SHEEPSHEAD

Natural History and Fishing Techniques in South Carolina

by
Dr. Charlie Wenner
and
John Archambault

Educational Report No. 23

Doug Hoover holding state record sheepshead (15lbs. 12oz.) caught in Charleston, 2001

Marine Resources Research Institute
Marine Resources Division

South Carolina Department of Natural Resources
Post Office Box 12559
Charleston, SC 29422

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September 2006

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Numerous low-country fishing clubs have supported our project and have allowed us to sample the catches of anglers at their weigh-ins over the years. Among them are the Carolina Lady Anglers, Allison Oswald Memorial Tournament, Low Country Anglers, and Charleston Inshore Anglers. Also, we have placed freezers in various locations so that anglers could provide us with their fish carcasses after filleting their catch. To the owners and operators of the stores and marinas that have helped over the years, as well as folks that have dropped off their fishes, sincere thanks.

So we continue forward with the fourth of these fishing booklets.

Best,

Charlie Wenner and John Archambault

September 2006

SHEEPSHEAD FISHING

Prologue

Sheepshead fishing has been on the South Carolina sportsman's menu for a very long time. Prior to the Civil War, (or the War of Northern Aggression as the case may be), the Honorable William Elliott devoted an entire chapter to sheepshead fishing in his 1859 book, Carolina Sports by Land and Water.[1] In the following excerpt, he not only describes the locales and methodology used during the antebellum period, but also documents the first artificial reef in South Carolina. The "reef" is surprising in both its simplicity and effectiveness. In addition, he instructs the reader on the use of shellfish as chum to attract the sheepshead, and as bait to catch them.

"On the subject of sheepshead, I shall be brief, since there are few whose curiosity will lead them to pursue these pages, who have not, either as a fisherman or a gastronomes, a familiar acquaintance with them. They are spread along our coast, from Florida to New York; but they who taste them at our great marts of business, after they have been captured at some distant point, and shut up, during a sea voyage, in the well of a smack, can have little understanding of their true culinary value. They should be eaten fresh; and when boiled or broiled, are surpassed in flavor only by the crevalley[2] – which holds the same rank among sea-fish, that the salmon does among those which inhabit the rivers. The drum and bass, on the contrary, are to be dressed in steaks, cut crosswise, and fried; and I may be forgiven, perhaps for adding, that a grating of nutmeg sprinkled over them, before they are laid in the pan, has been deemed, by discriminating palates, to add richness to the flavor. But we anticipate: the old and approved formula says, "first catch your fish before you cook it," – and we shall proceed, in due order, to do as it directs.

They are exceedingly choice in their feeding – taking no bait but shell-fish. Their favorite food is the young oyster, which, under the form of barnacle, they crush with their strong teeth. Of course, they frequent those shores that abound with fallen trees. On the Florida coast, they are taken in great quantities among the mangrove-trees, whose roots, growing in the salt water, are covered with barnacles. Formerly, they were taken in considerable numbers among our various inlets. Wherever there were steep bluffs, from which large trees had fallen in the water, there they might confidently be sought. But as these lands have been cleared for the culture of sea-island cotton, the trees have disappeared, and with them the fish; and it has been found necessary to renew their feeding-grounds by artificial means. Logs of pine or oak are cut, and framed into a sort of hut, without a roof. It is floored and built up five or six feet high; then floated to the place desired and sunk in eight feet of water, by casting stones or live oak logs within. As soon as the barnacles are formed, which will happen in a few weeks, the fish will begin to resort to the ground. It is sometimes requisite to do more, before you can succeed in your wishes. The greatest enemies of this fish are the sharks and porpoises – which pursue them incessantly, and destroy them, unless they can find secure hiding places to which to retreat. Two of these pens, near each other, will furnish this protection; and when that course is not adopted, piles driven near each other, quite surrounding the pen, will have the same effect. Your work complete, build a light staging, by driving down four upright posts, at a distance of fifteen feet from the pen; and then take your station on it, provided with a light, flexible and strong cane reed, of twenty feet length, with fourteen feet of line attached – a strong hook, and a light lead. Instead of dropping your line directly down, and poising it occasionally from the bottom, I prefer to throw the line out beyond the perpendicular, and let the lead lie on the bottom. The sheepshead is a shy

[1] Elliott, W. 1859. Carolina Sports by Land and Water. Derby and Jackson, 119 Nassau Street, N.Y. 292 p. Reprinted in 1977 by the Attic Press, Inc. Greenwood, S.C.

[2] I was unable to determine what species of fish the author was referring to; crevalle jack is the species of jack that enters our waters in the summer. They are noted for hard strikes as well as their extraordinary fighting ability. They are terrible to eat, being strong and tough, so I cannot believe he was referring to this species. Perhaps he was referring to the Florida pompano or the permit.

fish, and takes the bait more confidently when it is on the bottom. When he bites, you perceive your rod dipping for the water – give a short, quick jerk, and then play him at your leisure. If the fish is large, and your jerk too violent, the rod will snap at the fulcrum – the grasp of your left hand. It has happened that, at one of these artificial grounds, I have taken sixteen sheepshead at one fishing. What was unusual, was, that they were taken in February, when no one thinks of fishing for these or any other sea-fish within the inlets! I ascertained, from the continued experiments of several years, that they could always be taken at this season, and frequently in January also. The difficulty is to find bait, for neither shrimps nor crabs are in season. In the case referred to, the difficulty was thus removed – the lines were rigged with two hooks; upon one was placed an oyster taken fresh from the shell – on the other an oyster boiled. The scent of the first attracted the fish; but so little tenacity was found in it, that before the fish had taken hold of the hook, the oyster was detached; but when encouraged by the taste of the first, the fish advanced to the second, that having acquired toughness from boiling, would adhere until the hook was fairly taken into the fish's mouth. They clearly prefer the uncooked to the cooked oyster; but the latter was more to the fisherman's purpose. Their fondness for this food suggested the expedient of breaking up the live oysters in the shell, and scattering them in the vicinity of the ground; also that of letting down the broken oysters in a wicker basket. Each plan is found effectual in attracting the fish.

The bluffs, in their primitive state, in which trees enough have found fallen, to give the fish both food and protection against their enemies, are only to be met with, now, among the hunting islands, where the barrenness of the land had secured them against cultivation. On two occasions, I have enjoyed excellent sport at such places. On one I took twenty-three to my own rod; on another, twenty-four – and desisted from fatigue and satiety. They are never taken in such numbers, when fishing from a boat with a drop line, on the rocks. It is very rare, that as many as twenty are taken with one boat."

INTRODUCTION

Not every fish with black and white vertical stripes should be considered a bait-stealing crook. Coastal fishers in South Carolina know that, in actuality, one species is a sly and accomplished thief. Their coloration along the flanks with vertical black bars and light-colored silvery spaces between them resemble patterns of the clothes worn by convicts working on the chain gangs of old. There is no doubt that the fish's appearance is appropriate for its behavior around a baited fish hook; this accomplished stealer of fiddler crabs and shrimp is known as the sheepshead.

Another species of fish with light-colored vertical bars on the sides is the black drum. The bars are present in juvenile fish, but fade as the fish reaches a larger adult size. Young black drum eat many of the same foods as the sheepshead, but are a much less successful thief (success being the ability to encounter a hook baited with a fiddler crab or shrimp, stealing the bait, and escaping capture). In this booklet, we will first describe the natural history of the sheepshead and then follow with tackle and techniques used to catch them.

The Species

Sheepshead (Figure 1) belong to the fish family Sparidae, commonly known as the porgies. A well-known member of this family to inshore anglers is the pinfish. This small, spiny fish is a notorious bait stealer when fishermen use live shrimp around oyster bars. The pinfish disable the shimp by removing the legs and then go after the main body. Another relation to both these species that is also seen by many off-shore anglers is the red porgy. This fish lives on the "Live Bottom"[3] off the coast of the southeastern United States and is sometimes commonly known as "silver snapper" or "Charleston Snapper". Sheepshead also occur on both natural and artificial reefs close to the coast and their abundance on these structures changes with the seasons. The invertebrates attached to the hard bottoms present a large and varied diet (Figure 2) as well as provide hiding places for small shrimps and crabs that are favored foods.

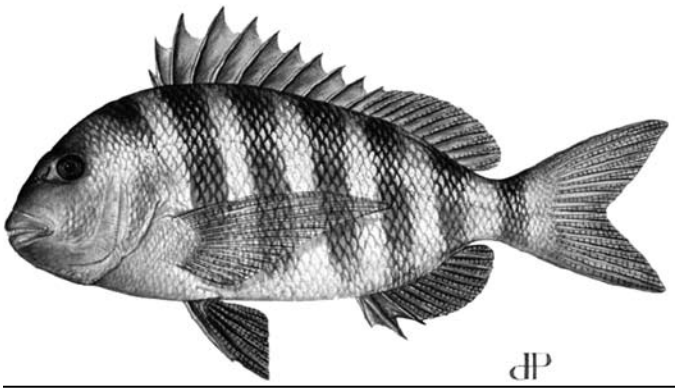


Figure 1. The sheepshead, Archosargurus probatocephalus, illustration by Diane Peeples from Flordia .

Figure 2. The sheepshead, swimming over inshore "live bottom" (natural reefs) close to shore.

The scientific name of the sheepshead is long and somewhat cumbersome, *Archosargus probatocephalus*. The first name, or genus, and second name, or species, are derived from Greek, with the latter (*probatocephalus)* being a composite of *probato* = sheep and *cephalus* = head. The species name can be broken down into *archo* = chief and *sargus* = porgy. Putting this together, you get the chief porgy with the sheep's head, or more commonly, the sheepshead.

Sheepshead occur along the coasts of the eastern U.S. and the Gulf of Mexico (Figure 3). Although they have been seen in Nova Scotia and along the Middle Atlantic states, in recent years,

[3] "Live Bottom" areas are found where currents have uncovered the rocks by removing the sand veneer. The exposed rocks provide a substrate for the attachment of organisms such as sponges, soft and hard corals. These provide structure and attract reef fishes such as porgies, snappers and groupers.

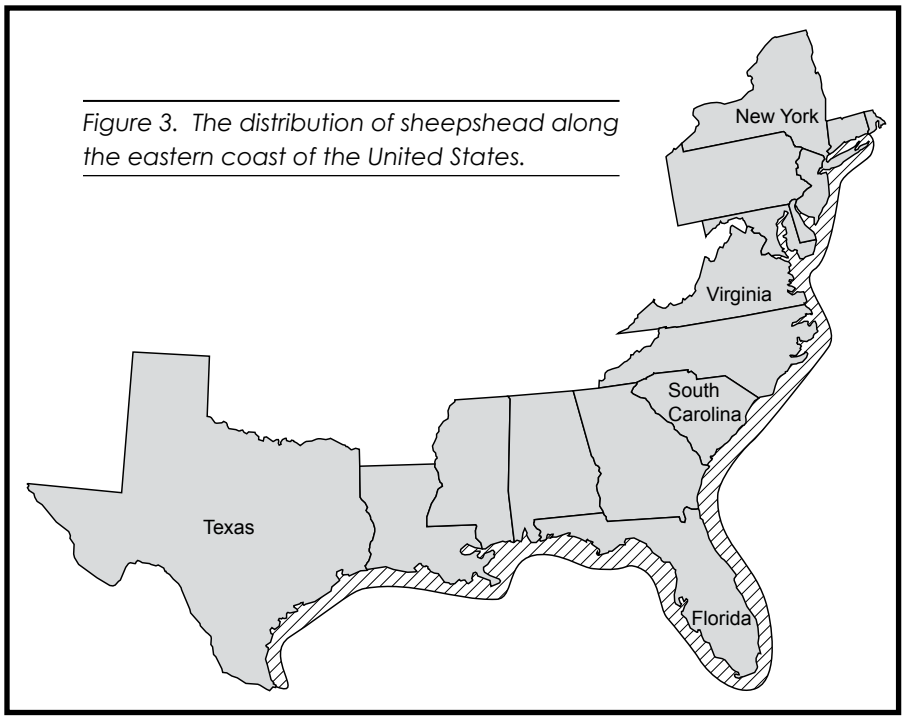


Figure 3. The distribution of sheepshead along the eastern coast of the United States.

no sheepshead have been seen in these northern areas. There is a relatively large bay along the ocean shore of the Long Island coast of New York called Sheepshead Bay. The name was given to this body of water because at one time, sheepshead were very abundant during the warmer months. In the early 1900s, they were commonly caught by anglers in New York and New Jersey, as well as over the oyster beds of the Chesapeake Bay. After a few short years, they were rare in the northern part of the range. In all my years of fishing along the coast of New York near jetties, rocks, pilings and docks, I neither hooked a sheepshead nor saw one caught. This is also the case for the nine years I spent on the shores of the Chesapeake Bay. Only when I came to South Carolina did I see one, catch one, and eat one.

