

SEDAR 77 Stock ID Webinar: Movements/Spatial Sub-Working Group Preliminary Recommendations

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Contributors: Kesley Banks, Gregory Stunz, Juan Carlos Pérez Jiménez, and Marcus Drymon

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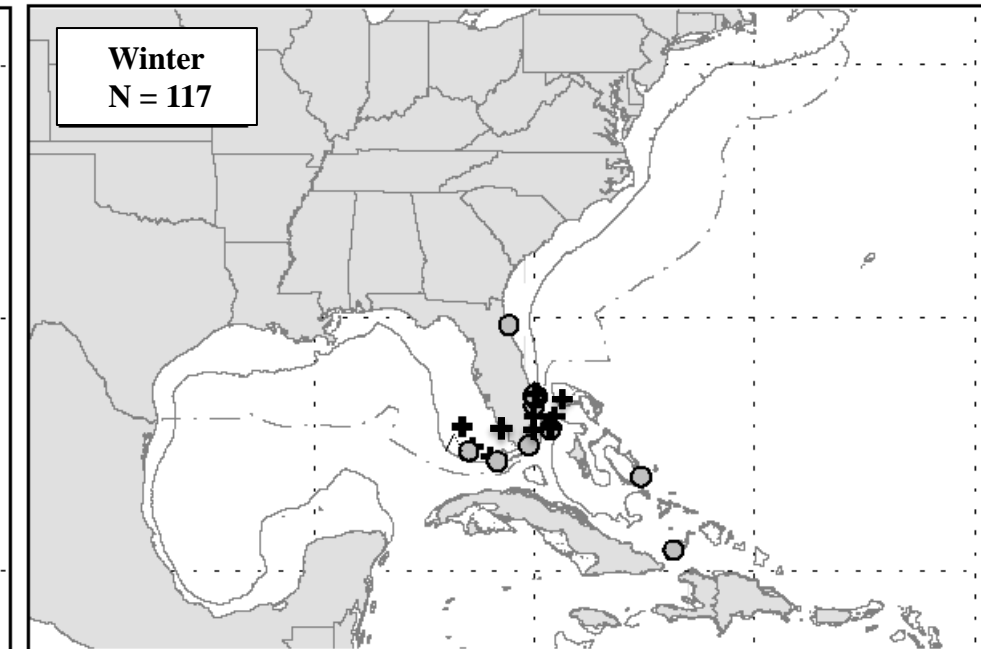
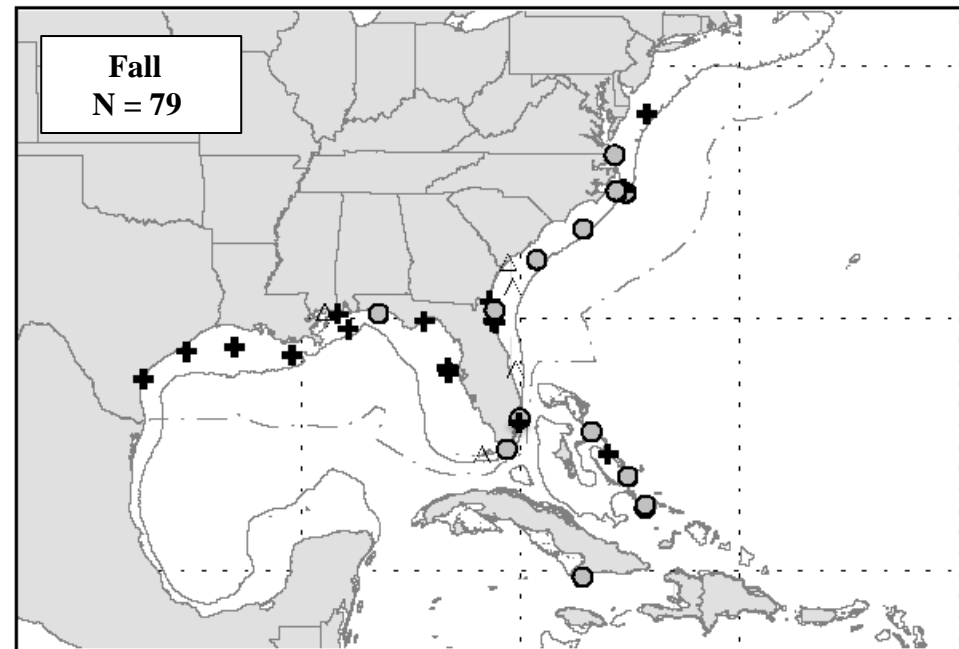
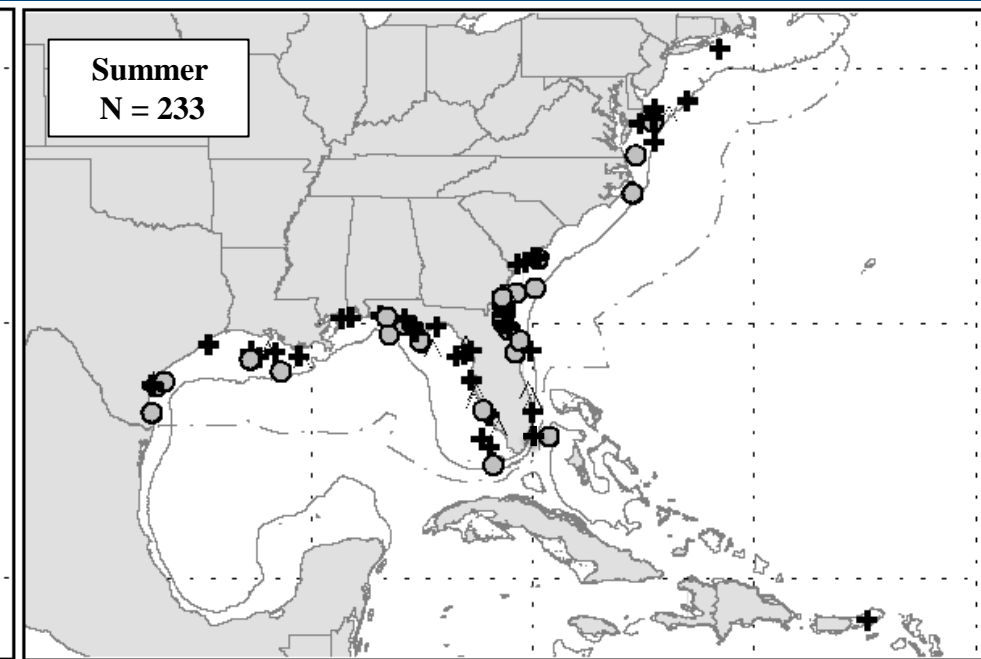
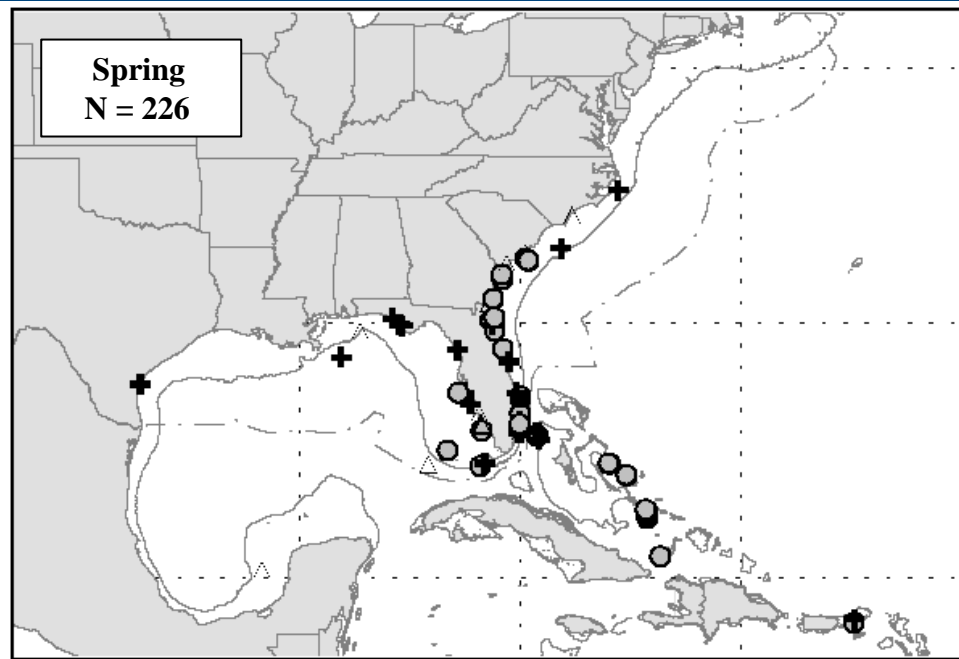
Movement and Spatial Information

