FREE

North Carolina Division of Marine Fisheries

COASTAL RECREATIONAL ANGLER'S GUIDE

Nothing could be finer

From striped bass at Oregon Inlet to speckled trout at Sunset Beach, with red drum of Pamlico Sound in between, nothing could be finer than fishing coastal North Carolina in the morning or any other time.

More than 4,000 miles of coastal shoreline and 2.5 million acres of marine and estuarine waters make the Tar Heel State a saltwater angler's wish come true.

For fish, North Carolina is where north meets south, and that produces a diversity of catch like no other state.

It is the southernmost migratory range of many northern species of fish, like tautog and summer flounder; it is the northern-most range of many tropical species, like gag grouper and tarpon.

No wonder North Carolina consistently ranks among the highest in the nation in number of angler trips, number of fish landed and in number of coastal anglers.

The moral of it all

It is no secret man can hunt a species to extinction, and fishing is no exception. Add habitat destruction and degraded water quality into the equation and you can soon end up with a fish population struggling to survive.

That's why we have size and bag limits, fishing seasons and other regulations. Rules are one way to ensure that enough fish survive and grow to maturity to keep the fish population healthy now and in the future.

Regulations by themselves, though, are not enough. It will take ethical anglers – individual fishermen who care about conservation and who do what is right even when they know they will not get caught – to keep North Carolina a great place for saltwater fishing.

Here are a few ethical angling guidelines:

Learn and obey the rules:

From time-to-time, regulations change, so it is important to keep updated. The best place to find current size and bag limits is on the N.C. Division of Marine Fisheries' website at http://portal.ncdenr.org/web/mf/ recreational-fishing-size-and-bag-limits.

Report violations:

Just as you would report someone breaking into a car, call the N.C. Marine Patrol at 800-682-2632 to report violations of fisheries regulations.

Know your fish:

Become familiar with species commonly caught in North Carolina waters so that regulations can be properly applied.

Practice catch-and-release:

Don't take up to your bag limit of fish just because it is legal to do so. If you've already got more fish than you know you will eat, let the others go when you catch them. Studies have shown that many released fish survive to be caught another day.

Know how to properly handle fish:

Learn how to catch-and-release a fish in a way that gives the fish the best chance of survival.

Use circle hooks to help prevent the fish from swallowing the hook. Pinch the barb down on circle hooks and J-hooks to prevent damaging the fish. Release the fish while it is still in the water, if possible, and handle it as little as possible.

When you must handle the fish, be gentle, but grip it firmly enough below the gills to prevent it from thrashing around. Use a de-hooker or pair of long-nose pliers to grip the middle of the bend of the hook and gently pull the hook free.

Do not try to twist the hook free. If the barb has gone through the fish's mouth, cut it off and pull the remainder of the hook free.

If the fish has swallowed the hook, cut the fishing line. A fish may survive with a hook inside its stomach.

Do not high grade:

No matter how tempting, do not take a previously-caught legal sized fish out of the hold and discard it so that you can keep a larger fish and still remain within the bag limit.

Participate in fisheries management:

Report any tagged fish you catch and cooperate with authorities conducting surveys. Attend public meetings related to marine fisheries issues.

Respect the environment:

Never throw trash overboard — like plastic six-pack drink yokes or fishing line — or dump pollutants like gasoline and oil into the water. Polluting the water harms the fish.

Untangling regulatory lines ...

Figuring out which regulatory body makes what rule can be more frustrating than untangling crossed fishing lines.

For the most part, it depends on where you're fishing and what you're catching. So here's a primer to help you figure out who to call:

N.C. Division of Marine Fisheries regulates saltwater fishing in coastal waters of the state, including saltwater rivers and sounds and the ocean out to three miles from shore. The N.C. Marine Fisheries Commission, a nine-member board appointed by the governor, sets policies for the division.

Division of Marine Fisheries

P.O. Box 769
3441 Arendell St.
Morehead City, NC 28557
252-726-7021
800-682-2632
http://portal.ncdenr.org/web/mf/

Division District Offices:

5285 Hwy. 70 West
Morehead City, NC 28557
252-726-7021 / 800-682-2632

105-A Impact Blvd.
Elizabeth City, NC 27909
800-338-7805 (NC only)
252-264-3911

943 Washington Square Mall
Washington, NC 27889
800-338-7804
252-946-6481

127 Cardinal Dr. Ext.
Wilmington, NC 28405
800-248-4536 (NC only)
910-796-7215

1021 Driftwood Dr.
Manteo, NC 27954
252-473-5734

N.C. Wildlife Resources Commission oversees freshwater fishing in inland waters. The Division of Marine Fisheries and Wildlife Resources Commission jointly regulate brackish waters of the state.