The Fishery

In states where anglers catch sheepshead, they fish around hard structures to which barnacles, oysters, and mussels attach and provide hiding places for small crabs. Because of their strong fighting ability and the fine taste of their firm, white flesh, this species is a highly prized catch. Sheepshead are a recreational and commercial species along the southern coast of the United States.

The commercial catch along the south Atlantic coast of the United States has ranged from a high of over 450,000 pounds in 1990 to a low of less than 50,000 pounds in 1998 (Figure 4). The eastern coast of Florida and North Carolina are responsible for the bulk of the commercial landings (Figure 5). Historically, Georgia and South Carolina contribute very little to the catch, and this continues today. These factors result from a larger population size of fish in Florida and North Carolina than in South Carolina and Georgia, as well as the lack of various kinds of commercial gear, such as gill nets, in the estuaries and bays of Georgia and South Carolina. The commercial landings in North Carolina have remained relatively constant over the years at about 50,000 pounds, while Florida catches were cut in half by the net ban that was instituted in

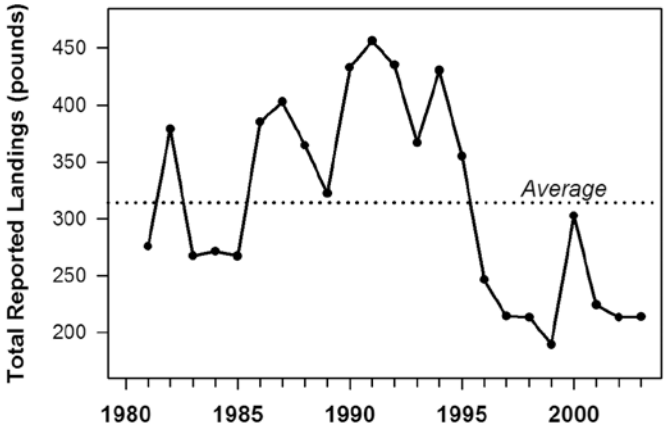


Figure 4. Commercial catches in thousands of pounds of sheepshead along the south Atlantic coast including the states from North Carolina to Key West, Florida. Data from the National Marine Fisheries Service (NMFS).

1995. Thereafter, commercial fishers could not use gill and trammel nets in Florida waters. This group is generally very adaptable with devising a way to catch and land a target species, regardless of restrictions. In Florida, traditional gear was comprised of different types of gill nets. After the net ban, catches from nets were insignificant. Commercial operators switched from the traditional method to hook and line as well as cast nets. The commercial landings in Florida are now divided about equally between these two fishing gears (Figure 6). North Carolina catches their sheepshead with various types of nets.

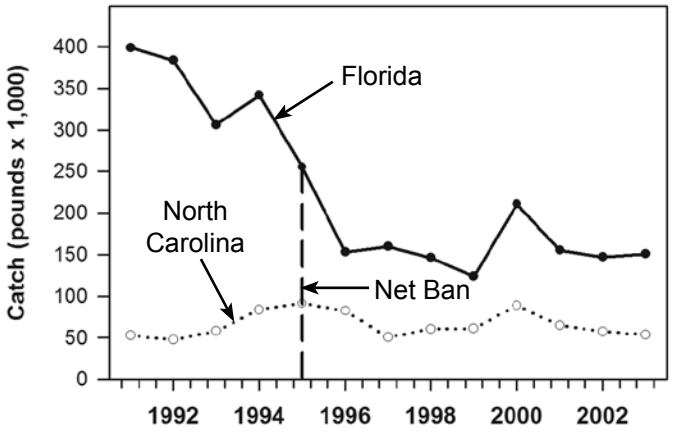


Figure 5. Commercial landings of sheepshead along the east coast of the U.S. by state. SC and GA not included because of insignificant catches. Dashed vertical line points out year (1995) when net ban went into effect in Florida. Data from NMFS.

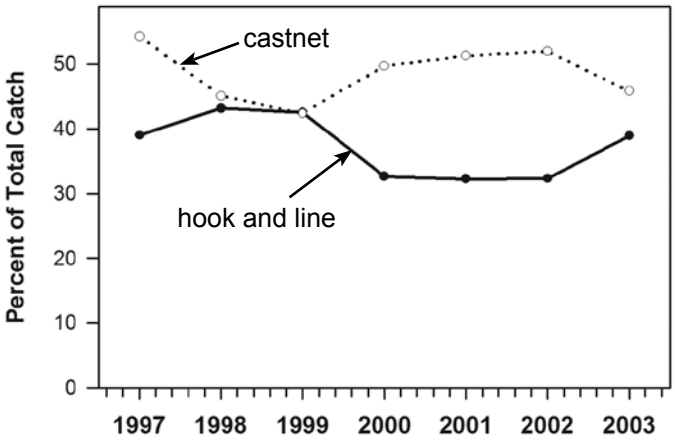


Figure 6. Annual commercial catches of sheepshead in thousands of pounds from cast nets and hook and line fishing on the east coast of Florida. Data from NMFS.

Along the southeast coast of the United States, sheepshead are an important recreational species, and are the third or fourth most sought after species by anglers, following red drum, spotted seatrout and southern flounder in coastal South Carolina. Analysis of the data for 2003 revealed that over 90% of the catch came from small private boats. The remainder resulted from anglers fishing from shore locations or on piers. By far, most catches (84%) came from inshore waters including our bays, estuaries and brackish parts of rivers. The remainder (9%) came from the state's territorial sea (within three nautical miles of the coast) and in federal waters (7%) (offshore greater than 3 nautical miles).

The inshore catches were from areas around structures such as docks, rocks, oyster reefs, and locations where numerous prey species can attach to the substrate. In nearshore waters, fish were caught on the jetties, inshore artificial and natural reefs, whereas those from further offshore were taken by anglers fishing on wrecks, "live bottom" areas or artificial reefs in deeper waters.

In South Carolina, the estimated anual catch of sheepshead is slightly more than 100,000 fish (Figure 7). Its magnitude varies widely from a high of over 350,000 in 1991 to a low of about 14,000 fish in 1981. The size of the annual values of the total catch appear to lack a pattern. A significant trend is seen in the increasing percentage of sheepshead that are released alive in the South Carolina fishery. These numbers have risen from almost zero in the 1980s to about 30% in recent years (Figure 8). Although deaths resulting from catch and release (the percentage of fish caught and released alive that subsequently expire) are unknown, few fish probably die. Sheepshead are "tough" and have scales that are strongly embedded in the skin. Many fishes that live near hard substrates as sheepshead do, have these scales that protect the fish from injury to the skin as they conduct their business near these structures. This functions the same way when they are handled after being caught by an angler. In addition, they are rarely hooked very deeply, regardless of the hook type used, thus reducing the chance of damage to vital organs. This increasing trend in the number of fish released acts as a real conservation measure, since the probability of their survival is very high[4].

The size of sheepshead in recreational landings has averaged 14 inches in fork length[5] over the past 23 years (Figure 9), but has fluctuated from an annual average of about 12 inches to a high of 16 inches. In 2003, the sampled harvest ranged in size from 6 to 21 inches fork length. The proportion of the sheepshead harvest made up by these smaller fishes less than 12 inches in fork length, depressed the overall annual average

[4] Even if the catch and release mortality was 25 or 30%, the return of the fish to the water would be a positive contribution to the population since the survival rate of a recently caught fish in a cooler is generally about zero, i.e., they all die.

[5] Fork length is the length of the fish from the tip of the nose to the center of the fork in the tail.

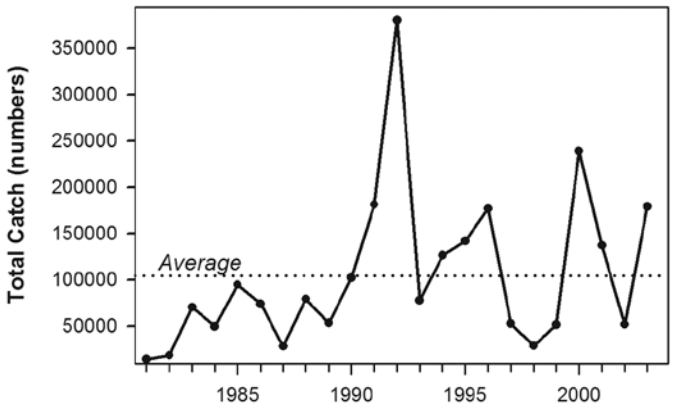


Figure 7. The estimated annual total catch in numbers of sheepshead taken by recreational anglers in coastal South Carolina. Data from NMFS. Dotted line indicates the long-term average.

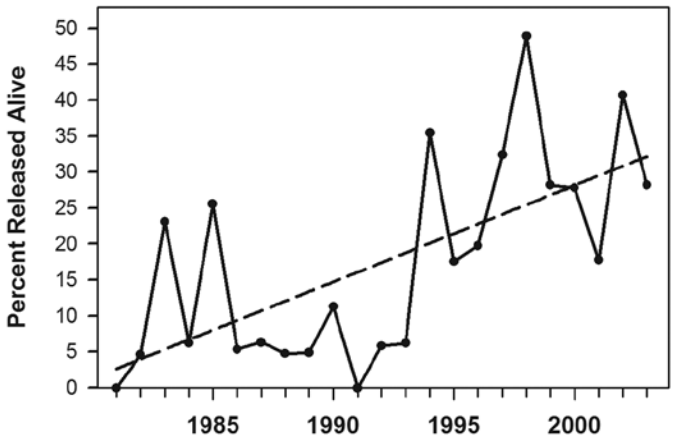


Figure 8. The percentage of the total catch of sheepshead in South Carolina that are released alive by recreational anglers. Dashed line indicates the trends over the past 20+ years. Data from NMFS.

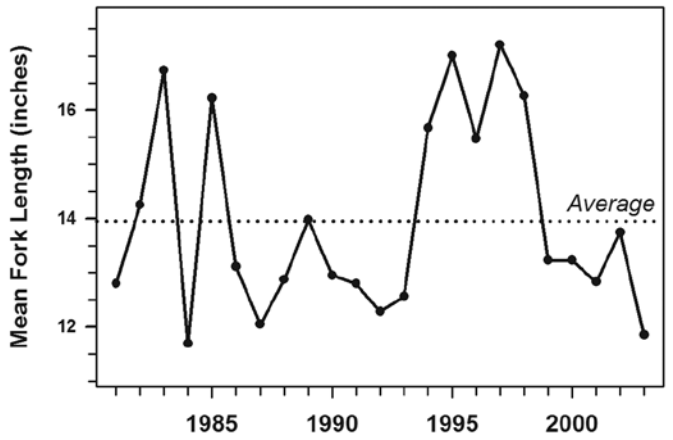


Figure 9. Average annual fork length of sheepshead landed in the South Carolina recreational fishery by year. Dotted line is the long term average. Data from NMFS.

