# SEDAR 94: Florida Hogfish

## Data Workshop Intro

FWC-FWRI Stock Assessment Group

St. Petersburg, FL

7/28/2025 – 8/01/2025

# Life History Overview

- Tropical reef species associated with coral reef areas in the western north Atlantic Ocean, Gulf of Mexico, and Caribbean Sea
  - From the Carolinas south to northern coast of Brazil. In U.S. continental waters, most abundant in the eastern Gulf of Mexico and FL Keys
  - Populations from U.S. waters are currently believed to belong to three stocks
- Juveniles settle nearshore in seagrass beds and shallow reefs with ontogenetic migration to nearshore/offshore hard-bottom habitats and reef habitats
- Protogynous hermaphrodites that form harems. Protracted spawning with peaks from December through April
- Feeds during day for benthic invertebrates, such as crabs and mollusks

# Brief Fishery Characteristics

- Recreationally and commercially sought species with commercial harvest records back as early as 1927 (Bradshaw 2025, DW-06)

  - Primarily spearfishing and hook & line gears

  - Developing Recreational HL fishery on the WFS since ~2010

- Neutral or curious nature make it more susceptible to capture by spearfishing.

  - Selection/preference of larger males results in top-down size-selective fishing mortality with truncated size and age structure in more heavily fished areas (McBride and Richardson 2007).



https://scubaboard.com/community/threads/art-pinder-spearfishing-legend-king-of-sling.473572/

# Guinness World Record

- The first color photograph ever taken underwater was of a hogfish in the Florida Keys, during 1926
  - *National Geographic* photographer Charles Martin and Dr. William Longley.

- Charles Martin used a specially designed waterproof camera housing, the scene was around 15 m deep (49 ft), and was illuminated with highly explosive magnesium flash powder ignited on a raft on the surface of the water.

| Stock | Region | FL Counties | MRIP | NMFS Stat | SRHS |
|-------|--------|-------------|------|-----------|------|
| - | West of FL | - | - | 11 – 21 | 24 – 29 |
| WFS | NW FL | Escambia to Dixie | 1 | 7 – 10 | 23 |
| WFS | SW FL | Levy to Collier | 2 | 3 – 6 | 21, 22 |
| Keys/EFL | FL Keys | Monroe | 3 | 1, 2, 2479 - 2482 | 12, 17, 18* |
| Keys/EFL | SE FL | Indian River to Miami-Dade | 4 | 2580, 2680, 2780, 2579, 2679, 2779 | 11 |
| Keys/EFL | NE FL | Nassau to Brevard | 5 | 2880, 2980, 3080, 2879, 2979, 3079 | 7, 8 |
| - | North of FL | - | - | North of 31° | 1 – 6, 9, 10 |

