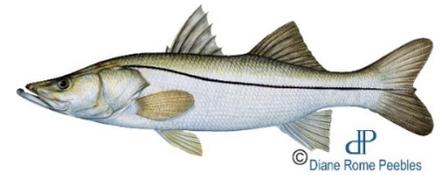
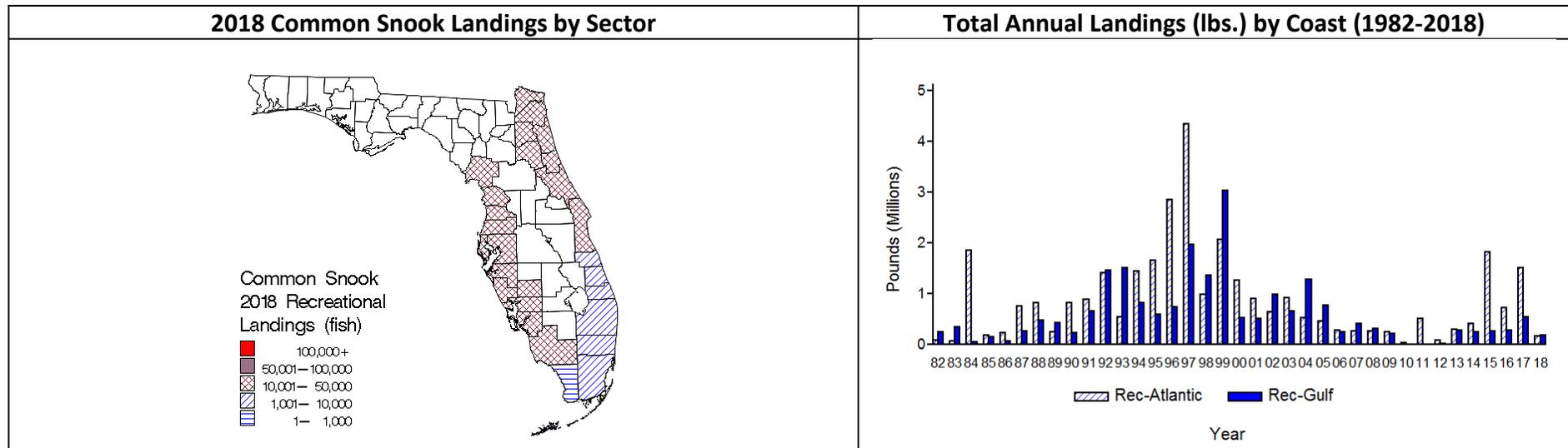


Common Snook, *Centropomus undecimalis* (Bloch, 1792)

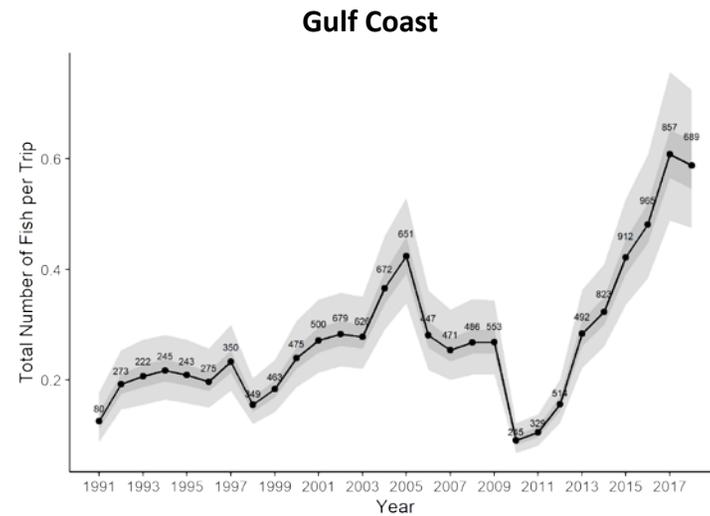
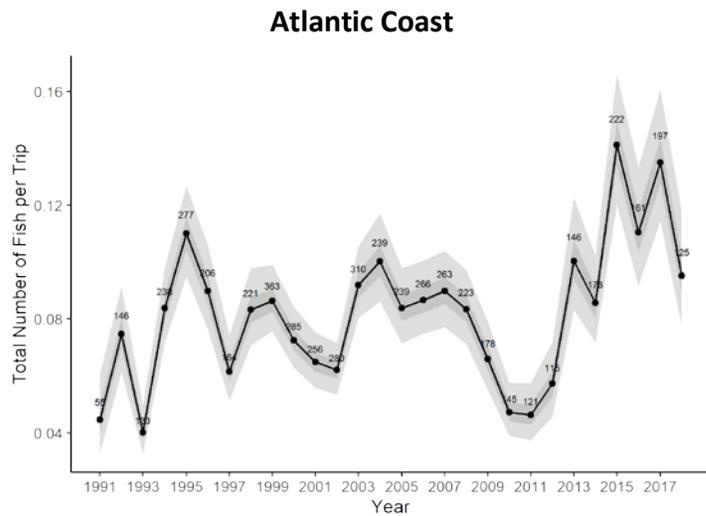


