

RED DRUM, *Sciaenops ocellatus*



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Life History

Red drum (*Sciaenops ocellatus*) are estuarine dependent members of the drum family that includes Atlantic croaker, spot, black drum, weakfish and spotted sea trout. Ranging from Florida to Massachusetts along the Atlantic coast, red drum are most abundant from Virginia to Florida. Red drum, also called channel bass, are common throughout the coastal waters of North Carolina and is the state's saltwater fish. Large red drum (up to 90 pounds) inhabit the coastal waters throughout the year, are often observed in the surf during the spring and fall seasons and commonly found in the Pamlico Sound during the summer months. Spawning takes place in the fall around coastal inlets and in Pamlico Sound. Larval and juvenile red drum use various shallow estuarine habitats in coastal sounds and rivers during the first few years of life. Upon maturity (age 4 and around 32 inches in length), red drum move out of the estuaries to join the adult spawning stock in the ocean. Red drum are a long-lived species commonly reaching ages in excess of 40 years. The oldest red drum recorded was taken in North Carolina and was 62 years old. Red drum are opportunistic feeders and diet can shift with changes in age and habitat. Various types of small crabs and shrimp make up a large portion of juvenile red drum diets; while crabs and shrimp continue to make up a portion of the adult diet, adults will also frequently eat various fish species.

Fisheries

A directed commercial red drum fishery does not exist in North Carolina today and historically red drum made up only a small portion of North Carolina's total commercial landings. Along the Atlantic coast, however, North Carolina dominates landings accounting for greater than 95 percent of the harvest over the past two decades. Virginia is the

only other significant contributor of commercial landings. Harvest in North Carolina fluctuates annually and has averaged 168,405 pounds since 2007 (Figure 1). Gill nets are the predominate gear used to take red drum (Figure 2).

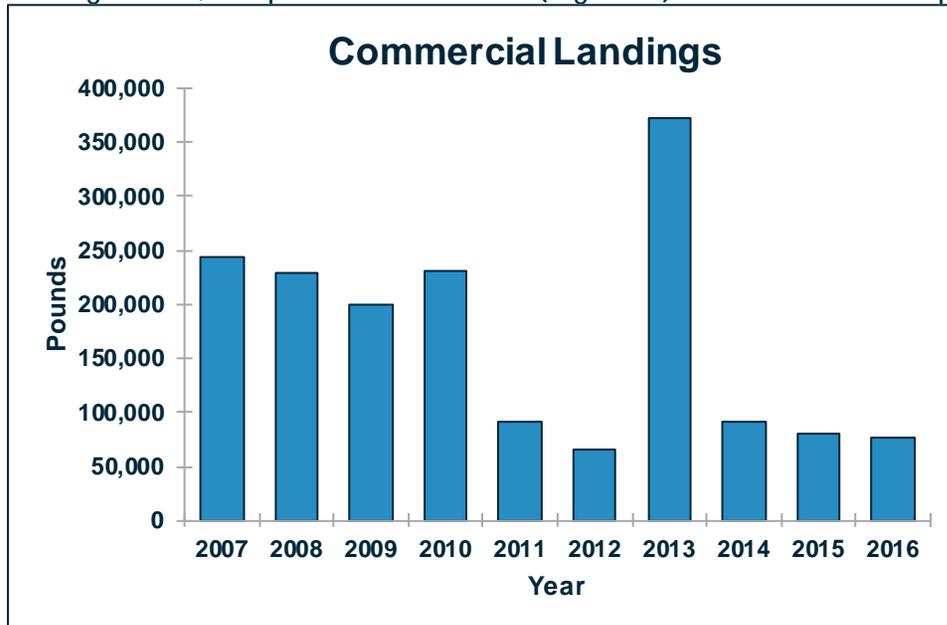


Figure 1. Annual commercial landings of red drum in North Carolina, 2007-2016.

