

Science, Service, Stewardship



Amendment 5 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan: Predraft

Highly Migratory Species
Management Division
NMFS/NOAA

March 2012

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Presentation Overview

- Need for Action

- Amendment 5 Predraft – Exploring a Range of Possible Management Alternatives
 - TACs, Quotas, and Retention Limits
 - Commercial At-vessel Mortality and Discard Reduction
 - Modifying Time/Area Closures

- Request for Comments



Need for Action

- New/updated stock assessments for scalloped hammerhead, dusky, sandbar, and blacknose sharks (76 FR 62331) indicate management measures may be necessary to end overfishing and rebuild some of these stocks
- New management measures must be implemented by April 28, 2013 (2 years from the overfished/overfishing declaration for scalloped hammerhead sharks)



Stock Status

Shark Species	Overfished	Overfishing
Scalloped Hammerhead	Yes*	Yes*
Dusky	Yes	Yes
Sandbar	Yes	No ⁺
Blacknose: South Atlantic	Yes*	Yes*
Blacknose: Gulf of Mexico	Unknown*	Unknown*

*New stock status

+Improved stock status from previous assessment



Amendment Objectives

- Scalloped Hammerhead Sharks: End overfishing and rebuild the stock
- Atlantic Blacknose Sharks: End overfishing and rebuild the stock
- Gulf of Mexico Blacknose Sharks: Address unknown overfished/overfishing statuses
- Dusky Sharks: End overfishing and rebuild the stock
- Sandbar Sharks: Rebuild the stock



Amendment Objectives

Shark Species	Annual TAC Recommendation	Rebuilding Timeline (70% probability of success)
Scalloped Hammerhead	2,853 sharks (79.6 mt dw)	2023
Dusky	Same; reduce F by ~2/3	2099
Sandbar	178 mt ww	2066
Blacknose: Atlantic	7,300 sharks (17.5 mt dw)	2043
Blacknose: Gulf of Mexico	Unknown	Unknown



Potential Management Approaches Explored in Predraft

- TACs, Quotas, and Retention Limits
- Commercial At-vessel Mortality and Discard Reduction
- Modifying Time/Area Closures



TACs, Quotas, and Retention Limits

- Dusky Sharks
- Sandbar Sharks
- Blacknose Sharks (Atlantic and Gulf of Mexico)
- Scalloped Hammerhead Sharks



Dusky Sharks

- Currently prohibited from commercial and recreational retention (since 2000)
- Adjustments to dusky shark TAC, quota, or retention limits would not reduce F
- Reductions in F might be possible through dusky shark bycatch caps in HMS fisheries and/or additional outreach to the recreational community



Dusky Sharks

Potential Alternatives Beyond Quotas and Retention Limits to Reduce Dusky Shark Mortality

1. Create bycatch caps for dusky sharks in commercial and recreational HMS fisheries
2. Increase dusky shark outreach efforts to the recreational shark fishing community



Sandbar Sharks

- Currently prohibited from commercial retention, except in the research fishery (since 2008)
- Potential TAC recommendations that could be considered
 - Maintain the current 220 mt ww TAC with 70% probability of rebuilding by 2070
 - Reduce the TAC to 178 mt ww with 70% probability of rebuilding by 2066



Sandbar Sharks

Potential Sandbar Shark TAC Alternatives

1. No Action: Maintain current sandbar shark management measures and current TAC (220 mt ww)
2. Reduce the sandbar shark TAC to 178 mt ww



Blacknose Sharks

- Two stocks: Atlantic and Gulf of Mexico
- One TAC recommendation
 - Atlantic: 7,300 sharks
 - Gulf of Mexico: Unknown
- *current TAC is 19,200 sharks
- Need to determine Gulf of Mexico TAC and set Atlantic and Gulf of Mexico commercial quotas
- Consider linking the blacknose quota(s) with the non-blacknose SCS quota(s)
- Consider commercial and recreational retention limits



Blacknose Sharks

Current Atlantic and Gulf of Mexico combined
blacknose shark TAC

19,200 sharks

Gulf of Mexico TAC
Recommendation

Unknown

Atlantic TAC
Recommendation

**7,300
sharks**



Blacknose Sharks

Potential Blacknose Shark TAC Alternatives

1a. No Action: Maintain current blacknose TAC of 19,200 sharks. Regional TACs are not allocated

1b. Atlantic blacknose: 7,300 sharks

Gulf of Mexico blacknose: 11,900 sharks ($19,200 - 7,300 = 11,900$)

1c. Atlantic blacknose: 7,300 sharks

Gulf of Mexico blacknose: 9,792 sharks ($19,200 * 0.51 = 9,792$)

1d. Atlantic blacknose: 7,300 sharks

Gulf of Mexico blacknose: annual directed and incidental fishing mortality since Amendment 3 (2010)



Blacknose Sharks

Potential Blacknose Shark Commercial Quota Alternatives

2a. No Action: Maintain current blacknose quota of 43,872 lb dw (19.9 mt dw). Regional quotas are not allocated. (Option available for Alternative 1a)

2b. Set regional blacknose shark commercial quotas for the Atlantic and Gulf of Mexico (Option available for Alternatives 1b, 1c, and 1d)

2c. Establish a blacknose shark quota of 0 sharks (0.0 mt) and prohibit retention in commercial fisheries. (Option available for Alternatives 1b, 1c, and 1d)



Blacknose Sharks

Potential Non-blacknose SCS Commercial Quota Alternatives

3a. No Action: Maintain current non-blacknose SCS quota of 693,257 lb dw. Regional quotas are not allocated. (Option available for Alternative 1a, 1b, 1c, and 1d)

3b. Atlantic non-blacknose SCS: 346,628.5 lb dw ($693,257 / 2 = 346,628.5$)

Gulf of Mexico non-blacknose SCS: 346,628.5 lb dw ($693,257 / 2 = 346,628.5$)

(Option available for Alternatives 1b, 1c, and 1d)

3c. Atlantic non-blacknose SCS: Percentage of landings since A3 (2010)

Gulf of Mexico non-blacknose SCS: Percentage of landings since A3 (2010)

(Option available for Alternatives 1b, 1c, and 1d)

4. Allow inseason regional non-blacknose SCS quota transfers between regions

(Option available for Alternatives 3b and 3c)



Blacknose Sharks

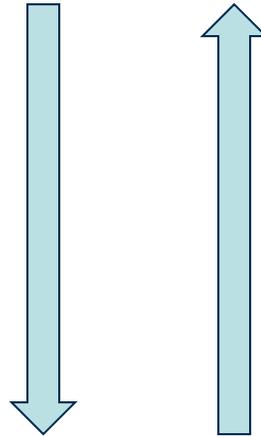
Potential Recreational Quota Measures

1. Status quo: Do not establish a recreational quota
2. Establish an overall recreational quota based on average annual recreational landings
3. Establish regional recreational quotas based on annual average recreational landings within the Atlantic and Gulf of Mexico regions



Quota Links

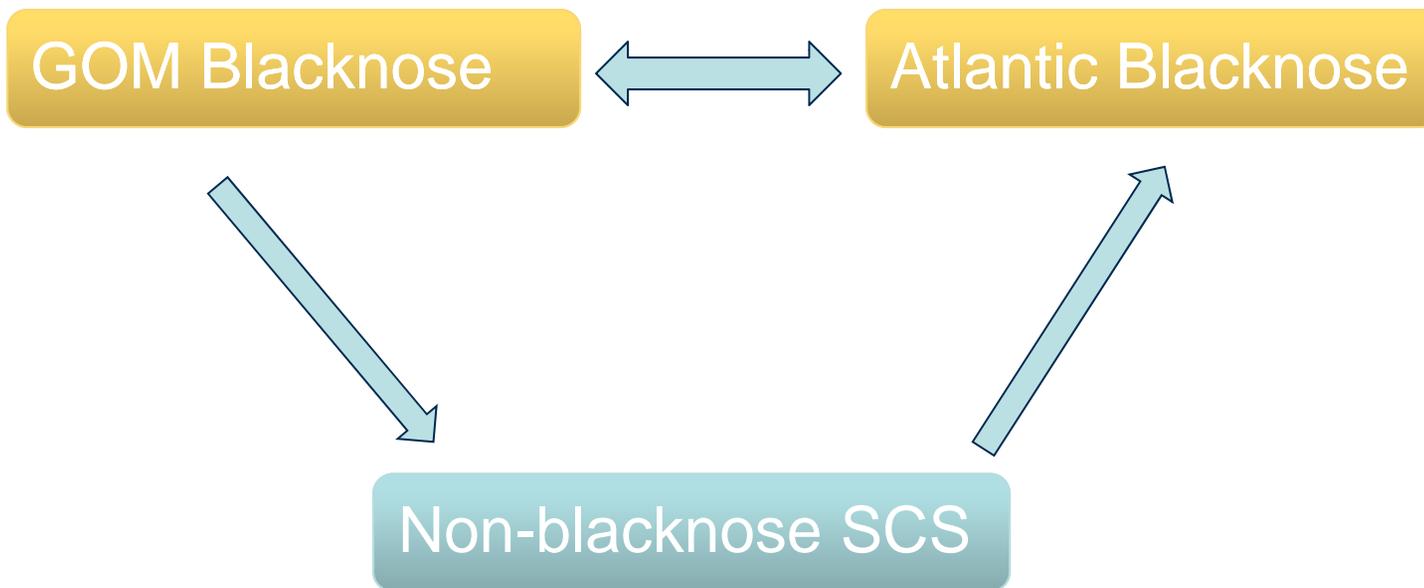
Blacknose Shark
Quota



Non-blacknose SCS Quota



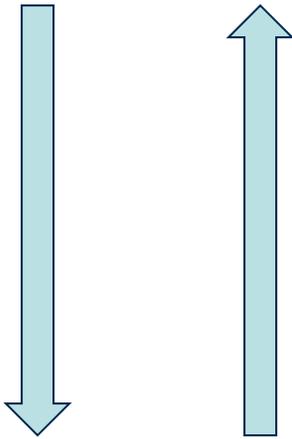
Quota Links





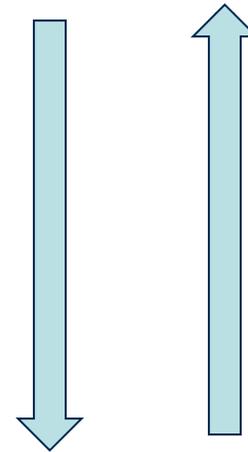
Quota Links

GOM Blacknose



GOM Non-blacknose SCS

Atlantic Blacknose



ATL Non-blacknose SCS



Blacknose Sharks

Potential Blacknose Shark Commercial Quota Linkage Alternatives

1. No Action: One blacknose quota linked to one non-blacknose SCS quota
2. Do not link blacknose regional quotas to one overarching non-blacknose SCS quota
3. Link the regional non-blacknose SCS quota to the appropriate regional blacknose quota
4. Do not link the blacknose quota with the non-blacknose SCS quota



Blacknose Sharks

Potential Blacknose Shark Commercial Retention Limits

1. No Action: Maintain current commercial (directed commercial – no retention limit; incidental commercial – 16 SCS in combination with pelagic sharks) blacknose shark retention limits
2. Apply the incidental SCS retention limit (16) to directed and incidental shark permit holders for blacknose sharks
3. Prohibit retention of blacknose sharks in commercial fisheries



Blacknose Sharks

Potential Blacknose Shark Recreational Retention Limits

1. No Action: Maintain current recreational (1 shark/vessel/trip >54") blacknose shark retention limits
2. Modify current recreational blacknose retention limits to 1 blacknose shark/vessel/**day**
3. Prohibit recreational retention of blacknose sharks



Scalloped Hammerhead Sharks

- Currently included in the non-sandbar LCS complex
- TAC recommendation of 2,853 sharks
- Need to set commercial quotas for scalloped hammerhead and non-sandbar LCS
- Consider linking the scalloped hammerhead shark quota(s) with the non-sandbar LCS quotas
- Consider commercial and recreational retention limits



Scalloped Hammerhead Sharks

Potential Commercial Quota Alternatives for Scalloped Hammerhead Sharks and Non-sandbar LCS

1. No Action: Maintain current commercial non-sandbar LCS quota



Scalloped Hammerhead Sharks

Potential Commercial Quota Alternatives for Scalloped Hammerhead Sharks

2a. Set quota below the TAC accounting for scalloped hammerhead recreational landings and discards

2b. Set quota below the TAC accounting for scalloped hammerhead recreational landings and discards **equal to the highest annual commercial landings** since the implementation of Amendment 2 (2008)

2c. Establish scalloped hammerhead shark quota below the TAC accounting for scalloped hammerhead recreational landings and discards equal to the **average annual commercial landings** since the implementation of Amendment 2 (2008)

2d. Set the commercial scalloped hammerhead shark quota equal to average landings in the shark research fishery and **allow commercial retention only on shark research fishery trips.**

2e. Set the commercial scalloped hammerhead quota at 0 mt (Prohibition)



Scalloped Hammerhead Sharks

Potential Alternatives for Adjusting Non-sandbar LCS quota

3a. Deduct the scalloped hammerhead shark quota from the non-sandbar LCS regional quotas **according to the percentage of scalloped hammerhead landings** from each fishery since the implementation of Amendment 2 (2008) (Option available for Alternatives 2a, 2b, 2c, and 2e)

3b. Deduct the scalloped hammerhead shark quota **evenly** from the non-sandbar LCS regional quotas (Option available for Alternatives 2a, 2b, 2c, and 2e)

3c. Deduct the scalloped hammerhead shark quota from the non-sandbar LCS Shark Research Fishery Quota (Option available for Alternative 2d)



Scalloped Hammerhead Sharks

Potential Recreational Quota Alternatives

1. No Action: Do not establish a recreational quota. Control recreational effort through retention limits
2. Establish a recreational quota based on average annual recreational landings.