Wildlife Resources Commission
1751 Varsity Dr.
NCSU Centennial Campus
Raleigh, NC 27606
919-707-0010
www.ncwildlife.org

National Marine Fisheries Service regulates federal ocean waters between three miles and 200 miles from shore.

NOAA Fisheries
1315 East West Highway
Silver Spring, MD 20910
301-713-2334 ext. 174
www.nmfs.noaa.gov

Federal regional councils develop fishery management plans for the **National Marine Fisheries Service**. North Carolina holds seats on two:

South Atlantic Fishery Management Council focuses on species primarily associated with waters south of Hatteras.

South Atlantic Fishery Management Council
4055 Faber Place Dr., Suite 201
North Charleston, SC 29405
843-571-4366
www.safmc.net

Mid-Atlantic Fishery Management Council focuses on species primarily associated with waters in the Mid-Atlantic region north of Hatteras.

Mid-Atlantic Fishery Management Council
Suite 2115 Federal Building
300 S. New St.
Dover, DE 19904-6726
302-674-5399
www.mafmc.org

North Carolina also holds seats on the **Atlantic States Marine Fisheries Commission**, a federally-mandated cooperative that coordinates fisheries management in state waters between the East Coast states.

Atlantic States Marine Fisheries Commission
1444 Eye St., NW - 6th Floor
Washington, DC 20005
202-289-6400
www.asmfc.org

Home is where the habitat is

Fish need more than water to survive. They need food to live and grow. They need protection from predators.

Habitats, such as oyster reefs and marshes, provide for these needs. But pollution, increased development and certain fishing practices threaten the quantity and quality of fisheries habitats along the coast.

The Fisheries Reform Act, passed by the N.C. General Assembly in 1997, directed the three regulatory commissions most closely associated with coastal fisheries habitat to develop, adopt and implement a Coastal Habitat Protection Plan to serve as a blueprint for research and management decisions.

The plan was developed by agencies within the Department of Environmental Quality and adopted by the Marine Fisheries Commission, Coastal Resources Commission and Environmental Management Commission in 2004. It is updated every five years.

The plan describes six habitats vital to fish: water column, shell bottom, submerged aquatic vegetation (sea grass), wetlands, soft bottom and hard bottom.

The plan also assesses threats to these habitats and includes recommendations for protecting, restoring and enhancing them. Implementation plans are developed biannually and much progress has been made. Further information is available on the Division of Marine Fisheries' website at http://portal.ncdenr.org/web/mf.

Jump right in

Got an idea about how the state should manage a fishery? There's a way to get involved.

In 1997, the N.C. General Assembly passed a law, the Fisheries Reform Act, that set up a network of advisory committees to the N.C. Marine Fisheries Commission.

There are two regional advisory committees – the Northern and Southern – and three standing advisory committees – Crustacean/ Shellfish, Finfish and Habitat and Water Quality. Committees include both commercial and recreational fishermen, scientists, environmentalists and others.

Additionally, the Marine Fisheries Commission chairman may establish ad hoc committees to address issues that arise. A list of current committees and members can be found online at http://portal.ncdenr.org/web/mf.

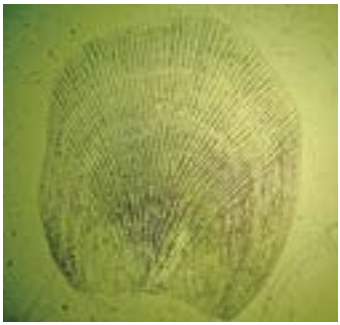
Committee members are solicited through the Division of Marine Fisheries' website and news releases.

State law also requires the Division of Marine Fisheries to prepare Fishery Management Plans for review and adoption by the Marine Fisheries Commission.

These plans are blueprints to guide regulatory actions.

All Marine Fisheries Commission and committee meetings are open to the public. Go to the Division of Marine Fisheries website to find meeting announcements or to sign up for email notices.

Fish bones



Fishermen can help the N.C. Division of Marine Fisheries collect scientific data on the recreational fishery by donating their cleaned fish to the Carcass Collection Program.

When a fisherman cleans a fish, he should leave the head and tail intact on the carcass, and then take it to one of the division's freezer locations. Instructions on how to deposit the carcasses are posted on the freezer.

Those participating will be required to provide their name and address. Anglers also will be asked to give information related to when and where the fish was caught. Rewards will be given to anglers taking part in the program.

Division biologists will collect the carcasses, measure the fish, determine the sex, and remove the otoliths (ear bones) to determine the fish's age. The information collected will be used for stock assessments to help manage our coastal fisheries.

For more information and a list of currently accepted species, see http://portal.ncdenr.org/web/mf/carcass-collection.

Tag: you're it!

Ever catch a tagged fish and wonder what it's all about? Why should you report it?

There are several good reasons. First you may be eligible for a reward, and second, you can help fisheries' biologists collect the information they need to understand and assess fish populations.