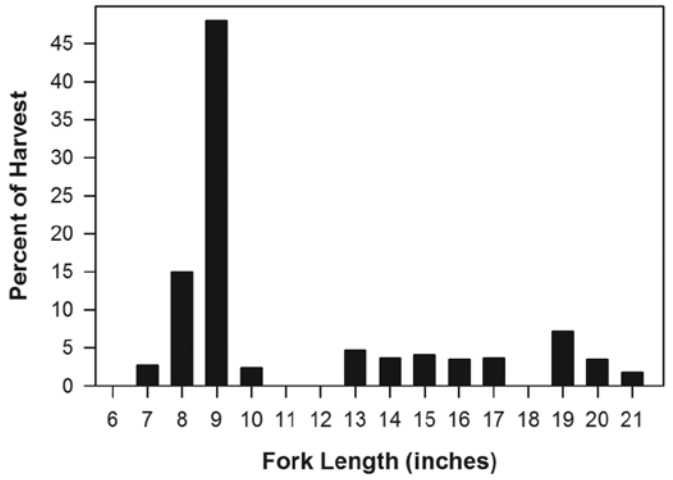


Figure 10. The contribution of sheepshead at various lengths in the South Carolina recreational harvest for the 2003 fishing year. Data from NMFS.

to the lowest point since 1984. Over 68% of the harvest was comprised of individuals less than 12 inches in length (Figure 10). The cropping of the smaller sized sheepshead is not the best way to harvest the species.

In summary, most sheepshead are harvested by recreational anglers fishing in inside waters, such as bays and estuaries, using private boats. In the past five years, the size of sheepshead in the recreational fishery has decreased below the long-term average, and fish caught in 2003 were the smallest in 20 years. This was caused by a substantial part of the catch being relatively small, 10 inches and less in fork length.

Life History: Larvae and Juveniles

We know that sheepshead spawn in late winter and early spring because it is the only time of year when we see fish with developing eggs (roe) in the ovaries. In addition, each year we see females with evidence that they spawned at least once in April. Spawning takes place in nearshore ocean waters such as areas around inshore artificial reefs. Laboratory studies indicate that the best temperature for spawning is around 70° F in waters that have ocean level salinity[6]. The eggs are about 3 hundredths of an inch in diameter, float near the surface, and the larvae hatch in 28 to 40 hours in waters at a temperature

[6] Salinity is a measure of how much salt is dissolved in the water. The ocean has a salinity of about 35 parts per thousand, which means for every thousand parts of water there are 35 parts of salt (1000 pounds of water; 35 pounds of salt).

near 70° F. Figure 11 shows the development of sheepshead from fertilized egg to young juvenile.

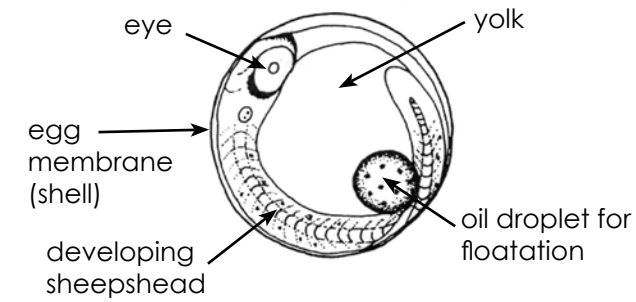
After the larvae of the sheepshead grow into juveniles, they can tolerate the saltiness of the ocean as well as waters with very low salinities. Inside the estuary, young sheepshead are often found around oyster reefs and other hard structures that provide an area to graze on small shellfish as well as a place to hide. Juvenile sheepshead can be found in areas where there are submerged grass beds such as those of turtle grass in Florida. The submerged aquatic vegetation provides a hiding place for the juveniles and also concentrates small crabs and other organisms that the young feed on.

In coastal South Carolina, we saw juvenile sheepshead in tide pools between the rocks in the groins on Folly Beach, SC. We also captured the young in trays that were filled with oyster shells. The plastic trays, about nine square feet in size with six inch high sides, were filled with clumps of oysters and placed on the bottom in areas where oysters were found. At the end of each week, the trays were examined and several different types of crabs and fishes were seen in the trays. Among these animals were several juvenile sheepshead that were attracted to the structure of the shells and rocks, which provided protection for the fish.

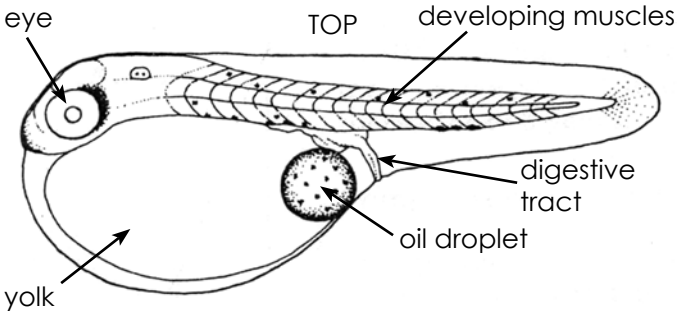
Adults

The determination of the age is an important factor in the study of fishes, especially those harvested by commercial and/or recreational fishers. Because growth is a change in length and/or weight of the fish over time, both size of the individual and a measure of time are needed. By being able to age a species of fish, we can establish how old they are when they are mature and can successfully spawn. Also, age information provides an understanding of how fast they are dying (mortality rate). Obtaining the ages of the fish species under study is fundamental for describing the status of the population.

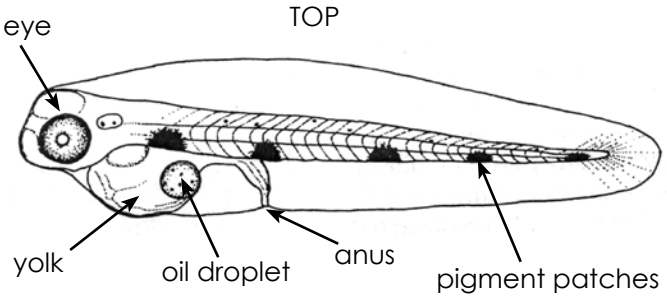
To age sheepshead, we remove the ear bones, or otoliths,[7] and make a section through the center of the structure (Figures 12 and 13). The largest otolith or sagitta, has a center around which concentric lines are laid down. The lines



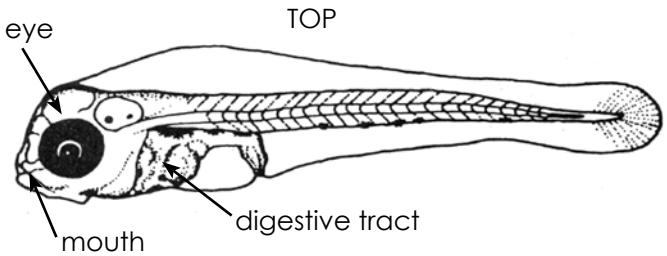
Egg just before hatching (28 hours post-fertilization)
diameter of egg ~4 hundredths of an inch



Sheepshead larvae just after hatching
length = ~7 hundredths of an inch



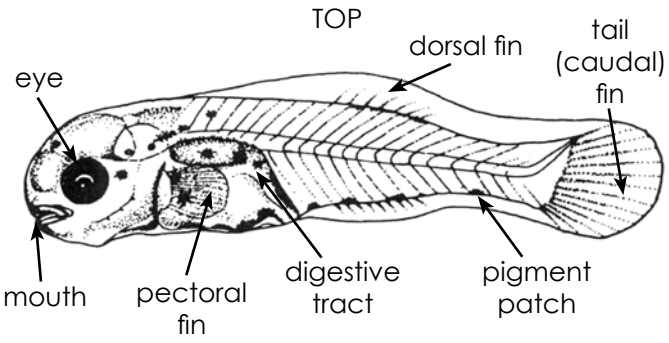
Sheepshead larvae
length = a tenth of an inch



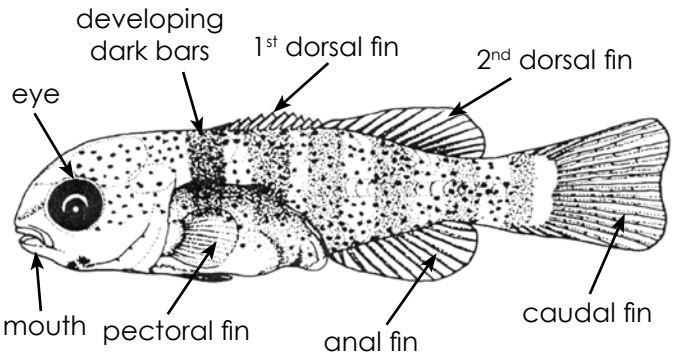
Sheepshead larvae after 4 days
length = tenth of an inch - yolk has been used

Figure 11. Development of sheepshead from fertilized egg to young juvenile.

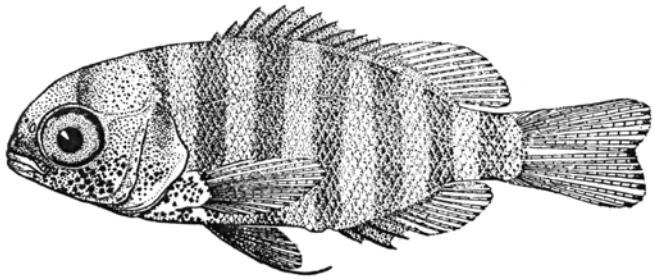
[7] The ear bones or otoliths are found in two pockets in the skull right under the fish's brain.



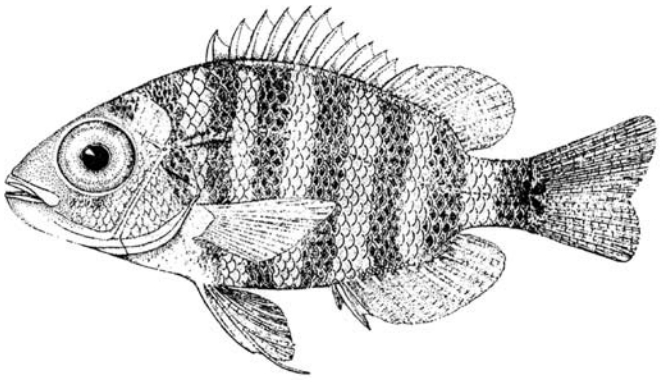
Sheepshead larvae after 21 days, fins are forming
length = $^1/_4$ of an inch



Sheepshead early juvenile after 28 days,
fins are formed
length = $^1/_2$ of an inch



Sheepshead late juvenile
length = $^7/_{10}$ of an inch



Sheepshead juvenile, length = ~1 of an inch

are deposited each year and represent areas of fast and slow growth. By counting the number of rings around the center of the ear bone after sectioning, one can determine the age of the fish (Figure 14).

Growth is a measure of the increase in length or weight with time. The rings of the section provide the age of the fish (time) and the length and

Figure 12. Xray photograph of the head of a sheepshead looking downward from the top of the fish; two white, denser objects are the sagittal otoliths, or earbones. Photograph from "A Practical Handbook for Determining the Age of Gulf of Mexico Fishes" published by the Gulf States Marine Fisheries Commission in 2003.

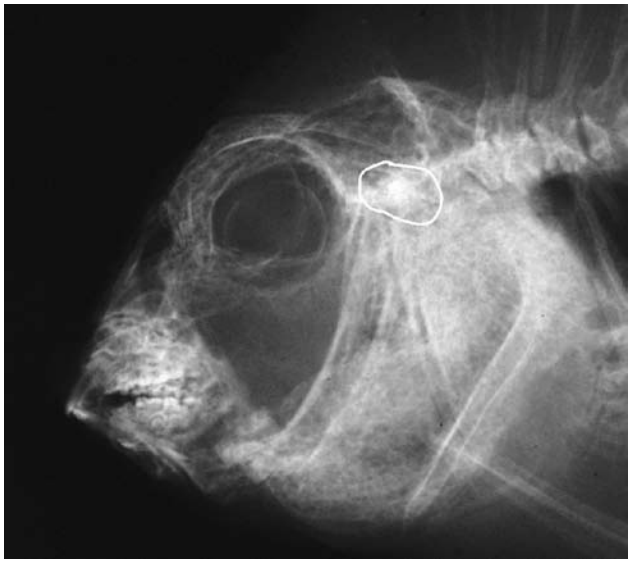


Figure 13. X-ray photograph of the head of a sheepshead taken from the side of the fish. White circle is drawn around the otoliths used to age the animal. Source of photograph "A Practical Handbook for Determining the Age of Gulf of Mexico Fishes" published by the Gulf States Marine Fisheries Commission in 2003.