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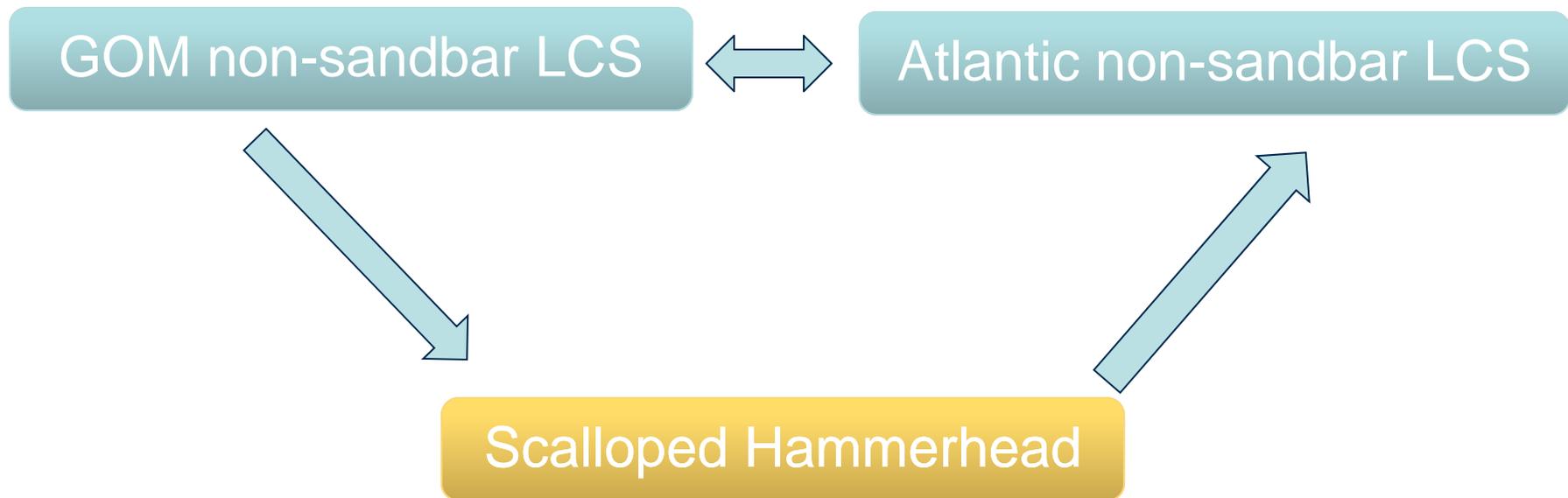
Quota Links

Atlantic non-sandbar LCS

GOM non-sandbar LCS



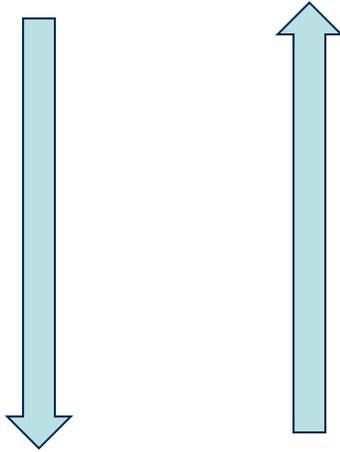
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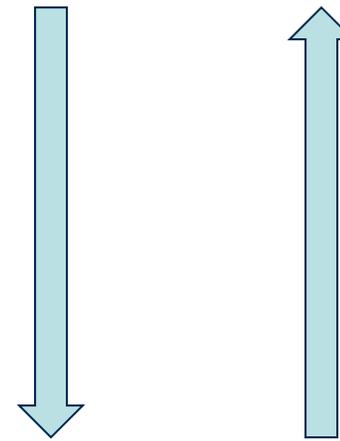
Quota Links

GOM non-sandbar LCS



GOM Scalloped Hammerhead

Atlantic non-sandbar LCS



Atl Scalloped Hammerhead



Scalloped Hammerhead Sharks

Potential Commercial Quota Linkage Alternatives

1. Keep commercial quotas for both scalloped hammerhead sharks and non-sandbar LCS separate and independent from each other
2. Create scalloped hammerhead shark regional fishery quotas and link them with the corresponding commercial non-sandbar LCS quotas.



LCS Retention Limits

- Current retention limit for shark directed permit holders is 33 non-sandbar LCS per trip (increasing to 36 in 2013)
- Consider separate trip limit for scalloped hammerhead sharks
- Consider relationship between scalloped hammerhead retention limit and LCS retention limit
- Consider recreational retention limits and reporting requirements.



Scalloped Hammerhead Sharks

Potential Commercial Retention Limit Alternatives

1. No Action: Maintain current commercial non-sandbar LCS retention limits. All hammerhead shark landings are counted against the current 33 (36 in 2013) non-sandbar LCS per trip limit

2a. Create a hammerhead shark trip limit equal to the **average number** of hammerhead sharks landed on trips that landed hammerhead sharks from 2008-2011 (Alternative connected with either Alternative 3a or 3b)

2b. Create a hammerhead shark trip limit equal to the **maximum number** of hammerhead sharks landed on trips that landed hammerhead sharks from 2008-2011 (Alternative connected with either Alternative 3a or 3b)



Scalloped Hammerhead Sharks

Potential Commercial Retention Limit Alternatives

3a. Keep the current non-sandbar LCS trip limit, and exclude scalloped hammerhead sharks from counting against the non-sandbar LCS trip limit (Alternative connected with either Alternative 2a, or 2b)

3b. Keep the current non-sandbar LCS trip limit, and count scalloped hammerhead sharks against the non-sandbar LCS trip limit (Alternative connected with either Alternative 2a or 2b)

3a.)



+



3b.)





Scalloped Hammerhead Sharks

Potential Recreational Retention Limit Alternatives

1. No Action: Maintain current recreational shark retention limits.
2. Establish a size limit for recreationally-caught **scalloped hammerhead sharks** that corresponds with female scalloped hammerhead shark minimum size at maturity
3. Establish a size limit for recreationally-caught **hammerhead sharks (excluding bonnethead sharks)** that corresponds with female scalloped hammerhead shark minimum size at maturity
4. Prohibit recreational retention of scalloped hammerhead sharks.



Scalloped Hammerhead Sharks

Potential Recreational Reporting of Scalloped Hammerhead Sharks Alternatives

1. No Action: Maintain current recreational reporting requirements for hammerhead sharks. (No requirements unless selected for tournament reporting or contacted by the Large Pelagic Survey or Marine Recreational Information Program)
2. Require reporting of all recreationally landed hammerhead sharks (excluding bonnethead sharks) to NMFS through the non-tournament landing system within 24 hours of landing



Potential Commercial At-vessel Mortality and Discard Reduction Alternatives

- Managing Soak Time of Fishing Gear
- Gear Tending Measures
- Modifying Bottom Longline Hook Requirements

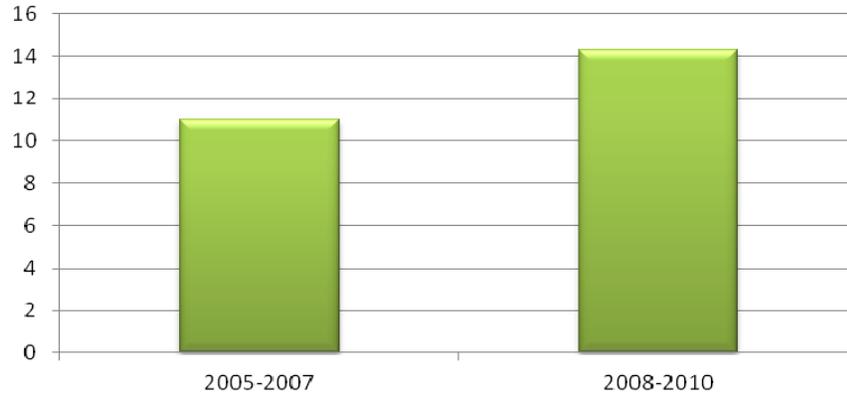




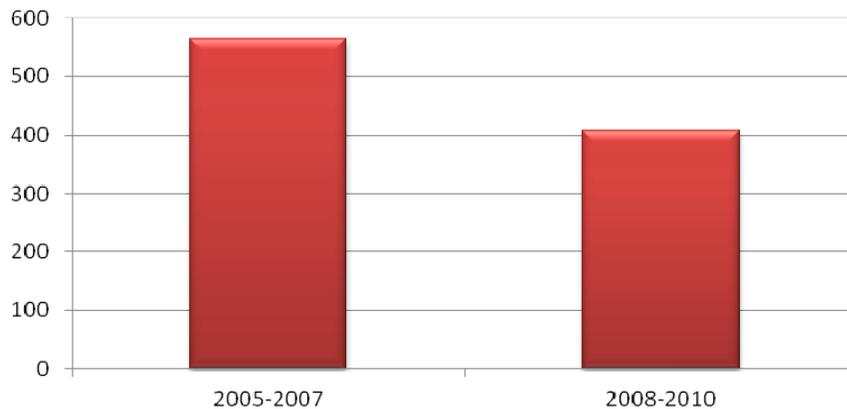
Managing Soak Time of Fishing Gear

- Average annual observed BLL soak time has increased since the implementation of Amendment 2
- Average annual observed number of hooks per set and mainline length has decreased

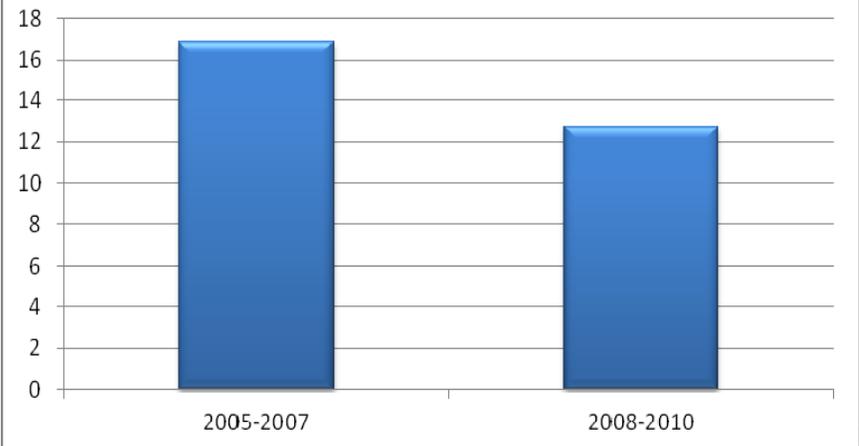
Average Annual Soak Time (hours)



Annual Average Number of Hooks



Annual Average Mainline Length (km)





Managing Soak Time of Fishing Gear

Soak Time (hours)	Blacknose	Dusky	Sandbar	Scalloped Hammerhead
0-4	11.3	50.0	6.5	60.0
4-8	34.8	15.4	12.7	67.9
8-12	84.9	65.8	18.9	85.0
12-16	84.4	68.1	21.8	92.6
16-20	78.3	81.8	38.5	96.1
20-24	75.0	75.0	51.3	98.0
24+	100	70.0	47.1	100

- BLL at-vessel mortality rates of the four shark species involved in Amendment 5



Managing Soak Time of Fishing Gear

Potential Alternatives for Regulating Soak Time in the Commercial Bottom Longline Fishery

1. No Action. Do not implement gear soak time restrictions
2. BLL gear used in the directed shark fishery may only be in the water at night, from 7 pm to 7am local time
3. BLL gear used in the directed shark fishery may only be in the water during the day, from 7 am to 7 pm local time



Gear Tending Measures

- BLL practice of setting gear, filling a trip limit, leaving the gear in the water to go offload, and then return to haul the rest of the gear seems to have increased since Am 2
- Gillnet has gear tending requirement
 - Attached to vessel
 - Net checks every 0.5 - 2 hours
- PLL generally does not target sharks or leave gear in the water and offload to fill a shark trip limit





Gear Tending Measures

Potential Gear Tending Requirement Alternatives

1. No Action. Do not require BLL gear to be tended
2. Require that BLL gear used by vessels with a shark permit remain attached to the vessel at all times
3. Require that vessels with a shark permit that are using BLL gear remain within 1 nautical mile of the gear



Modifying Shark Bottom Longline Hook Requirements

- Currently there is no restriction on the number of hooks that can be used on a BLL set
- Observed average annual number of hooks per BLL set since Am 2 ranged from 312-552 hooks
- Limiting the number of hooks could reduce total hook hours in the water and dead discards.





