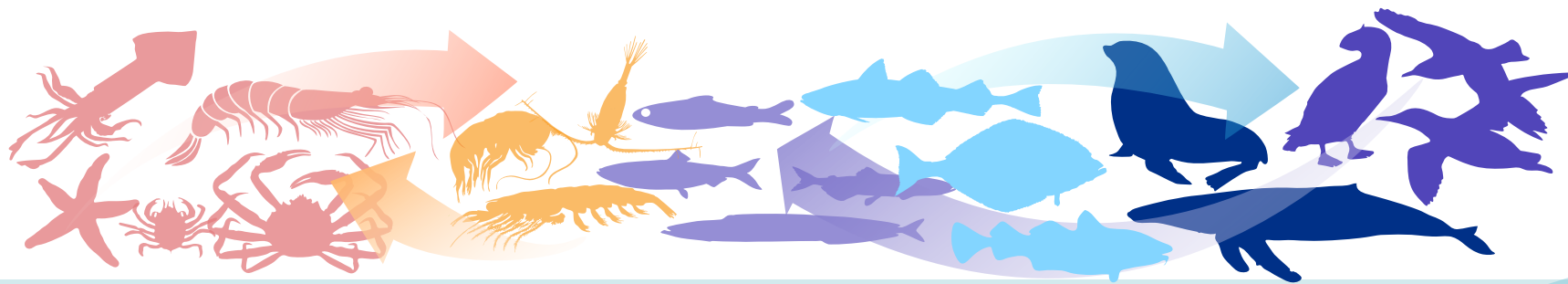
Introduction to EFH

What is EFH?

- The physical, biological and chemical characteristics necessary to support fish for feeding, spawning, breeding, and growth to maturity

Why do we update it?

- National Standard 2 requires that measures under fishery management plans and regulations be based on best scientific information available
- HMS EFH documents are used in habitat consultations
- EFH regulations require a review of EFH at least once every 5 years



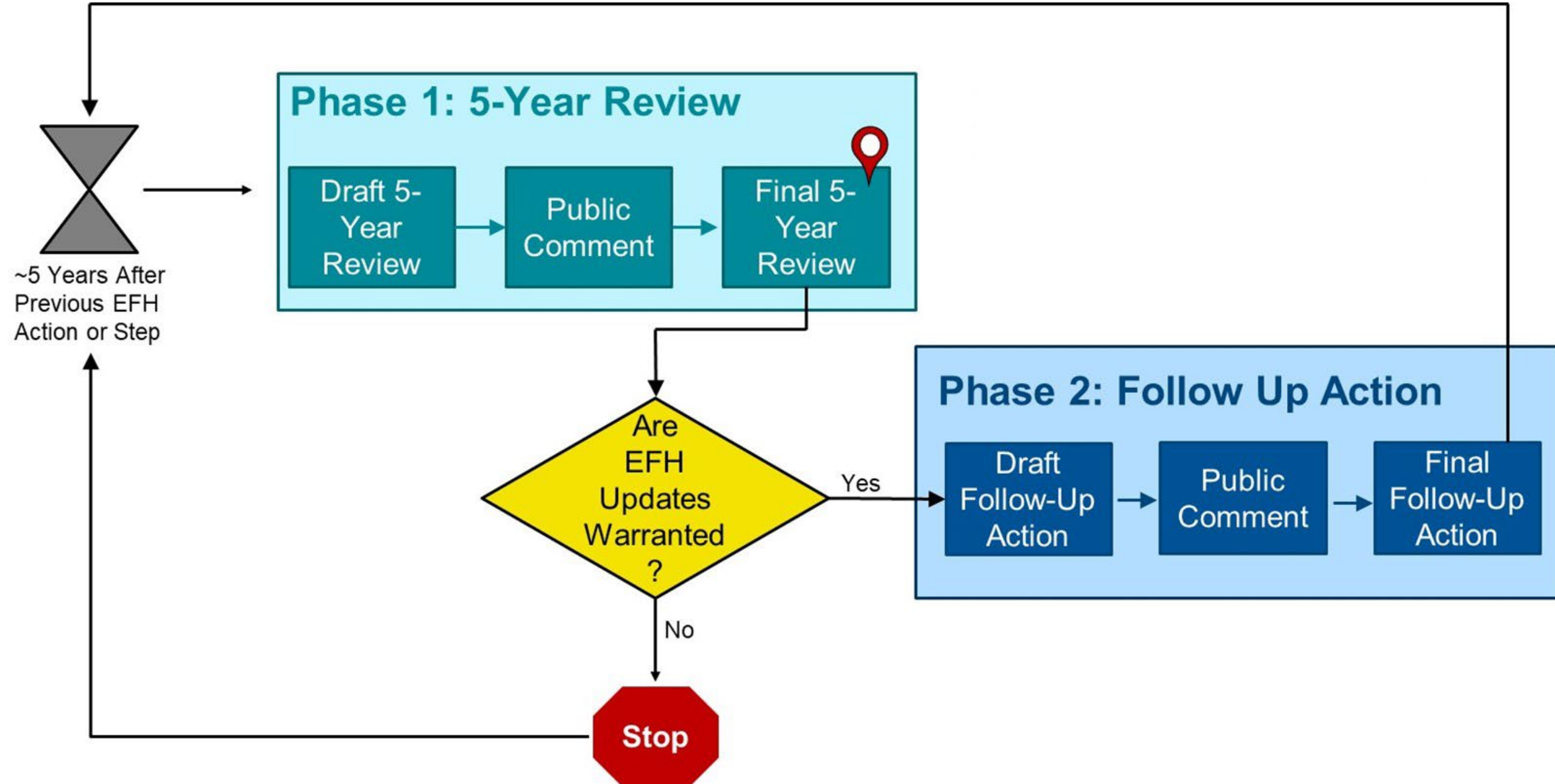
EFH Components in Fishery Management Plans