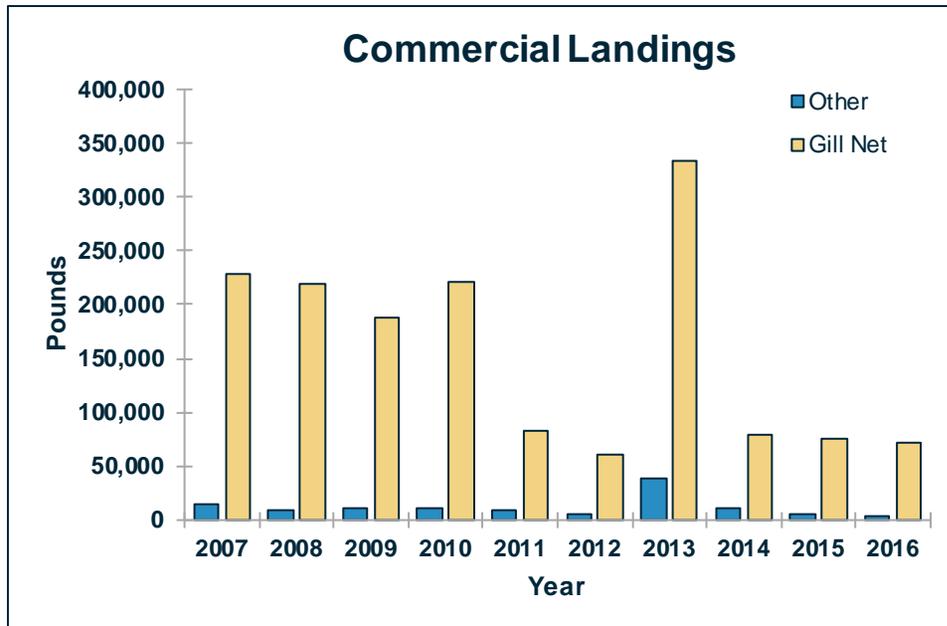


Figure 2. Annual commercial landings of red drum in North Carolina by gear, 2007-2016.

Red drum is a highly sought after species targeted by recreational anglers throughout the year in the coastal sounds, rivers and beaches of North Carolina. Angling methods used to catch red drum vary but include conventional, spinning and fly tackle; using live, dead, and artificial bait. Over the past 10 years, red drum have consistently ranked in the top five most targeted fish species in state coastal waters. Landings fluctuate annually and most fish captured are

released (Figure 3). Average harvest has been 71,688 fish, equal to 322,253 pounds, since 2007. Release numbers are much higher, averaging 607,785 individual releases since 2007.

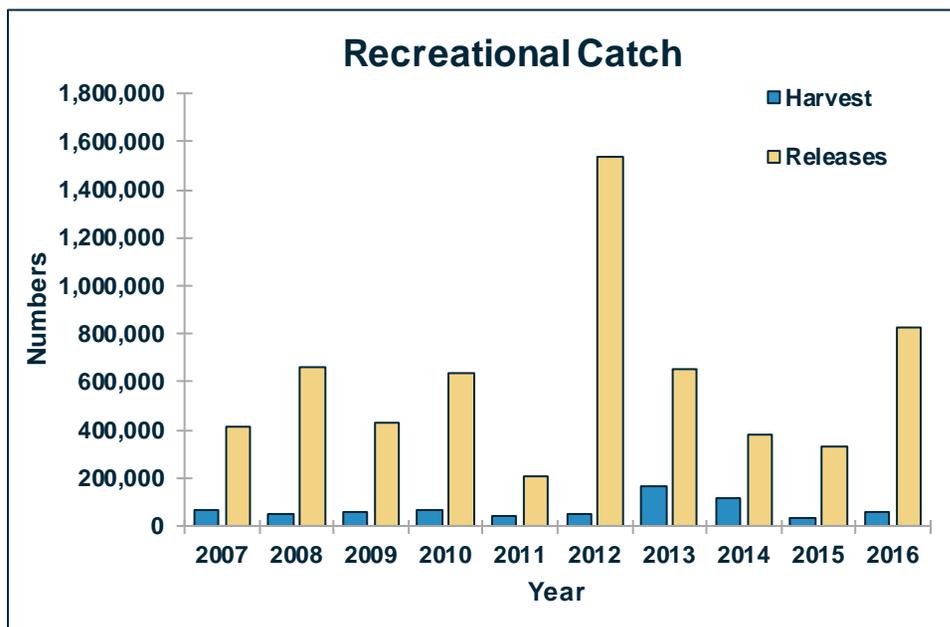


Figure 3. Annual recreational catch of red drum in North Carolina, 2007-2016.