The N.C. Division of Marine Fisheries releases more than 15,000 tagged fish each year, including red drum, striped bass, southern flounder, spotted seatrout, and cobia. Where do they release these fish? In all coastal inland waters from the Albemarle Sound south to the Cape Fear River.

If you catch a fish with a tag (or even two tags), then you are eligible to receive a reward packet containing a letter with information about your fish, a personalized certificate, and a reward of your choice.

The division uses two tag colors, yellow and red. If you catch a fish with a yellow tag marked with "NCDMF", you are eligible to receive $5, a hat, fish towel, or other reward. Be sure to check both sides of the fish because

it may have two tags, which means you receive a double reward! If you catch a fish with a red tag marked with "NCDMF" and "$100 REWARD", you are eligible for a $100 monetary reward. Please note, red tags must be cut-off and returned to the division's Morehead City office to receive the monetary reward. Mail tags to:

N.C, Division of Marine Fisheries
ATTN: Tagging Program
P.O. Box 769
Morehead City, NC 28557

When you catch a tagged fish, cut off the tag and record the following information:

1. Species
2. Tag number(s)
3. Date
4. Location captured
5. Length
6. Fate of the fish (released or harvested)
7. Gear used for capture

Then report the tag and associated information to 800-682-2632, or online at http://portal.ncdenr.org/web/mf/report-tag-online.

For more information about the North Carolina Multi-Species Tagging Program, contact Ami Staples at 252-948-3913 or ami.staples@ncdenr.gov. You can also visit our website at: http://portal.ncdenr.org/web/mf/tagged-fish.

Go fish

North Carolina requires those ages 16 or older to hold a Coastal Recreational Fishing License to saltwater fish in the state. Licenses can be purchased at many tackle shops, at Division of Marine Fisheries and Wildlife Resources Commission offices and at www.ncwildlife.org and by phone, Monday through Friday, 8 a.m. to 5 p.m. at 888-248-6834.

Revenues from license sales are used to manage, protect, restore, develop, cultivate, conserve and enhance the marine resource.

Annual License

State Residents*, ages 16 or older - $15
Nonresidents, ages 16 or older - $30

10-day License

State Residents*, ages 16 or older - $5
Nonresidents, ages 16 or older - $10
Blocks of 10 Ten-Day Coastal Recreational Fishing Licenses - $150

Lifetime Coastal Recreational Fishing License Licenses**

Infant Lifetime: younger than one year - $100
Youth Lifetime: ages 1 through 11 - $150
Resident Adult*: ages 12 through 69 - $250**
Nonresident Adult: ages 12 and older - $500
Resident Age 70 Lifetime: ages 70 and older - $15***
Resident Disabled Veteran: 50% or more disabled - $10
Resident Totally Disabled: permanently disabled - $10

Annual Unified Sportsman

(Hunting and Fishing Licenses)
Resident Unified Sportsman/Coastal Recreational Fishing License* - $65
Resident Unified Inland/Coastal Recreational Fishing License* - $40

Lifetime Unified Sportsman

(Hunting and Fishing Licenses)
Infant Lifetime: younger than one year - $275
Youth Lifetime: ages 1 through 11 - $450
Resident Adult*: ages 12 through 69 - $675**
Nonresident Adult*: ages 12 and older - $1,550
Resident Age 70 Lifetime: ages 70 and older - $30***
Resident Disabled Veteran: 50% or more disabled - $110
Resident Totally Disabled: permanently disabled - $110

Lifetime Unified Inland/Coastal Recreational Fishing License (Application process only)

Resident Legally Blind Unified Inland/Coastal Recreational Fishing License – No charge
Resident Adult Care Home Unified Inland/Coastal Recreational Fishing License – No charge
Resident Lifetime Unified Inland/Coastal Recreational Fishing License - $450
Resident Subsistence Unified Inland/Coastal Recreational Fishing License Waiver – No charge

Many charter boats, head boats and fishing piers hold blanket licenses that cover the license requirement for their patrons. Blanket licenses are not required, so fishermen should check to see if they need an individual license before fishing.

A transaction fee of $2.00 will be added to all orders.

*Out-of-state students attending a university, college, or community college in North Carolina or active members of the military are considered residents.
**Those who held a Wildlife Resources Commission Lifetime Sportsman License or Lifetime Comprehensive Fishing License prior to Jan. 1, 2006, are exempt from purchasing the Coastal Recreational Fishing License.
***Senior License Eligibility: Residents born on or before Aug. 1, 1953 are eligible to purchase a senior lifetime license when they turn 65 years of age. Those born after Aug. 1, 1953 are eligiable to purchase a senior lifetime license when they turn 70 years of age.