Modifying Bottom Longline Hook Requirements

Potential Bottom Longline Hook Requirement Alternatives

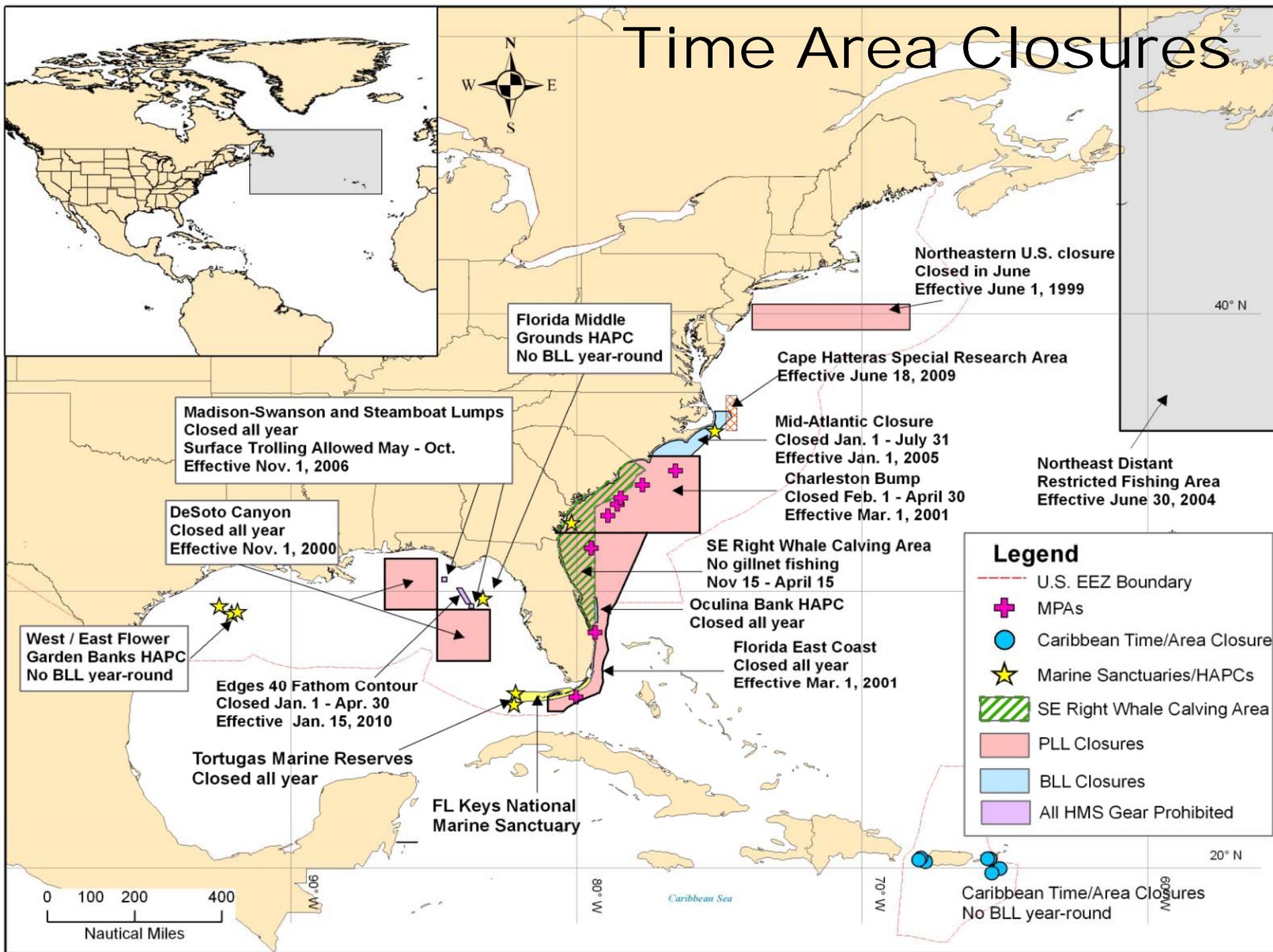
1. No Action: Maintain existing measures (unlimited number of corrodible hooks on BLL vessels targeting sharks)
2. Restrict the number of hooks that can be deployed per set and the total number of hooks that can be possessed onboard bottom longline vessels with directed shark permits



Discussion

- TACs, Quotas, and Retention Limits
- Commercial At-vessel Mortality and Discard Reduction

Time Area Closures





Time Area Closures

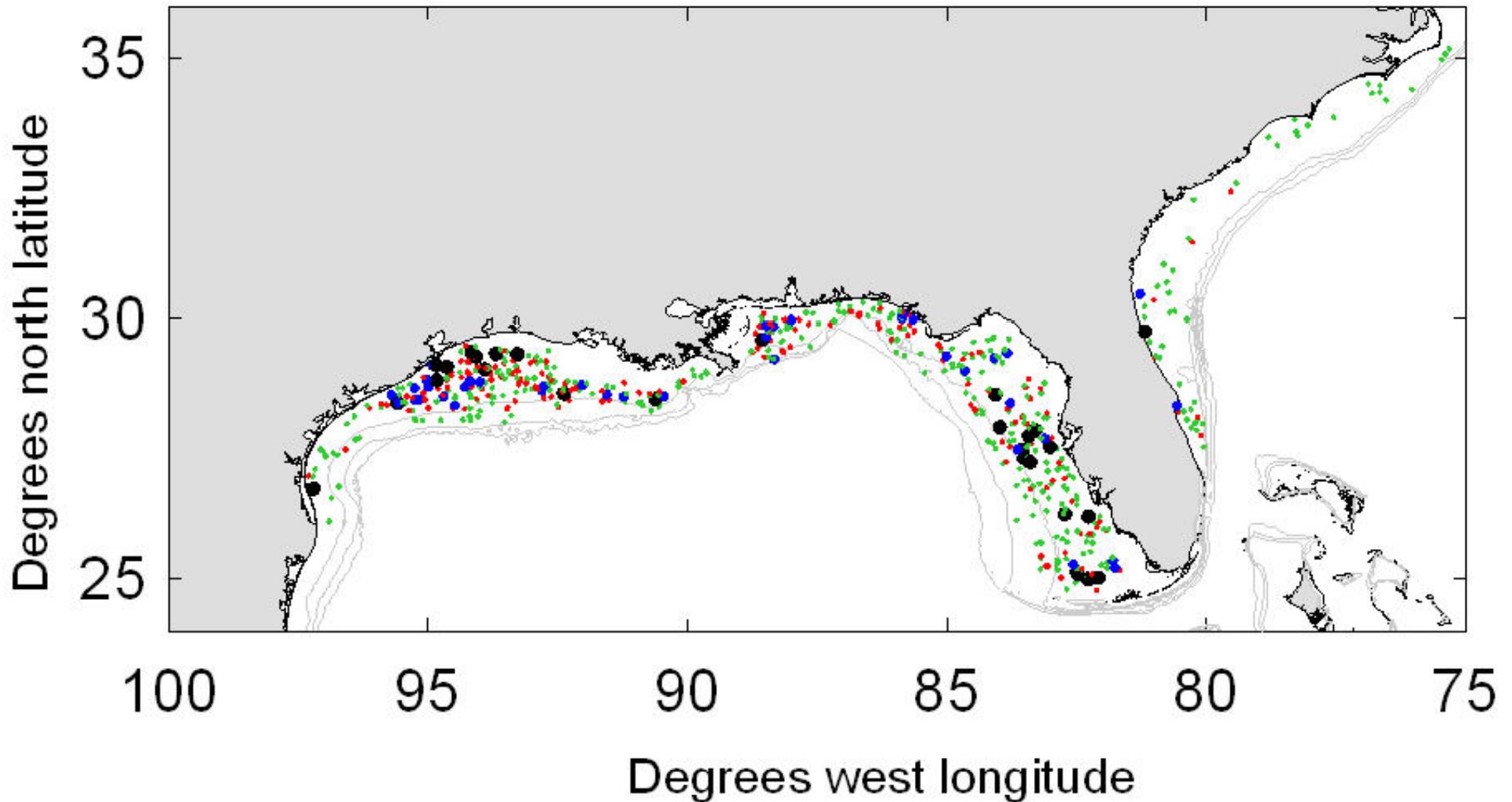
- Modifying the current time/area closures or implementing additional time/area closures could be used to reduce mortality on sharks
- May be an effective approach for species that are prohibited from retention and/or have high at-vessel mortality rates
 - Time/area closures can prevent interactions
 - Work with Fishery Management Councils to complement regulations



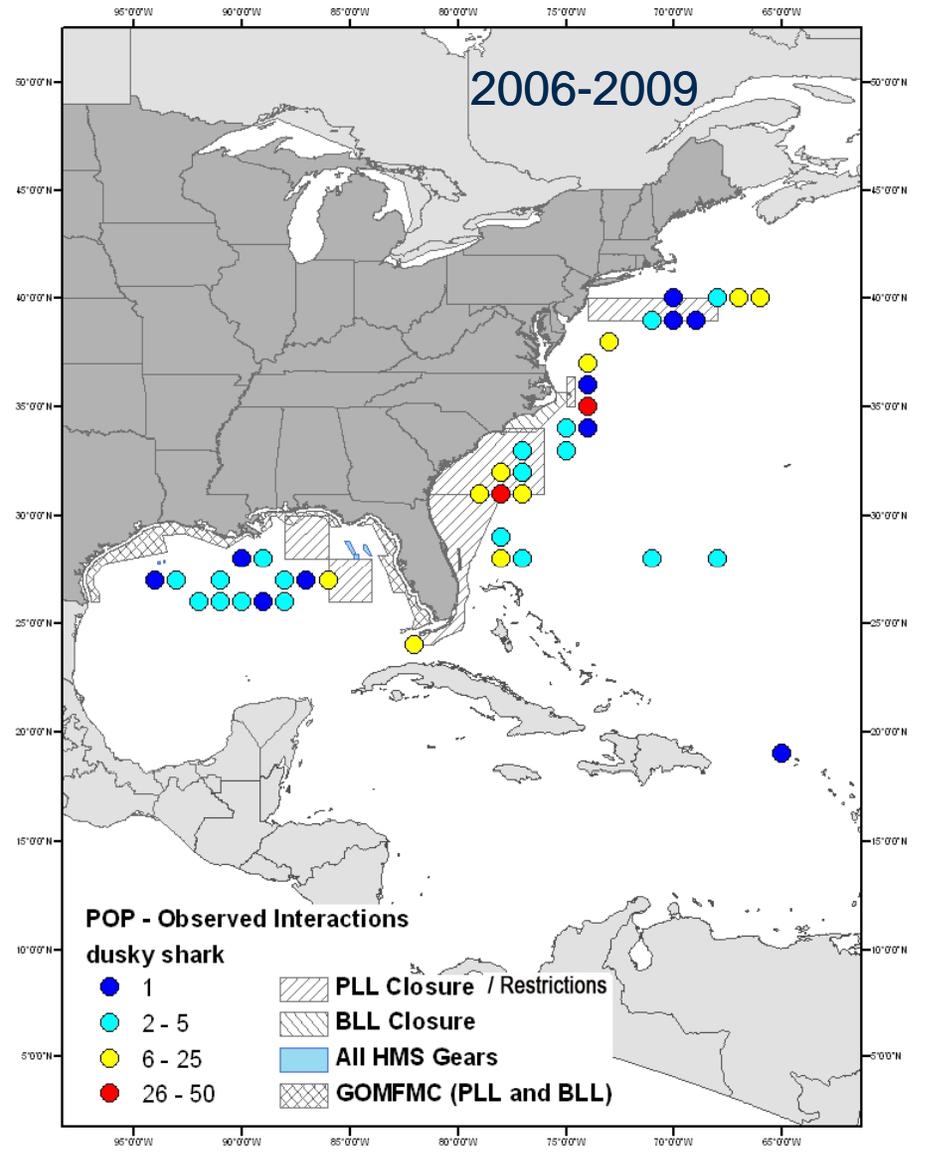
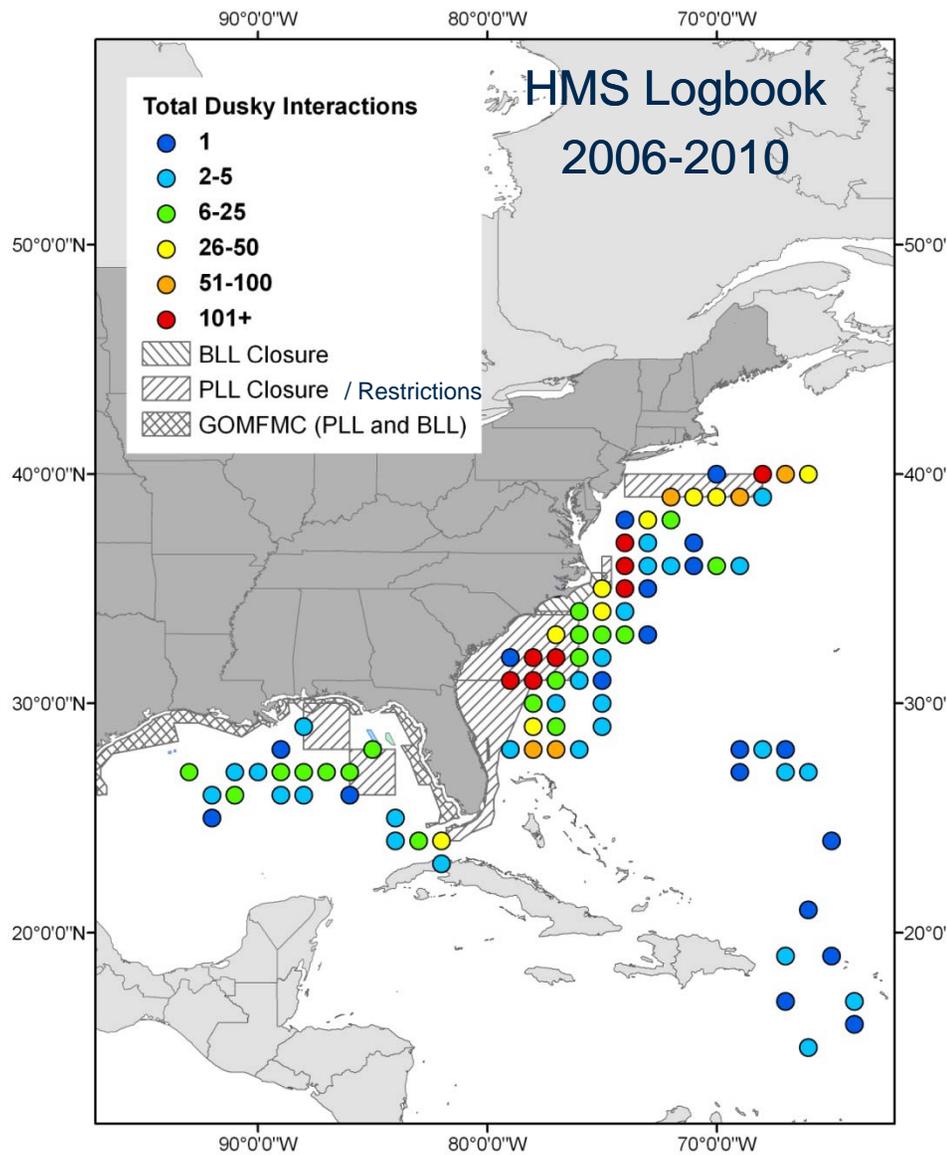
Time/Area Closure Management Alternatives

