Development of life-stage specific

The blue crab (*Callinectes* *sapidus*) fishery is annually one of the largest and most important commercial and recreational fisheries in South Carolina in terms of weight and value. Despite typical high fluctuations in blue crab mean annual abundance and commercial landings, data from both fisheries independent and dependent surveys have shown declines in populations in recent years in South Carolina and along the broader South Atlantic Bight region.

Data from several long-term South Carolina Department of Natural Resources fisheries independent and dependent blue crab surveys were analyzed to assess trends in life-history and to develop predictive models of fisheries independent and dependent abundance and landings. Ordinary Least Squares regression models were developed with single and multiple life-history size and sex/maturity variables used to predict Indices of relative abundance and

Fisheries independent and dependent data show high annual variability in abundance and landings in South Carolina.

Despite this high annual variability there is a marked decline in both landings and abundance, which is

BUT it is unclear how well these population surveys

Therefore, it is important to understand how salinity impacts blue crab across various life stages, and how these changes relate to blue crab abundance.

While methodologies differ among sampling techniques, the long-term nature of these surveys allows for a more comprehensive assessment of the environmental conditions associated with population fluctuations and changes in life history patterns such as growth and size-at-maturity