

Crevalle Jack

Caranx hippos

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DESCRIPTION

Taxonomy and Basic Description

The crevalle jack, or “jack crevalle,” as it is more commonly referred, was first described by Linnaeus (1766) as *Scomber hippos*; however, the name was changed the same year to *Caranx*



hippos and still remains in use today. *Caranx* is derived from the French word “carangue” which means Carribean fish, while *hippos* is Greek for “horse” (Florida Museum of Natural History 1988). The jack crevalle is part of the family Carangidae (jacks) and, like other species in the same family, is almost entirely silver colored. There is always a dark spot on the gill cover that is unique to this species. Juveniles have a series of five dark bars along the body that disappear with age. The fish grows quickly and can attain a maximum size of up to 124 cm (4 feet) and weigh close to 23 kg (50 pounds) when full grown. A deep-bodied species, the jack crevalle is a powerful swimmer with well-developed fins and a large head. Large specimens averaging 11 kg (25 pounds) are fairly common throughout the states’ coastal waters during the summer months.

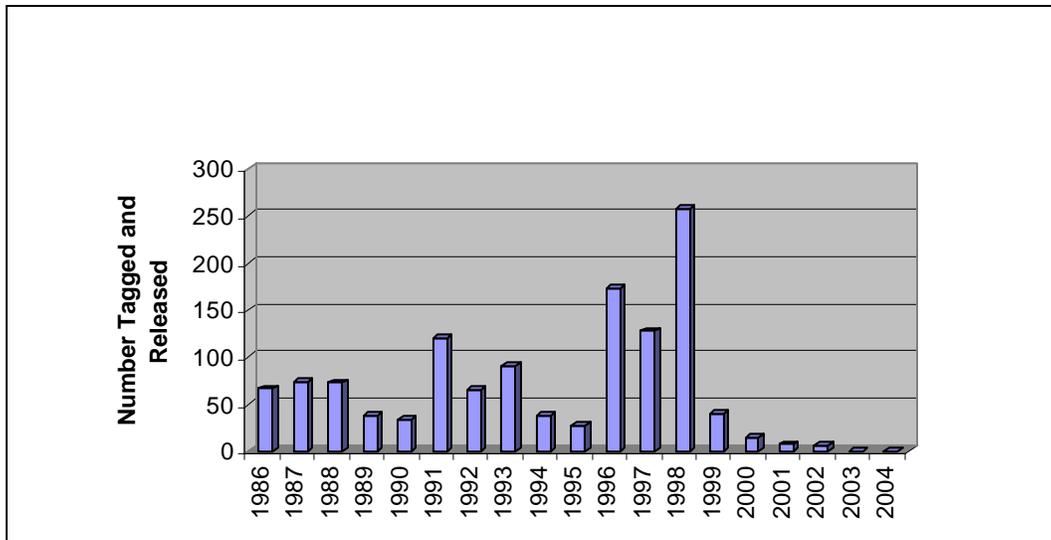
In open water, young crevalle jacks are vulnerable to predators. For protection, they use a behavior called piloting in which the crevalle will literally stay within inches of a larger fish or, if none are available, will “shadow” buoys, boats, or swimmers.

Status

Although the jack crevalle is not currently listed as vulnerable or threatened and is not listed as a species of concern for South Carolina, it is a popular and sought after sport fish by recreational anglers. Abundance of crevalle can be used as an indicator of the health of the upper levels of the food chain in marine ecosystems (Rudnick et al. 1999). Overall, the fish is considered exploited throughout its range (Florida Museum of Natural History 1988).

POPULATION DISTRIBUTION AND SIZE

Geographic distribution of the species consists mainly of coastal areas of the western Atlantic Ocean from Nova Scotia to Uruguay and throughout the Gulf of Mexico. In South Carolina, crevalle jacks are common inhabitants of estuaries and near shore waters from June through October. Larger concentrations of this fish seem to occur in the Charleston Harbor area as well as other deep water sounds in the southern part of the state. The population size is unknown, however it appears highly variable from one year to the next with an overall decline in local seasonal abundance over the last six years.



HABITAT AND NATURAL COMMUNITY REQUIREMENTS

Crevalle jacks are considered a pelagic warm water fish that are found in oceanic, estuarine and riverine environments, depending on life stage. Spawning occurs offshore where eggs ride the currents created by the Gulf Stream. Like many offshore species, crevalle larvae utilize estuaries as nursery grounds. Juveniles, which tend to be less than 13 cm (5 inches) in length, roam near shore waters in schools feeding on small fish and crustaceans. Crevalle jacks typically prefer water temperatures between 18 to 33.6 °C (64 to 92.5 °F) and salinities above 30 parts per thousand (ppt); however, adults have been found in freshwater environments (Berry 1978). Adult fish usually occupy areas with strong currents as well as offshore reefs (both manmade and natural). Any hard substrate such as rock, coral or concrete is essentially key habitat for crevalle jacks. Seagrass beds represent important habitat because these areas will often concentrate juvenile fish.

CHALLENGES

The crevalle jack is a popular game fish because anglers enjoy the sport associated with catching them. These fish are generally not consumed and they are often released after landing. However, because large jacks will often fight until critical exhaustion, release mortality is high. Crevalle jacks may also be caught incidentally during shrimp trawls; however, this type of mortality does not appear to have a significant impact on the population.

Because the crevalle jack is a migratory species, it is available in South Carolina coastal waters for a limited period of time each year. Therefore, there is a relatively small window available for monitoring this species. Currently the public marine tagging program and the saltwater recreational creel census offer limited catch data, however these programs do not provide enough information to yield reliable information about population size or trends. Although a regional management plan is not currently available, such a plan could greatly benefit this species because a concentrated commercial harvest directed at this species in any portion of its range would most likely have a negative impact on the overall stock of crevalle jacks.

Over the last several years, dredging projects have occurred in Charleston harbor and a new bridge is currently under construction. The increased disturbance associated with these projects may simply scare fish away. Additionally, construction materials may have an undesirable affect on the water quality. Furthermore, dredging temporarily creates a large plume of silt which effects water clarity, making it more difficult for crevalle jacks to locate prey.

CONSERVATION ACCOMPLISHMENTS

The use of gill nets in estuarine waters was severely restricted by the state in 1987. Because these nets may have contributed to some mortality of both adult and juvenile crevalle jack, banning these devices likely reduced mortality of this species. Additionally, the crevalle jack is a target species for tag and release as part of the states' public marine game fish tagging program. This program is a cooperative effort with saltwater recreational anglers that promotes conservation while at the same time providing scientific information on species where there is a lack of sufficient data.

CONSERVATION RECOMMENDATIONS

- Determine trends and factors that influence annual abundance of crevalle jacks.
- Examine historical trends related to salinity and water quality to determine if there is a correlation between these factors and crevalle jack seasonal abundance.
- Examine predator prey dynamics of crevalle jacks.
- Examine historical trends to determine the potential effect of human activities, such as dredging and construction, on abundance of crevalle jacks.
- Increase creel census during summer months in areas where crevalle are typically caught in order to capture catch and effort information that may help determine abundance.
- Increase public outreach through the marine game fish tagging program and continue to encourage participating anglers to provide information through tag and release.
- Develop and implement a regional management plan for crevalle jacks.

MEASURES OF SUCCESS

By implementing the above recommendations, SCDNR will be able to monitor population trends and respond proactively should harvest exceed sustainable levels, which, in turn, will result in the continued stable abundance of this important species.

LITERATURE CITED

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