- Conventional tagging (mark-recapture)
- Satellite telemetry
- Acoustic telemetry

Great Hammerhead

Seasonal Distribution Based on CSTP Capture Locations

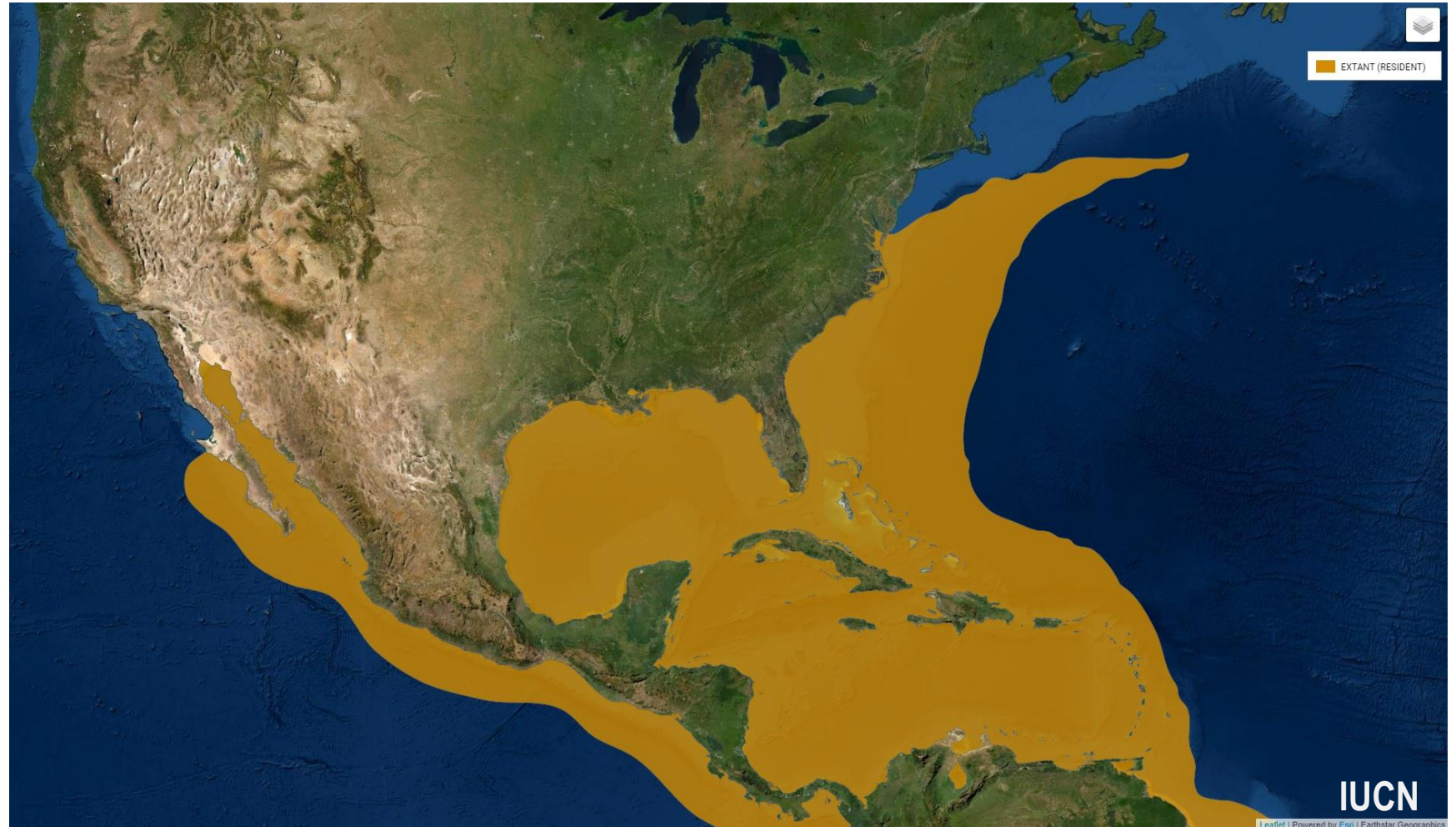
- + Female
- Male
- △ Unknown



Great Hammerhead

Overall Distribution Supported by

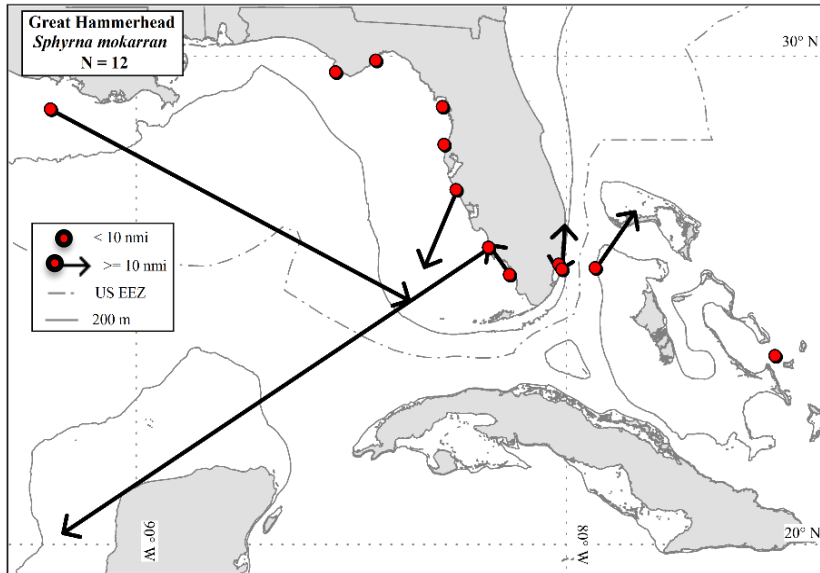
Banks & Stunz (SID04)
Barker et al (RD13)
Calich et al (RD04)
Chan et al (RD17)
Drymon & Wells (RD20)
Friess et al (RD05)
Gardiner et al (SID05)
Graham et al (RD03)