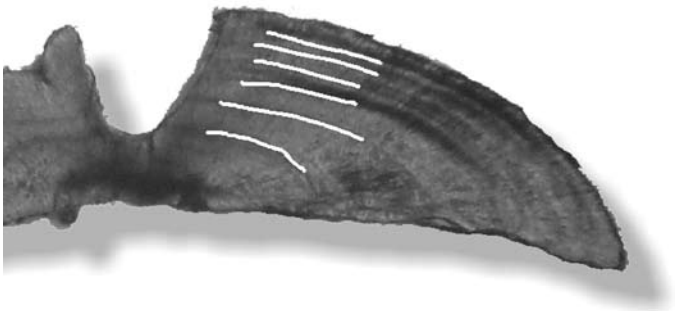


Figure 14. Photograph of a section cut through the center of the otolith of a sheepshead taken under a microscope. Dark lines highlighted by the while bands are annular rings, i.e., they are the rings deposited on the ear bone each year. This fish was six years old.

weight of the fish provides the reference points for that age. Sheepshead are a long-lived species and reach an age of over 20-years in South Carolina (Figure 15). Note that after age five, the growth rate slows considerably. An average individual is about 18 inches in fork length at age 5, whereas a 10-year old fish is about 20 inches.

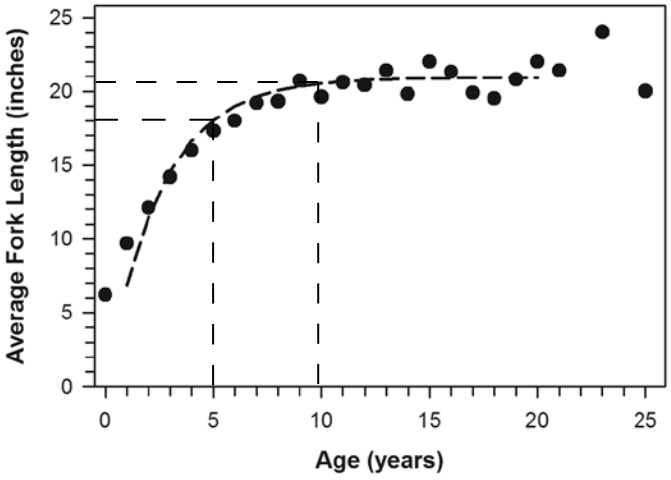


Figure 15. Growth curve for sheepshead in South Carolina waters. Length is fork length in inches; age is in years; each circle represents the average length of the fish at a given age. Dashed line is the trend in growth with age. Vertical dashed lines are ages 5 and 10. Source SCDNR.

The changes in weight with age also decrease after age five, but not as dramatically as that seen in length (Figure 16). At age 5, a sheepshead is an average of four pounds in weight whereas a ten-year old fish averages about two pounds more. As sheepshead grow, they tend to become more robust, that is, rather than increasing only in length, they increase in girth.

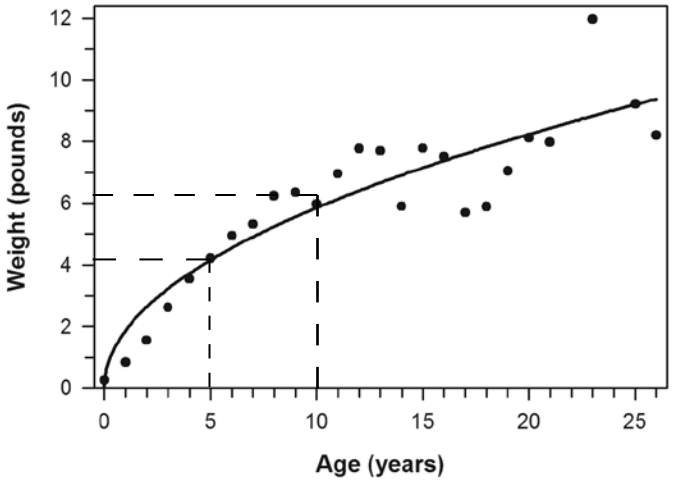


Figure 16. Relationship of age in years to average weight in pounds for sheepshead sampled in coastal South Carolina. Vertical dashed lines are ages 5 and 10. Source SCDNR.

Examination of the figures showing the changes in length and/or weight with age indicates that there is a wide range of both at a given fish age. For example, the average five year old sheepshead is 15 ½ inches long and weighs 4 ¼ pounds. The minimum and maximum sizes of five year old fish ranged from 11 to 20 inches in fork length and 2 ½ to 5 ¼ pounds. The range in size is not unusual in a long-lived fish. The widely different sizes of sheepshead at any age could result from available food, different genes, or sex[8].

Another easily visible item in the figures is that as sheepshead age, the length and/or weight increases in older fishes more slowly. This is a general phenomenon in most fishes. Once a species attains sexual maturity and begins spawning, the growth rate slows through the rest of the animal's life. The energy derived from the food eaten as an immature animal is directed towards growth of the fish. After maturity, much of that energy is directed towards the reproductive process, leaving much less to be directed at growth.

Fisheries biologists have found that sheepshead have a shorter life-span on the west coast of Florida. The oldest fish they sampled was 15 years of age. The fish was 20 inches long in fork length, and weighed about 5 pounds. As

[8] In many species of fish that produce large numbers of eggs when they spawn, the female is larger at the same age as a male. In spotted seatrout, for instance, females grow more quickly than males and reach a larger size.

in sheepshead we sampled in South Carolina waters, those from the Florida panhandle had a great deal of variability of length and weight at a given age. For example, the smallest five year-old sheepshead from the Florida panhandle was 14 ½ inches in fork length and weighed 1 ¾ pounds, whereas the largest sheepshead was 23 inches in length and 4 ½ pounds in weight. The life span and the wide range of sizes seen on the Florida panhandle were also seen in sheepshead studies in Louisiana. South Carolina sheepshead have a longer life-span with a maximum age of 25 years and slightly more than 3% of the 2000 fish examined were older than the maximum age for those in the Gulf of Mexico (14 years).

An important trait of a species that is harvested by recreational and/or commercial fishers is the relationship between size and maturity, that is, the size (length) that the species matures and is capable of spawning. In addition, the age at sexual maturity is also very important. The size and age at sexual maturity varies according to sex, with males generally being younger and smaller than females when spawning begins. Exceptions are noted, but this is true for many of the fishes we harvest in inshore waters, such as spotted seatrout and southern flounder. About half of all male sheepshead are sexually mature at a size of 7 inches fork length and one year of age. No males or females are mature in their first year of life (called "young-of-year"). All males examined with a length of 14 inches and greater were mature; between 7 and 14 inches fork length, the percentage of the males that can spawn gradually increase to 100% from 50%. At a size of 9 inches fork length, some females begin to mature and all are mature at 14 inches and larger. A small percentage of female sheepshead are mature between one and two years of age, and all are mature in their fifth year. In nearshore waters, sheepshead spawn in late winter and early spring and are considered batch spawners[9], that is, they produce a batch of ripe eggs, spawn them, recover and feed, develop another batch and then spawn them. Generally, older, larger fish spawn earlier and more frequently throughout the season, produce bigger batches of eggs and, in total, generate more eggs than younger, smaller females. Figure 17 is a picture of the left ovary of a female sheepshead that was sampled during a fishing tournament in the spring around the Charleston area. Scattered throughout the ovary, several diffferent sizes and colors of eggs are visible. The clearest eggs are those that would have been spawned either that day or the next day. This would have been a batch. The yellow colored roe will develop, become clear and will be the next batch. This cycle progresses through spawning season, i.e., spawn, rest, produce new batch, spawn, rest, develop another batch, and so forth.

Figure 17. Photograph of the left ovary of a sheepshead sampled in April show an advanced ovary, which is an ovary that contains ripe eggs that would be spawned in short order.

Anyone who has caught and closely examined a sheepshead knows that the fish boasts a good set of teeth. They are not the cutting type, as in king mackerel and many types of sharks, but have a flat surface, and are more of a crushing and grinding type of teeth. Examining the digestive tracts of sheepshead have shown that crabs, shrimp, small clams, mussels and "moss animals" comprise the greatest part of their diet. Scientists have also found algae and other plant materials in their guts. Some think that sheepshead use the plant material as food, whereas others believe that the vegetation was taken in accidentally as the fish browsed on animals attached

[9] Fishes that produce batches of eggs throughout the spawning season are "betting" that at least some eggs will be produced during a time that is favorable for survival of the young. It's like diversifying your portfolio with a variety of stock and bonds. Sheepshead do not put all their eggs in one "basket".

to the underwater plant.[10] Some biologists believe that plant material is eaten accidentally when small crabs, barnacles, shrimp, and clams are ingested.

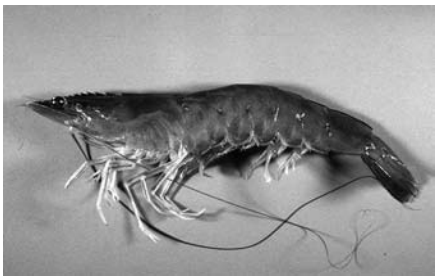
Sheepshead are grazers, that is, as they swim over hard structures like offshore rocks, pilings, jetties and inshore docks, they feed on whatever crustaceans and bivalves[11] they encounter. Some of their favorite crustaceans are fiddler crabs, mud crabs, shrimp and barnacles. Favored bivalves include small oysters, various kinds of clams, and mussels.

Years ago, a few biologists were sampling the fishes that were found on the Murrell's Inlet jetties. One regularly encountered species was the sheepshead. The stomachs of those that were sampled near the jetties were completely full of crushed mussels. The mussels attached themselves to the rocks at the base of the jetties and became a good source of forage for the sheepshead.[12] On offshore "live bottom" and artifical reefs, sheepshead continue to eat small crabs, mussels, clams and shrimp that are available. Since far more types of attached, non-mobile animals exist, as well as mobile animals that use the reef structure as a hiding place offshore, sheepshead that were sampled in these habitats have a greater variety of animals in their diet. Previously, I mentioned that this fish ate "moss animals". In the jargon of the marine scientist, the "moss animals" are a common name for bryozoans. These animals form colonies and feed by filtering very small food items from the water. They are encrusting, that is, they grow on the surface of structures such as plant stems, rocks and pilings. As sheepshead swim along one of these structures, they graze on barnacles, small crabs, shrimp, and these bryozoans. Photographs of common food items in the diverse diet of sheepshead are in Figure 18.

After observing the diet of sheepshead, and what works best to catch them, biologists might recommend using shrimp first, followed by mussels, fiddler crabs, and finally, a piece of an edible clam or oyster.[13]

A mole crab burrowing into the sand to hide as the wave recedes.

A mature stone crab. Commercial fishermen catch these, remove a claw and return them to the water. The juvenile crabs are found around oyster bars, and at a small size, are difficult for the average person to distinguish from mud crabs. Sheepshead do not care if it is an immature stone crab or a mature mud crab – they'll eat either.



White shrimp – sometimes seen in the diet of sheepshead, but, in my opinion, better bait than fiddler crabs.

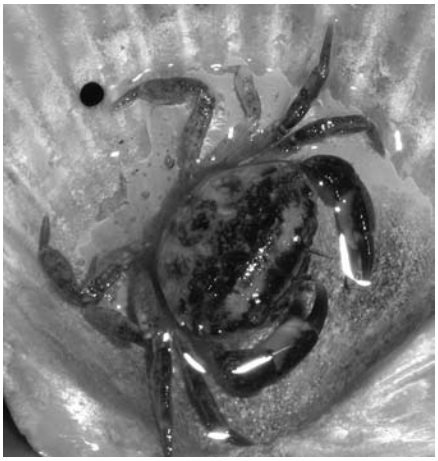
Figure 18. Photographs of some of the most common food items in the guts of sheepshead.

[10] Many plants in both fresh and saltwater have numerous animals that live on their stems. Some animals that call the plant home may graze on the plants; others use them as shelter and protection from predators.

