

# Sharks on the Move

## Information for Students

### Fisheries of Cape Hatteras

#### *Commercial Fisheries*

##### Longline

Target species: Coastal sharks, dogfish sharks

Season: January - August

Soak time: 10-20 hours

Sandbar shark bycatch: Common

Notes: Most NC coastal waters closed to bottom longlines January – July.

##### Gillnet

Target species: King mackerel, southern kingfish, dogfish sharks

Season: May – November (king mackerel), November – April (dogfish sharks)

Soak time: 30 minutes-24 hours

Sandbar shark bycatch: Common

##### Trawl

Target species: Shrimp, flounder

Season: Year-round, highest effort May-October

Soak time: 1-5 hours

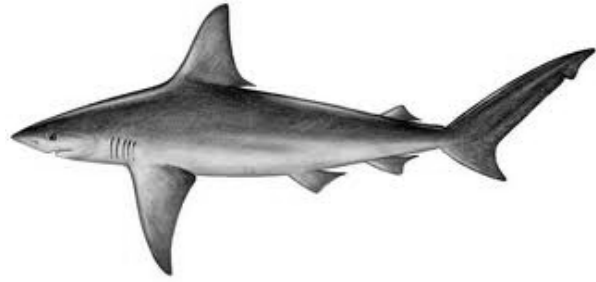
Sandbar shark bycatch: Rare

Notes: Required to carry turtle excluder devices (TEDs) and bycatch reduction devices (BRDs), which can also reduce shark bycatch

*Recreational Fisheries* – Can catch sharks as targets or bycatch. Shark bycatch rates are poorly understood compared to commercial fisheries. Less-experienced recreational fishermen often mistake sandbar sharks for species they are allowed to keep, such as blacktip and bull sharks. Sharks may also become lethally exhausted or injured during long fights.

## **Sandbar shark (*Carcharhinus plumbeus*)**

The sandbar shark is among the most familiar large coastal sharks, distinguished by its large dorsal fin and greyish-brown coloration. This shark can be found in warm and temperate coastal waters worldwide, and ranges from southern New England to the Gulf of Mexico on the east coast of the



United States. Sandbar sharks are popular in aquariums, and are regularly encountered in the wild by divers and fishermen.