Guttridge et al (RD16)
Hammerschlag (SID07)
Heim et al (SID01)
Heim et al (SID03)
Kohler & Turner (RD23)
Macdonald et al (RD24)
Pollack (Data Scoping Web Pres)
Pollack & Hanisko (SID02)
Hoffmayer (Data Scoping Web Pres)



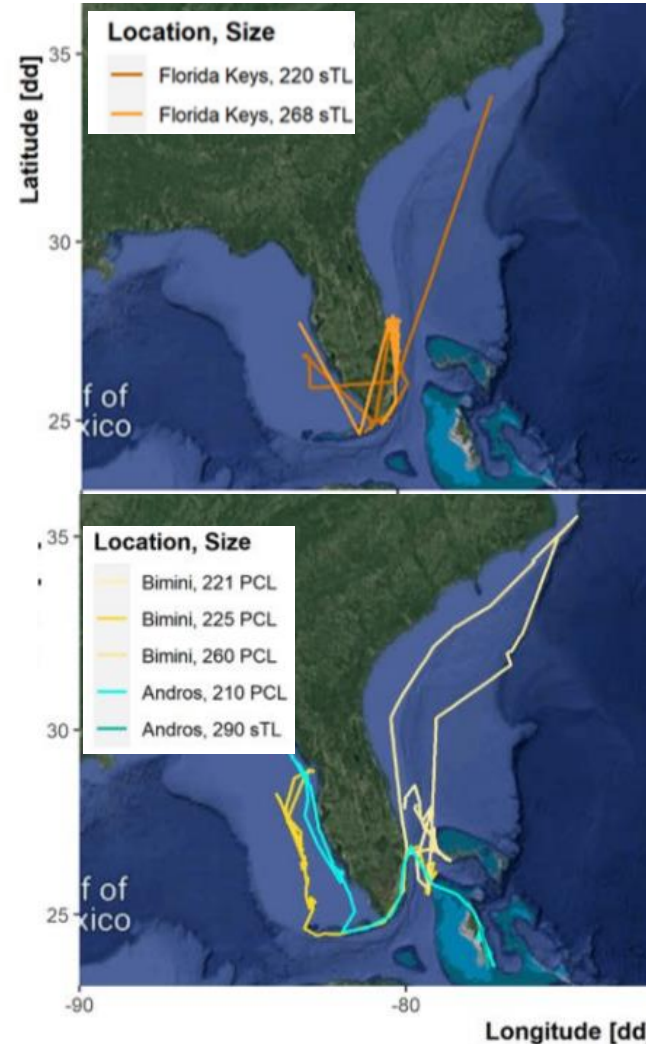
Great Hammerhead Movements

Conventional tag data: limited total recaptures (12) but show exchange between US and Mexican GOM

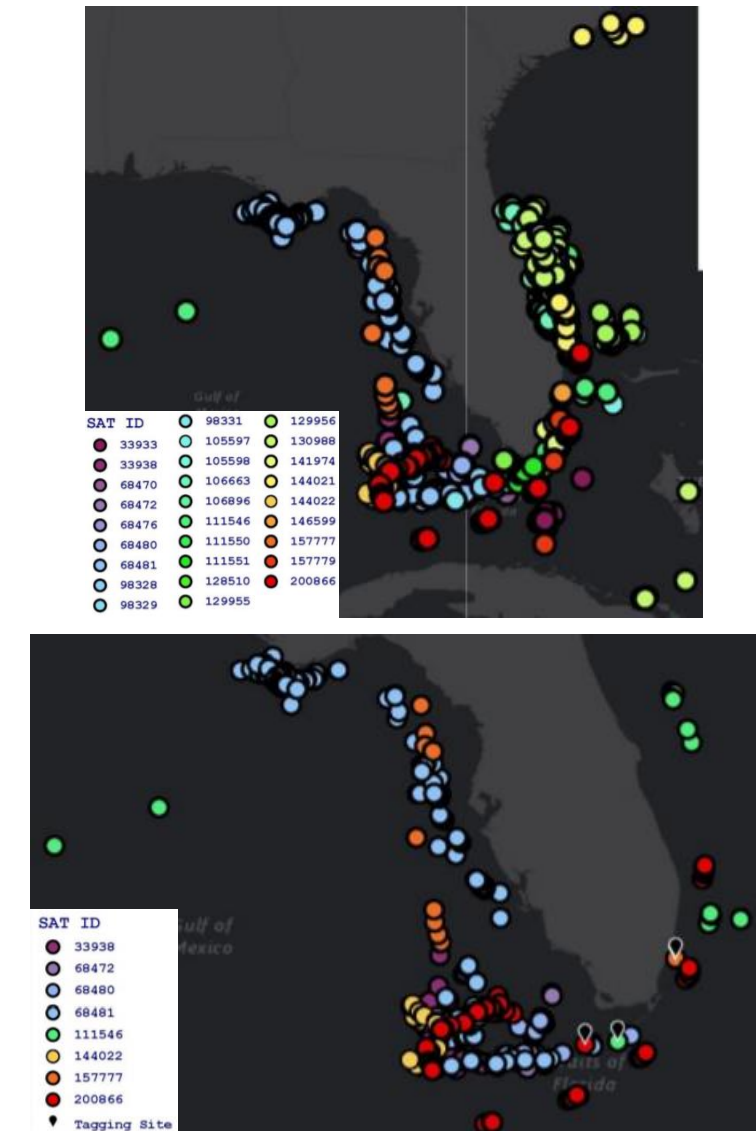
Satellite telemetry data: show exchange between GOM and Atlantic