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# Assessment History

**SEDAR 37 and Update**

Stock Synthesis v3.24

**1986 – 2012 (16)**, Three Stocks, Ages 0 – 18+

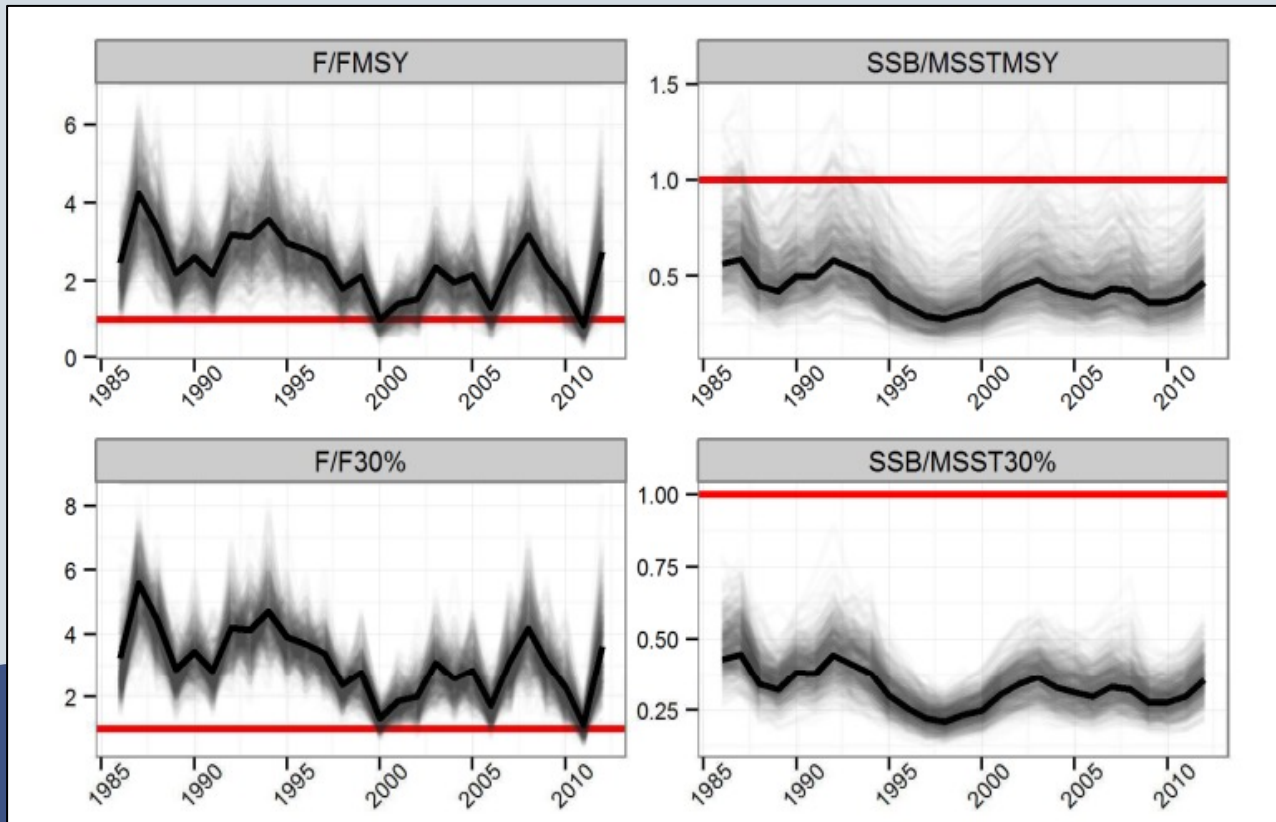| WFS (Update) | KEYS/EFL | GA/NC |
|---|---|---|
| 5 fleets<br>• Dome shaped: commercial trap, recreational spear, recreational hook and line<br>• Asymptotic: commercial hook and line<br>• Freely estimated (domed): commercial spear | 5 fleets<br>• Dome shaped: recreational hook and line, recreational spear<br>• Asymptotic: commercial hook and line, commercial trap,<br>• Freely estimated (domed): commercial spear | 4 fleets<br>• Asymptotic: Commercial hook and line, commercial spear, combined gear index, recreational |
| 8 IOAs<br>• 4 FD – Selectivity linked to fleets<br>• 4 FI – Dome shaped selectivity | 6 IOAs<br>• 4 FD – Selectivity linked to fleets<br>• 2 FI – RVC- Tortugas asymptotic, RVC-Keys dome shaped | 1 IOA<br>• 1 FD – Selectivity linked to fleets |

