



**NOAA
FISHERIES**

**Southeast
Region**

Commercial Sector Economic Effects Estimation

South Atlantic Amendment 37 to the Snapper
Grouper FMP

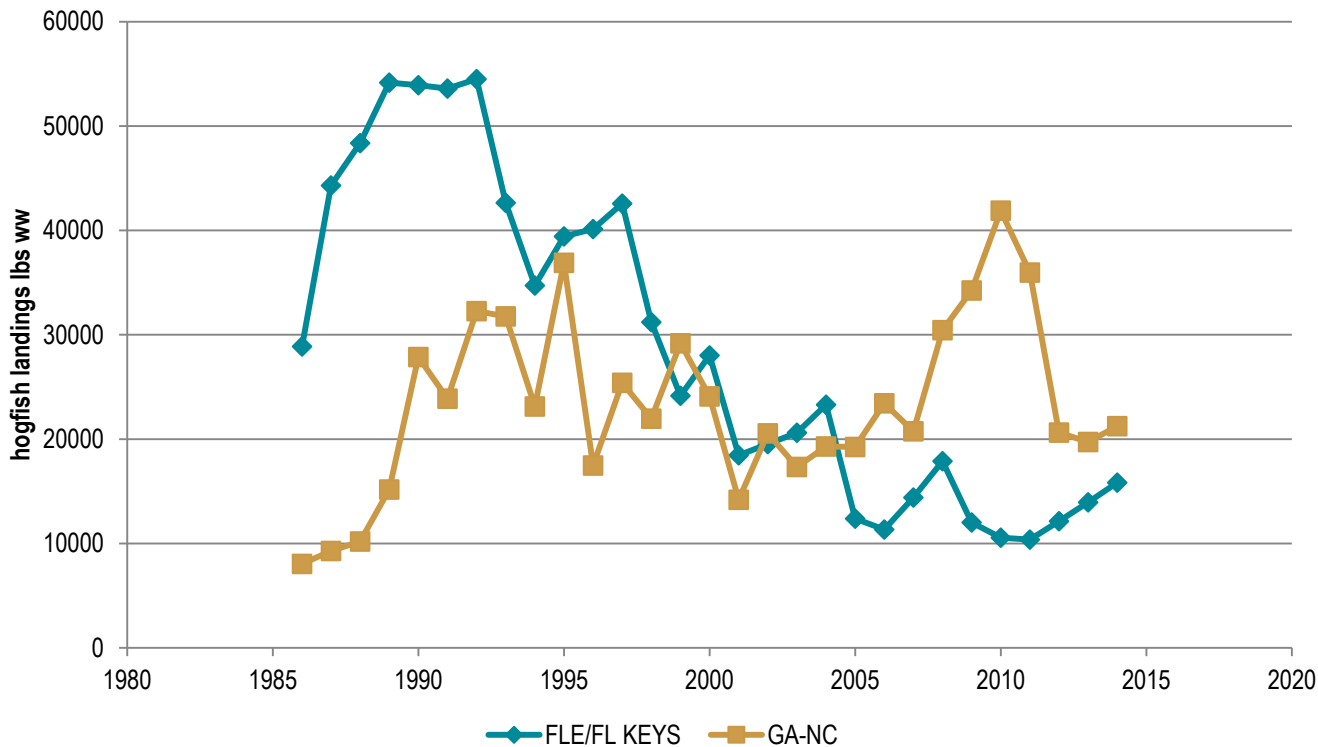
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Goals

- Estimate economic effects of AM37 alternatives to commercial sector as change in:
 - Commercial Landings
 - Ex-vessel revenue (proxy for profit)
 - Season length

Estimate Baseline Landings for Future Years

- Landings per year, by sub-region (1986-2014)