Cooperative Shark Tagging Program (SEDAR77- RD23).
No exchange between GOM and Atlantic
Exchange between US and Mexican GOM



Heim et al. (SEDAR77- SID01)
Exchange b/t GOM and Atlantic

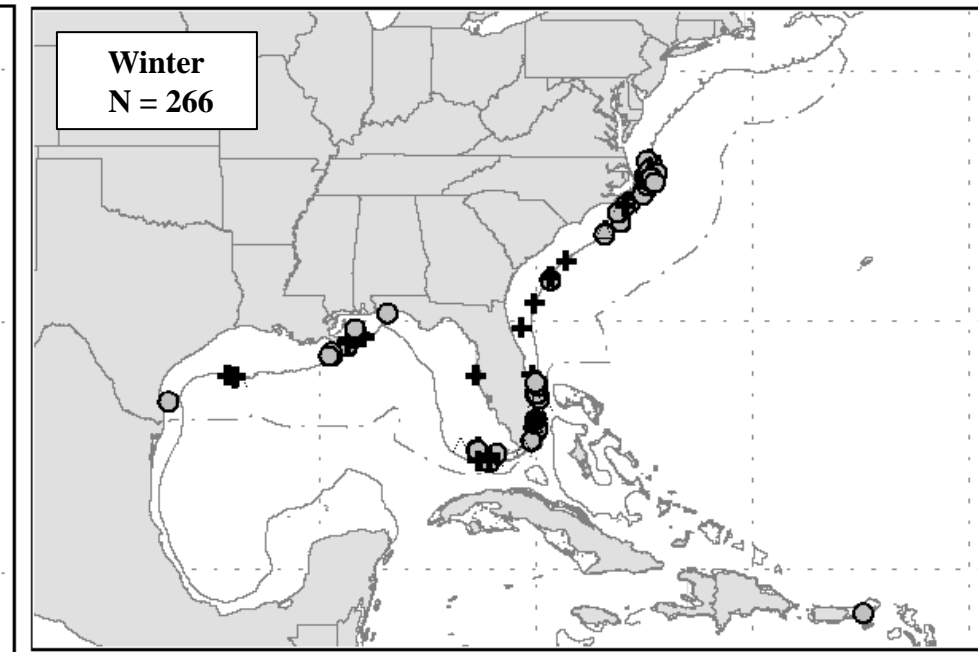
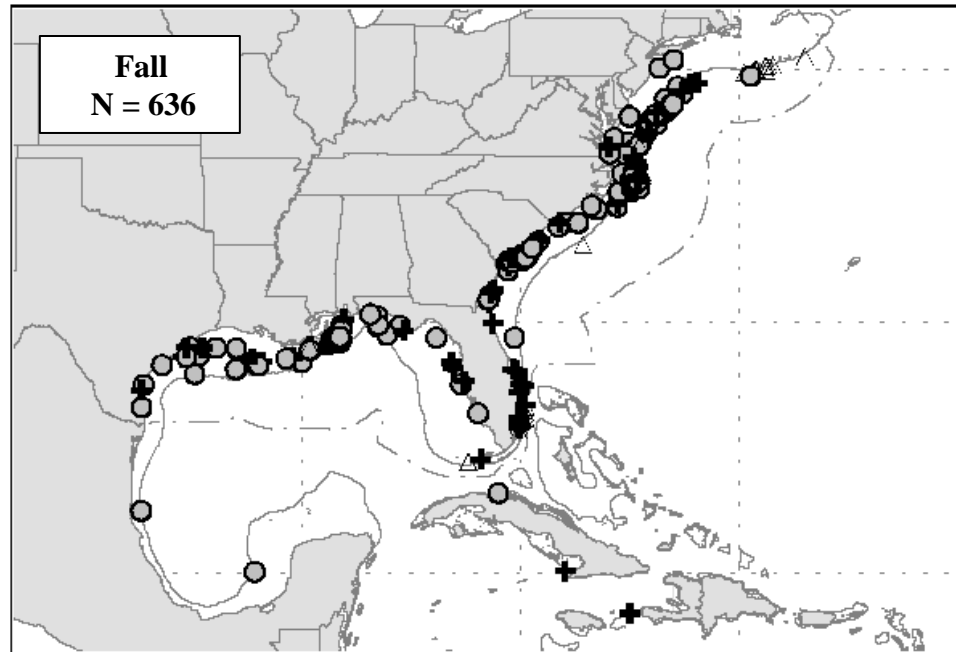
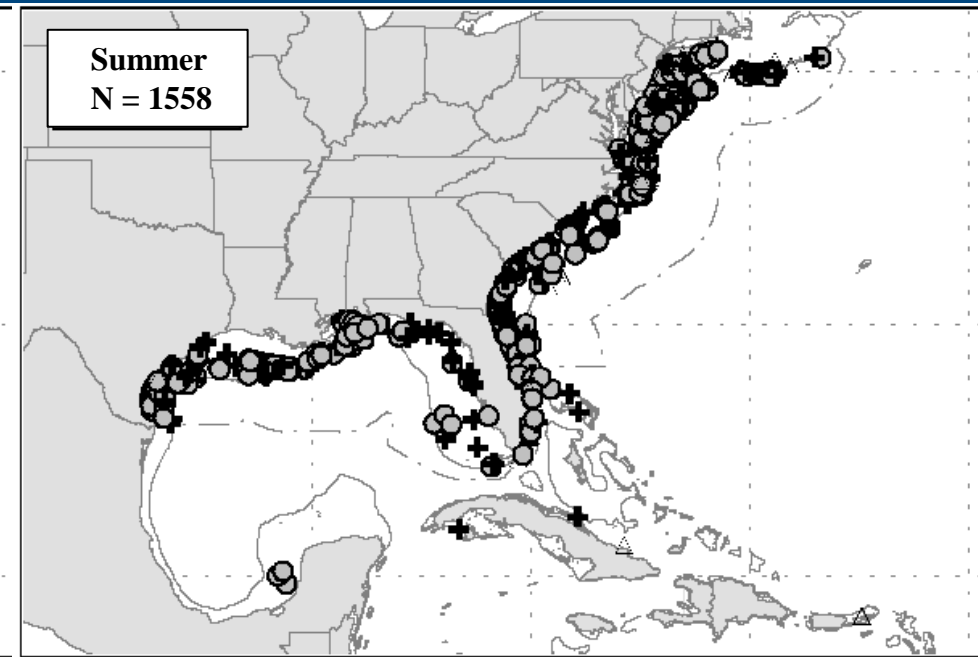
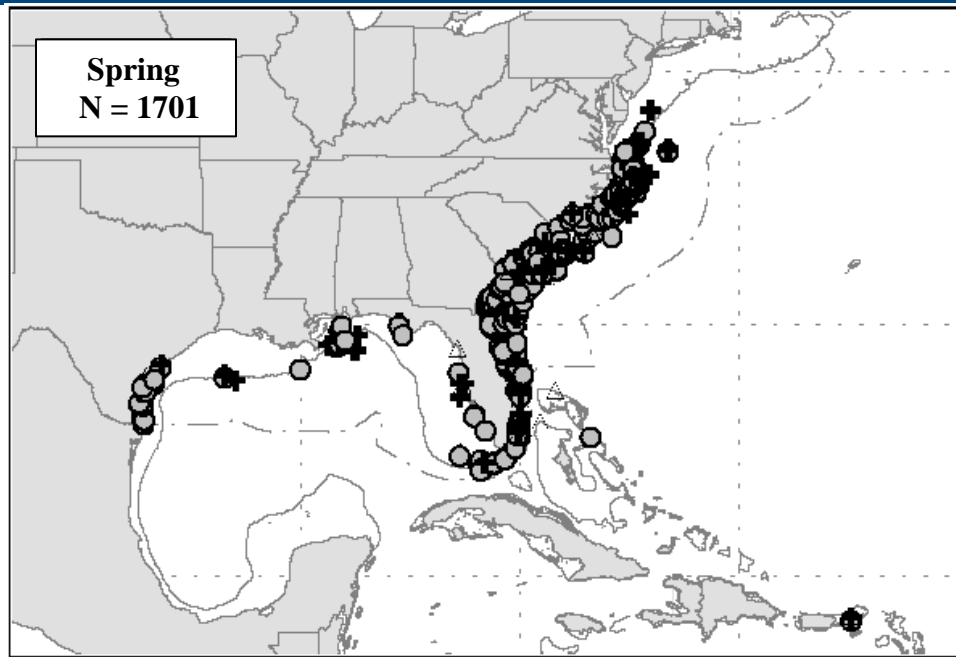