Going way out

Vessel owners or operators who recreationally fish for regulated Atlantic tunas (bluefin, yellowfin, bigeye, albacore and skipjack), sharks, swordfish and billfish must obtain a Highly Migratory Species vessel permit in the Angling or Charter/Headboat categories from the National Marine Fisheries Service. This requirement applies even for those who fish exclusively in state waters for the above species. Highly Migratory Species permits may be obtained online at http://hmspermits.noaa.gov/PermitList.asp or by contacting the Highly Migratory Species Customer Service representative at 888-872-8862.

Those who land Highly Migratory Species in North Carolina must participate in a state tagging and reporting procedure that takes the place of the National Marine Fisheries Service call-in or website reporting process. Information on this reporting system can be found on the Division of Marine Fisheries' website at http://portal.ncdenr.org/web/mf/nmfs-highly-migratory-species-permits.

Getting in gear

Recreational fishermen who want to use a gill net, crab pots* or other commercial gear in North Carolina coastal waters need to purchase a Recreational Commercial Gear License.

The license costs $70.00 per year for residents and $500.00 per year for nonresidents and is available at N.C. Division of Marine Fisheries offices and at many bait and tackle shops. The license authorizes the holder to use limited amounts of commercial gear to harvest seafood for personal consumption. Seafood harvested under this license cannot be sold, and the license holder must adhere to recreational size and possession limits.

More information about the license and its requirements can be found on the Division of Marine Fisheries' website at http://portal.ncdenr.org/web/mf.

*One crab pot per person with properly marked buoys may be attached to the shore on privately owned land or to a privately owned pier without a license.

A bugging issue . . .

There's a longstanding myth that seawater cures almost any ill. Don't believe it.

Seawater contains any number of harmful microscopic organisms that can make people sick, and even kill someone who is not healthy.

Some of the biggest culprits are *vibrio* bacteria.

Vibrio are naturally occurring, microscopic bugs, not associated with water pollution, that are abundantly found in North Carolina's coastal waters during the warm water months of May through October, but are also present year-round.

Vibrio vulnificus infections are rare but can be fatal for people with liver disease, diabetes, or otherwise weakened immune systems. More common infections from other *Vibrio* bacteria, such as *Vibrio parahaemolyticus* are not as fatal but also affect more people — healthy people with healthy immune systems.

You can get these bacteria by ingestion, such as eating undercooked or raw shellfish, or through open wounds on the skin. Any angler stuck by a fish spine, pinched by a crab, or pricked by shrimp or any other saltwater organism needs to take precautions to avoid a *vibrio* wound infection. Even insect bites are potential openings for bacteria.

If you have a wound, it's best to stay out of brackish and salt water, or cover the wound with a waterproof bandage. But if an open wound is exposed to seawater, here's what to do:

1. Flush out the wound with sterile water. If you are on a boat, use bottled water. Do not try to clean a wound with seawater.
2. As soon as you can, wash the wound with soap and water.
3. Then, flush and clean the wound with hydrogen peroxide and an iodine antiseptic solution (such as Betadine). Both are available at drug stores and should be included in your boat's first aid kit.

If you think you have developed a skin infection, seek immediate medical attention and tell the doctor that you have been exposed to seawater, and may have a *vibrio* infection.

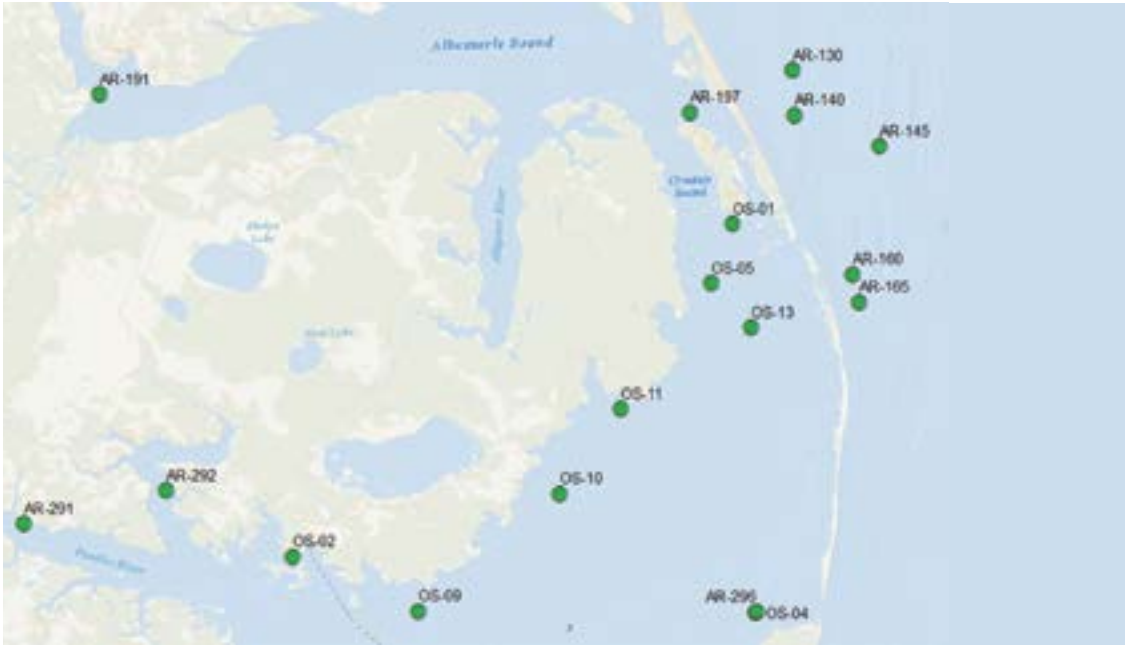
For more information, see the Centers for Disease Control website at https://www.cdc.gov/vibrio/index.html or the University of Southern Mississippi Gulf Coast Research Laboratory website at http://gcrl.usm.edu/microbiology/vibrio.vulnificus.threat.via.wounds.php.

