Population Estimation of U.S. Atlantic Red Snapper: Preliminary Report - REVISED

Overview of the Project and Timeline for Integration

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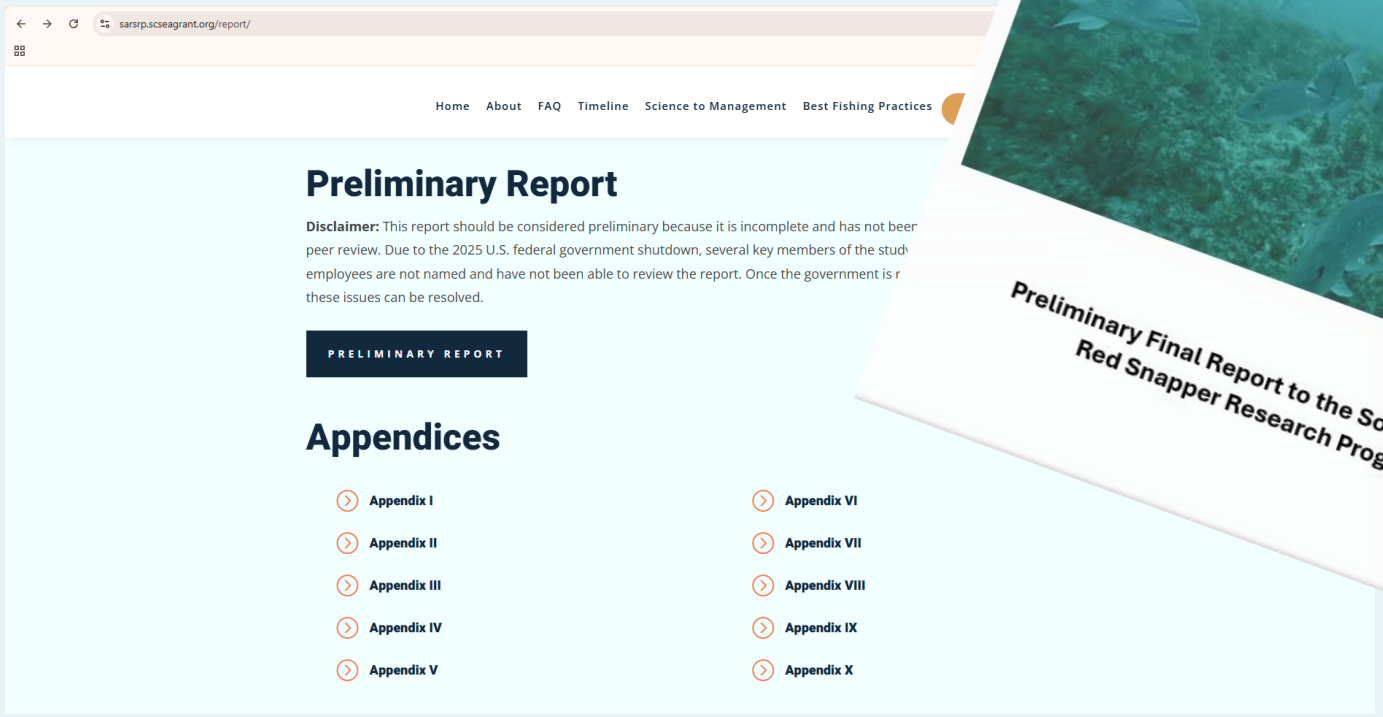
Purpose

- Develop methods to estimate population size of age 2+ Red Snapper in the South Atlantic region.
- Ensure findings could be integrated into SEDAR 90 (Red Snapper) Stock Assessment.