Hammerschlag (SEDAR77-SID07)
exchange b/t GOM and Atlantic

Scalloped Hammerhead

Seasonal Distribution Based on CSTP Capture Locations

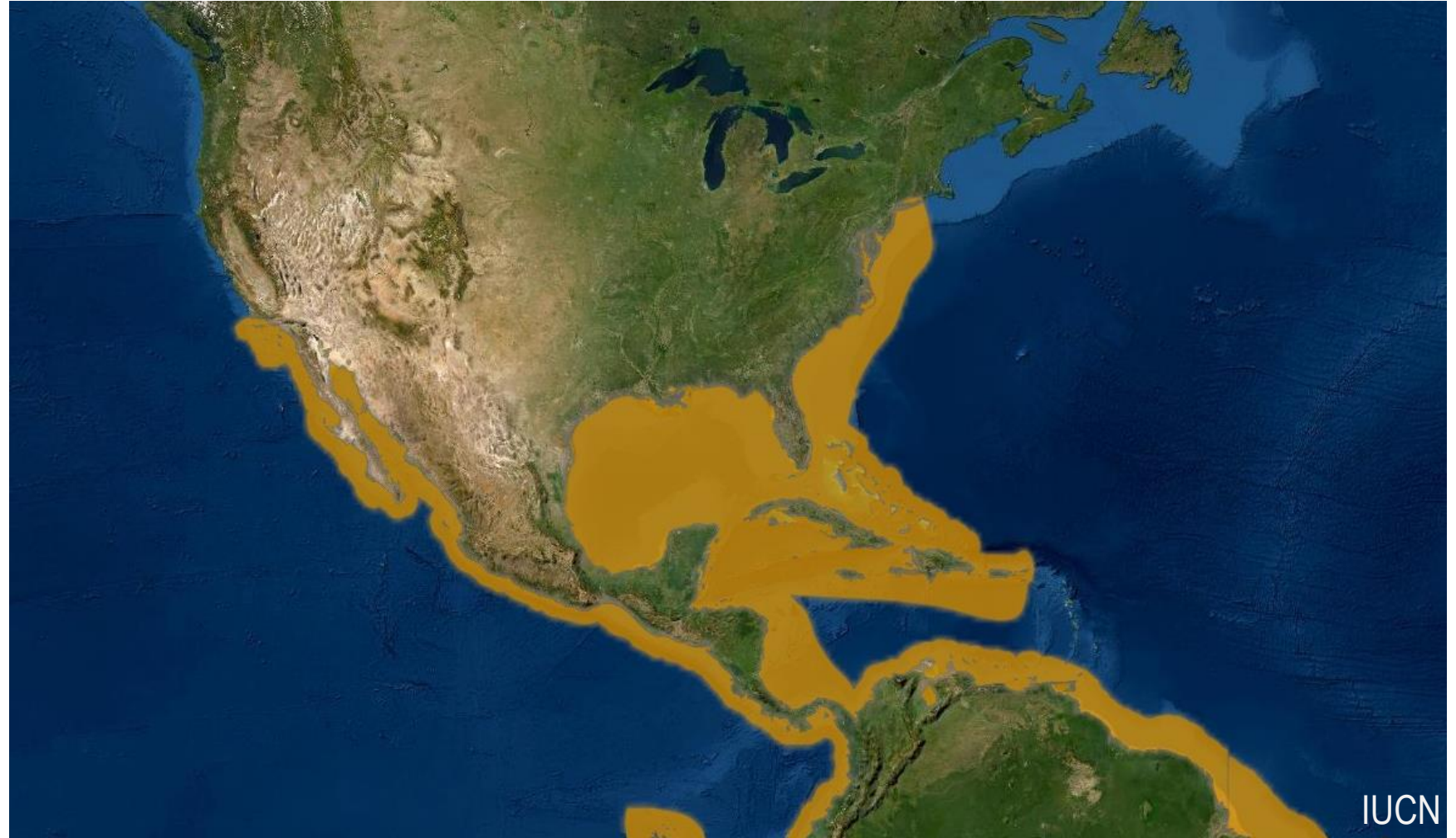
- + Female
- Male
- △ Unknown



Scalloped Hammerhead

Overall Distribution Supported by

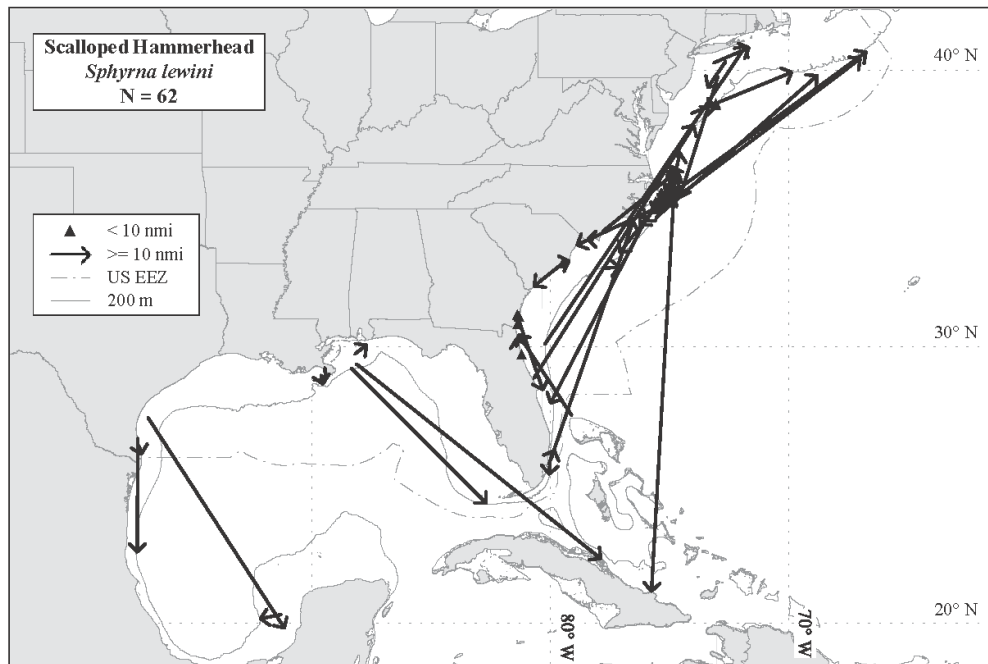
Banks & Stunz (SID04)
Chan et al (RD17)
Drymon et al (RD21)
Hammerschlag (SID07)
Heim et al (SID01)
Heim et al (SID03)
Kohler & Turner (RD23)
Macdonald et al (RD24)
Pollack (Data Scoping Web Pres)
Pollack & Hanisko (SID02)
Wells et al (RD01)



Scalloped Hammerhead Movements

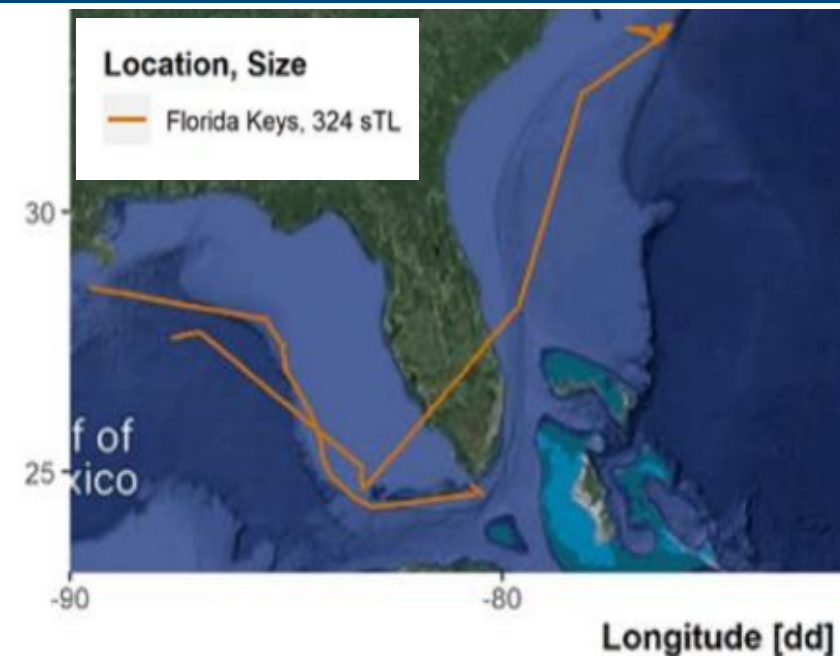