Sunken treasures

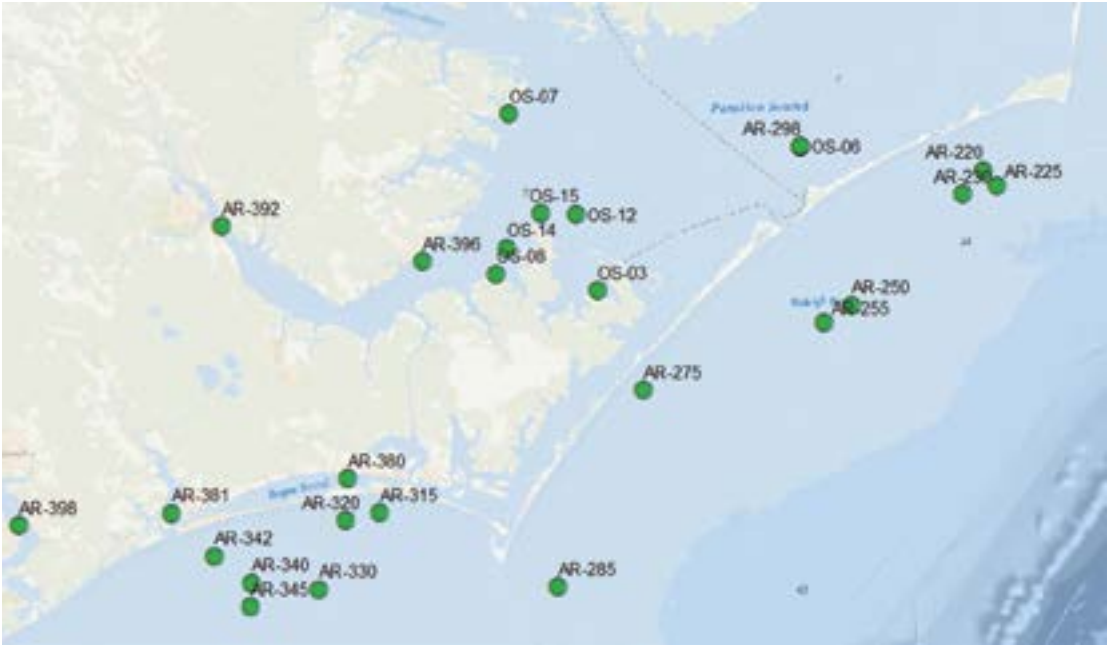
Sunken ships, airplanes and other materials create a treasure trove of marine life for anglers seeking flounder, black sea bass, grouper and other reef fish, as well as those who troll for pelagic species such as king mackerel, Spanish mackerel, dolphin, wahoo, tuna and billfish. North Carolina has 43 ocean artificial reefs along its coast, between a half mile and 38 miles from shore. The state also has 25 estuarine reefs in Albemarle and Pamlico sounds and the Pungo, Pamlico and Neuse rivers. Fifteen serve as oyster sanctuaries.

The N.C. Division of Marine Fisheries' Artificial Reef Program oversees permitting, construction and marking of artificial reefs, monitors condition of reef materials and human use.