# S37 Stock Status

## SEDAR 37 (2013)
*Florida Keys/East FL*
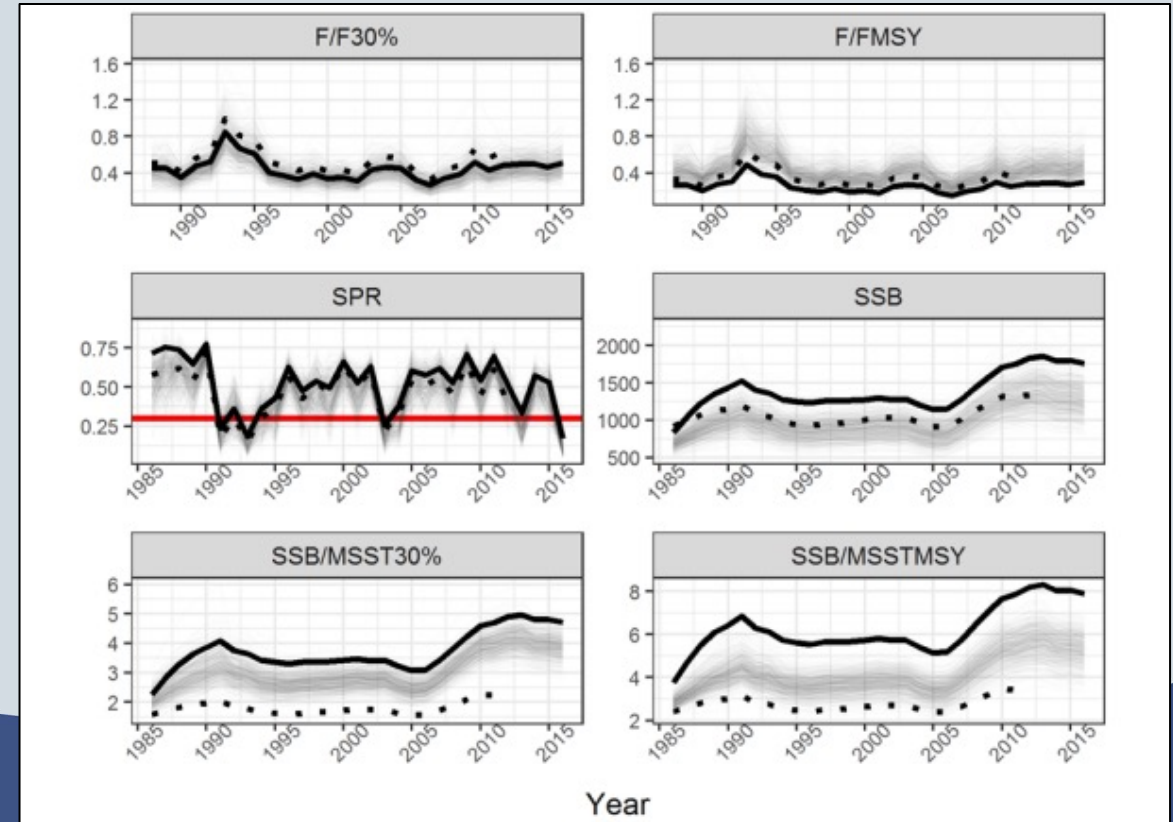Overfished
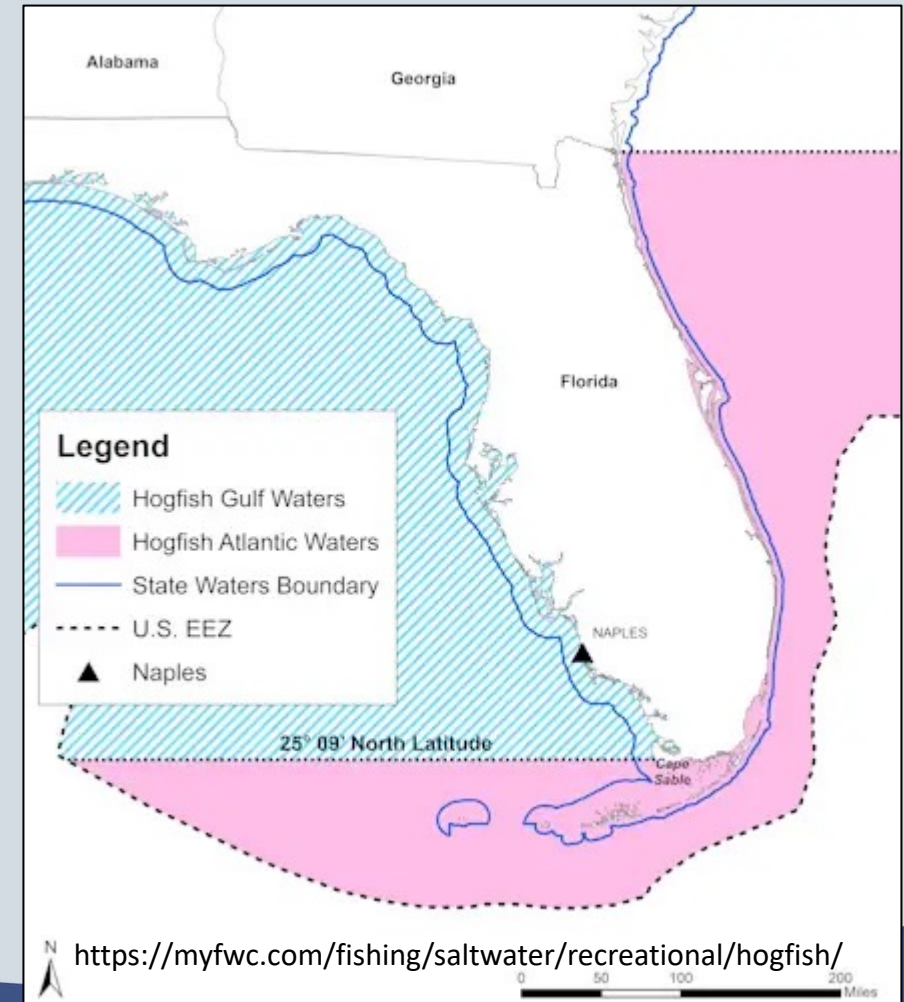Undergoing overfishing