Life History

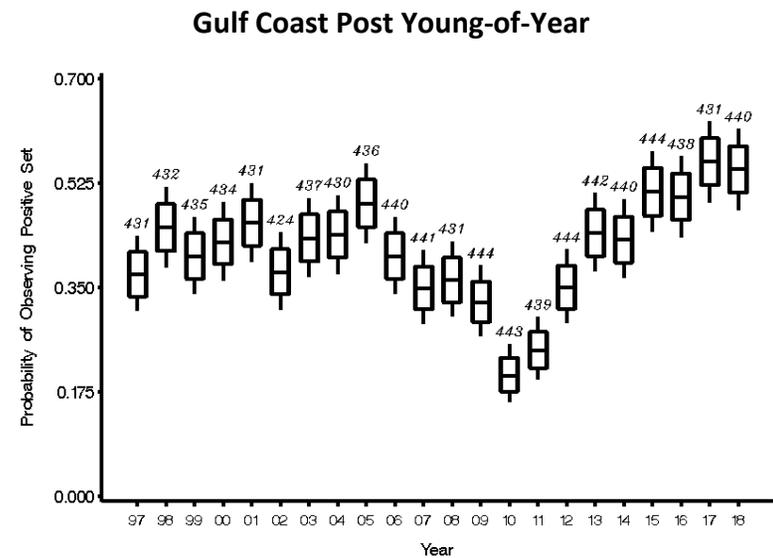
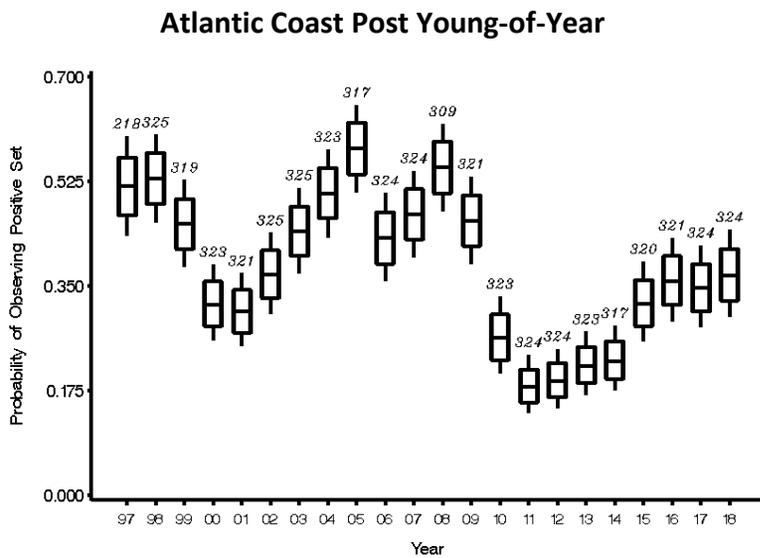
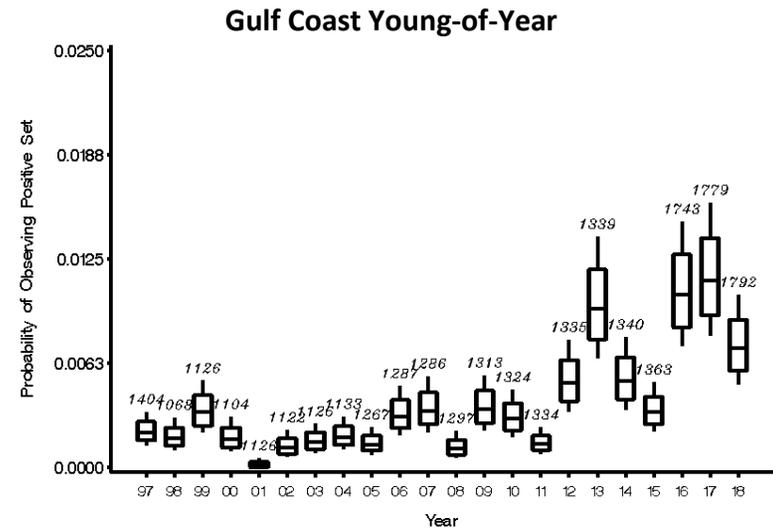
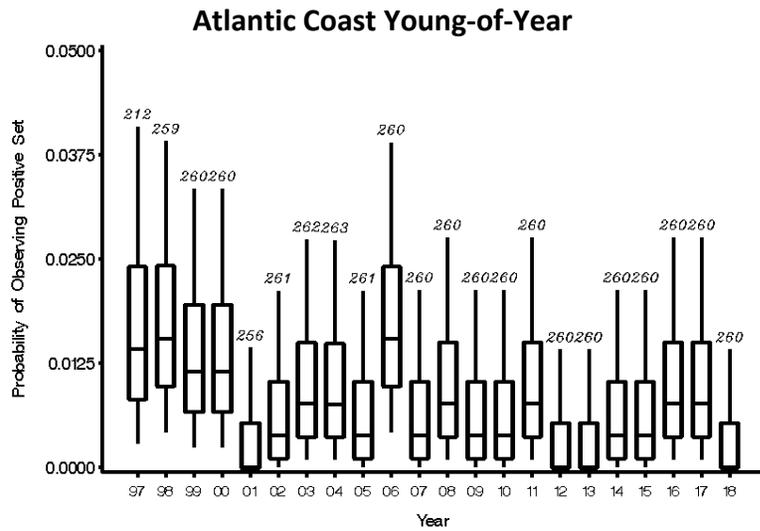
Common Snook are a euryhaline, diadromous, estuarine-dependent species occurring in the tropics and subtropics of the western Atlantic Ocean. Common Snook are limited in distribution by the seasonal occurrence of the 14 °C seawater isotherm. Partial genetic isolation occurs between Florida’s Atlantic and gulf coast stocks (Tringali and Bert 1996). Common Snook are protandric hermaphrodites: most males develop into females when between 1 and 7 years of age. Females smaller than about 500 mm fork length are uncommon. Common Snook growth rates are highly variable. Females are generally larger than males of the same age. Atlantic coast fish grow more quickly and to a larger size than do fish on the Gulf coast (Table 1; Taylor *et al.* 2000). Maximum age is more than 20 years. Spawning occurs on new and full lunar phases from April through October within passes in estuarine and nearshore waters (Lowerre-Barbieri *et al.* 2014). Early-juvenile Common Snook occupy moderately sloping banks found under overhanging vegetation within estuarine waters (Peters *et al.* 1998). As juveniles grow they occur in a wide range of estuarine habitats. Larval Common Snook feed primarily on copepod eggs and larvae, other invertebrates’ eggs, algae, and plant tissues (Harrington and Harrington 1961). Juvenile Common Snook are reported to feed on bay anchovy, pinfish, mosquitofish, grass shrimp, killifishes, and insects (Harrington and Harrington 1961; Springer and Woodburn 1960; Gilmore *et al.* 1983). Adults feed mostly on fish, crabs, shrimp, and some plant tissues (Fore and Schmidt 1973). Reported important fish species consumed by Common Snook are menhaden, mojarra, mullet, pinfish, anchovies, pigfish, and sailfin mollies.