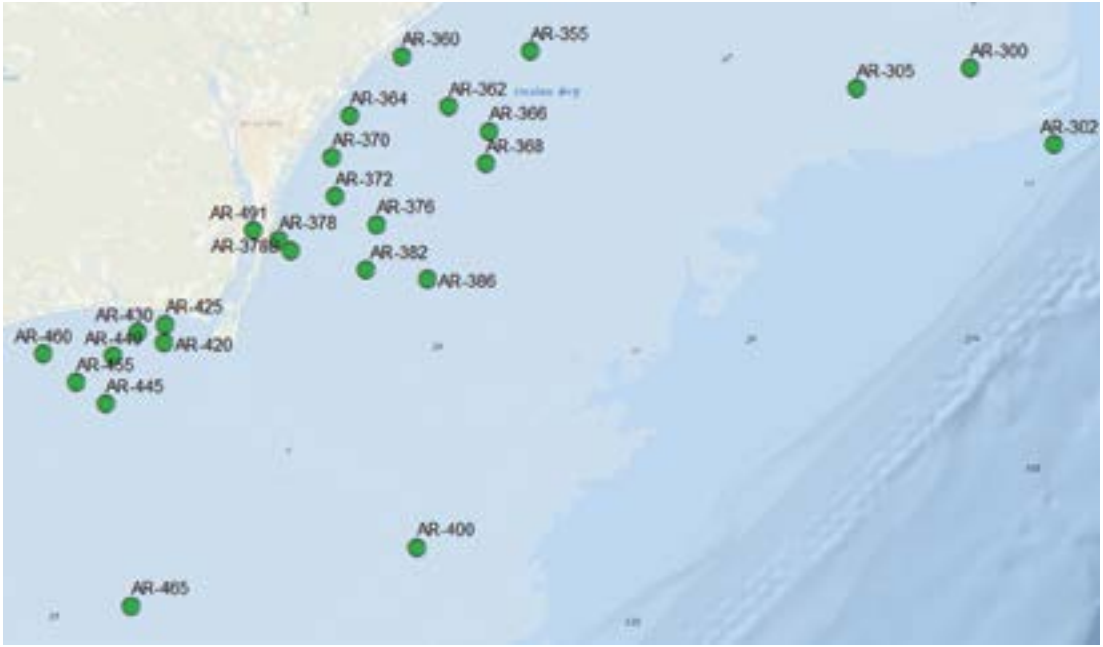
Interest in artificial reefs has grown in recent years enabling the state to enhance the reefs. The program receives funding through several sources, including the N.C. General Assembly, the Federal Aid in Sport Fish Restoration Program and donations from sport-fishing clubs, local governments and civic groups. For more information, visit the Division of Marine Fisheries' website at http://portal.ncdenr.org/web/mf.


Albemarle Sound
AR-191
AR-130
AR-197
AR-140
AR-145
OS-01
OS-05
AR-160
AR-165
OS-13
OS-11
AR-292
OS-10
AR-291
OS-02
OS-09
AR-295
OS-04

Reef	Reef Name	Depth (FT)	Location
AR-130	NO NAME	60	36 00.296/75 31.957
AR-140	NO NAME	57	35 56.718/75 31.965
AR-145	NO NAME	65	35 54.017/75 23.883
AR-160	Oregon Inlet Reef	66	35 43.888/75 26.771
AR-165	NO NAME	68	35 41.672/75 26.313
AR-191	Black Walnut Point Reef	16	36 00.064/76 40.031
AR-197	NO NAME	10	35 57.313/75 42.706
AR-291	Bayview Reef (Pamlico River)	13	35 26.174/76 48.587
AR-292	Quilley Point (Pungo River)	13	35 28.455/76 34.500
OS-01	Croatan Sound	10	35 48.284/75 38.458
OS-02	Deep Bay	9	35 22.913/76 22.338
OS-04	Clam Shoal	11	35 17.524/75 37.691
OS-05	Crab Hole	14	35 43.683/75 40.750
OS-09	West Bluff	14	35 18.316/76 10.296
OS-10	Gibbs Shoal	14	35 27.355/75 56.230
OS-11	Long Shoal	14	35 33.860/75 49.900
OS-13	Pea Island	10	35 40.080/75 37.080


OS-07
AR-298
OS-06
AR-220
AR-225
AR-392
OS-15
OS-12
OS-14
AR-396
OS-08
OS-03
AR-250
AR-255
AR-275
AR-380
AR-381
AR-320
AR-315
AR-398
AR-342
AR-340
AR-330
AR-345
AR-285