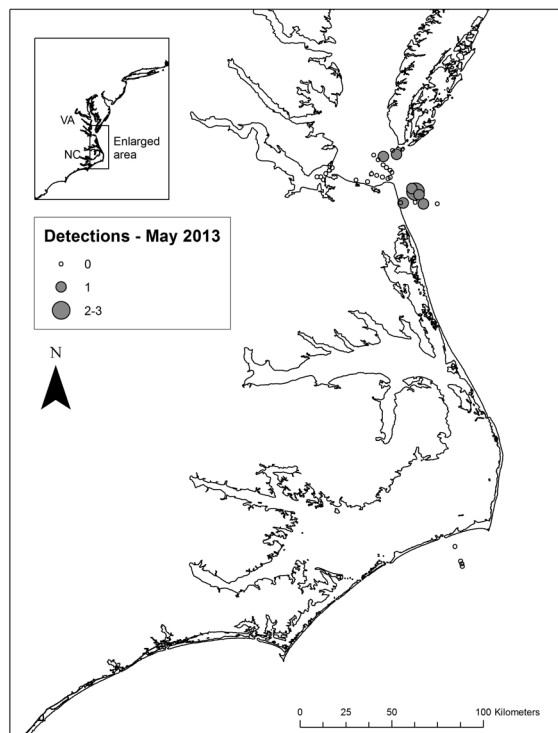
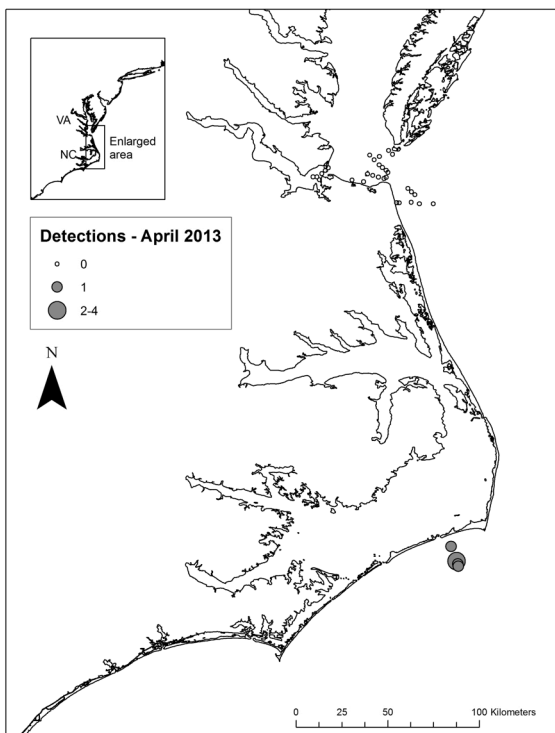
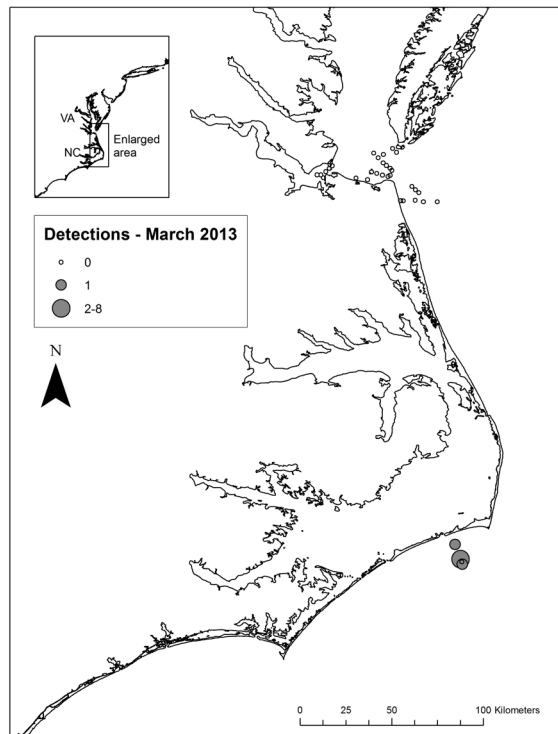
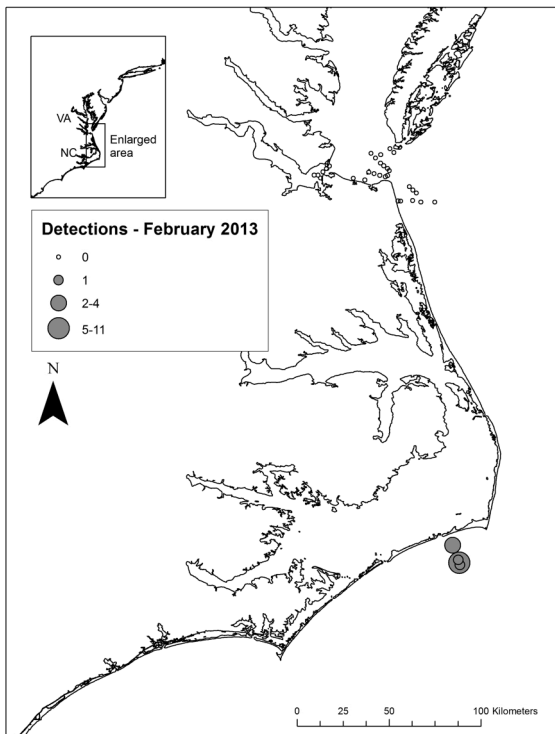
Sandbar sharks can reach a maximum size of 8 feet, and have few natural predators once they reach adulthood. However, these marine apex predators grow slowly and produce few offspring. Female sandbar sharks are not mature enough to reproduce until reaching a length of nearly 5 feet and an age of 13-15 years. Once mature, a female sandbar shark will give birth to an average of 8 pups every two years. Pups are born around 1.75 feet long and inhabit bays, estuaries, and shallow coastal waters. Known nursery habitats for sandbar sharks on the U.S. east coast include Delaware Bay, Chesapeake Bay, and the waters surrounding Cape Hatteras. Juvenile sharks may migrate between these areas.

