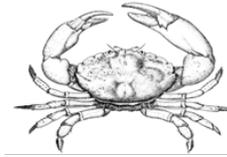


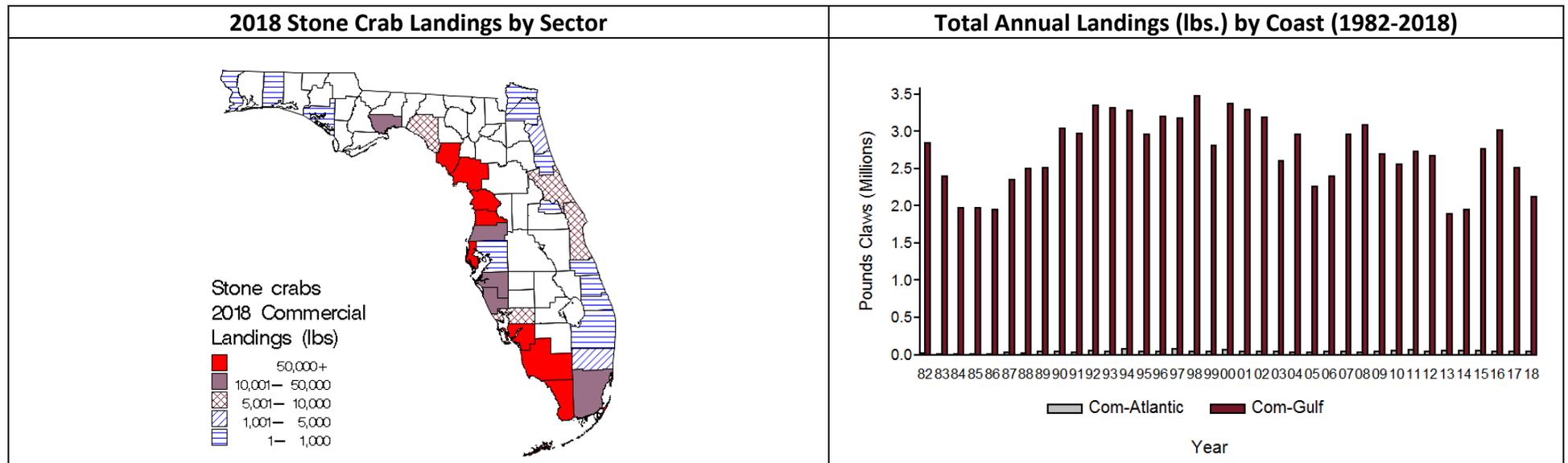
**Florida Stone Crab,  
*Menippe mercenaria* (Say, 1818)**



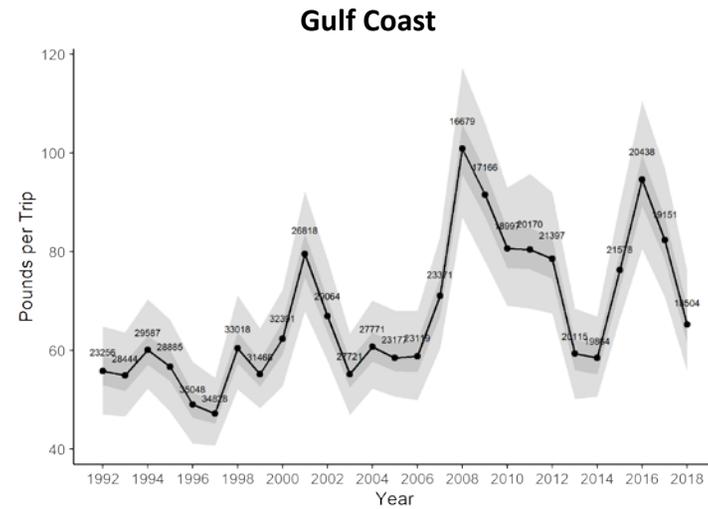
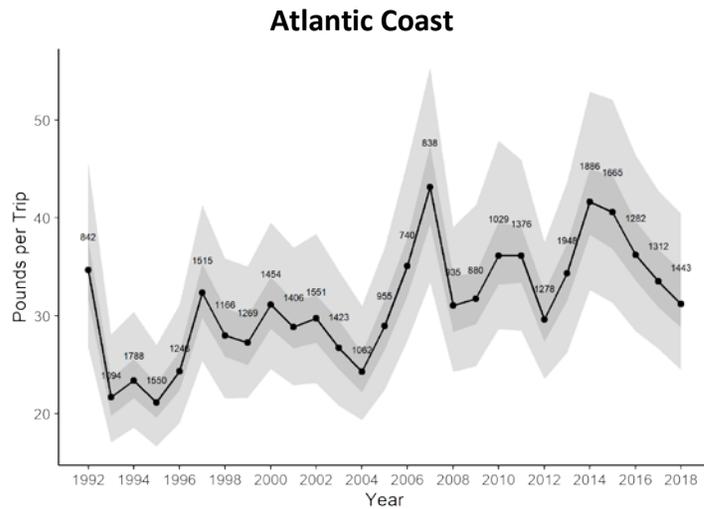
**Gulf Stone Crab,  
*M. adina* (Williams and Felder, 1986)**