Credit: FWC

Preliminary Report Contents

- Four Chapters
- Ten Appendices



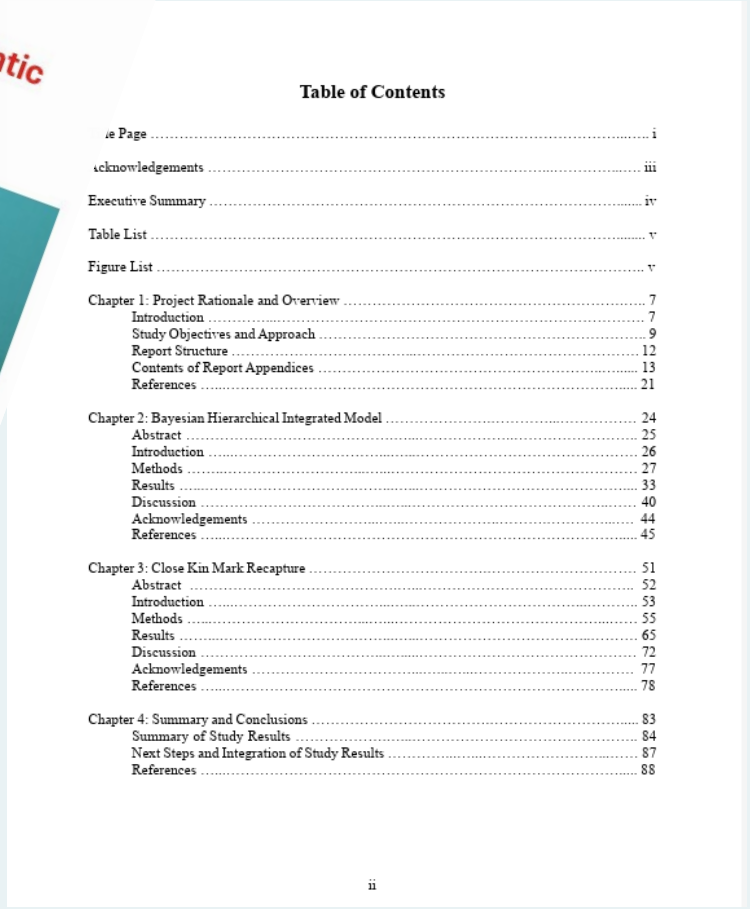
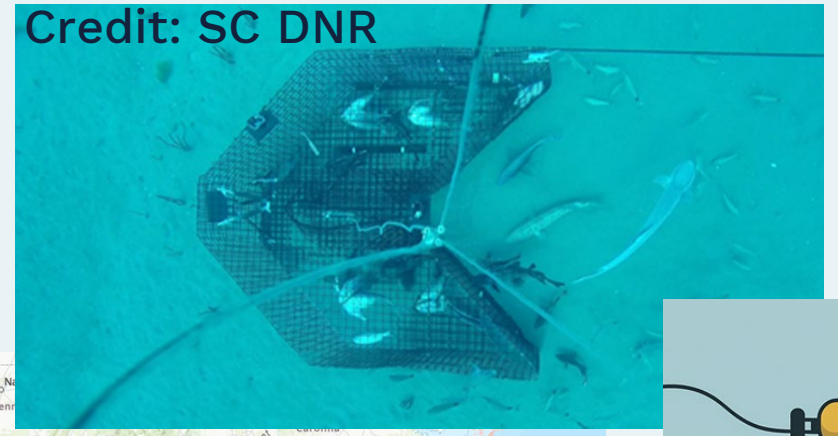
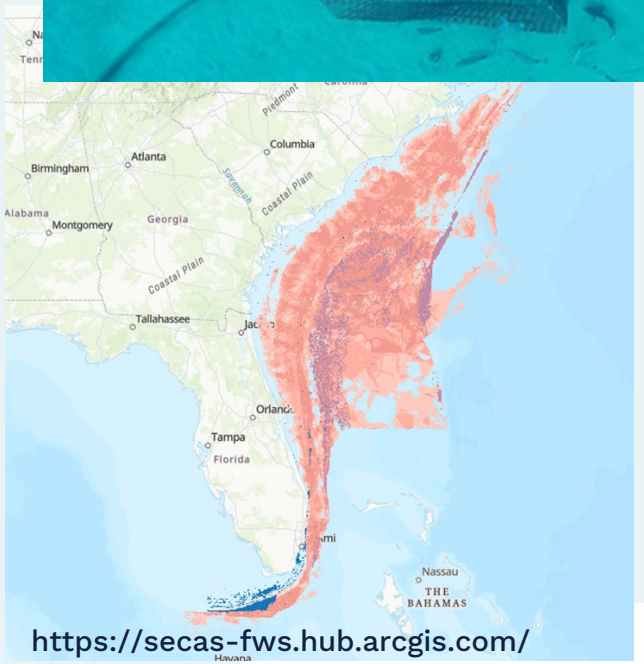


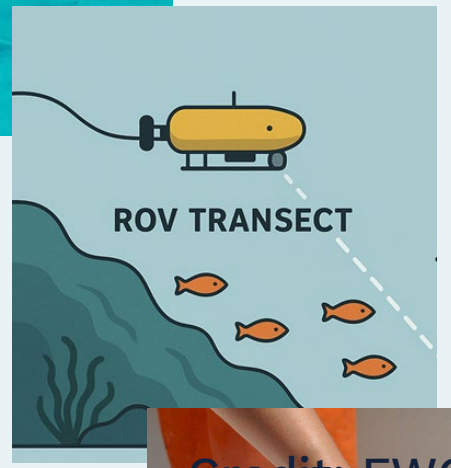
Table of Contents

Data/Methods

- Video Camera Traps (SERFS)
- Remotely operated vehicle transects
- Habitat mapping
- Traditional tagging methods
- Genetic fin clips for DNA analysis
- Gear calibration studies