Conventional tag data: recaptures show exchange between GOM and Atlantic and exchange between US and Mexican GOM

Satellite telemetry data: show exchange between GOM and Atlantic



Cooperative Shark Tagging Program (SEDAR77- RD23)
Exchange between GOM and Atlantic
Exchange between US and Mexican GOM

Heim et al. (SEDAR77- SID01)
Exchange between
GOM and Atlantic

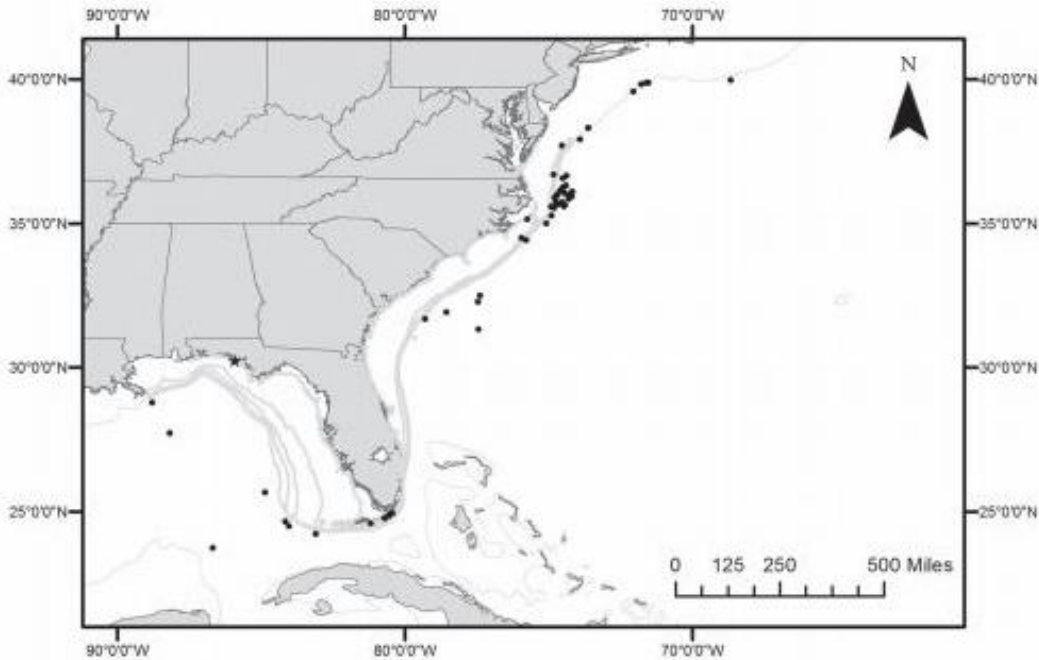


Hammerschlag (SEDAR77- SID07)
exchange
between
GOM and
Atlantic

Smooth Hammerhead

Overall Distribution Supported by

Deacy et al (RD02)
Kohler & Turner (RD23)
Logan et al (RD08)