**Life History**

Stone Crabs are found from North Carolina south around peninsular Florida to the Yucatan Peninsula and Belize and throughout the Bahamas and Greater Antilles. Adults are benthic and live in burrows that can be found from the shoreline out to depths of 200'. In the northern and western Gulf of Mexico (northwest Florida to Tamaulipas, Mexico), Gulf Stone Crabs replace Florida Stone Crabs. Florida Stone Crab growth is highly variable but growth to 0.4" carapace width (CW) can occur in as little as 6 months to as long as one year (Tweedale *et al.* 1993). Transition points in crusher-claw propodus length (PL): CW analysis indicated that 50% morphological maturity (CW<sub>50</sub>) occurred at approximately 2.76" CW for males and 2.36" CW for females (Gerhart and Bert 2008). Most female Florida Stone Crabs spawn when they reach 2.25"–2.75" carapace width or approximately age 2. Recruitment to the commercial fishery is estimated to begin at age 3 for males and age 4 for females (Gerhart and Bert 2008). Although some spawning occurs all year, Florida Stone Crabs spawn principally from April through September. The Stone Crab fishery is unusual in that only the claws are harvested, and the crab is returned to the water alive ostensibly to generate new claws. Approximately 20% of the claws measured in fish houses were regenerated, providing evidence that some crabs survive the de-clawing process.



The Stone Crab fishery operates from October 15 through May 15. Since the fishing season spans two calendar years, Stone Crab landings are reported by the calendar year in which the season begins. In calendar year 2018, commercial Stone Crab landings were 2,158,958 pounds of claws which were 12.8% lower than the previous 5-year average (2013-2017). Coastwide, 98% of these were from the Gulf.



**Standardized Commercial Catch Rates:** The Stone Crab fishery has been managed by the State of Florida since October 2011. Analysis of the fishery between 1981 and 1985 indicated that the resource was fully used at that time and had begun to show a decline in catch per unit effort and landings (Phares 1992). Commercial catch per trip on the Atlantic coast averaged 25 pounds between 1993 and 1996 before increasing to an average of 30 pounds per trip from 1997-2003. Landings rates then increased to a notable high in 2007, followed by variable rates until another high peak in 2014. Rates have recently declined through 2018. Commercial catch per trip on the Gulf coast fluctuated around 56 pounds before increasing steadily through 2001. Landings rates then declined during 2002-2006 but increased to over 100 pounds/trip in 2008. A steady decline to about 60 pounds per trip occurred through 2014, however rates peaked again in 2016 with recent declines through 2018. Dark grey figure lines represent first and third quartiles while the light grey lines represent the 2.5% – 97.5% quantiles.

### Atlantic Coast

No Data Available.

### Gulf Coast

No Data Available.

**Standardized Recreational Total Catch Rates:** There continues to be a lack of recreational data to provide accurate estimates of recreational catch. There is a recreational sector that can either fish five traps per person or catch the crabs while diving, however it is difficult to estimate the number of participants or the magnitude of their harvest (Muller et al. 2011).



## **Stock Status**

**Current Condition:** unknown

**Management History:** Despite the three-fold increase in the number of traps used in the fishery since 1989-90 the level of landings has remained fairly stable over time. Muller *et al.* (2006) found that the recent (through 2004-2005) landings levels are probably all that can be harvested under current environmental conditions, regulations, and fishery practices. Overfishing was clearly occurring because of the excessive number of traps used in the fishery. Recruitment does not show any decline over the time series (1986/87 through 2004/05). Muller *et al.* (2006) suggested that Stone Crabs were resilient to continued overfishing because most female Stone Crabs spawn one or more times before their claws reach legal size, because some crabs survive declawing, and because the fishing season is closed during the principal spawning season. However, the fishery continues to have too many traps in the water as evidenced by the low catch-per-trap level over a very wide range of recent numbers of deployed traps.

The 2011 stock assessment update for the Stone Crab fishery in Florida used two models to evaluate stock condition, a surplus production model and a modified DeLury model (Muller et al. 2011). The surplus production model indicated that the fishing mortality was too high due to having more traps in the fishery than were necessary which is the same conclusion as was made in the 1997, 2001, and 2006 assessments. However, the DeLury model estimated that recruitment varied without trend from 1985-2010. A major source of uncertainty that remains for the Stone Crab assessment process is the total absence of recreational data (Muller et al. 2011). The status of Stone Crab is best indicated by the lack of an increase in landings when the number of traps more than doubled. A possible scenario is that, given the current fishing practices, there are only so many claws that can be harvested each fishing year from the nearshore crabbing grounds and harvesters merely compete with each other for those claws. If the decline in the issuance of trap certificates continues at the present rate (2.57% per year), it will take 37 years for the fishery to reach the Commission's goal of 600,000 traps in the fishery.