Photo Credit: James Watt/NOAA

- Description and identification of EFH*
- Magnuson-Stevens Act Fishing activities*
- Non-Magnuson-Stevens Act fishing activities*
- Non-fishing activities*
- Conservation and enhancement*
- Cumulative impacts
- Prey
- Habitat Areas of Particular Concern (HAPCs)
- Research & information needs
- Review & revision procedures

EFH Review & Update Process





Phase I

Photo Credit: iStock



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Summary of Public Comments



Photo Credit: Shutterstock/Joe Flynn

- Recommendation to consider impacts of increasing populations in year-round coastal communities on coastal, nearshore, and inshore waters (e.g., sanitary waste discharge)
- Request that NMFS review methodology and fine tune identified EFH
 - Concern about smoothing parameters and ground truthing model results
- Emphasized need to include predator-prey relationships
- Support for including acoustic tag and pop-up satellite archival tag data into EFH analyses

Final HMS EFH 5-Year Review

- Published April 18, 2024
- Expanded analysis on climate change literature
- Expanded sections on ecosystem-based fishery management, and actions or issues broadly affecting HMS management
- No changes to conclusions and recommendations from Draft 5-Year Review



Photo Credit: Shutterstock/Al McGlashan

No new scientific information that warrants updates:
tunas - skipjack, albacore
billfish - longbill spearfish
sharks - bigeye sand tiger, bignose, Caribbean reef,
Caribbean sharpnose, Galapagos, narrowtooth, night,
sevengill, sixgill, smalltail



Final HMS EFH 5-Year Review Results

EFH Component		Updates Warranted	Updates Not Warranted	Recommendations
1	Description & Identification of EFH for HMS	✗	✓	<ul style="list-style-type: none"> • Updates for 40 HMS • No updates for 13 HMS
2	MSA Fishing Activities	✗		<ul style="list-style-type: none"> • Update analyses and information
3	Non-MSA Fishing Activities		✓	
4	Non-Fishing Activities	✗		<ul style="list-style-type: none"> • Update information • Actions to promote conservation & enhancement of EFH
5	Cumulative Impacts	✗		<ul style="list-style-type: none"> • Update analysis and information