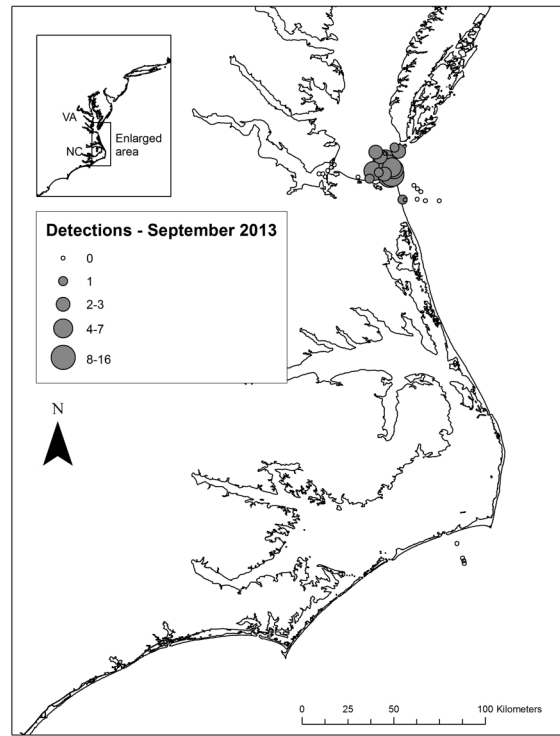
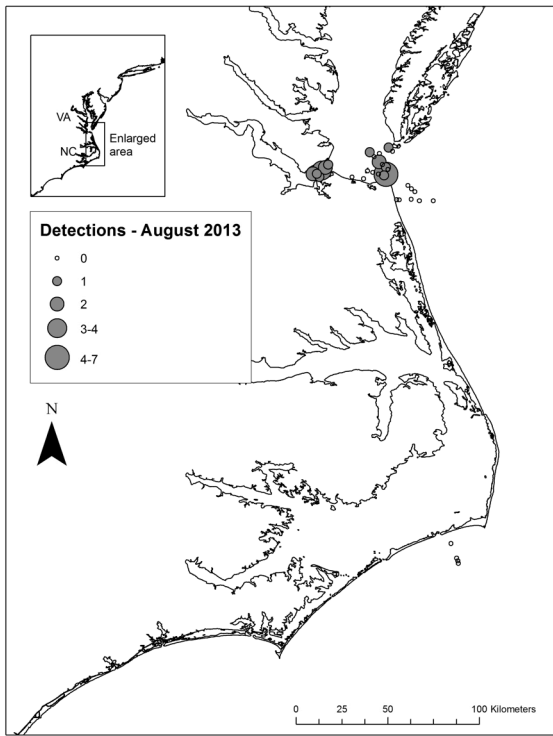
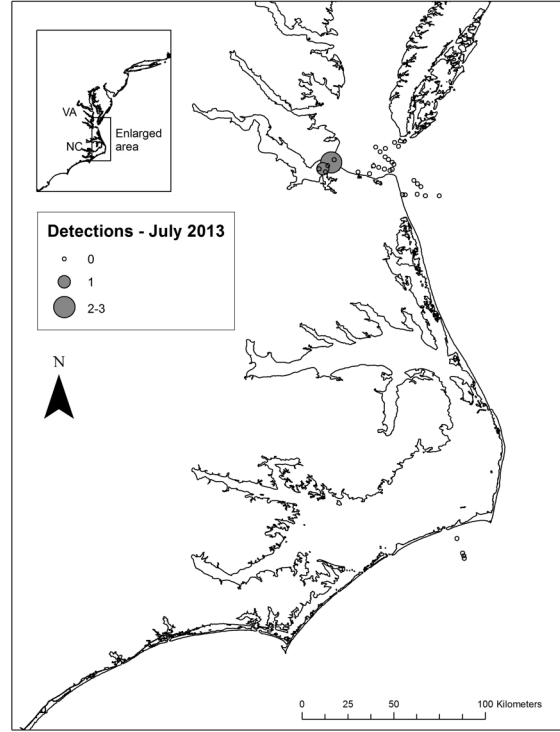
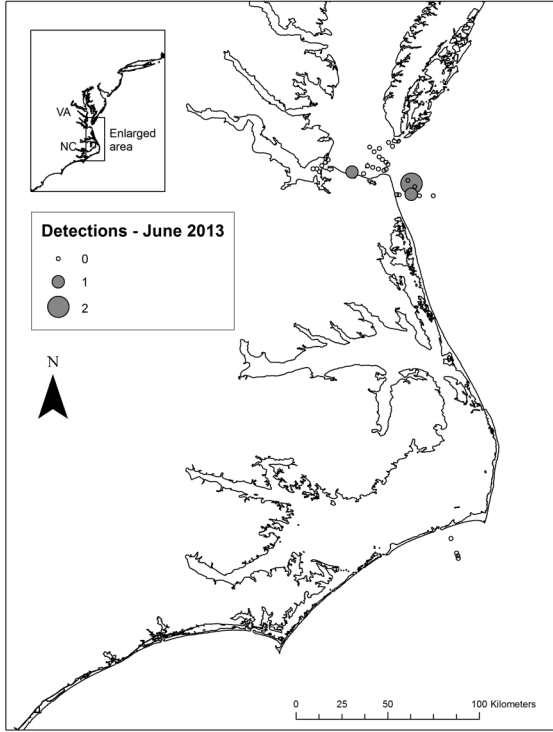
Though sandbar sharks were once one of the most common shark species in North Carolina waters, their populations have declined by as much as 80% since the 1980s. Because of this, sandbar sharks are now protected on the U.S. east coast, and may only be kept by fishermen with special research permits. Not all sandbar sharks are released alive, however, since sharks can be lethally injured or exhausted once snared in fishing gear. Fortunately, sandbar sharks are relatively hardy and are capable of surviving up to 10 hours in longline gear, though survival time in gillnet gear may be as low as 1 hour. Juvenile sandbar sharks generally show high survival in catch-and-release recreational fisheries.