[11] Crustaceans are animals that have an external shell that they shed as they grow, i.e. shrimps, crabs, small mysid shrimps, and "beach fleas"; bivalves are the clams, oysters and mussels.

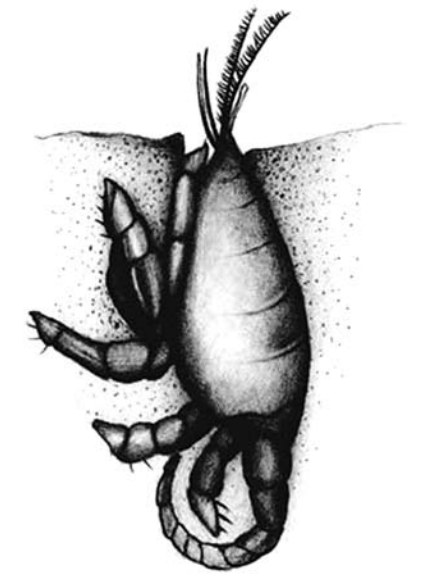
[12] Several anglers use the meats inside the mussel shells as bait on the business end of their fishing gear. They swear by it and say it produces more and bigger fish. When they tell others about how the fish favor it, the fishermen speak in soft and subdued and hushed voices so that no one hears. Anglers have been using the meats of shellfish to catch these critters since before the Civil War – nothing new or secret about that.

[13] When fishing for sheepshead, some anglers will tie their boat off to a piling and, with an oar or something strong, scrape off the barnacles and other attached animals to act as chum as they fish. It would probably be more effective to have an onion sack filled with various shellfish that you pulverize with a hammer and either tie it to the structure or put it on you anchor line to draw the fish.



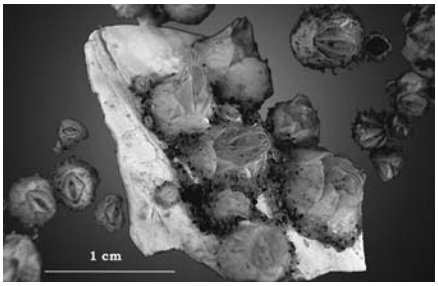
Mud crabs are frequently found in the spaces between oysters. Often a dead oyster with both top and bottom shells will make a hiding place for a mud crab.

A fiddler crab, an important food item and the most widely used bait to catch sheepshead.

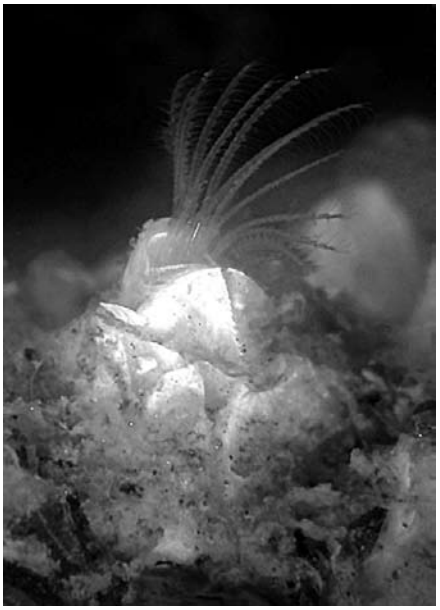


Drawing of a mole crab, burrowed into the sand at the waters edge. As a wave breaks on the beach, the crab burrows into the wet sand, extends its antennae as the wave recedes, and strains food from the water with the antennae. When the water is completely gone, the crab completely covers itself with sand and waits for the next wave.

A clump of mussels attached to a rock. This is the equivalent of an "oyster roast" to a hungry sheepshead. These also make good bait and excellent chum.



Barnacles attached to a hard substrate. Barnacles are related to crabs and shrimp and crustaceans. These are out of the water and closed up.



Barnacles underwater, actively feeding. The antennae beat through the water and catch small organisms. The antennae are drawn back into the body and the food entangled on the fine hairs on the antennae is eaten.

A colony of bryozoans (moss animals) photographed underwater. These, like barnacles, are filter-feeder str aining microscopic materials from the water. Note that the colony is attached to hard bottom.

Photograph of a bryozoan feeding by straining the water with their tentacles; note that the tentacles are all oriented into the current which is flowing from the right to the left of the photo.

How can we manage fisheries?

The first step in managing species harvested by commercial fishers and/or recreational anglers is determining the status of the population. An unstressed population requires no management. If, however, the analysis of a particular population indicates that the species is over-harvested, some management measures are required to reverse the trend. The objective is to reduce mortality, the death rate of members of the population.

In fisheries, we divide the total mortality, (total death rate), of a fish into deaths caused by natural causes and those resulting from fishing. Natural causes include diseases and parasites, environmental factors such as temperatures (excessive heat in summer; freezes in the winter), dissolved oxygen and salinity[14] in the water, predators and old age. The remainder results from fishing operations.

The number harvested by both commercial and recreational fishers requires an upward adjustment in the number of fish because of "discard mortality". In recreational fisheries, the discard mortality results from catch and release, i.e., what percentage of fish caught and released alive by recreational anglers die. In commercial fisheries, discard mortality may result from harvesting operations at sea. Generally, a commercial species needs to be of a certain minimum size in order to have a market value. For example, if the catch of a trawl net has a wide variety of species and some are not marketable, the crew will cull the catch and throw those that cannot be sold overboard. Bycatch of a fishery, in particular the shrimp fishery in our area, provides another example. During trawling, some species are caught incidentally with the harvesting of the shrimp. The "accidental catch" is not landed and sold but is discarded over the side.

Obviously, we cannot do anything to control the causes of natural mortality, such as wishing a winter freeze away. The only management measures that can make a difference are those applied to the commercial/recreational sectors. In South Carolina, various laws have made a variety of commercial fishing gears illegal in our inside waters (sounds, bays and estuaries). Since the main source of mortality is derived from recreational activities, the remaining comments will be directed towards these groups.

First, let's create a pseudo-recreational species. I'll call it a birdfish. Biologists look at trends in this species in surveys, catches, and sizes in the fishery as well as other information to determine that birdfish are over-harvested. Further studies show that the harvest needs to be reduced by half for the population to recover and stabilize. Some ways to reach this target are as follows: (1) closed seasons (2) closed areas (3) size limits (4) bag or creel limits.

If you know the distribution of catches along the coast, a portion of the coast that accounts for 50% of the harvest could be closed. By not permitting fishing in an area, you remove any chance of legal harvesting in that area, which results in a decline of 50%. Hypothetically, if the creel surveys show that 50% of the harvest of birdfish comes from the North Edisto River, then closing the river to the harvest of birdfish should result in a decline of 50% in the catch of this species along the South Carolina coast. The result assumes: (1) there is 100% compliance with the closure, i.e., no poachers; (2) people fishing for other species in the North Edisto River do not catch birdfish incidentally to the catch of other fishes; if they do catch some birdfish, all are released and all survive (catch and release mortality = 0); (3) anglers do not increase their trips to catch birdfish in other sections of the coast. That would cause the transfer of the harvest from one area to another and thereby defeat the closure.

The approach to seasonal closures follows the same logic. By examining the distribution of the catch of birdfish throughout the year, you can determine when a coast-wide closure of the fishery is required. For example, along the South Carolina coast, 50% of the total harvest of birdfish occurs in May. Theoretically, if you close the fishery to the harvest of birdfish during May, the total catch should be reduced by the percentage of the harvest that occurs during May (50%). For this measure to work, com-

[14] The degree to which a species is affected by environmental factors depended on its tolerance to a factor. For example, southern flounder are able to withstand dramatic change in salinity, from fresh water to the ocean. When environmental conditions exceed the range which can be tolerated by a species, the animal will die.

pliance needs to be 100%, the incidental catch and subsequent release of birdfish should result in no mortality, and fishing for this species is not moved into another period of the year.

Thirdly, if you know the lengths of fish in the harvest and have an idea of the total number of fish in the harvest, you can adjust the size limits so that the catch is reduced by 50%. For example, in the South Carolina birdfish fishery, recreational anglers harvested 100,000 individuals. A sample of the catch was measured for length and the following data were obtained:

Length	No. of fish	% of sample	Total Harvest	No. at length Harvested	Cumulative %
10	25	12.5	100,000	12,500	12.5%
11	50	25.0	100,000	25,000	37.5%
12	25	12.5	100,000	12,500	50.0%
13	15	7.5	100,000	7,500	
14	20	10.0	100,000	10,000	
15	50	25.0	100,000	25,000	
16	10	5.0	100,000	5,000	
17	5	2.5	100,000	2,500	
total	200	100.0	100,000	100,000	

To reduce the catch by 50%, a minimum legal size limit of 13 inches would need to be established. To achieve the desired result, all fishers must comply with the restriction, and catch and release mortality of individuals less than 13 inches in length is zero.

The final method proposed for stabilizing populations is for a bag or creel limit. If you have a statewide recreational fishery survey, you can determine the frequency distribution of the number of birdfish harvested, that is, how many anglers caught one birdfish/ trip, how many caught two, and so forth. By examining the summary of these trips, you can determine what size bag limit would result in a reduction in harvest of the target, 50%. If your survey found the following:

No. of birdfish	No. of trips with that no. of birdfish	No. of birdfish harvested	Cumulative number harvested	Cumulative percent of harvest
0	20	0	0	0
1	10	10	10	2.0
2	50	100	110	24.0
3	10	30	140	28.0
4	10	40	180	36.0
5	14	70	250	50.0
6	5	30	280	56.0
7	20	140	420	84.0
8	10	80	500	100.0

it becomes necessary to establish a 5 fish per angler per trip bag limit for birdfish. The success of the bag limit depends on complete compliance with the restriction, as well as a no catch and release mortality of the birdfish that exceed the limit. The establishment of a bag limit that is neither exceeded nor equaled by a number of participants in the fishery does not achieve conservation of the species. In the birdfish example above, if a 10 fish per trip bag limit were put into effect, it would neither harm nor benefit the population, since no one caught 10 birdfish in a trip. This is sometimes referred to as a "feel good regulation".

Another reason managers use size limits is to delay the harvest of a species until it reaches sexual maturity and spawns at least once. Once again, using our theoretical species, the birdfish, after examining a number of fish during the spawning season, the following data were obtained:

Length	No. of fish harvested	No. of fish mature	Percent mature
10	100	1	1
11	100	21	21
12	100	28	50
13	100	75	75
14	100	100	100
15	30	30	100
16	20	20	100
17	10	10	100

Frequently, the size of which at least half of the fish are mature, is the target size. Here, that would be 13 inches because 50% of the birdfish less than 13 inches in length have reached sexual maturity and are able to spawn. If the target were to allow all members of the population to spawn at least once prior to harvest, the minimum legal size would need to be raised to 14 inches.

There is another side to the size issue. Scientists studying what makes a successful spawner[15] have shown that older, larger fish produce more eggs over a longer spawning season and the eggs produced are of a better quality than those spawned by small or medium sized mature females. In addition, they have found that the eggs contain more food reserves stored as fat. The period of a fish's life when it has the greatest chance of dying is after hatching. The mouth and the digestive tract has not yet fully formed and the young fish rely on the yolk and fat (oil) in the egg (see Figure 11 for example). If the food supply (yolk and oil) is a good quality and quantity, the larvae will be larger when they begin to feed. Larger larvae swim faster than smaller larvae and are able to be more successful in chasing down the small animals (zooplankton) floating in the sea. This provides the ability to eat more; this in turn gives them a faster growth rate than eggs with smaller amounts of stored food. This in turn enhances survival.

Because of the death rate, it takes many small fishes to create one large fish. When the largest fish are removed, various scientists have suggested that you are removing the most important members of your population. Hence, some states such as Florida for one have maximum and minimum sizes (a slot) that may be harvested legally. In Florida, the fishery for several species follows this management strategy. For example, Florida has a four or five fish bag limit (depending on the area) with a minimum size of 15 inches and a maximum size of 20 inches total length. Of the five fish in the bag, the angler may keep one fish above 20 inches. The slot limit for snook is from 26 to 34 inches total length. Both approaches provide some protection for the larger spawners.