## SEDAR 37U (2017)
*West Florida Shelf*
Not overfished
Not undergoing overfishing

# SAFMC Snapper Grouper Amendment 37

- Implemented Aug 14, 2017
- **Stock boundary for Gulf/Atl** (Fishery Mgmt. Unit)
  - 25 degrees 9 min N Lat (Cape Sable).
- Set MSY = $F_{30\%SPR}$ and MSST = 75% of $SSB_{MSY}$
- Increased the min. size from 12" FL to 16" FL
  - 14" FL in Gulf (RF Amend. 43; 8/24/17)
- Established OY, ACL, and **10yr rebuild plan**
- Modified Rec bag limit: 1/p/d.
- Established a Rec season: May-Oct.



Legend
- Hogfish Gulf Waters
- Hogfish Atlantic Waters
- State Waters Boundary
- U.S. EEZ
- ▲ Naples

https://myfwc.com/fishing/saltwater/recreational/hogfish/

# Size Limit History

**South Atlantic Federal** (3 - 200 Miles)

- 12" (305 mm) FL (01/1995 – 08/2017)
- 16" (406 mm) FL (08/2017 – present)

**Gulf Federal** (10 -200 Miles)

- 12" (305 mm) FL (11/1999 – 08/2017)
- 14" (356 mm) FL (08/2017 – present)

**FL State Waters South Atlantic** (0 - 3 Miles) **& Gulf** (0 -10 Miles)

- 12" (305mm) FL (07/1994-08/2017)
- 16" FL in Atlantic, 14" FL in Gulf (08/2017-present)

# Trip Limit History – Federal and FL State Waters

**South Atlantic**

## Commercial

- 25 lbs. ww per boat per day (08/2017 – present)

## Recreational

- 5 fish per person per day (07/1994 – 08/2017 [FL], 05/1995 – 08/2017 [SA])
- Open May 1- Oct. 31. 1 fish per person per day (08/2017 – present)

**Gulf**

## Commercial

- None

## Recreational

- 5 fish per person per day (11/1999 – present)

# Fishery/Spatial Closures

- Madison-Swanson (6/2004 – present)
  - Fishing prohibited
- Steamboat Lumps (6/2004 – present)
  - Fishing prohibited
- The Edges (7/2009 – present)
  - Fishing prohibited Jan 1 – Apr 30
- Flower Garden (01/1992- present)
  - Bottom gears prohibited

- Riley's Hump (2/1994 - 8/2002)
  - Fishing prohibited May 1 – Jun 30
- Tortugas Reserves (8/2002 – present)
  - Fishing prohibited
- Pulley Ridge (1/2006 – present)
  - Bottom gears prohibited

**FL State Waters – Western Dry Rocks**
  - April 1 – July 31 (4/2021 – present)

# Musings

- Life History
  - Most LH information (e.g., growth, max age, natural mortality, age-at-maturity, age-at-transition) was generated primarily from the WFS data and assumed for all stocks.
    - Do we have any new data or a renewed understanding of older data to suggest more stock-specific characterizations in Florida?

- Indices
  - Do the fishery-dependent indices reflect trends in abundance or changes in the fishery (e.g., regulations, fisherman behavior, economics)?
  - Is there sufficient fishery-independent indices in each stock to capture prominent stages of life history (e.g., recruitment, subadult/adult)
    - If so, does this preclude the need for the fishery-dependent indices?

# Musings

- Commercial
  - Should the commercial landings still be parsed by SP, HL, and TR or be aggregated more?
    - What do the length comps and assumptions on selectivity show?
  - Commercial discards are unable to be estimated – any alternative recommendations?

- Recreational
  - Can the MRIP landings/discards be parsed by SP and HL gear or is the uncertainty too high?
    - What do the length comps and assumptions on selectivity show?
  - Explore the SRFS data and determine its viability for use
    - Can the calibrated data be parsed by gear or is the uncertainty too high?
  - Explore the SEFHIER data and determine its viability for use

Thank You!