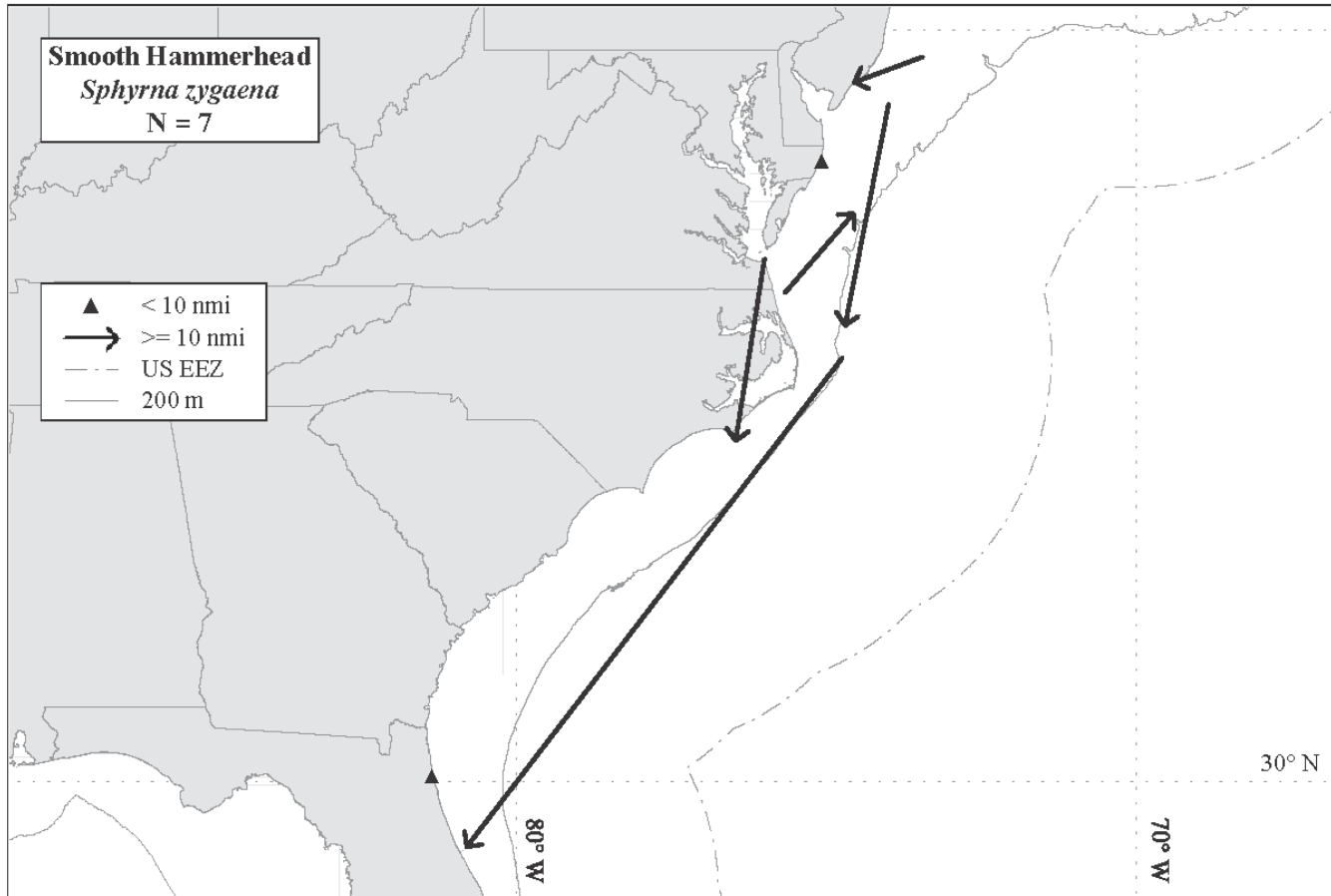


Smooth Hammerhead Movements

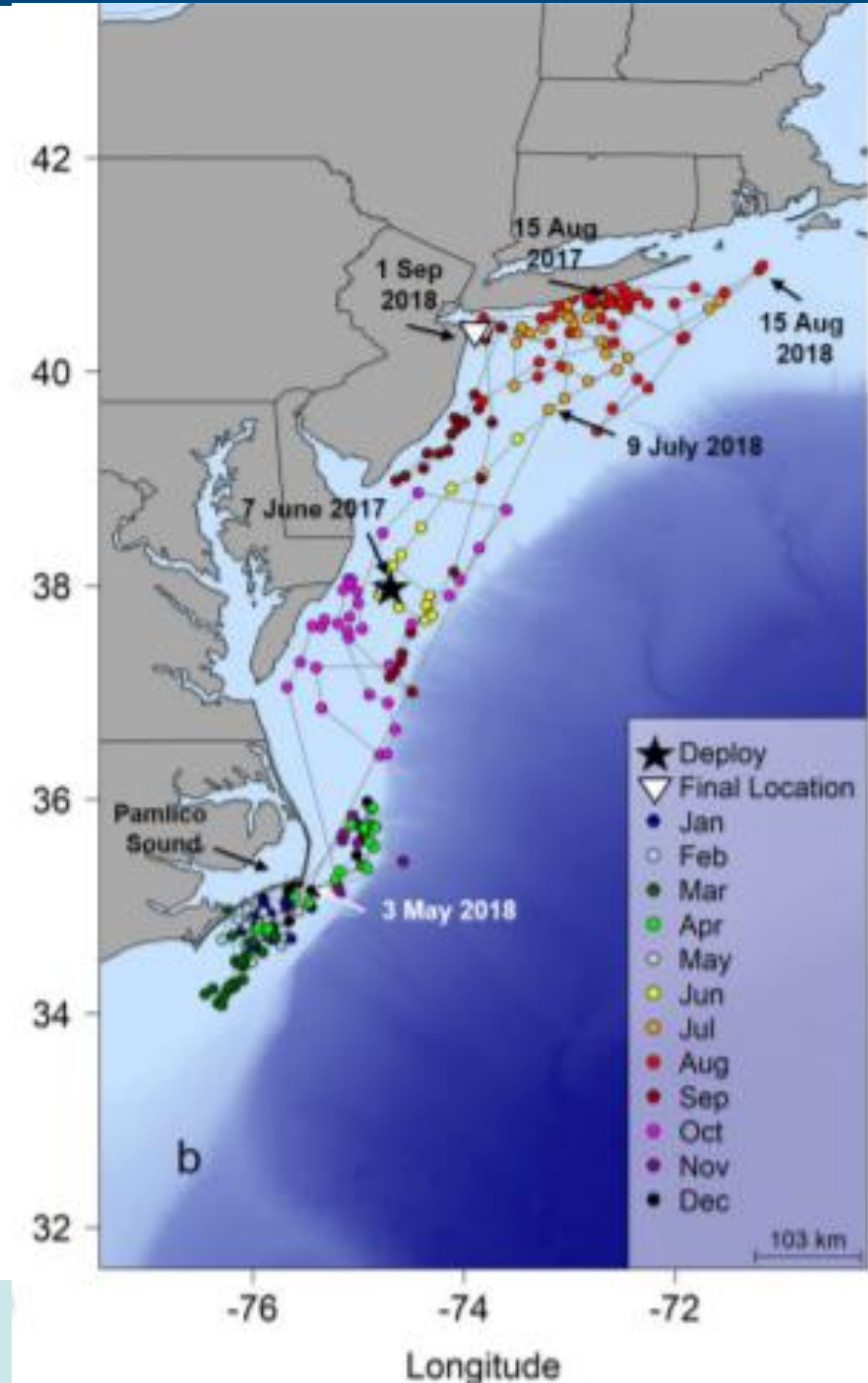
Conventional tag data: no exchange between GOM and Atlantic