Time/Area Closure Alternatives

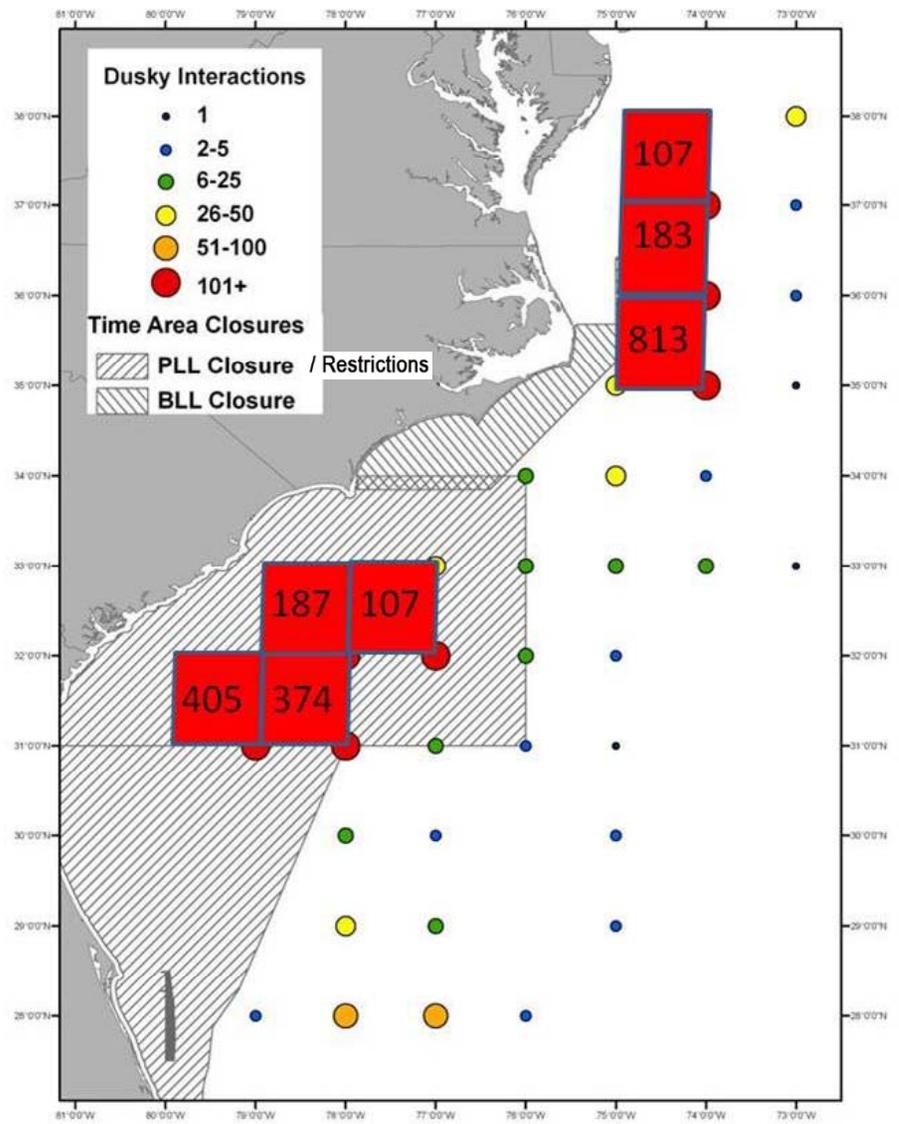
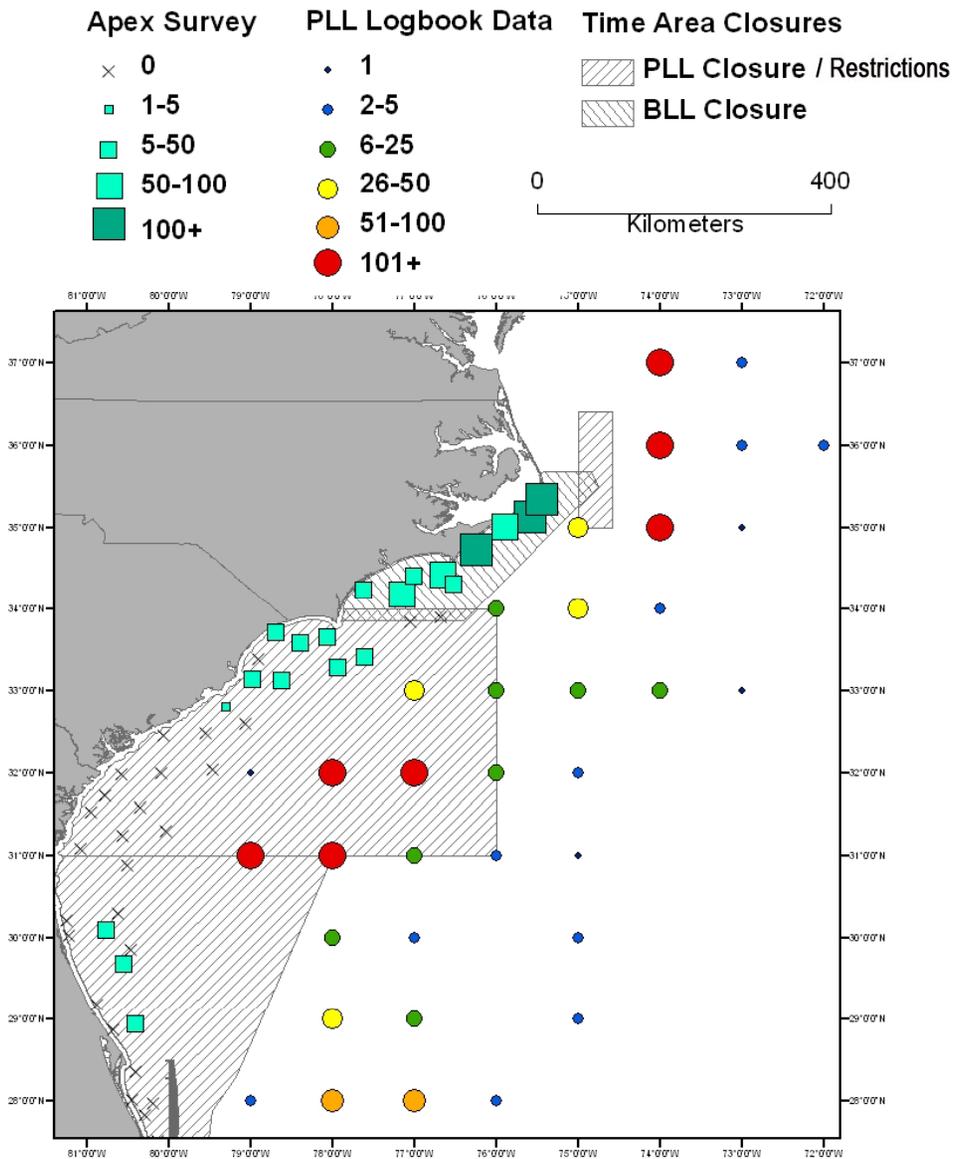
1. No Action: Maintain Existing Closures
- 2: Modify Mid-Atlantic BLL time/area closures
- 3: Modify the Charleston Bump PLL time/area closure
4. Implement a Closure for BLL gear in the Eastern GOM (east of 85°30' W) shoreward of 35 fathoms between June and August (mirroring Gulf of Mexico Reef Fish FMP)
5. Expand the ASMFC time/area closure in state waters off of Virginia, Maryland, Delaware, and New Jersey to Federal Waters between May 15 and July 15



CPUE blacknose shark data from SEFSC BLL survey from 1995-2009. Green: 0.1-2 , Red: 2-6 , Blue: 6-10, Black: 10-40.



Dusky Shark PLL Interactions



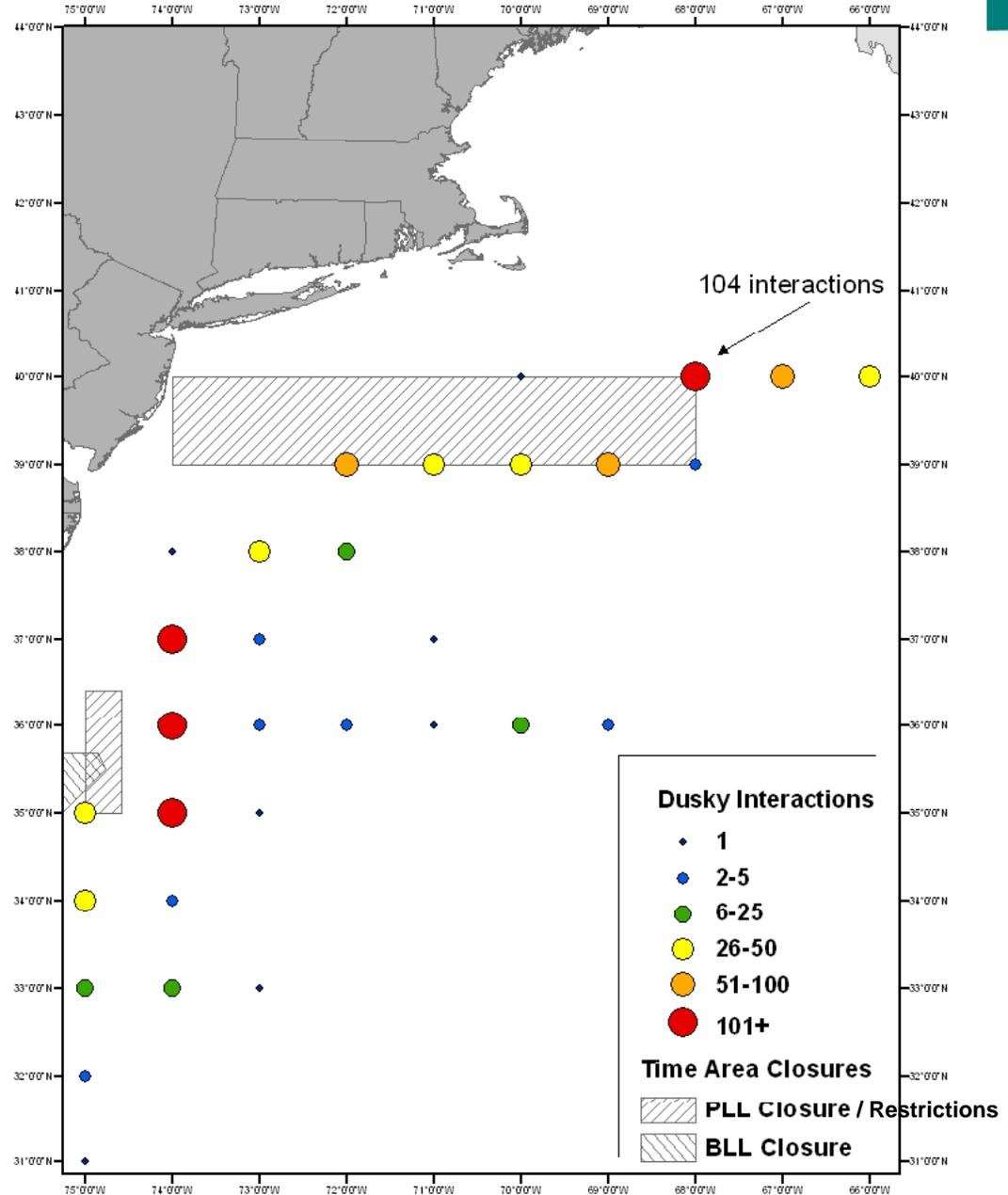
Dusky Shark PLL Interactions – Mid-Atlantic