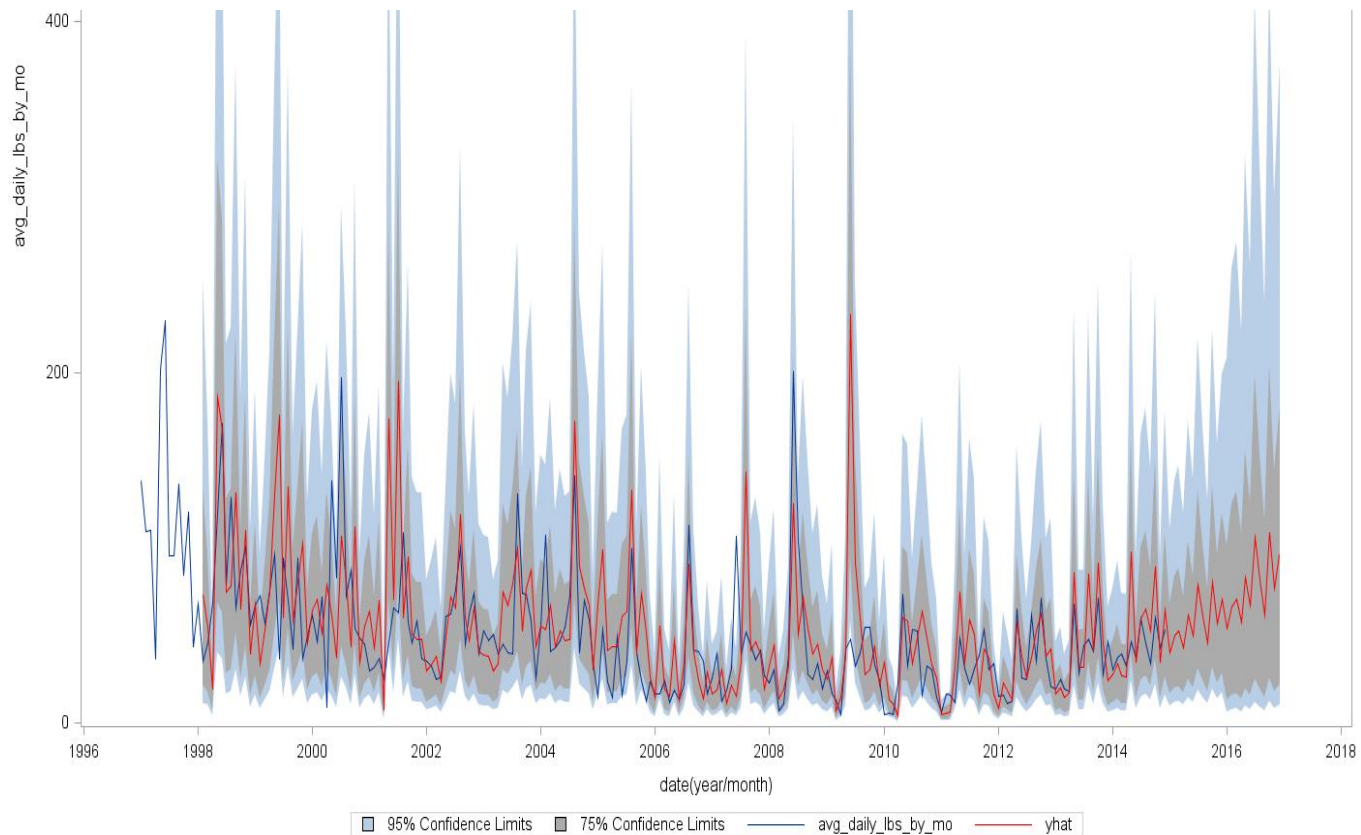


Estimate Baseline Landings for Future Years

- Florida East / Florida Keys (FLE/FL Keys)
 - Build time series model to capture increasing trend.
- Georgia to North Carolina (GA-NC)
 - Use average landings from most recent 3 years of available data (2012 through 2014).

FLE/FL Keys

- SARIMA model fit to average daily landings by month (1986 through 2014).



FLE/FL Keys

- 2016 SARIMA forecast = 28,406 lbs ww (proxy for 2017)

GA-NC

- Average annual landings (2012-2014) = 20,534 lbs ww

Sum of sub regions = 48,940 lbs ww

Status quo ACL = 49,469 lbs ww

FLE/FL Keys

For 2017,

- Baseline season length is 365 days (+1 if leap).
- Baseline landings are 28,406 lbs ww.
- Average annual price (2012-2014) = \$3.74 (2014 dollars)
- Baseline ex-vessel revenue = \$106,228 (2014 dollars).

GA-NC

For 2017,

- Baseline landings are 20,534 lbs ww.
- Lowest ACL alternative is 22,222 lbs ww.
 - Season is 365 days (+1 if leap) under all alternatives including status quo.
- Baseline ex-vessel revenue (baseline landings \times \$3.74) = \$76,792 (2014 dollars).

Effects of Trip Limits and Size Limits

- Apply scalars to baseline landings
 - **Trip Limits**

$$\text{Percent_Remaining}_t = \frac{\sum_{trips_t} TL_pounds}{\sum_{trips_t} pounds}$$

TL_pounds = landed pounds truncated at proposed trip limit

t = time period (month for FLE/FL Keys; year for GA-NC)

- **Minimum Size Limits (MSLs)**

$$\text{Percent_Remaining}_t = (G_t + B_t)/C_t$$

C = catch in pounds WW,

G = weight of fish that are greater than or equal to the MSL, and

B = weight of fish smaller than the current 12-inch FL MSL (non-compliance or measurement error).

t = time period (month for FLE/FL Keys; year for GA-NC)

Project new landings, season length and ex-vessel revenue for FLE/FL Keys

- Sum average daily baseline landings by month (as reduced by size limits and trip limits) for 2017.
- Simulate quota closure for each combo of trip/size limits under each ACL alternative.
 - Season length equals number of days from Jan 1 to quota closure.
 - Ex-vessel revenue equals cumulative landings at closure times \$3.74.

Project new landings and ex-vessel revenue for GA-NC

- Apply annual trip limit and size limit percent remaining scalars to annual baseline landings.
- Ex-vessel revenue = new landings x \$3.74.

Results Highlights

FLE/FL Keys

- Status quo landings (28,406 lbs ww) and ex-vessel revenue (\$106,228) reduced by 87% to 88%.
- Season length is 55 to 191 days (status quo season was open all year).

Results Highlights

GA-NC

- ACL alts not expected to constrain landings.
- Season length is 365 days (+1 if leap).
- Status quo landings (20,534 lbs ww) and ex-vessel revenue (\$76,792) reduced by 0% to 47%.

Questions

For more information, please refer to the following documents in the SSC briefing book:

- “Methods for commercial sector economic effects estimation - 20160425_SEROfinal.pdf” and
- “SG 37 Commercial Hogfish Econ effects and Season - 12_29_15 - v2.xls”