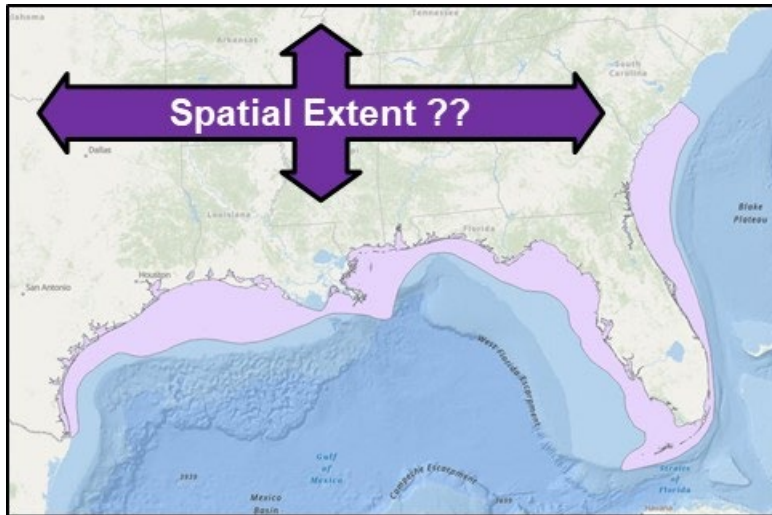
Final HMS EFH 5-Year Review Results (cont.)

EFH Component		Updates Warranted	Updates Not Warranted	Recommendations
6	Conservation & Enhancement	×	✓	<ul style="list-style-type: none"> • Updates for non-fishing activities • No updates for fishing activities
7	Prey	×		<ul style="list-style-type: none"> • Reorganize life history sections, include more information on prey
8	Habitat Areas of Particular Concern	×	✓	<ul style="list-style-type: none"> • Consider white shark HAPC (NY) • No updates for existing HAPCs • No implementing regulations
9	Research & Information Needs	×		<ul style="list-style-type: none"> • Update information (e.g., from stock assessments, CVA)
10	Review & Update Methodology	×		<ul style="list-style-type: none"> • Adjust methods to include data, reduce bias & streamline analysis • Text description refinement

Methodology: Text Descriptions

Description and Identification of EFH

Text Descriptions = the specific locations, habitats & associations

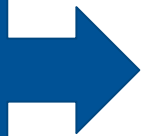


EFH FOR JUVENILE/ADULT BULL SHARK:

Atlantic coastal areas between South Carolina and the Florida Keys. Altamaha River Estuary in Georgia. From the mid-east coast of Florida, including northern Cape Canaveral (28°40' N) south to the Jupiter Island area (27°04' N lat.) in water depths of 3 to 11 m, EFH includes freshwater creeks, ocean inlets, and seagrass habitats; temperatures ranging as low as 16.4 °C; salinities ranging between 1.7 to 41.1 ppt; and DO concentrations ranging between 4 and 7 mg/L. EFH is located in shallow depths less than 9 m.

EFH in the Gulf of Mexico includes the Florida Keys, Ten Thousand Islands, Charlotte Harbor, Tampa Bay, Yankeetown, Pine Island Sound, the Florida panhandle, Mississippi Sound and Mobile Bay off the coasts of Mississippi and Alabama, interior of Lake Pontchartrain, the Pearl River system, around the Chandeleur Sound on the east side of the Mississippi River Delta, Little Lake/Barataria Bay and its inland waters, the Terrebonne/Timbalier Bay system, and the Atchafalaya/Vermilion Bay system in the coastal waters off Louisiana, the west side of Mississippi River Delta and, and coastal areas along the Texas coast, especially Matagorda Bay and San Antonio Bays.