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**Dusky Shark
PLL Interactions -
North Atlantic**

**HMS Logbook
2006-2010**

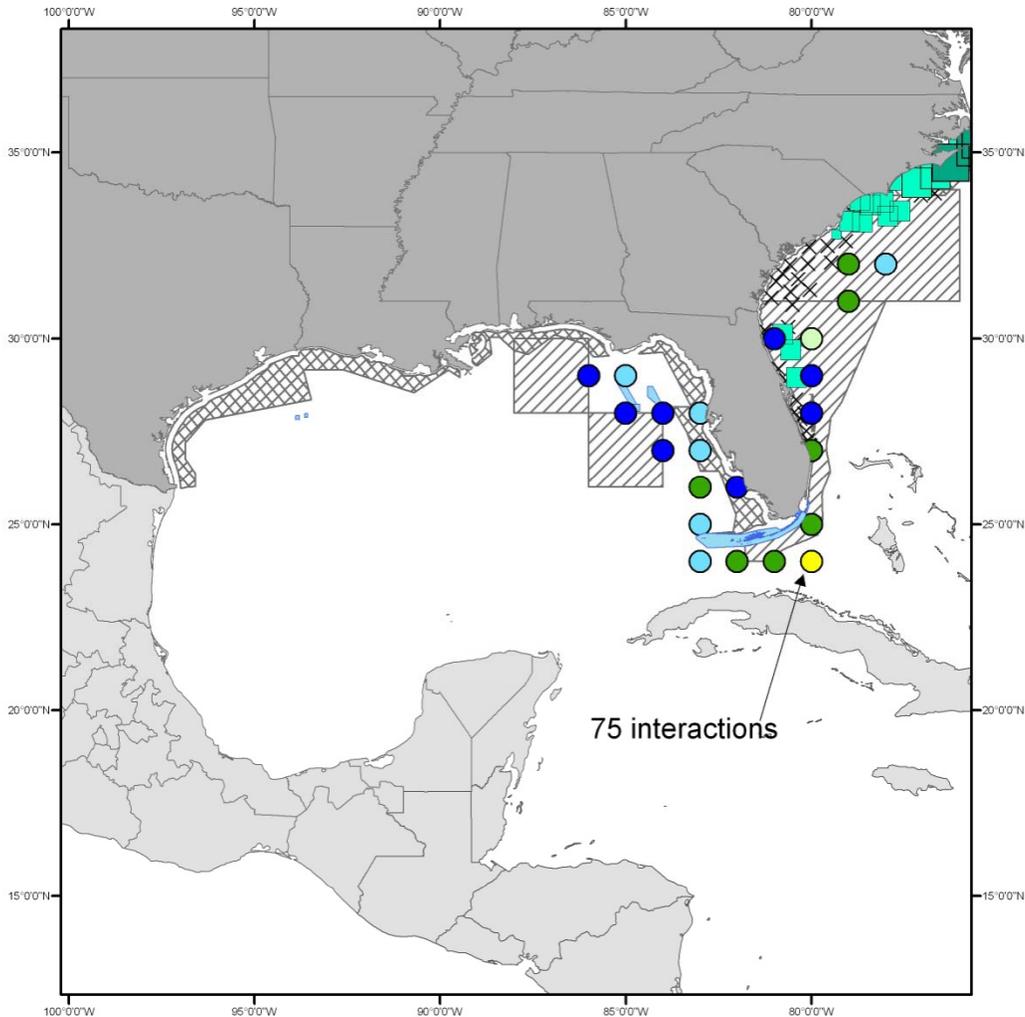
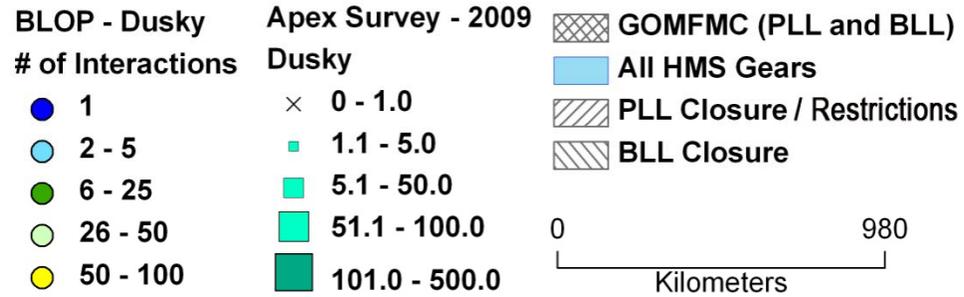


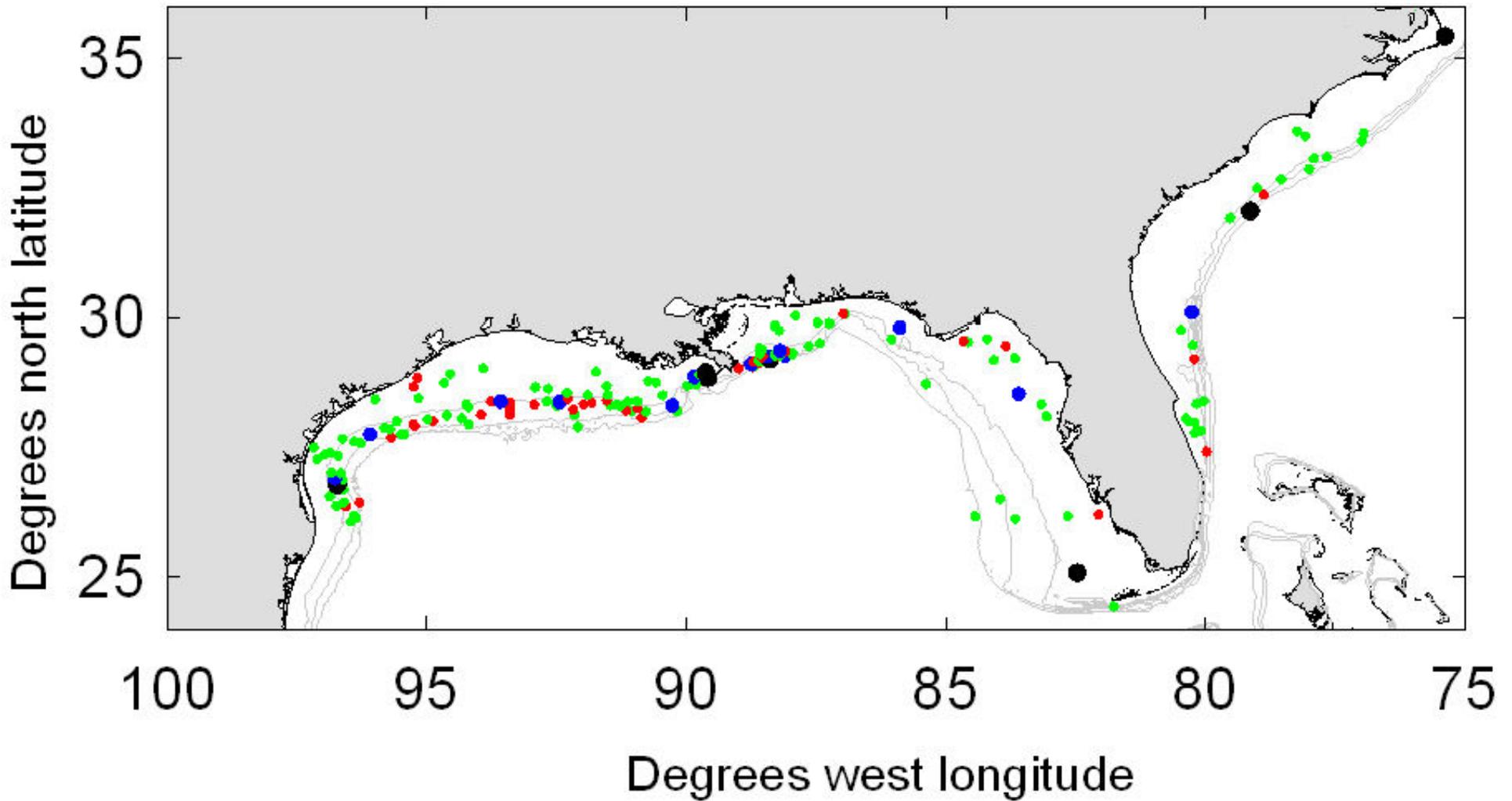
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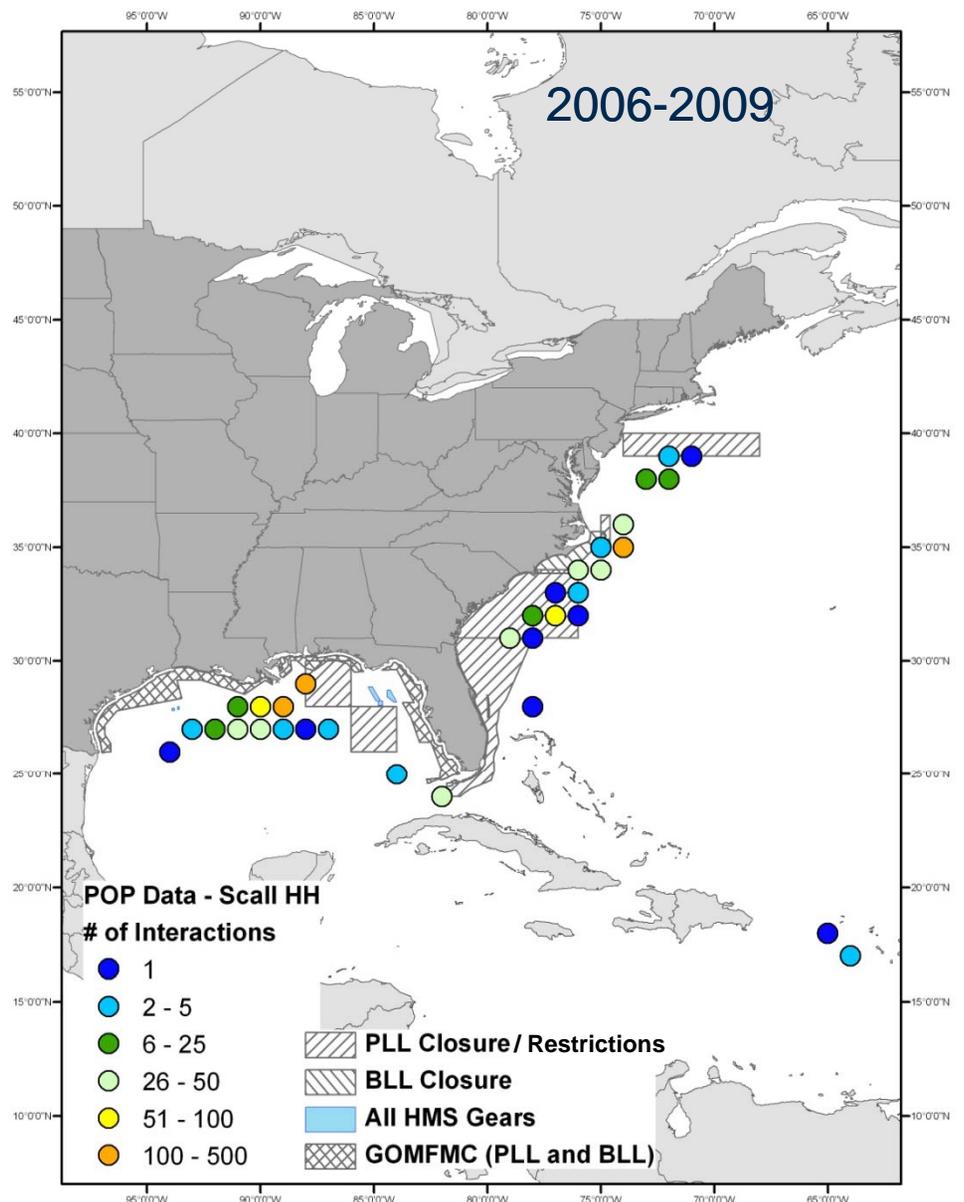
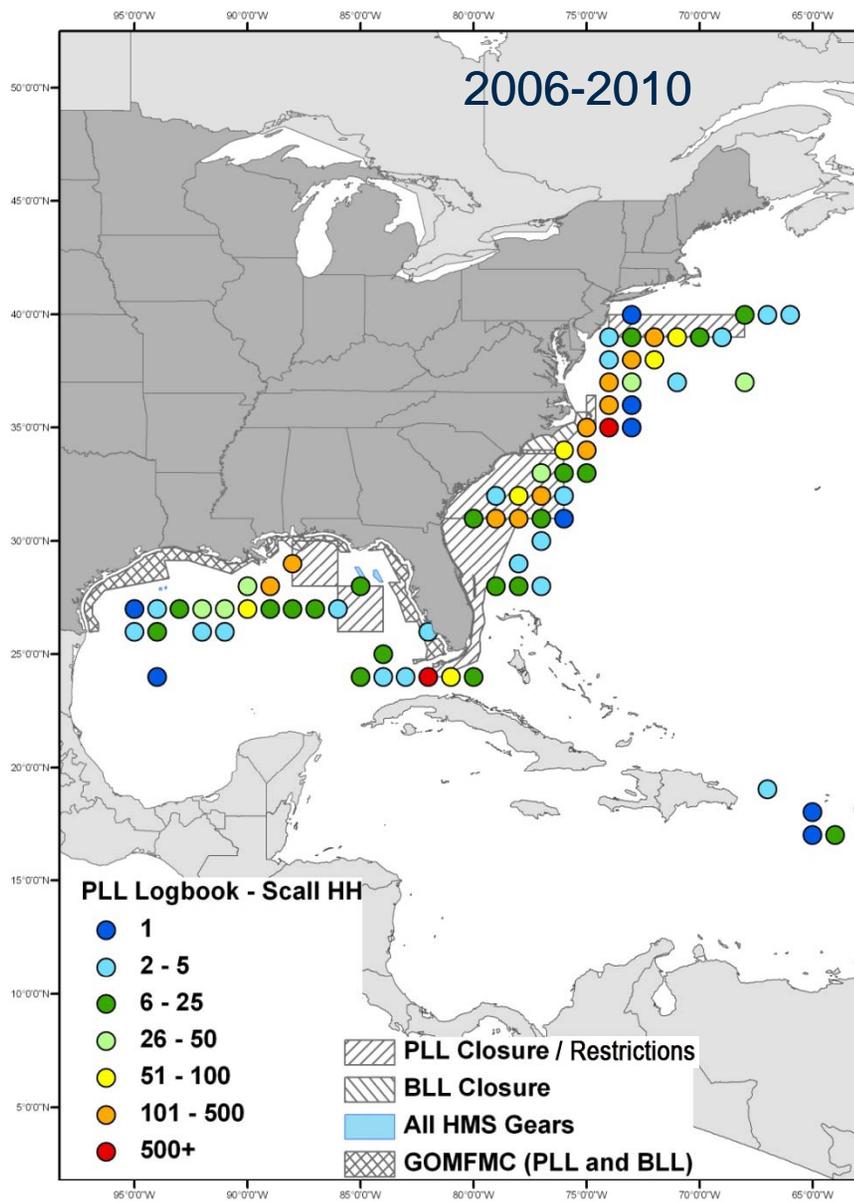
**Dusky Shark
PLL Interactions -
Gulf of Mexico**