Along the South Atlantic coast of the United States, the sheepshead fishery is managed by the South Atlantic Fishery Management Council as a member of the snapper-grouper complex. Numerous species of porgies, snappers and groupers constitute the complex. Sheepshead, however, are not part of the core management group of fishes. For some species, specific bag and size limits exist, and for those species not in the core unit, an aggregate bag limit of 20 fish is permitted. There is no minimum size listed for sheepshead in the regulations. Therefore, if sheepshead only are targeted and subsequently caught, there is no minimum size and bag limit of 20 fish in waters under state jurisdiction, as well as the Exclusive Economic Zone of the U.S. Examination of the data from the South Carolina Sport Fishing survey indicates that from 1991 through 2004, eight of 1227 angler trips (0.65%) had catches that exceeded 20 fish. The lack of large catches in the data indicates that a 20 fish bag limit has almost no impact on the harvest of this species. One could say therefore, that sheepshead are not managed in South Carolina, since few anglers ever catch the limit.

With this as background for this fine fish, we hope that anglers have a better understanding of sheepshead as a species. As in previous publications, I (Charlie) am responsible for this biological section and John completed the remainder. If the description of the species is unclear, blame me. If you still have little success after reading this booklet, it's John's fault – not mine.

[15] A successful spawner is one that produces many young that can survive; the more young that survive, the greater the success.

[16] see http://www.safmc.net/fishid/fmpro?-db=content&-format=default.html&-view

FISHING FOR SHEEPSHEAD

Introduction

As with the booklets on spotted seatrout and southern flounder, Charlie approached me and asked if I would prepare a section on fishing for sheepshead. I enjoy fishing for spotted seatrout and feel that I am more or less competent at catching them. Also, while I'm no flounder expert, I even manage to catch a few of them now and then. Sheepshead are a whole other story, though. Sheepshead are a mystery to me, as I'm sure they are to many other anglers. I've targeted them a few times, and may have managed to feed them a few fiddler crabs, but I have caught a grand total of two sheepshead in my life. Both were complete accidents. One ate half of a blue crab while I was targeting red drum near the Charleston jetties, and the other, believe it or not, was caught on a jointed rebel while fishing for seatrout.

I did, however, know where to find expert and successful sheepshead anglers. The Inshore Fisheries Research Section maintains a fish wrack collection program, to aid us in our research on South Carolina's most popular inshore sportfish: red drum, spotted seatrout, southern flounder, black drum, and, of course, sheepshead.

The great majority of the sheepshead wracks contributed to the program have come from three anglers (especially when members of their families are included), and those gentlemen were gracious enough to share some of their wisdom with us. They are, in no particular order, Frank Koches, Robert Horner, and Daniel Culpepper. The fourth contributor, Dee Oliver, is a lifelong coastal Carolina angler, past proprietor of The Reel John's fishing tackle shop, and current manager of the West Ashley Haddrell's Point Tackle and Supply.

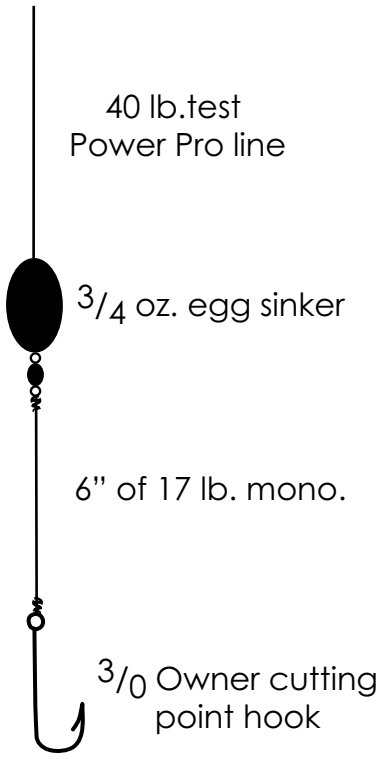
Quite fortuitously, each angler brought a slightly different experience to the project. As you read through their contributions, you'll see that each has explained a different facet of fishing for sheepshead. After working with them on this booklet, I am eager to get out and try sheepshead fishing again – with their help, I think maybe even I could learn to catch sheepshead.

Inshore Sheepshead

By Frank Koches

"You gotta' hook 'em before they bite!!" This was the advice given to me by an old sheepshead fisherman who was landing fish after fish as I lost fiddler after fiddler. We had what looked to be the same rig, same bait, and same sized rod and reel but obviously he knew something I didn't. I actually pulled out the day catching six sheepshead beneath the old Breech Inlet bridge by counting to three and setting the hook, over and over.

Thankfully, I have gotten a little better at catching sheepshead since that time and no longer use the one-two-three set the hook method. My rig is very simple. I use a 3/4 ounce egg sinker above a swivel that is attached to six inches of 17 lb. monofilament which terminates with a 3/0 Owner cutting point hook. My rod is either a 100% graphite or a graphite composite, fast-action, 6' to 6 1/2' rod. A pure fiberglass rod is too limber and has no place in sheepshead fishing. The tip of a 7' rod will inevitably hit the underside of the dock or bridge on the hook set (if on rising tide), but when fishing places like the Charleston jetties the additional length of a 7' rod can be a plus, as you can reach out further over submerged rocks.



Some recent improvements in fishing tackle have made catching sheepshead much easier. I now spool my reel with 40 pound test Power Pro braided line which increases sensitivity so much that I can nearly feel the fish looking at my bait. I use this high test for greater abrasion resistance, since I'm usually fishing oyster and barnacle encrusted structures. My six inch

Frank Koches

leader between the swivel and the hook remains 17 pound test monofilament, though, as I need a weak point to break off if I get hung on structure. Another improvement is chemically sharpened hooks. I used to buy regular hooks by the hundreds and I went through them by the hundreds, as hook tips would break off or the wire would bend. Chemically sharpened hooks, while much more expensive, have greatly improved my hook-up ratio. As long as I don't hang into structure, they will generally last the whole trip. If you're not occasionally hanging up on structure, however, you're probably not in the right spot.

I have caught sheepshead on china back fiddlers, marsh crabs, wharf crabs, mole crabs, parts of blue crabs, shrimp, mussels, oysters, clams, whelk meat, blood worms, tube worms, red-lined worms, and even homeless hermit crabs. For many people, the most popular bait is the china back fiddler crab. They are easy to catch on salt flats and now can be purchased at some tackle and seafood shops. The only problem with china backs is that they are brittle and can be stolen with ease by the sheepshead. I may have discovered how they do this by keeping a 10" sheepshead in my aquarium. When I dropped in a live fiddler, he would invariably crush the fiddler and spit it out, then pick up and eat the pieces as they rolled across the bottom. After I added another sheepshead to the tank, however, he would often swim off with the fiddler before crushing it, so as to keep the crab to himself. This is one of the reasons I believe chumming is so important to sheepshead fishing.

My chumming tools consist of an aluminum baseball bat and a sidewalk scraper. I first use the bat to crush the barnacles and oysters on the pilings, then use the scraper to knock the crushed mollusks into the water. If there are sheepshead nearby, they should go on a feeding frenzy. Frenzied sheepshead tend to be bolder and more careless and thus easier to catch. Also, when you utilize chum in moving water, you draw in sheepshead from down-current structures and pilings. When chumming, though, more is not necessarily better, as you don't want the fish to fill up before you can catch them. Just give them an occasional little scrape or scoop to keep the bite on.

My method of sheepshead fishing is pretty much vertical. The only casting I do is just enough to compensate for the tidal current so that my bait winds up directly beneath the tip of my rod. Once my bait is there, I barely hold the line tight. I detect the bite from feel as much as I do from sight as I watch both the line and the tip of my rod. On some days, the bite is so slight that the only way to catch them is by lifting the tip of my rod slightly every fifteen to twenty seconds. If I feel resistance on the other end, I set the hook. You don't want to set the hook like Bill Dance would on a large mouth bass - just lift your rod firmly and sharply. I have hooked numerous ten plus pound fish where, once landed, I noticed that the hook was imbedded in the slightest bit of outer lip. A Bill Dance hookset would rip right through this tissue and the fish would be lost.

I have caught sheepshead in as little as two feet of water inshore and as much as 100' of water offshore. When fishing inshore, I typically start fishing in six to eight feet of water. If the bites aren't coming fast, I move deeper or shallower until I find a good school of fish. As with other types of fishing, don't be afraid to move. I have caught sheepshead at nearly all stages of the tide with slack high and slack low producing the poorest fishing. My favorite tide to fish is the final three hours of the outgoing and the first two hours of the incoming as long as the water doesn't come in too clear. I have fished for

sheepshead in crystal clear incoming water in Jupiter, Florida. There the water was so clear, I could see the fish stacked up on the bridge pilings, feasting on my chum with abandon. But, when it came to my bait, they would merely give it a glance and then turn away. During the dirtier outgoing tide, however, I was able to hook and land more than a dozen fish in the 5-7 pound range off the very same pilings.

I fish almost exclusively inshore for sheepshead, concentrating on dock and bridge pilings in May, October, and November, with the best trips occurring towards the end of October through November. During this period, I usually have 2 or 3 trips where I catch 85-100 fish just on the outgoing tide alone. While catching large numbers of sheepshead can be loads of fun, my most memorable trips have been those in which I have taken my two young sons.

In November 2004, my two sons Carl (then 7 years old) and Randolph (then 4 years old) were my fishing partners. We tied up to a favorite set of pilings and as soon as we had chummed the water and lowered our lines, Carl and I were both immediately hooked up with 10+ pound fish. Randolph, our net man for the day, netted both of our fish. That in itself was quite a feat as both fish combined weighed about as much as he did!! In the next 3 hours, Carl and I landed 13 sheepshead between 8 and 14 pounds. Randolph netted all but the 14 lb. 4 oz. fish - my personal best.

Carl, Jennifer and Randolph Koches

I have had a lot of people ask, "Aren't sheepshead really hard to catch?" With the right equipment and tackle, bait, chum, and tide, the answer is no. If you're trying it for the first time, make sure you go during peak time and tide. If you go in the Fall during an outgoing tide, you should get enough bites to get the "feel" for sheepshead fishing. You may even end up hooked on sheepshead for life.

Sheepshead Fishing

by Bob Horner

An old myth says that in order to catch a sheepshead, you have to jerk just before they bite. That may be true, but what usually happens is the jerk comes just after they bite, when they have spit out the empty crab shell. The last thing they do, just after they crunch up a nice fat fiddler, is to grab the bottom of the hook with those big buck teeth and give a little tug. It is usually just enough to make you think "Did I just get a hit?" only to reel in and find the empty back shell of the biggest fiddler crab in the bait bucket. I have, however, gotten hundreds of hours of enjoyment from going after these bait robbers. The most fun comes from taking along someone who has never caught one before, teaching them how, and then netting their first fish.

Closeup of a sheepshead's substantial teeth.

Photo courtesy Laura Watkins

As always in fishing, a few rules of etiquette must be understood. When asked "Where did you catch them?" Always answer "In the upper lip." Or as an alternate, "I could tell you, but then I would have to kill you." Never go to a special spot that someone showed you without them, unless you call them from the boat and they are busy working, are at least three counties away, and don't feel well. Always net a fish on the side of your boat where no one else can see it. Always muffle your screams of pleasure when you hook a big one. Keep a fishing notebook and include some crazy GPS coordinates, notes, and bogus secret spots (in case someone finds it). And never, ever come home until you catch some fish. OK, now that we have gone over that, there are many ways, places, and methods of catching sheepshead. Certainly there are a lot of people that are better at it than I am, but here are a few tips that should help you with catching supper.