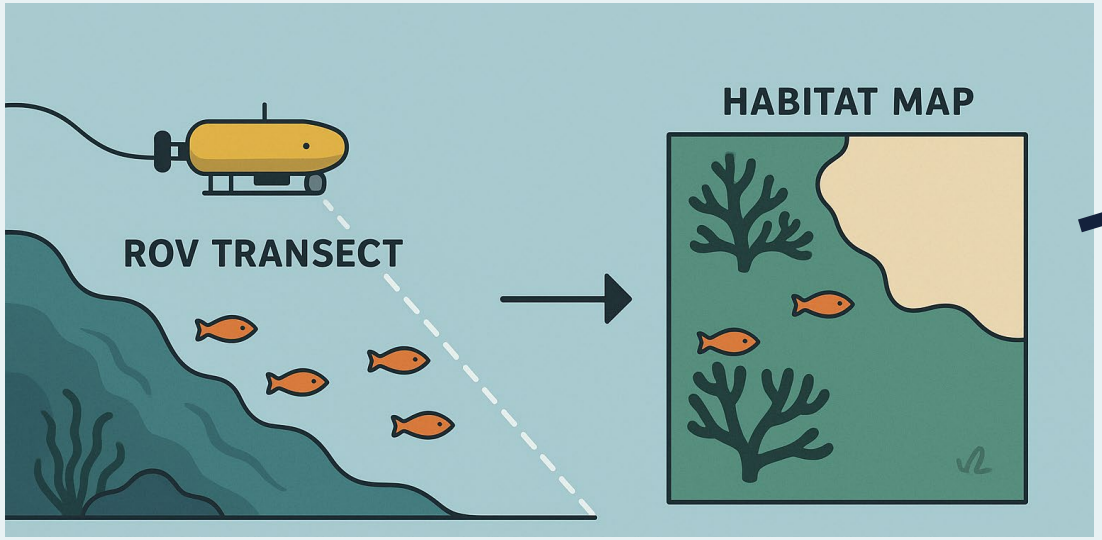


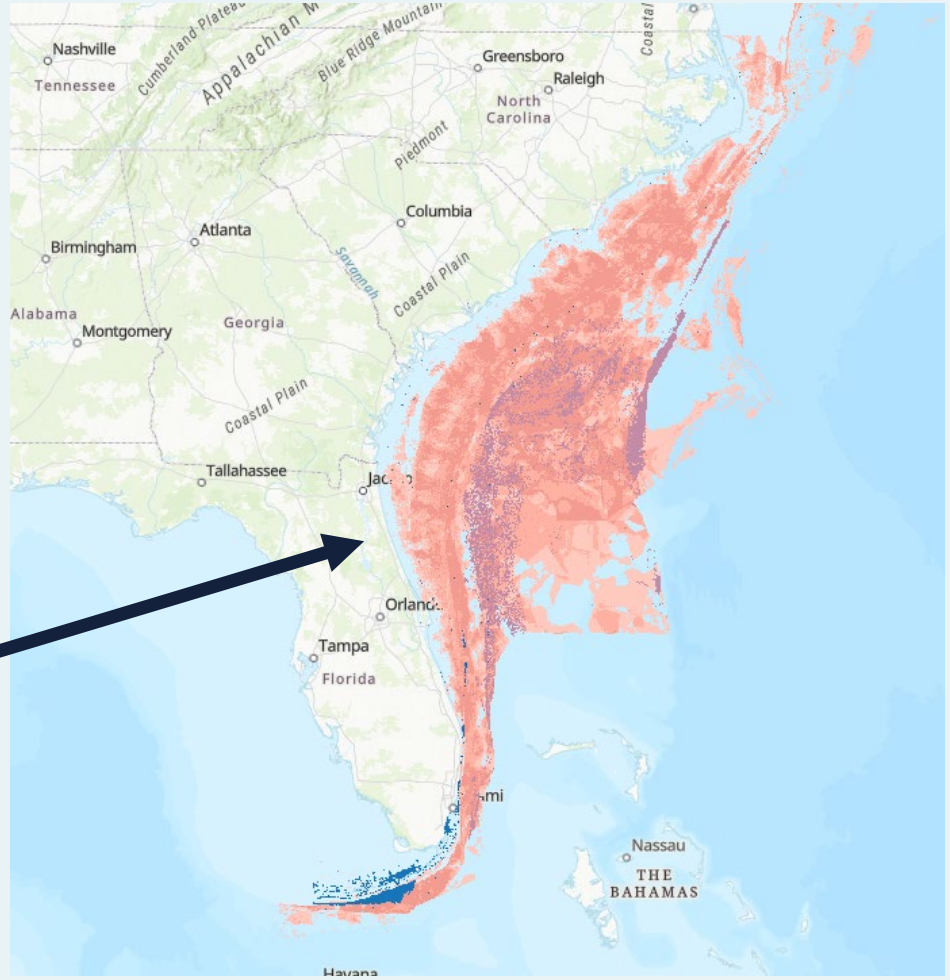



https://www.genome.gov/genetics-glossary/Double-Helix

Methods – Bayesian Hierarchical Integrated Model (BHIM)

- Fish counts from ROV transects and camera traps
- Habitat distribution
- Depth distribution

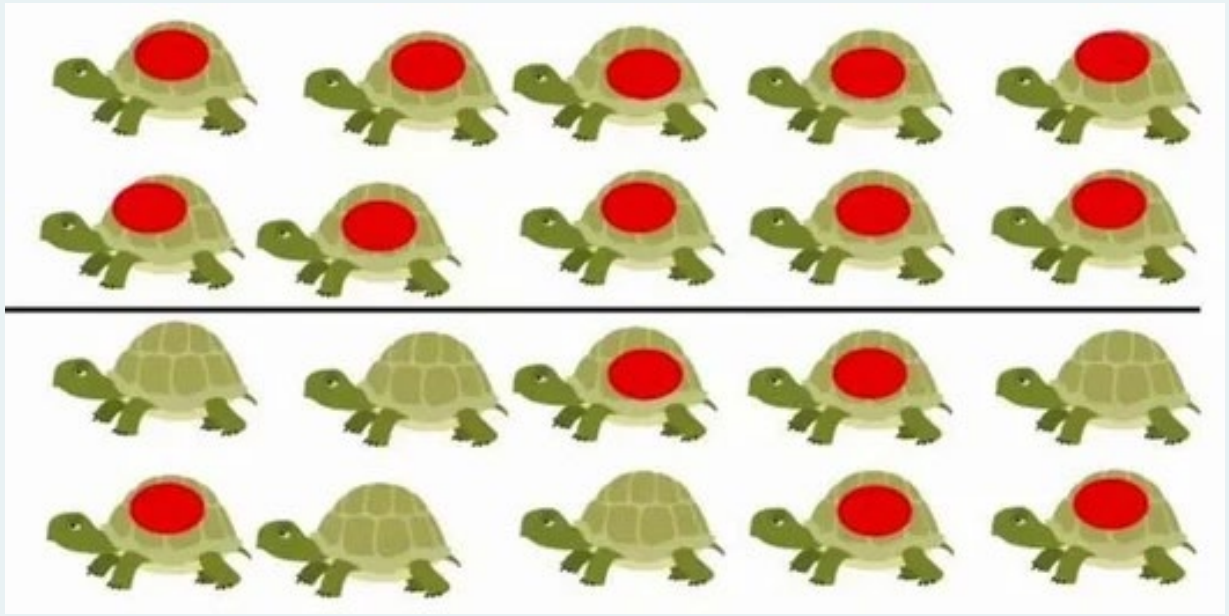




https://secas-fws.hub.arcgis.com/

Methods – Close Kin Mark Recapture (CKMR)

- Uses Mark Recapture with DNA-based kin detection
- Identifies sibling pairs to estimate total population



https://mixlab.com/blog/what-is-the-mark-recapture-technique

X

https://www.genome.gov/genetics-glossary/Double-Helix

Appendices – Important Supporting Documents

- Gear Calibration covered in A. I and II
- Habitat Use and Stakeholder Maps in A. III and VIII
- Genetic Structure in A. IV
- CKMR Sensitivity in A. V
- Tagging and Discard Mortality in A. VII, IX, and X
- Model Incorporation A. VI

https://www.fisheries.noaa.gov/feature-story/gear-summer-snapper-season-return-em-right

Preliminary Conclusions

- CKMR was robust to most inputs tested
- BHIM was sensitive to estimated distribution of hardbottom habitat and included age-1 Red Snapper
- CKMR estimates were similar to SEDAR 73 Update

Credit: SC Sea Grant Consortium

Review and Integration Timeline

SEDAR 90 Model Integration – Ongoing in SEDAR Assessment Workshops

CIE Review Workshop
January 13-15, 2026

SSC Review
April 14-16, 2026

SEDAR 90 SSC Review
October 20-22, 2026

SEDAR 90 Presented to Council
December 7-11, 2026