Fishers landed 322,747 pounds in 2018 which were 74% lower than the previous 5-year average (2013-2017). Coast wide, 52% of these were from the Gulf and 48% were from the Atlantic. Common Snook is a game fish in Florida, so there are only recreational landings.

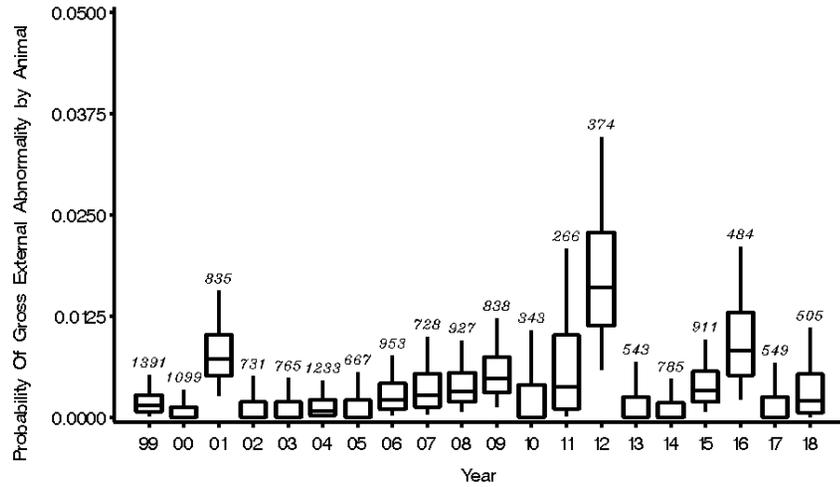


Standardized Recreational Total Catch Rates: Common Snook availability on both coasts, as measured by standardized total-catch rates, increased from the early 1980s through the mid-1990s. On the Atlantic coast, recreational total catch rates from 1996-2009 showed a stable pattern until a notable low in 2010-2012 associated with a severe cold kill, followed by an increase to a high in 2015-2017. Gulf coast total-catch rates for anglers have shown a relatively steady increasing trend over the time series from 1991-2005, decreased steadily through 2011 also associated with the 2010 cold kill, and have shown recent increases in 2012-2018. Dark grey ribbons represent first and third quartiles while the light grey ribbons represent the 2.5% – 97.5% quantiles.

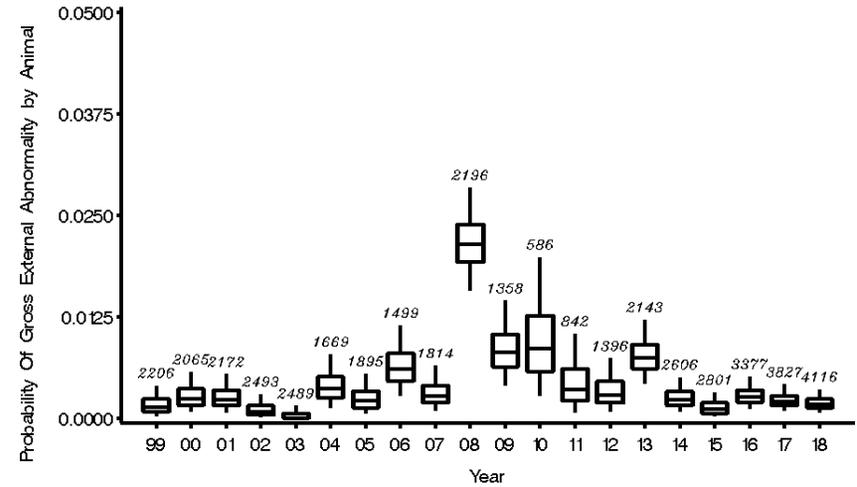


Fishery-Independent Monitoring: Indices of abundance for young of the year (YOY) Common Snook from fishery-independent-monitoring on the Atlantic coast varied without trend from 1997 through 2018. On the Gulf coast the YOY abundance index shows a variable but stable trend from 1997-2011, followed by an increasing variable trend through 2018. Post-YOY relative abundance declined from 1997–2001 on the Atlantic coast, followed by an increase through 2005 and steep decrease from 2009-2011, and has since increased in 2017. On the Gulf coast the index is without trend from 1997-2005, followed by a steep decreasing trend through 2010 and a steep increasing trend through 2018.

Atlantic Coast Proportion to Total Collected

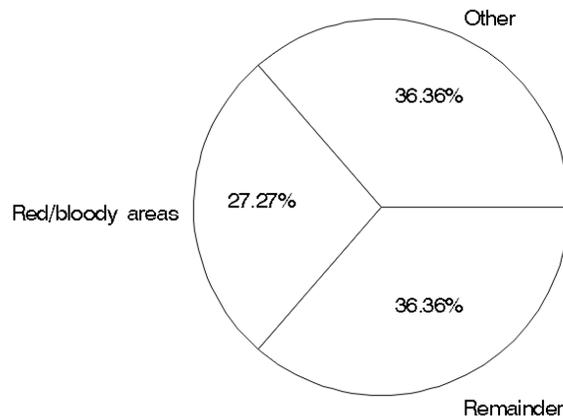


Gulf Coast Proportion to Total Collected



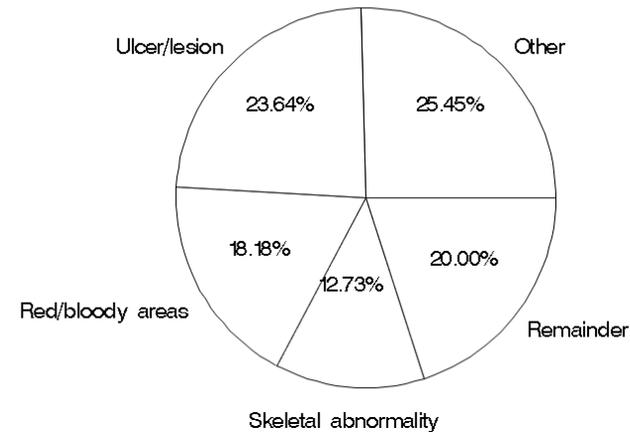
Atlantic Coast Percentage of Abnormality Types