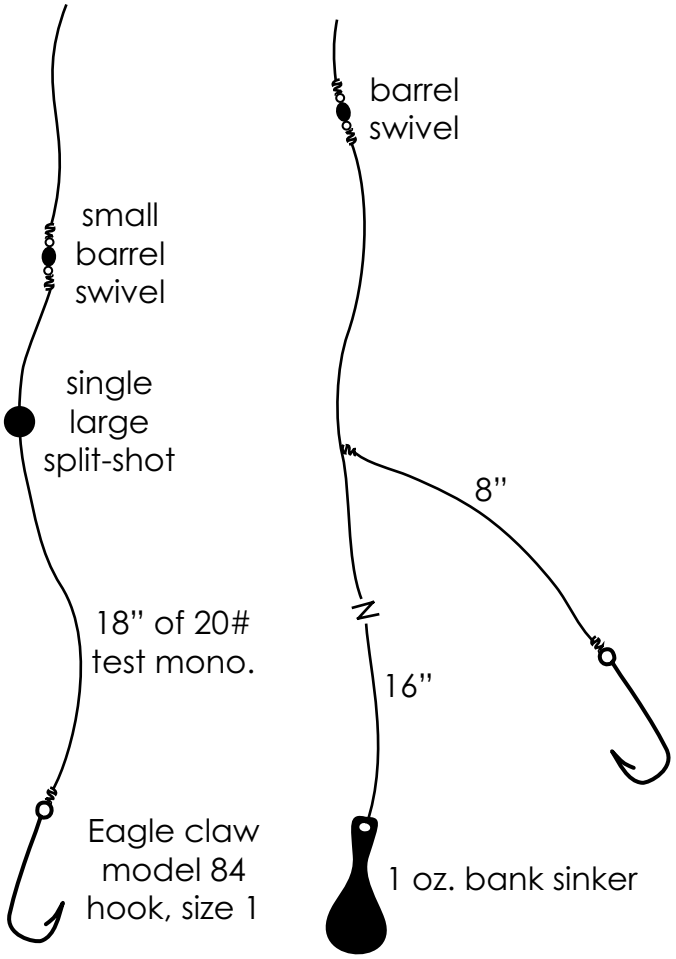
During different times of the year, the bandits are in different locations. Warm weather brings them in to shallow water. During cold weather (December, January, and February) they tend to be in a little deeper water (12 – 20 feet). Spring signals them to move even deeper to spawn, until May when they move back to shallow water. Of course, there are always some stragglers that lag behind.

Bob Horner

Many inlets along the coast have jetties, and I suppose most of them provide good sheepshead habitat. There are also many submerged structures in, near, or around the various inlets, creeks and harbors that can provide great fishing as well. Just remember, the more stuff that there is in the water for a small mollusk to grow on, a small crab to crawl on, or marine flora (that would be seaweed for the Carolina guys) to grow on, the more likely there are to be sheepshead in the area. I suppose, though, any structure that supports small crustaceans and attached growth will attract them. Fishing around any area that has bottom structure is a great start. Bridge piers, bulkheads, and rock piles all support the type of growth that attracts sheepsheads.

I usually fish for the sheeps in October, November, and December at the Charleston Jetties. At the jetties, anywhere can be good. Just be persistent and if you don't get any action in one spot, move 100 yards or so. Check the wind and drift direction and anchor so your boat will be 15 feet from the spot that you will be fishing. When possible, try to fish the down-wind side of emerging structure, where the water is calmer. Sometimes this does not work, but it can make for a better day, especially if you have a beginner on board. Sheepshead eat crabs and barnacles and a lot more. They eat a large amount of vegetation (based on that I may try spinach for bait one day), and I have even found them with a stomach full of sand. During this time of year, live shrimp, fiddlers, and even clams seem to work very well as bait. Or in my case, two fiddlers and a piece of clam all on the same hook works even better. Don't let your fishing buddies see this, though, at least not until *after* you catch the biggest fish.

The tackle that I use is very simple: a 7' medium action graphite rod with a spinning reel filled with 12 – 15 lb test line is my choice. Graphite makes a big difference in this case. The rod needs to be light and a little stiff so you can feel what is going on at the other end of your line. The terminal tackle for shallow water consists of a small barrel swivel, 18" of 20 lb monofilament leader, one large split shot, and an eagle claw #1 hook with a short shank. For deeper water (>15 feet), I use a 1 ounce bank sinker tied to the bottom of the leader with the hook on an 8" trailer about 16 inches up from the sinker. Buy lots of hooks and swivels. If you lose a lot, you are fishing in the right places.



Shallow Water Rig **Deep Water Rig**

Sheepshead feed on surfaces, facing the surface. Go to the aquarium and watch them sometime. (I did, since I am a fanatic.) They stay close to the structure, moving in, taking a bite, backing up, and moving back in again. You have to get your bait where they are – in front of the fish. A fiddler and a split shot won't cast too far, so anchor close to the structure. Cast right onto it and slowly work your bait back to you, keeping your line tight at all times. It is much like largemouth bass fishing with a plastic worm. If you are fishing pilings, keep your bait right up against them and try different depths. When a fish picks up the bait, they usually don't just take off. Instead, imagine that they are just backing up a foot or so and slowly moving back in to take another bite of something. So usually, if your line is tight with just slight pressure, you will feel some slight movement. Quickly increase pressure. Careful, this is not a Roland Martin jerk, but they do have very, very, and I mean very, tough mouths. Your hook must be extremely sharp so that good pressure should set it. Get the fish to the boat and have a landing net ready.

When fishing structure, it is best to position the boat *very* close so that an easy flip gets your bait where it needs to be. Also, if your boat is parked close to the structure, then when you work your bait back towards you, snags will be less frequent. Snags will still occur, though, whenever you are fishing structure. Grab your bail, break the line and start over. Bounce your rig off the rocks. Let your bait set for a couple of minutes, move it a foot or so, let it sit, move it a foot, and so on. Keep just enough pressure on your line to keep it tight, but don't forget to hold your rod firmly. I was fishing for sheepshead a couple of years ago and set the hook on a nice one, only to have the rod jerked right out of my hand. Before I thought about it (obviously), I dove in, wallet and all. I was able to get my hand on the rod, and I made my way back up to the boat, caught my breath (it was in March), and realized I still had the fish on. Luckily, I had a good net man with me and we got that fish in the boat. A landing net is essential for catching these fish. It is not uncommon to catch sheepsheads over 5 pounds. Usually, by the time you get them back to the boat, the line is frayed and ready to break, so a net saves the day. Always check your leader and hook after every fish. These guys are hard on tackle. They bend the tips of hooks and even break them sometimes. They bite the lines, bounce off rocks, and always manage to damage something with their fins and gill plates (both of which, by the way, are very sharp).

Several factors can affect fishing success. Tidal stage seems to make a difference, and low incoming may be a little better than others. More important, though, is overall water color and clarity. Try to find an area where the water is not too stirred up and muddied by the wind. When the water is cold, it is typically clearer, unless the wind is blowing. Also, it's a good idea to throw a small notebook in your boat and record information on what you did, where and when you did it, tides, weather, temperature, etc. so that when you do have a good trip, you will be able to predict that the fish *may* be in the same area that same time next year when conditions are similar. (Emphasis on *may*.)

If you are lucky enough to get a couple sheepshead in the boat, they are excellent on the grill. Fillet the sides and remove the skin and red meat portions close to the skin, and grill the fillets on a bed of thinly sliced lemons. Be careful

not to overcook: on a covered grill it only takes about 6-8 minutes until the meat is moist and flaky. No need to turn. Serve lemons and all with hush puppies, slaw and fresh fruit. After you enjoy your meal, you may want to sit back and share stories about the one that got away (or didn't) with your fellow fishermen, some of whom may be your sons or daughters. Laugh a lot and plan your next trip.

Pier Fishing for Sheepshead

By Daniel Culpepper

Fishing on a pier can be a wonderful experience. It is a good way to spend time with family and friends, and it's a great way to meet new friends. Sheepshead fishing is very challenging, and there are many different ways to fish for sheepshead. Here are some of the techniques, tackle and baits that have worked for me.

On most piers, sheepshead can be caught anywhere from the shallow water near the surf all of the way to the end of the pier. Don't hesitate to change locations if you are not getting any bites. I will usually start about half way down the pier at a location that has fairly clear water, so the sheepshead can see the bait. I also choose the side of the pier on which the current will work for me. By this I mean, that I choose the side where the current will hold my bait next to a piling instead of pushing it away from the pier, because sheepshead can most often be found feeding on growth on the pilings.

Daniel Culpepper

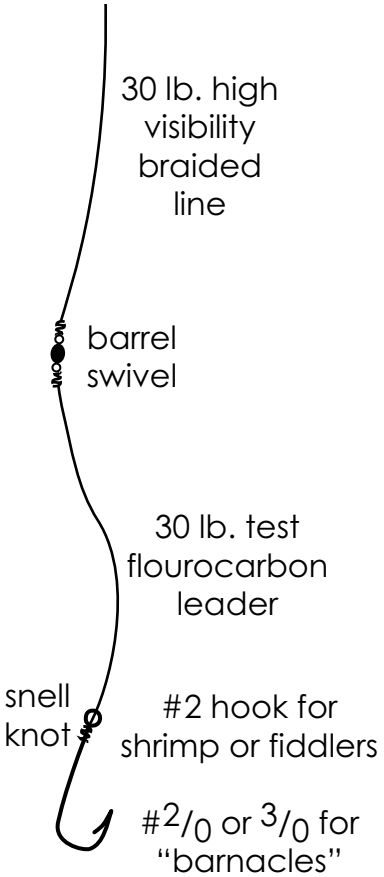
When is the best time to fish for sheepshead? I prefer to fish during daylight. My favorite time is during the last two hours of the flood tide and the first two hours of the falling tide (two hours either side of high water). During this time the fish are feeding high on the pilings, often in plain sight, because this is the only time they can reach the growth at the top of the water line on the pilings. So, at this time, I position my bait by a piling, from one to four feet down in the water. At lower tides or when fishing shallow water, I position my bait just above the bottom.

Sheepshead can be caught with a variety of tackle, so I'd recommend that you choose a reel type with which you are familiar and comfortable. Many people who target sheepshead use conventional (baitcasting) reels. With a conventional reel, it is easier to drop your bait to the desired depth. Conventional reels also have greater power to stop your fish and pull it out from under the pier and away from the pilings. More good sheepshead are lost than I like to think about, due to the line being cut on the pilings. To keep such cutoffs to a minimum, I use 20 to 30 lb test high-visibility braided line. If I am not paying attention, a sheepshead can still wrap a piling and break this fairly heavy line. I feel, though, that if I go to a much heavier line, I loose the sensitivity needed to feel the bite. Rather than spool my entire reel with expensive braid, I fill my spool with monofilament and then just tie on about 50 yards of braid at the end. The drawback to braided line is that the wind affects it more than monofilament, causing a big bow in your line on windy days, which means more often than not you will not be able to feel the bite. Another tool most pier anglers use for sheepshead fishing is a clamp-type rod holder. These attach to the pier rail and will hold your rod horizontal to the water, allowing you to position your bait just where you want it. By putting one rod in a holder, you can fish two rods, but when the sheepshead start biting, all you need to do is hold on to your favorite rod.

Leader and rig selection is very important. I

Clamp on rod holder

make my own "fish finder" rigs using 30 pound test fluorocarbon for the leader, 35 to 75 pound rated barrel swivels, and hooks sized to match the bait that I am using. Palomar knots attach the swivel to the fluorocarbon and to the main line. I prefer to snell all my hooks, but use a Palomar knot if you cannot snell your hooks. Choose a hook that matches your bait. When baiting with fiddler crabs or live shrimp, I use a #2 hook that has a bent eye for snelling. With "barnacles" (more on this great bait in bit) I use a larger 2/0 or 3/0 hook so I can run the hook through the bait twice, resting the barnacles on the inside bend of the hook. Circle hooks are great to use, too. It's important, though, when a fish bites on a circle hook, to remember to just lift your rod tip to gradually increase pressure on the fish (to move the hook to the fish's jaw and rotate it in). Don't jerk sharply as when using a regular hook. Remember, smaller hooks work better than large hooks when using fiddlers or shrimp, and use the smallest weight size you can, depending on current and wind speed.