**BLL Observer
Program
2006-2019**

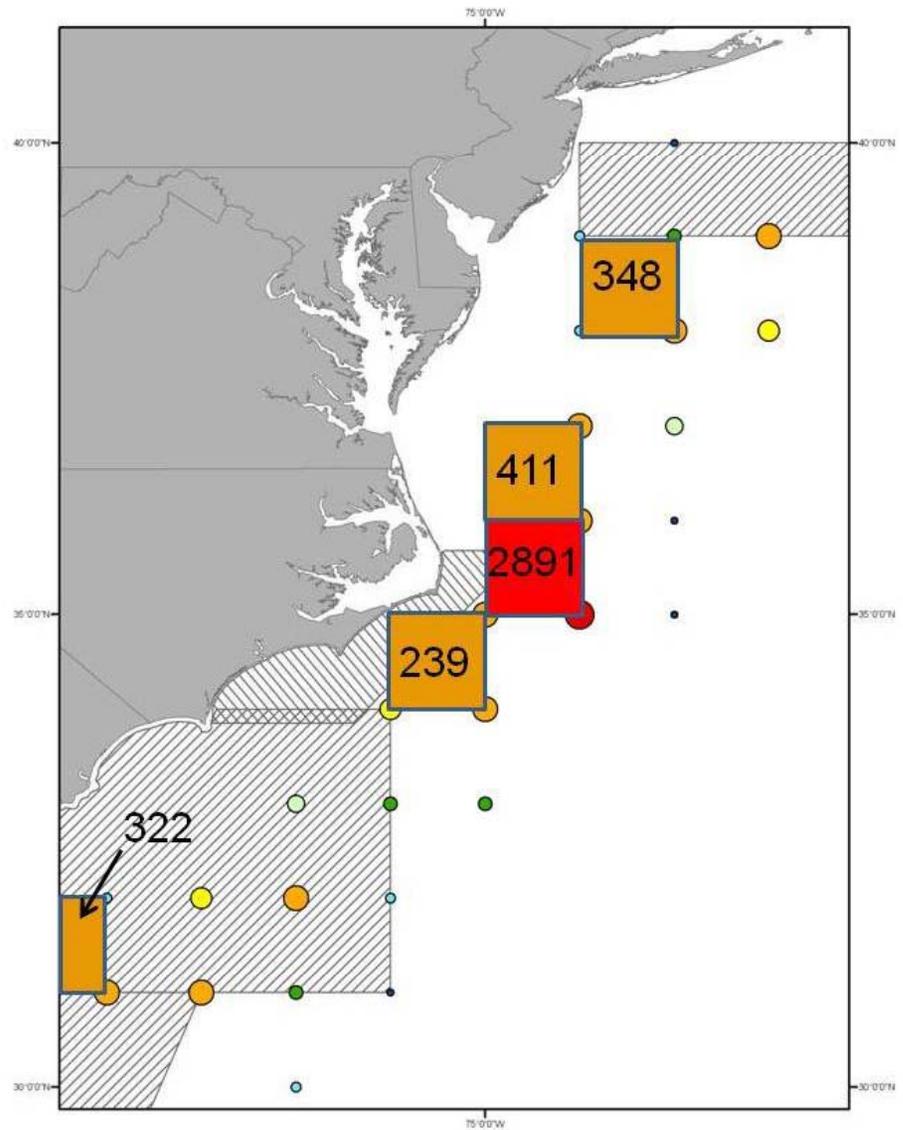
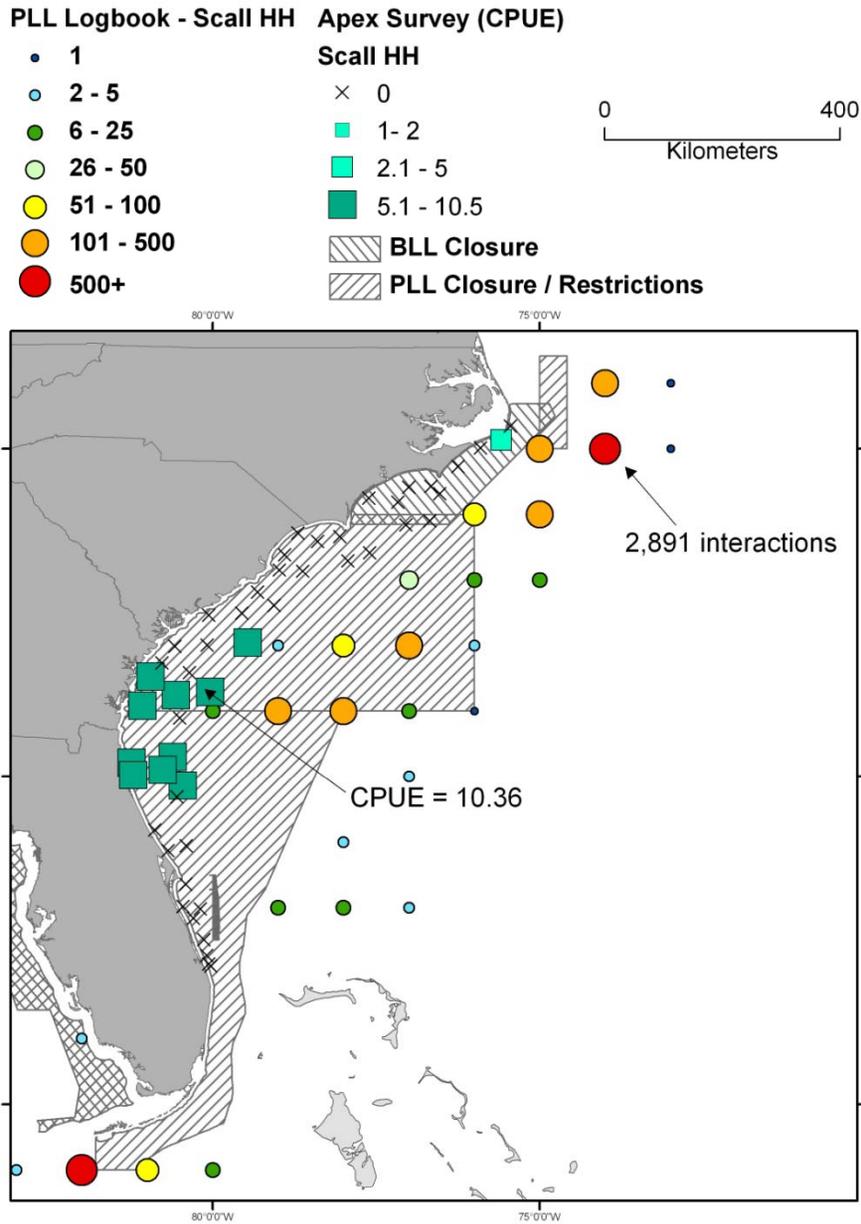




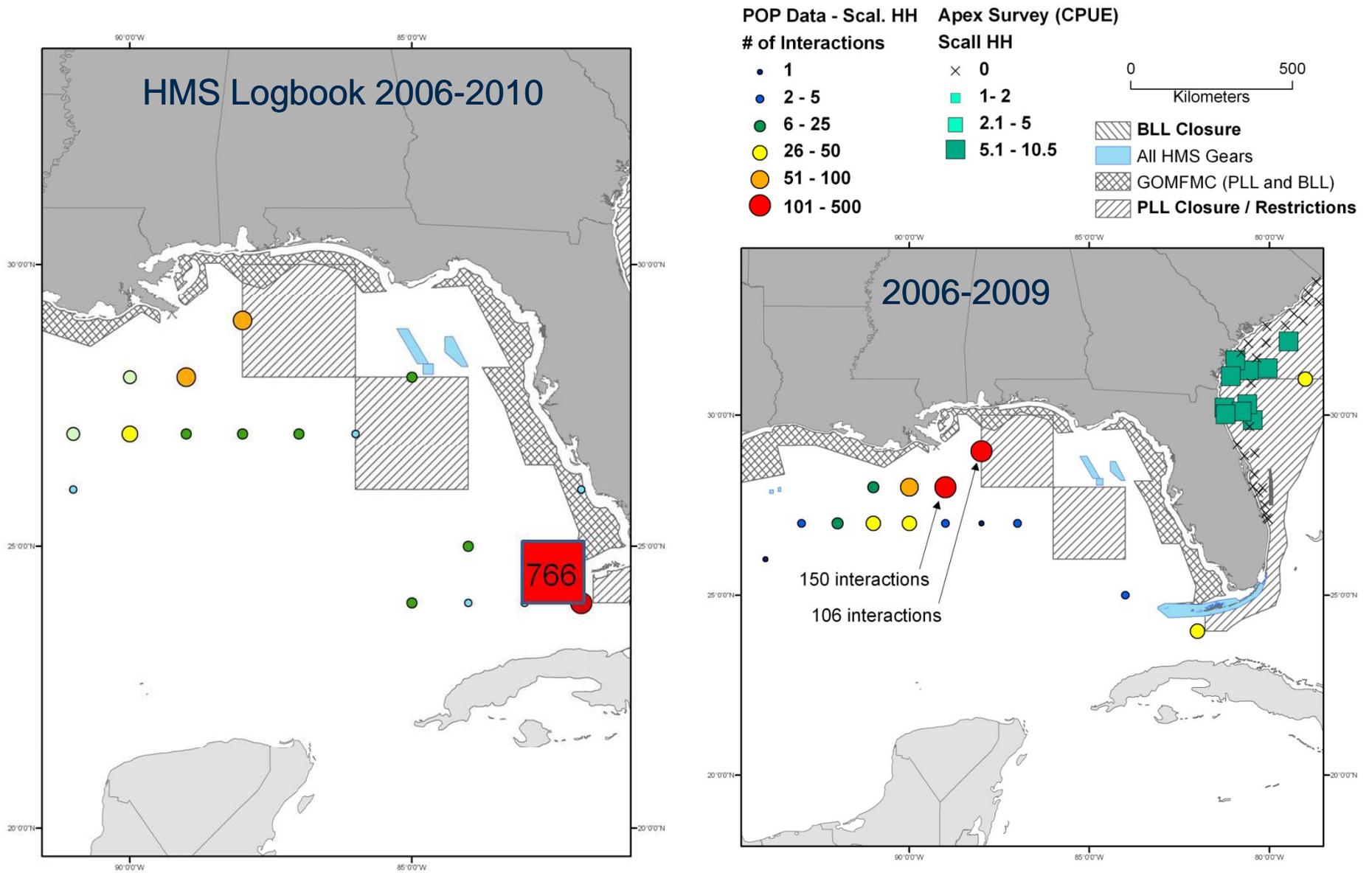
CPUE scalloped hammerhead shark data from SEFSC
BLL survey from 1995-2009. Green: 0.1-1, Red: 1-2,
Blue: 2-3, Black: 3-5.