Management

Red drum in North Carolina are managed under both the North Carolina Fishery Management Plan for Interjurisdictional Fisheries (Amendment 2 to the Atlantic States Marine Fisheries Commission Fishery Management Plan for Red Drum) and a state plan (Amendment 1 to the North Carolina Red Drum Fishery Management Plan). The Interjurisdictional plan requires management measures from Atlantic States Marine Fisheries Commission be adopted by North Carolina as the minimum standard for the fishery, while the North Carolina plan can adopt more restrictive measures. The latest Atlantic States Marine Fisheries Commission stock assessment for red drum was approved for management in February of 2017 with results indicating that regulations in place since the late 1990's effectively eliminated overfishing of red drum in North Carolina. The state red drum plan began development in 1998 and was the catalyst for the current

regulations. More recently, Amendment 1 to the state plan (2008) was approved and required no further changes to harvest limits. Steps were taken through Amendment 1 to reduce the impact of mortality associated with regulatory discards. These included, requiring circle hooks in some of the adult red drum recreational fisheries and expanding the current small mesh gill net attendance requirements in the commercial fishery. Amendment 2 to the Atlantic States Marine Fisheries Commission plan was adopted in June 2002 and required states to implement and maintain management measures that prevent overfishing and achieve optimum yield in the red drum fishery. Regulations enacted as part of the original North Carolina red drum fishery management plan have satisfied this requirement.

Stock Status Overview

Red drum in North Carolina are currently listed as “Recovering.” This designation is based on the results of the 2017 Atlantic States Marine Fisheries Commission stock assessment. Under the stock assessment, the stock unit for red drum along the Atlantic coast is divided into a northern and southern stock. North Carolina and states north represent the northern stock. For the northern stock, the static spawning potential ratio was at or above target levels. Static spawning potential ratio is a measure of the reproductive potential of a fished stock compared to the reproductive potential that would be produced in an unfished stock. Management measures have effectively controlled fishing mortality to a level sufficient to meet management targets. The management target is to maintain the static spawning potential ratio at 40 percent of an unfished stock. It is critical to note that reaching the target is only the first step in maintaining this fishery. For the red drum stock to be considered healthy and viable, the management target must be maintained continuously over time. Increases in the harvest rates (relaxation of current regulations) should only be allowed if those increases are not anticipated to lower the static spawning potential ratio below the management target.

Division staff conduct sampling of red drum for various life stages from juveniles to adults using different surveys and techniques. Each of these surveys provide inputs into the regional stock assessment for red drum. The Juvenile Red Drum Seine Survey provides an annual index of abundance for age-0 red drum. The index is highly variable with both high and low abundance occurring in recent years, most notable is a large peak in abundance in 2011 (Figure 4). A sub-adult index is provided by the Pamlico Sound Independent Gill Net Survey. This index provides annual abundance for age-1 and age-2 red drum. Like the seine survey, results vary annually with a large peak in 2013 resulting from the large 2011 recruitment spike (Figure 5). The final index is provided from the North Carolina Red Drum Longline Survey (Figure 5). This provides an annual index of abundance for adults (age-5 and above aggregated). The trend is relatively stable, although a slight downward trend is exhibited, particularly given a lower than average catch rate for 2016.