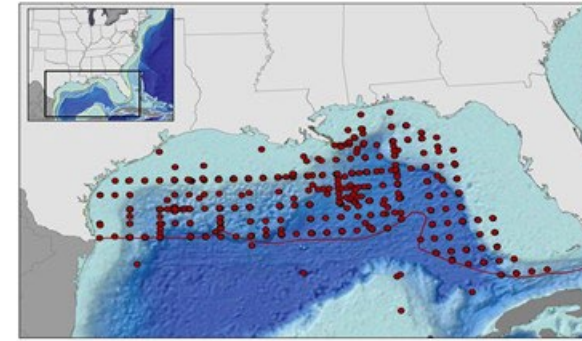
Current EFH
Boundaries



Map Atlas in Current FMP Amendment (A10)
[Hyperlink to EFH Mapper](#)
[EFH Data Inventory](#)

Methodology: EFH Boundaries

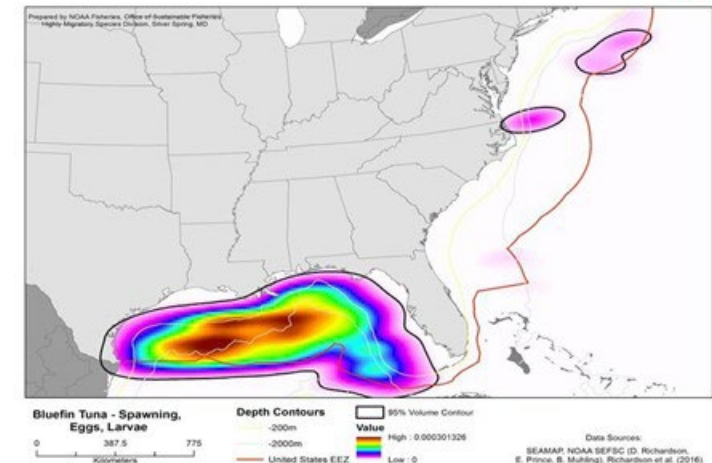
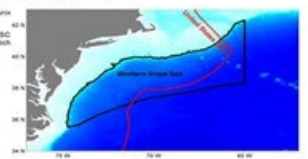
- Kernel density estimation / 95 percent volume contour method
- Recommendations:
 - Spatial Boundaries:
 - Use coding/statistical software (e.g., R)
 - Use weight data to account for differences by source
 - Fully incorporate satellite and acoustic telemetry data
 - Text Descriptions:
 - Use oceanographic products to refine EFH text descriptions (i.e., overlay data and derive descriptive statistics)



Bluefin Tuna - Spawning, Eggs, Larvae

United States EEZ
BFT Data Points

Data Source
SEAMAP, NOAA SEFSC
E. Pinnoc, B. Mulling, Rich



Bluefin Tuna - Spawning, Eggs, Larvae

Depth Contours
-200m
-2000m
United States EEZ

95% Volume Contour
Value
High : 0.000301326
Low : 0
Data Source:
SEAMAP, NOAA SEFSC (D. Richardson,
E. Pinnoc, B. Mulling), Richardson et al. (2016)

A hammerhead shark is shown swimming horizontally in clear, deep blue water. The shark's head is on the left, and its body extends towards the right. The text "Phase II" is overlaid in a white horizontal band across the middle of the image.

Phase II

Photo Credit: Richard Hermann/NOAA



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Phase 2

Draft Amendment 17

- Incorporate new literature identified in the 5-year review
- Compile new data
- Run preliminary analyses
- Conduct scientific consultation, QA/QC
- Create draft EFH boundaries

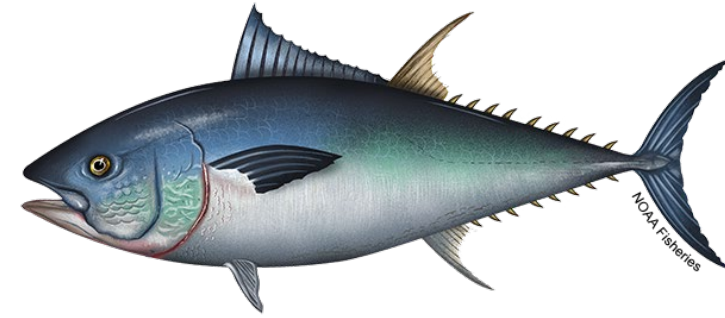
Public Comment

- Receive feedback on analysis and draft amendment
- May receive new data or information

Final Amendment 17

- Repeat EFH analyses from Draft stage, with consideration of public comment and any new data and information
- Create final EFH boundaries

Summary of Data



Amendment 10

- Approximately 40 datasets analyzed
 - 50% were NOAA sources (e.g., surveys, observer programs, stock assessments and status review reports)
 - 50% were contributed by state or federal agencies, authors of scientific publications, and independent database managers

2024 HMS EFH 5-Year Review → even more data!

- New datasets from Maryland Department of Natural Resources and Maine Department of Marine Resources
- Continued analysis of approximately 150 papers identified during review
- Plan to contact authors of scientific publications over the next month

Request for Information

What data do we need?