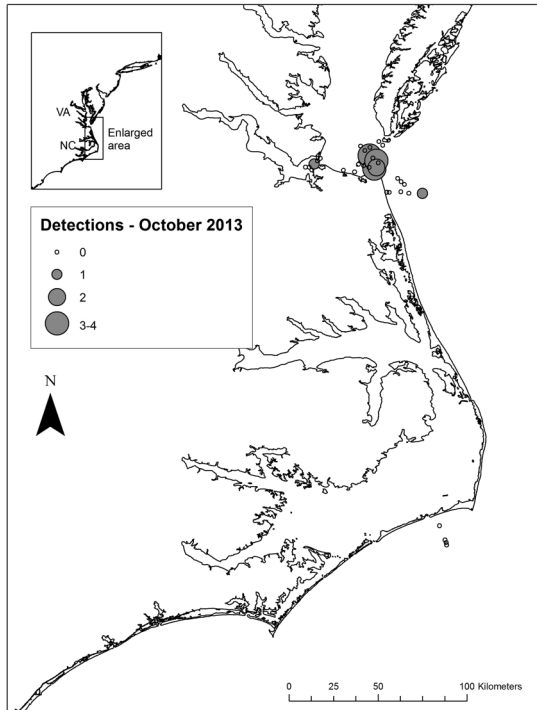
Researchers have found that juvenile survival is one of the most important factors affecting shark populations. Because of this, it is crucial to identify shark nursery habitats, especially those potentially impacted by human activities such as fishing and development.

The following maps show locations where acoustically-tagged juvenile sandbar sharks (Young-of-year and Age-1) have been detected by receivers off of Cape Hatteras and around the Chesapeake Bay, broken down by month. The total number of detections represents the number of times a tagged shark was picked up by the receiver.

## Detection Maps of Juvenile Sandbar Sharks Tagged off of Cape Hatteras







## Questions to Consider

Where might the tagged sharks be detected after October?

What are the alternatives to closing an area off to all fishing?

Is it possible to make changes that are beneficial to fishermen as well as sharks?