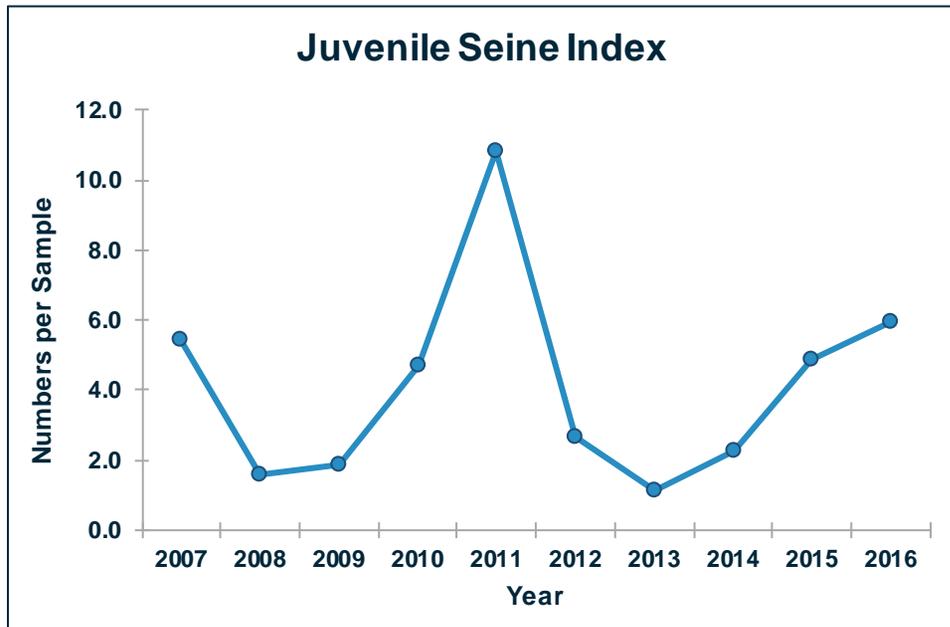


Figure 4. Annual index of relative juvenile abundance of red drum in the Division Red Drum Juvenile Seine Survey, 2007-2016.

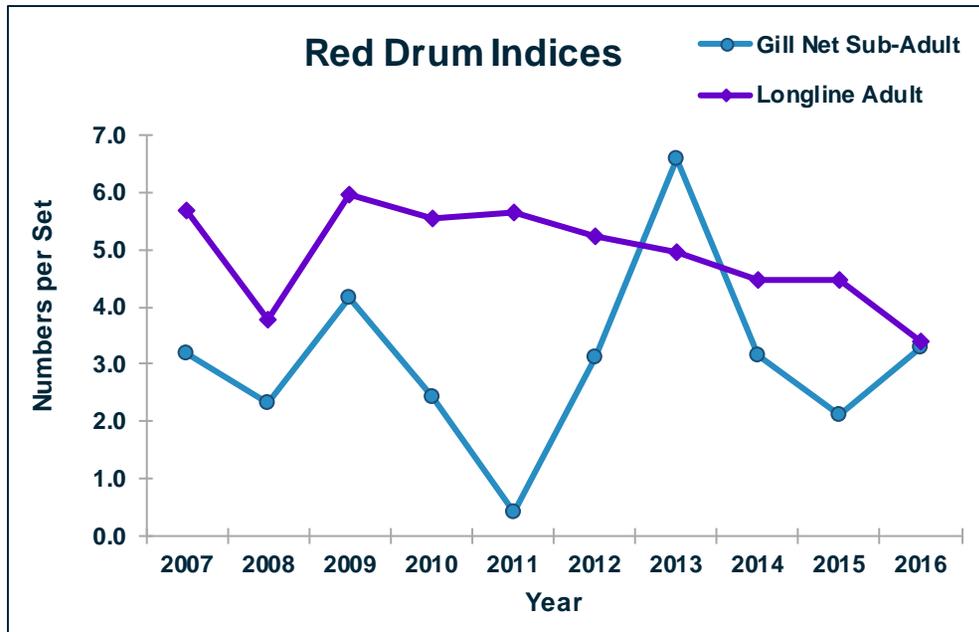


Figure 5. Annual indices of relative sub-adult and adult abundance of red drum in the Division Pamlico Sound Independent Gill Net Survey and Longline Survey, 2007-2016.

Research Needs

Research needs include information on the size distribution of recreational releases, commercial discard estimates, fisheries independent data on recruitment of juvenile fish to adults, assessment of adult stocks, estimates of fecundity for females and validation of sub-adult abundance indices.



Links

Management Agencies

[North Carolina Division of Marine Fisheries](#)

[Atlantic States Marine Fisheries Commission](#)

[Fishery Management Plans, Amendments, Revisions, & Supplements](#)

[North Carolina Fishery Management Plan](#)

[Atlantic States Marine Fisheries Commission Plan](#)

Contacts

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