Percentage of gross external abnormalities



Gulf Coast Percentage of Abnormality Types

Percentage of gross external abnormalities



Fish Health: The proportion of Common Snook ≥ 75 mm with gross external abnormalities on the Atlantic coast remained low apart from higher proportions in 2001, 2012, and 2016. On the Gulf coast, the proportion of Common Snook with abnormalities has shown little trend apart from an increase in 2008, followed by a decrease from 2009-2012 and a slight increase in 2013. Abnormalities observed by fishery-independent-monitoring on the Atlantic coast consisted of red or bloody areas or other external abnormalities. Observed abnormalities on the Gulf coast were attributable to ulcers or lesions, red or bloody areas, skeletal, and other external abnormalities.

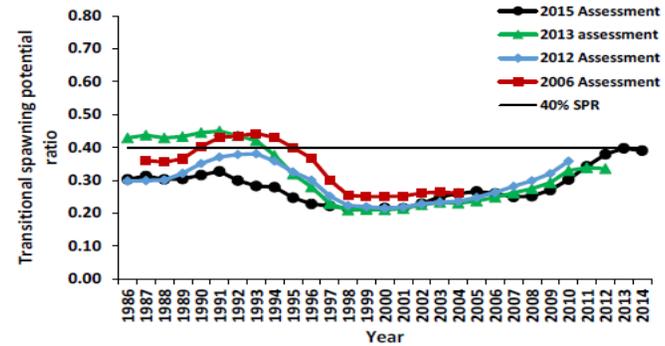
Stock Status

Current Condition: Only the Atlantic stock *did not* exceed the Commission’s 40% $tSPR_{current}$ management target (Muller et al. 2015).

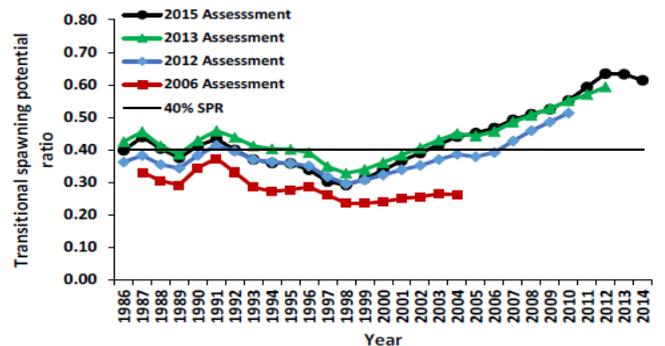
Management History: Common Snook is managed for only recreational fishing in Florida on the Atlantic coast and the Gulf of Mexico by the State of Florida. A cold kill event occurred in the winter of 2010 in Florida waters which caused significant widespread mortality of a few estuarine species, notably Common Snook. Concerns over the high numbers of Common Snook reported dead prompted the FWC to issue an executive order that temporarily closed harvest seasons for Common Snook statewide. The fishery reopened on the Atlantic coast in September 2010 and on the Gulf coast in September 2013. The 2015 stock assessment update, using data through 2014, evaluated the effects that the cold kill had on Common Snook populations (Muller *et. al* 2015). For the ‘base’ model (i.e., the model that does not incorporate the impact of environmental events), the transitional SPR (tSPR) values in 2014 approached the Commission’s objective on the Atlantic coast (39%) and exceeded the objective on the gulf coast (61%). Results from the model that incorporated the impact of environmental events (red tides and cold kills) indicated that in 2014 SSB in the Gulf was still at 90% of the SSB expected at $SSB_{40\%SPR}$ ($SSB_{2014}/SSB_{SPR40\%}=0.90$) and the Atlantic SSB in 2014 was only at 60% of the SSB expected at $SSB_{40\%SPR}$ ($SSB_{2014}/SSB_{SPR40\%}=0.60$). The apparent mismatch between the fishing mortality rates on the Atlantic coast meeting the Commission’s objective and the spawning biomass being below their goal means that the recent low fishing mortality rates have not been in place long enough to allow all of the ages in the spawning stock to rebuild.

There is a pending 2020 Common Snook stock assessment for Florida.

a. Atlantic



b. Gulf



Comparison of transitional spawning potential ratios from the 2015 assessment with those from the 2006, 2012, and 2013 stock assessments, and the Commission’s 40% management goal (Muller et al. 2015).

2015 Common Snook Assessment (Muller et al. 2015)		
Reference Point	Atlantic	Gulf
$tSPR_{current}$	0.39	0.61

Derived reference points from model configurations (1986-2014). $tSPR$ is transitional spawning potential ratio; *current* = geometric mean of last 3 years (2012-2014).