Live bait is best for sheepshead. I prefer what are commonly referred to as "barnacles," but are really small mussels that cling in large groups to rocks, wood and concrete structure where they are under water except at low tide, when they can be collected using a scraper or other tool. Be careful when gathering these baits: wear gloves to protect your hands and non-slip shoes for secure footing on wet surfaces. Fiddler crabs, live shrimp, and sand fleas work well, too. Live shrimp and sand fleas get chewed up by smaller fish such as pin fish, though, so fiddlers are often a better option. Check your bait often, because sheepshead will clean your hook without you feeling a thing.

Feeling the bite is the hardest part of sheepshead fishing. Sheepshead feed almost without moving. They pull the bait into their mouth, crunch it, suck it clean, and then move away only *after* spitting out the remains. This is why it's so hard to feel the bite. Sometimes keeping your finger on the line helps to feel the slight movement of the bite.

Lastly, landing a good sheepshead from a pier is a real challenge in itself, requiring a drop net. A difficult part of fishing on a pier is getting the fish into the net. Lower the drop net to just below the water's surface, and then carefully lead your fish into the net. I always have my own drop net ready for use, because I have had large sheepshead actually snap my hooks while I was waiting for someone else to bring a net. It's good policy to always help others net a fish when needed, that way you know they will help you when it's your turn to land the big one!

GOOD FISHING

The Convict

by Dee Oliver

If there has ever been a thief in the outdoor world, it is the sheepshead. This fish will steal your bait time after time, and all that you can do is scratch your head. The more you feed them, the more they will make you say bad words. The sheepshead is one of the best fish to eat and may be one of the hardest fish to catch. If you think that you are a good fisherperson – man, woman or child – put your skills against the convict.

The sheepshead is a structure-oriented fish. They live around docks, bridges, jetties, wrecks or any kind of structure. They eat a great variety of foods that include crabs, fiddlers, shrimp, clams, oysters and barnacles. We can catch sheepshead by using any of the above food items for bait. Fiddlers and live shrimp are probably the best baits for sheepshead. It is a very good idea to chum where you are fishing. You can chum by crushing some fiddlers or shrimp and throwing them overboard or by knocking some oysters or barnacles from the bridge or dock pilings right where you are fishing. If you are using clams for bait, you should throw the empty clam shells overboard.

Dee Oliver

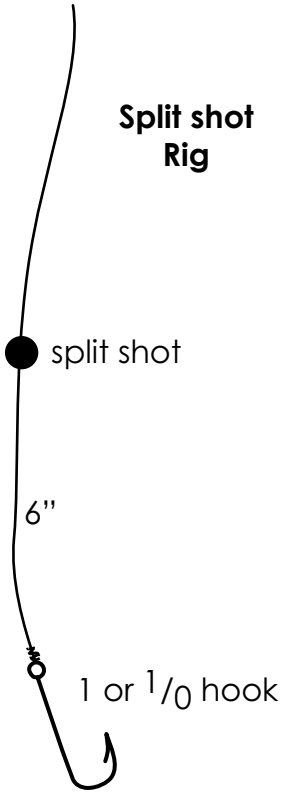
Now that we know where to fish and what to use for bait, let's discuss how to rig to catch sheepshead. We know that sheepshead hang around areas that are full of things that will cut your line and take your terminal tackle. This is good for the local tackle shops, but bad for the fisherman, and is a great reason to keep our rigs as simple and as inexpensive as possible. Probably the most widely used rig is the hook and split shot rig. I simply tie a number 1 or 1/0 hook directly to the end of my line, then I come up about six inches and mash a couple of large split shot directly on my line.

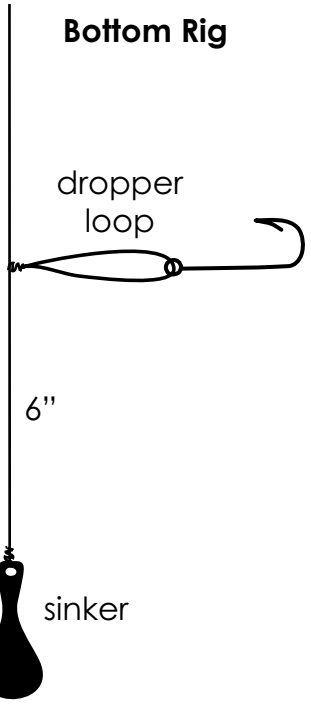
Another good bottom rig is made by tying a small sinker, 1 ounce or less, directly onto the end of your line. About six inches above the sinker, tie a loop or a dropper into the line, and attach a hook by passing the loop through the eye of the hook and then passing the hook back through the loop. This lets the sinker sit on the bottom with the bait suspended just off of the bottom. A "Carolina Rig" can also be used. A Carolina Rig consists of an egg sinker sliding on the main line with a leader and hook below the sinker.

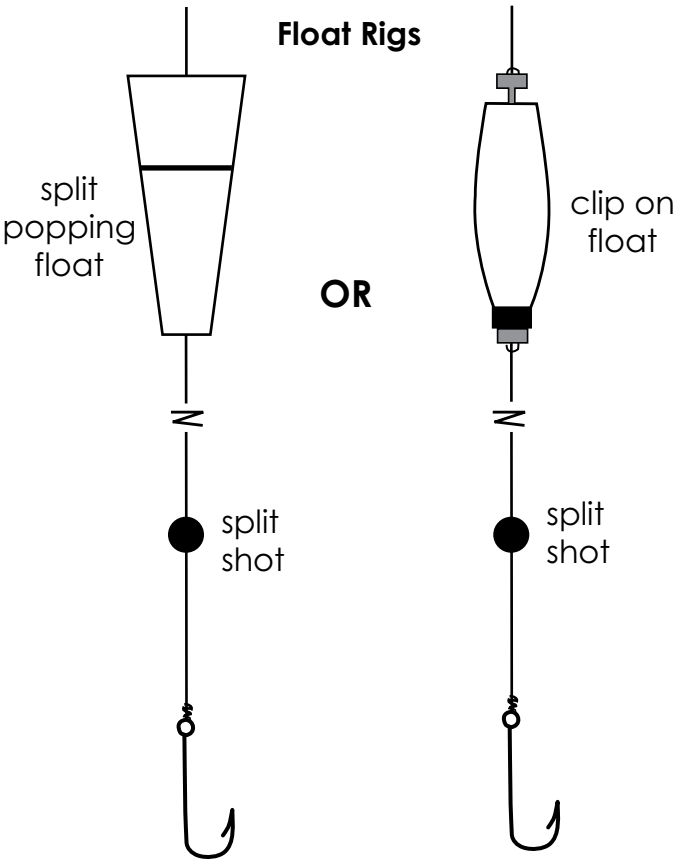
Sheepshead can be caught using a variety of float rigs. One popular float rig is a hook tied to the end of your line, a small split shot about three inches above the hook, and a three-inch clip-on float attached to your line at the depth you desire to fish. The float is weighted at the bottom, so the split shot is used only to get your bait down in the water.

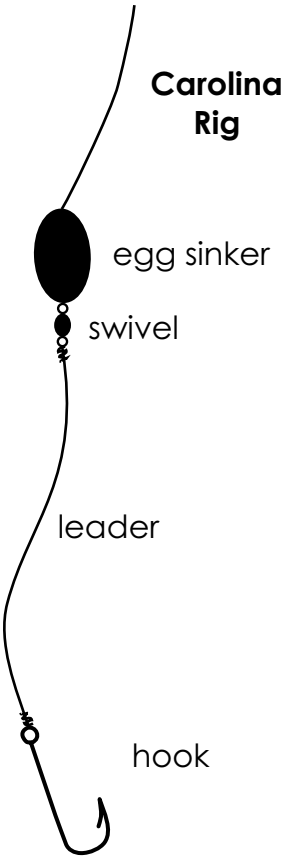
Slip-float rigs can also be used. To set up a slip-float rig, a bobber stop is put onto the line first, followed by a small bead which will help to stop the float from working past the bobber stop, and then the slip-float. After the float, an egg sinker just heavy enough to make the float stand up is slid onto the line, and then the leader is tied on. The leader consists of a barrel swivel, the leader line (usually a bit heavier than the main line), and a hook. This rig allows you to adjust the depth you fish by moving the bobber stop up or down your line to increase or decrease the depth of the bait.

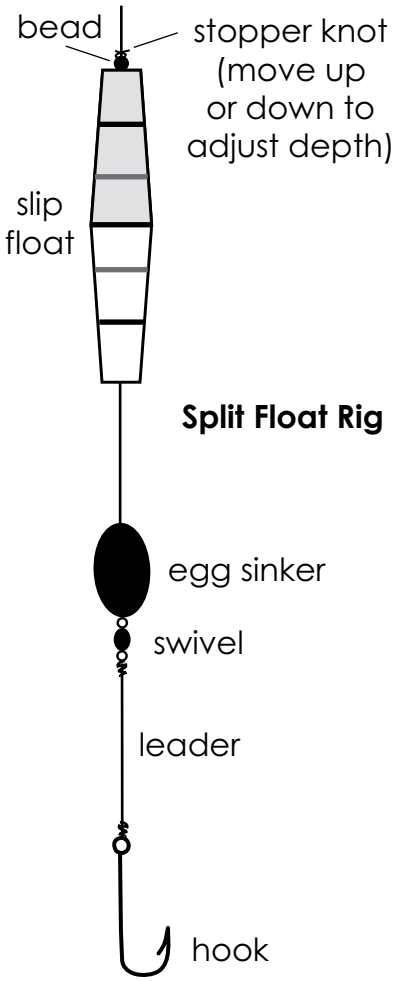
We have good sheepshead fishing in our area year round. Most of our sheepshead move offshore to our artificial reefs and live bottom areas in January and February to spawn. The best way to catch these fish during this time is to anchor so that your bait is directly over a piece of the reef or live bottom. There is usually current











to contend with here so the Carolina Rig or the Dropper Rig works best. I like to use at least one ounce of weight and a #1 hook. China back fiddler crabs are the bait of choice for this type of fishing. As the water warms up in the spring, the spawning is over and the fish start to move back inshore. This usually happens in mid to late April. As the water temperature continues to increase, the sheepshead continue to move further up the rivers, concentrating around docks and bridges. Many of the fish, however, will move into our jetties and go no further. Late in the spring and into early summer, live shrimp will catch good numbers of sheepshead. As the water temperature continues to rise, so does the number of small fish (often referred to as "picker fish") that eat our shrimp before the sheepshead have a chance to get to them. This is a fiddler or clam time of the year as far as bait is concerned. As summer begins to turn to fall and the water temperature starts to drop, the picker fish move away and the sheepshead begin to feed heavily in order to fatten up before they go to spawn. The last half of November, December and January are my favorite times to fish for sheepshead. I like to fish with live shrimp and this

is the best time to do so. A live shrimp on the bottom or under a float rig around the jetties this time of year is irresistible to a sheepshead.

The sheepshead is a master at stealing our bait. They have teeth that look like our own. These teeth are used to pick their meals from dock pilings and rocks. They also have teeth in the back of their mouth used for crushing their meals as the sheepshead actually sucks out the nutrients. This process is done very quickly; miss the first sign of a sheepshead's bite and the fish is gone with your bait. Don't bother to wait to see if the sheepshead is going to come back and bite again: he has already made a meal out of your bait and a sucker out of you.

Always remember that the sheepshead is the slickest "convict" of them all. He will steal your bait and you'll never know it. A word of advice from a fisherman who thinks that the sheepshead is one of the top two fish that swim, "set the hook just before he bites."

This short article is dedicated to my friend and fishing partner, Charlie Wenner, and to the great people from the SCDNR that work diligently day and night to preserve our valuable fishing resource. If it were not for these people, your children and grandchildren would never know fishing as we know it now. Practice catch and release when you can, and support SCDNR with all your efforts. The people that make the recommendations and final decisions on catch and size limits know more about the resource than you or I do. When you see the research teams in the field or at our fishing tournaments on the weekends, take a minute or two to tell them thank you for all they do for all of our great resources here.

Help keep our waterways litter free and prevent the unnecessary killing of marine life

Remember!

Bring home discarded fishing line, plastic bottles, jugs and their caps, six-pack rings, plastic bags, plastic cigarette lighters and all other trash and throw it in your garbage can.

Thank you

National Marine
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