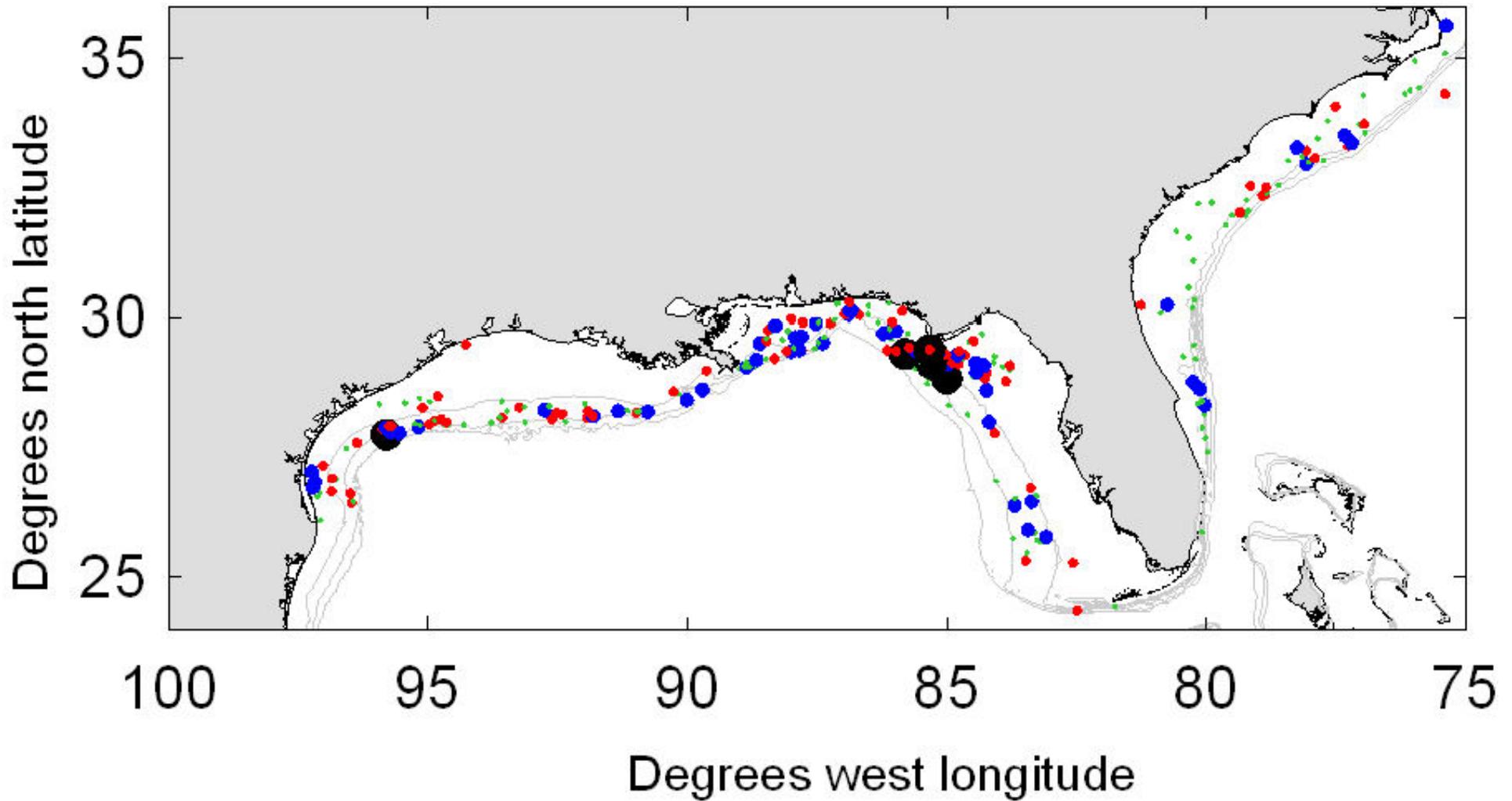
Scalloped Hammerhead Shark PLL Interactions



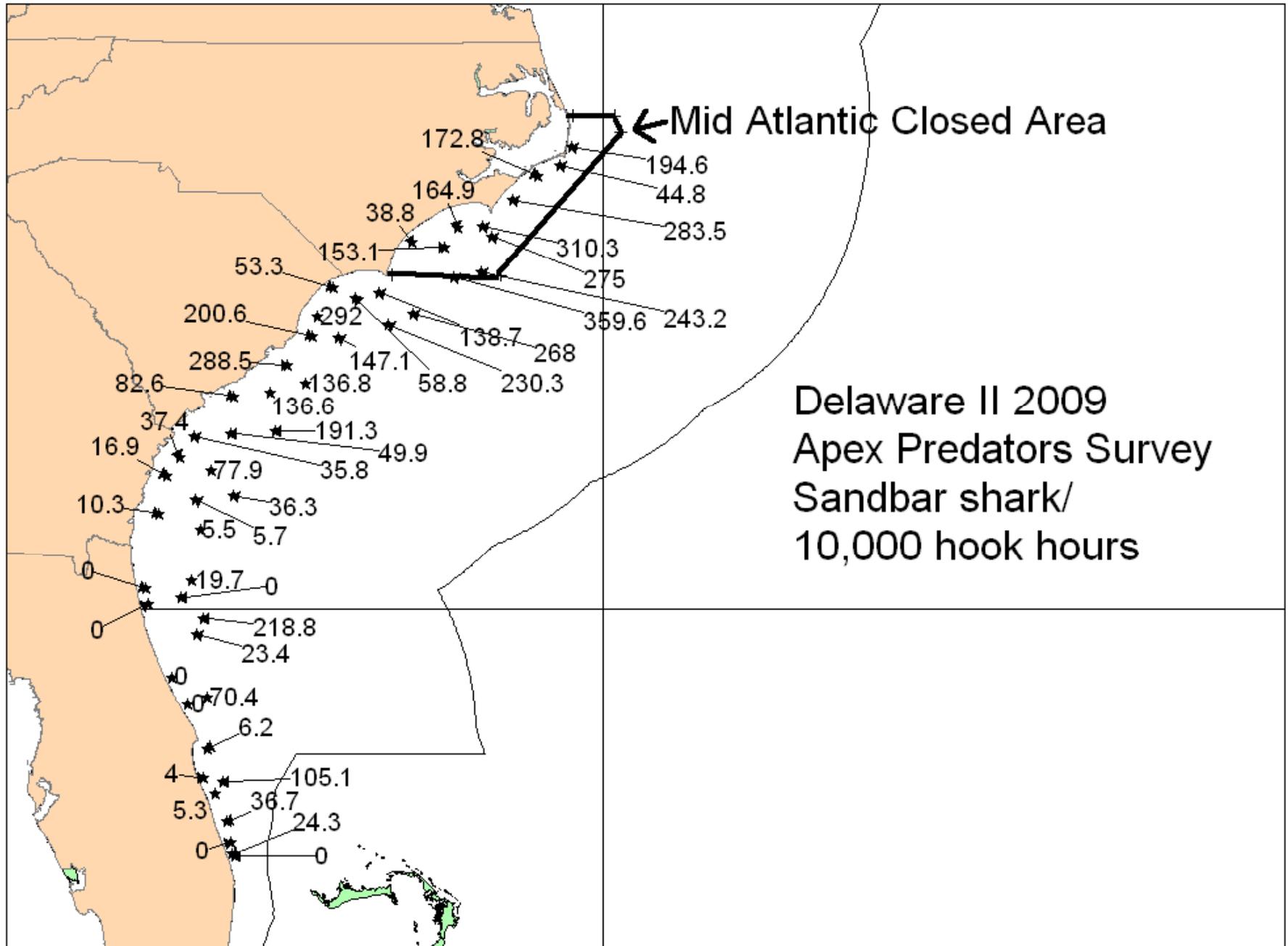
Scalloped Hammerhead Shark PLL Interactions – Mid-Atlantic

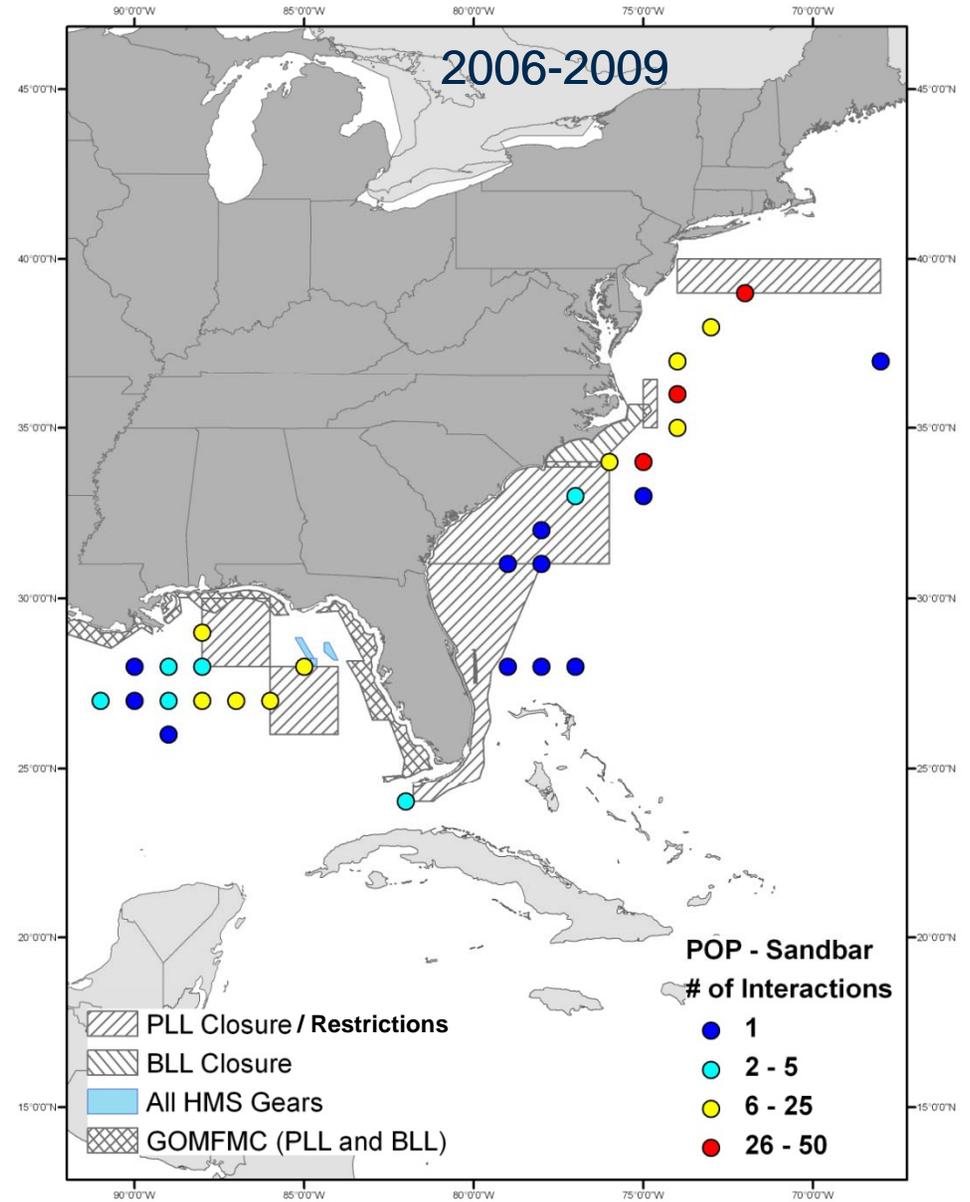
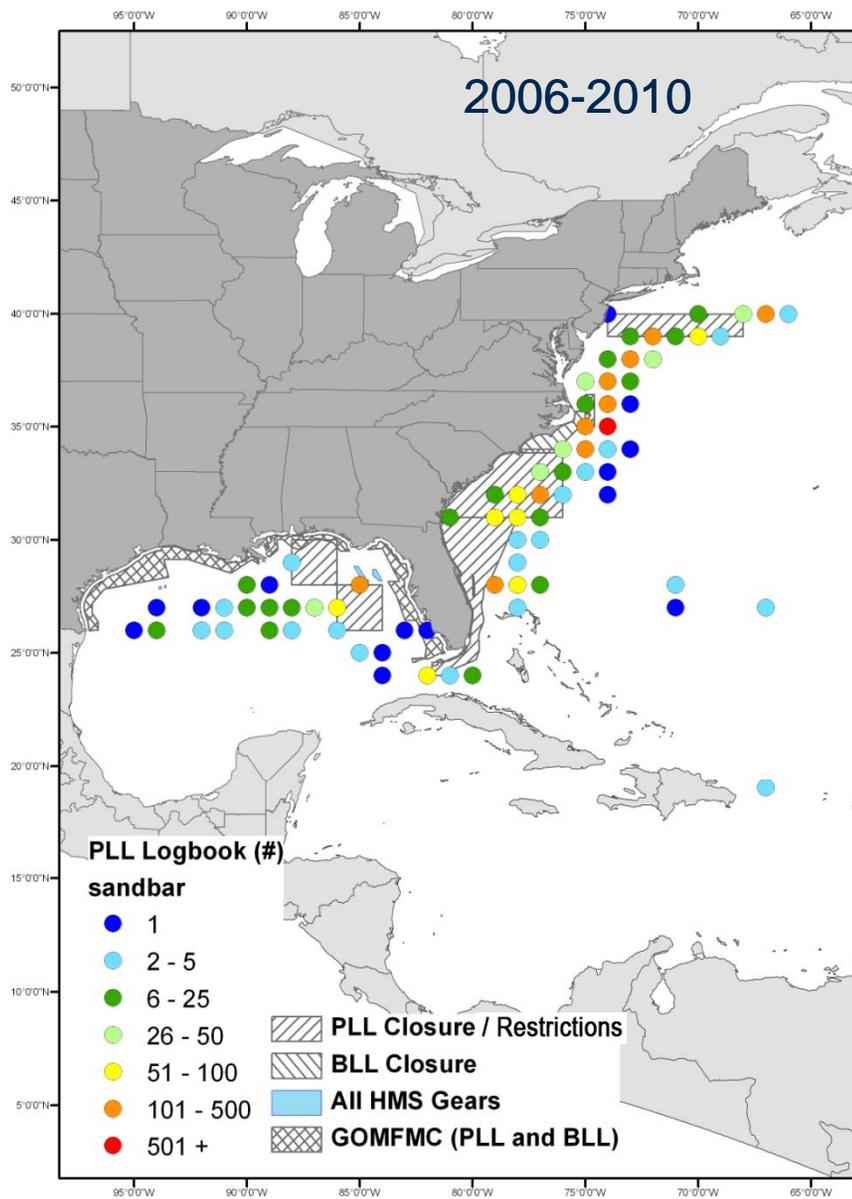