Reef	Reef Name	Depth (FT)	Location
AR-220	NO NAME	60	35 08.117/75 40.633
AR-225	NO NAME	67	35 06.768/75 39.322
AR-230	Mr. J.C. Reef	72	35 06.133/75 42.933
AR-250	NO NAME	83	34 56.900/75 54.860
AR-255	NO NAME	84	34 55.483/75 57.910
AR-275	Billy Smith Reef	55	34 50.093/76 16.880
AR-285	George Summerlin Reef	65	34 33.383/76 26.350
AR-298/ OS-06	Ocracoke	19	35 10.826/75 59.974
AR-315	Atlantic Beach	49	34 40.085/76 44.827
AR-320	Clifton Moss Reef	50	34 39.533/76 48.417
AR-330	Howard Chaplin Reef	60	34 33.634/76 51.267
AR-340	J. Paul Tyndall Reef	58	34 34.319/76 58.345
AR-342	Onslow Bay Saltwater Fishing Club Reef	49	34 36.672/77 2.189
AR-345	Swansboro Rotary Club Reef	60	34 32.266/76 58.508
AR-380	NO NAME	6	34 43.129/76 48.110
AR-381	NO NAME	4	34 40.430/76 06.502
AR-392	New Bern (Neuse River)	15	35 05.213/77 00.926
AR-396	Oriental (Neuse River)	10	35 01.870/76 39.467
AR-398	NO NAME	10	34 39.672/77 22.600
OS-03	West Bay	9	34 58.852/76 21.472
OS-07	Middle Bay	7	35 14.158/76 30.332
OS-08	Neuse River	11	35 00.474/76 31.955
OS-12	Raccoon Island	15	35 05.476/76 23.537
OS-14	Little Creek	20	35 02.694/76 30.984
OS-15	Swan Island	11	35 05.617/76 27.504


AR-360
AR-355
AR-305
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AR-376
AR-378
AR-382
AR-386
AR-430
AR-425
AR-400
AR-420
AR-455
AR-445
AR-400
AR-465

Reef	Reef Name	Depth (FT)	Location
AR-300	Hardee's Reef	90	34 18.517/76 24.133
AR-302	Yancey	160	34 10.265/76 13.703
AR-305	Carteret County Sportfishing Association Reef	104	34 16.683/76 38.650
AR-355	New River Reef	60	34 21.318/77 19.877
AR-360	Topsail Reef	44	34 20.982/77 36.183
AR-362	Tom Boyette Reef	54	34 15.657/77 30.392
AR-364	Billy Murrell Reef	44	34 14.806/77 42.855
AR-366	NO NAME	66	34 12.950/77 25.250
AR-368	NO NAME	66	34 09.514/77 25.782
AR-370	Meares Harris Reef	52	34 10.453/77 45.281
AR-372	NO NAME	48	34 06.295/77 44.917
AR-376	NO NAME	60	34 03.283/77 39.633
AR-378	Phillip Wolfe Reef	40	34 1.807/77 52.091
AR-378B	Phillip Wolfe Reef	40	34 0.642/77 50.654
AR-382	Dredge Wreck Reef	58	33 58.581/77 41.172
AR-386	Lennon/Hyde Reef	78	33 57.517/77 33.400
AR-400	Robert (Bob) Black Tower Reef	66	33 29.267/77 35.227
AR-420	Tom Mcglammery Reef	30	33 51.050/78 06.710
AR-425	Yaupon Beach Reef	30	33 53.048/78 6.525
AR-430	NO NAME	34	33 52.190/78 10.000
AR-440	Brunswick County Fishing Club Reef	42	33 49.800/78 13.083
AR-445	Dale Mcdowell Reef	53	33 4.783/78 14.100
AR-455	Dale Ward Reef	46	33 47.033/78 17.883
AR-460	Fisherman's Reef	38	33 50.089/78 22.022
AR-465	Gary Ennis Reef	84	33 23.423/78 11.052
AR-491	NO NAME	1	34 02.910/77 55.360

Reel contests

The N.C. Division of Marine Fisheries manages two recreational fishing tournament programs.

The North Carolina Saltwater Fishing Tournament, also known as the Citation Program, recognizes exceptional catches of North Carolina's most popular sport fish.

The tournament runs from Jan. 1 to Dec. 31 each year and is open to any angler. However, captains or crew members of for-hire vessels may not receive a citation for fish they catch while under charter. Fish that are sold are ineligible for a citation.

To qualify for a citation, the fish must be caught on hook and line and landed without the use of electric or hydraulic equipment. The fish must meet program size requirements, be weighed at an official weigh station and then recorded on an official application form.

For catch-and-release citations, an angler or mate must touch the fish or the leader. The angler and a witness must fill out and sign an application at an official weigh station. A length must be recorded.

Tournament rules, weigh stations and state records can be found on the internet at:
http://portal.ncdenr.org/web/mf/recreational-fishing-tournaments.

More information and weigh stations can be found on the internet at http://portal.ncdenr.org/web/mf under the "Recreational Fishing" link.

The North Carolina Governor's Cup Billfishing Conservation Series is an annual sport-fishing series operating cooperatively with eight major billfish tournaments in the state that promote conservation-fishing measures.

Participating boats or teams earn points cumulatively throughout the series for billfish landed or caught and released that meet minimum size limits. Penalty points are assessed for undersized fish taken.