Satellite telemetry data: no exchange between GOM and Atlantic

Logan et al.
(SEDAR77-
RD08)

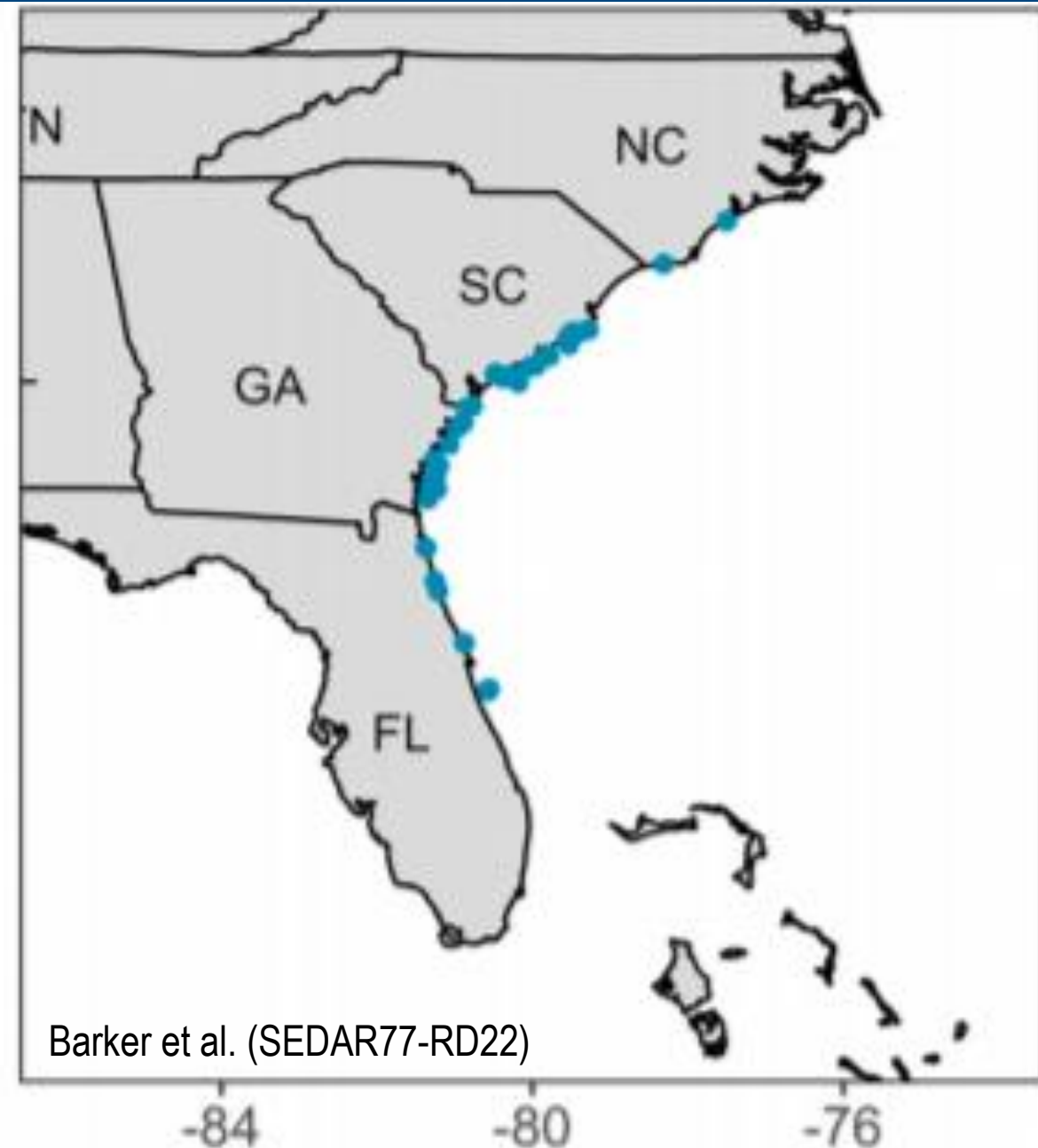


Cooperative Shark Tagging Program (SEDAR77- RD23)



Carolina Hammerhead Distribution

- Cryptic species
- Indistinguishable from scalloped hammerhead using external morphology
- Spatially limited distribution in the Atlantic
- No evidence in GOM



Movements/Spatial Sub-Working Group

Preliminary Recommendations

- **Great Hammerhead** – one stock based on exchange seen in movement data. No exchange between GOM and Atlantic seen in conventional tag data but only 12 recaptures. High post-release mortality could account for low recapture rate.
- **Scalloped Hammerhead** – one stock based on exchange seen in movement data. Exchange between GOM and Atlantic and between US and Mexican GOM.
- **Carolina Hammerhead** – assessed with scalloped hammerhead stock because overlap in distribution and indistinguishable (externally) from scalloped hammerhead.
- **Smooth Hammerhead** – undetermined, limited data. Majority in Atlantic but confirmed presence in GOM. No evidence of exchange. Distribution extent in GOM and connectivity to other regions are unknown.