Scalloped Hammerhead Shark PLL Interactions – Gulf of Mexico



CPUE sandbar shark data from SEFSC BLL survey from 1995-2009. Green: 0.1-1, Red: 1-2, Blue: 2-5, Black: 5-14.





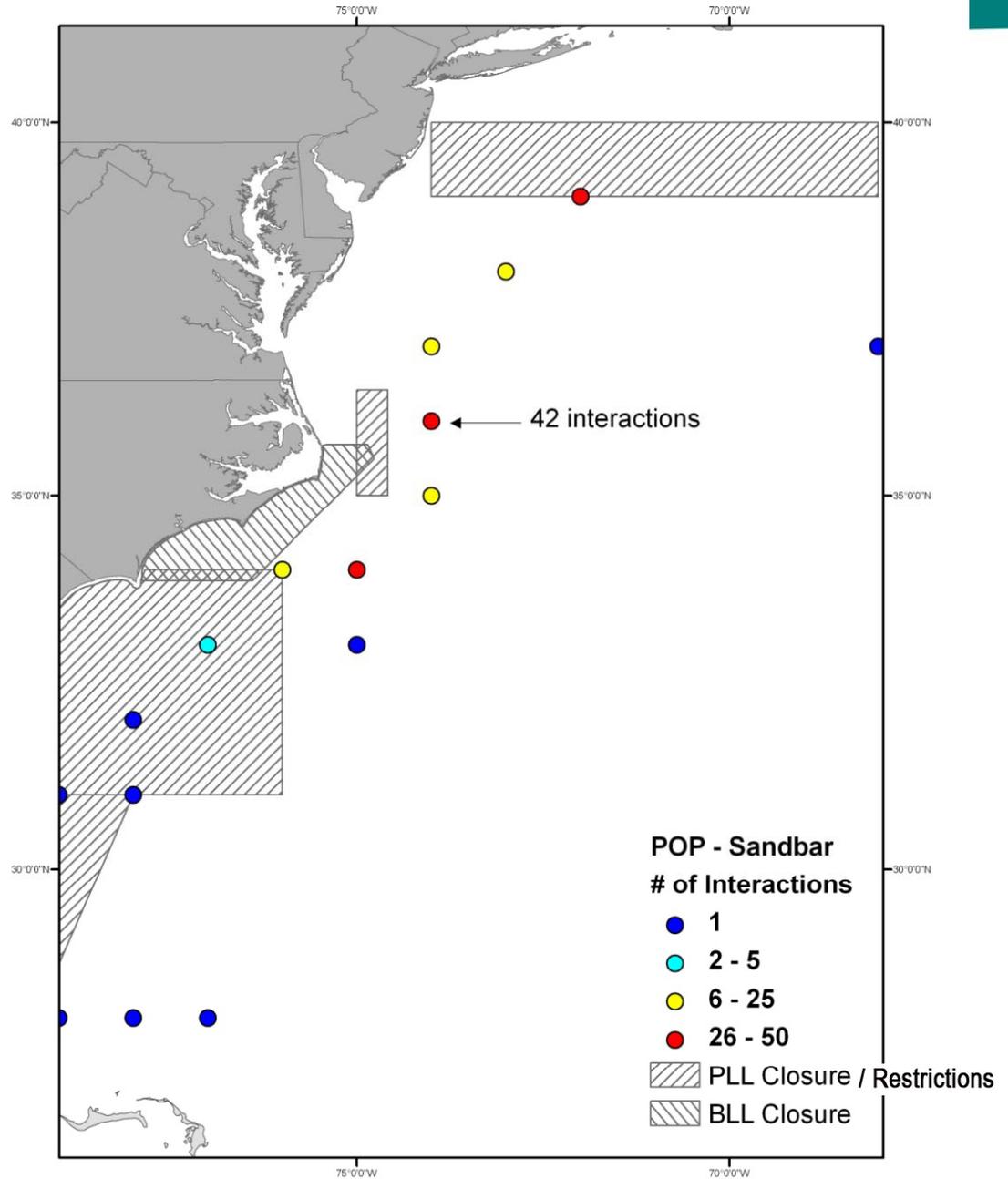
Sandbar Shark PLL Interactions

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**Sandbar Shark
PLL Interactions –
Mid-Atlantic**

**PLL Observer
Program 2006-
2009**

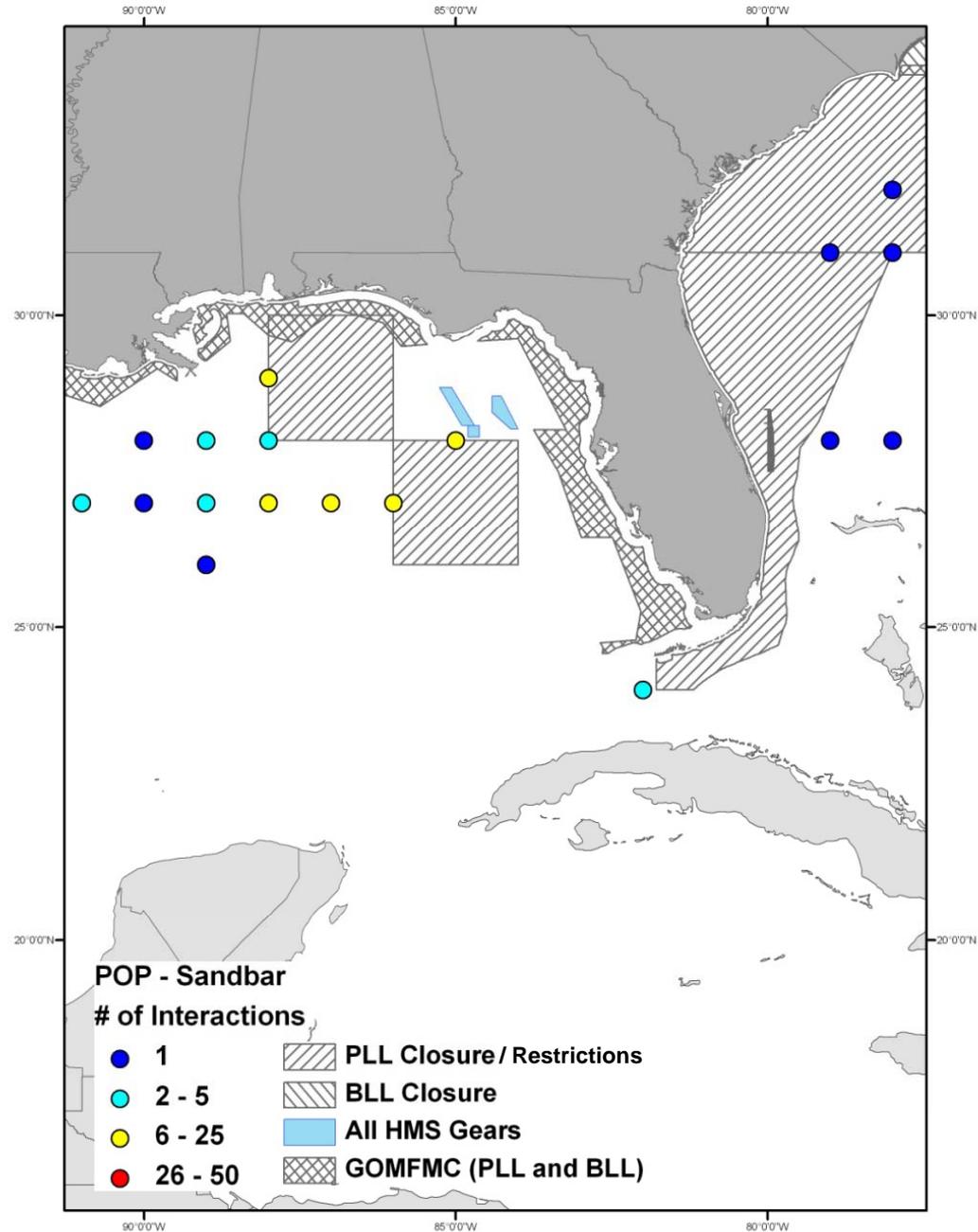


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Sandbar Shark PLL Interactions – Gulf of Mexico

PLL Observer
Program 2006-
2009





Amendment 5 Timeline

- **Comment period for scoping: Dec. 31, 2011**
- **Predraft to AP: March 2012**
- **Proposed Rule and EIS: Mid-2012**
- **Final EIS: Late 2012 / Early 2013**
- **Final Rule: Early 2013**

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Request for Comments

Please submit comments to:
peter.cooper@noaa.gov

**Comments due by
April 13, 2012**

Comments can also be submitted via fax:

301-713-1917, Attn: Peter Cooper

Or Mail:

NMFS SF1, 1315 East-West Highway, Silver Spring, MD 20910

Please identify comments with:

“Comments on Amendment 5 to the HMS FMP Predraft”

For more information go to:

<http://www.nmfs.noaa.gov/sfa/hms/FMP/AM5.htm>



Discussion

- Modifying or Implementing Additional Time/Area Closures
- Other

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Backup Slides



Scalloped Hammerhead Landings

	2006	2007	2008	2009	2010	Average
A. Recreational landings*	458	1,726	119	1,667	199	834
B. Commercial landings**	1353	626	536	1534	918	993
C. Discard Estimate***	431	431	431	431	431	431
D. Total Estimated Harvest (A+B+C)	2242	2783	1086	3632	1548	2258
E. Hayes et al. TAC estimate	2,853	2,853	2,853	2,853	2,853	2,853
F. Difference between the total estimated harvest and the Hayes et al. TAC estimate (D-E)	-611	-70	-1767	779	-1305	-595