- Species (scientific and common name)
- Date of capture/observation/tag and release event
- Location
- Tag information
- Length
- Weight
- Sex
- Life stage
- Contextual information
- Are these data likely in another dataset?

If you have information for consideration in development of Amendment 17:

- Submit it to nmfs.sf.hmsefh@noaa.gov and include “Atlantic HMS Amendment 17 Data” in the subject line



Questions?

For questions on the Final EFH 5-Year Review:

- Jennifer Cudney, jennifer.cudney@noaa.gov

For questions on Amendment 17:

- Ann Williamson, ann.williamson@noaa.gov

For More Information:

- **Essential Fish Habitat:** <https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat>
- **Final HMS EFH 5-Year Review:** <https://www.fisheries.noaa.gov/action/essential-fish-habitat-5-year-review>
- **EFH Data Inventory:** <https://www.habitat.noaa.gov/application/efhinventory/>
- **EFH Mapper:** <https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper>

BACKUP SLIDE

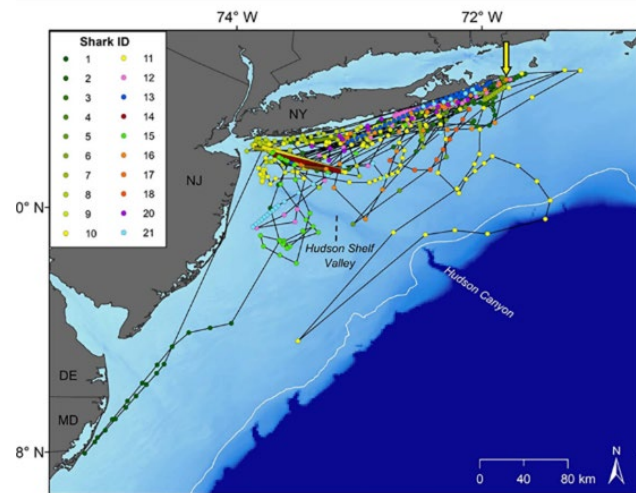
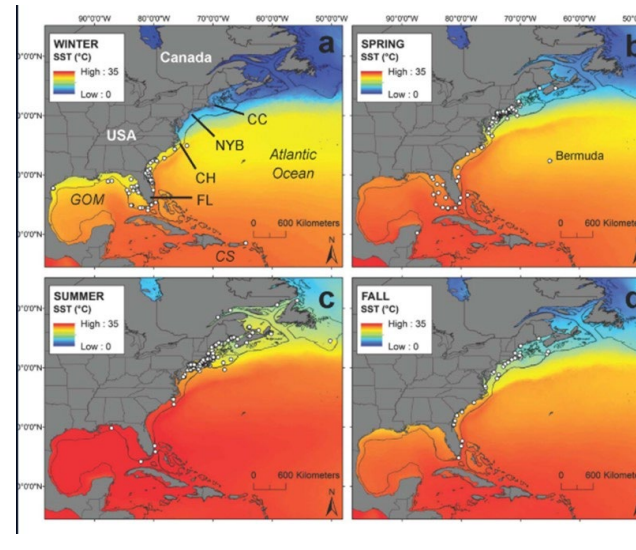


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Potential HAPC: White Shark



- Meets nursery area criteria:
 - Young-of-the-year (YOY) sharks are more frequently encountered in the New York Bight (between Great Bay, NJ and Shinnecock Inlet, NY) than in other locations
 - YOY sharks use the area repeatedly across years
 - YOY sharks remain or return for extended periods of time
- Area is more definable
- Applicable HAPC criterion is “ecological function” (nursery area)



horizontal tracks of the 21 white sharks tagged in the study. Yellow arrow depicts capture and release site off Montauk, NY. Dots represent daily