Trophies are awarded at the conclusion of the tournament series for the most points in both the private boat and charter boat categories. Individual awards are given to the outstanding junior boy, outstanding junior girl and lady angler. Additionally, trophies are awarded for the largest blue marlin, yellowfin tuna, wahoo and dolphin.

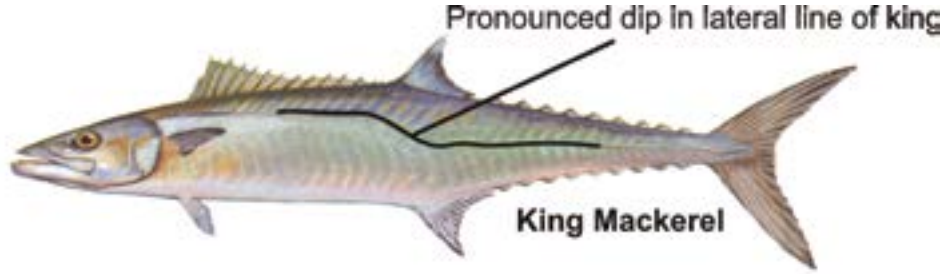
Muddling mackerel matters

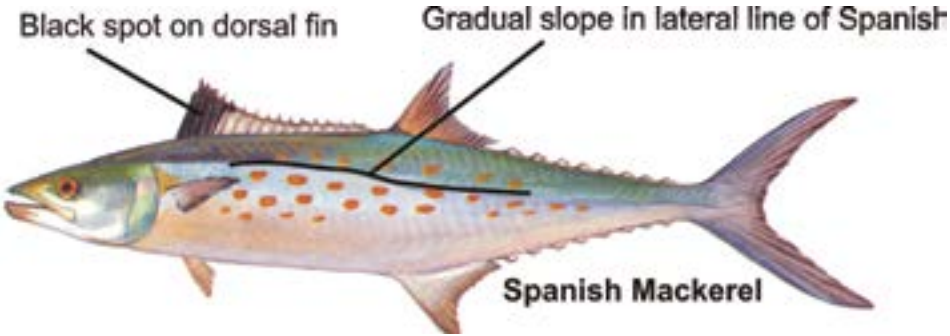
They can look an awful lot alike, the king mackerel and the Spanish mackerel. But the size limit on king mackerel is twice the length of Spanish, so you need to be able to tell them apart.

Both an adult Spanish mackerel and a juvenile king mackerel have gold spots on the body. A difference is that the Spanish mackerel has a black spot on the first dorsal fin.

Another difference between the fish is the king mackerel has a pronounced dip in the lateral line below the second dorsal fin. The lateral line on the Spanish mackerel gently curves to the tail.

King — Spanish Mackerel Comparison





Learn the lingo

An abbreviated glossary of some marine fisheries terms follows. For a more complete list, visit the N.C. Division of Marine Fisheries website at http://portal.ncdenr.org/web/mf.

A

Advisory Panel – A group of people appointed by a fisheries management agency to review information and give advice. Members are usually not scientists, but most are familiar with the fishing industry or a particular fishery.

Anadromous – Fish that migrate from saltwater to freshwater to spawn.

Angler – A person who fishes with a hook and line.

Annual Catch Limits – The level of annual catch of a species population or population complex that, if met or exceeded, triggers management controls, such as seasonal closures or quota closures.

B

Bag Limit – Same as creel limit. The number and/or size of a species that a person can legally take in a day or trip. This may or may not be the same as a possession limit.

Benthic – Refers to animals and fish that live on or in the water bottom.

Billfishes – The family of fish that includes marlins, sailfish and spearfish.

Bycatch – The harvest of fish or shellfish other than the species for which the fishing gear was set. Examples are blue crabs caught in the shrimp trawls or sharks caught on a tuna longline.

C

Catch – The total number or poundage of fish captured from an area over some period of time. This includes fish that are caught but released or discarded instead of being landed.

Catch Per Unit of Effort – The number of fish caught by an amount of effort. Typically, effort is a combination of gear type, gear size and length of time gear is used. Catch per unit of effort is often used as a measurement of relative abundance for a particular fish.

Charter Boat – A boat available for hire, normally by a group of people for a short period of time. A charter boat is usually hired by anglers.

Commercial Fishery – The social, economic and regulatory structure associated with the catching and marketing of fish and shellfish for sale. It refers to and includes fish, fishermen and related businesses directly or indirectly involved in harvesting, processing or sales.

Council – Indicates a regional fishery management group, such as the South Atlantic Fishery Management Council or the Mid-Atlantic Fishery Management Council, created by federal law to develop fishery policies for different regions.

Crustacean – A group of freshwater and saltwater animals having no backbone, with jointed legs and a hard shell made of chitin. Includes shrimp, crabs, lobsters and crayfish.

Curved Fork Length – The length of a fish measured from the tip of the upper jaw to the fork of the tail along the contour of the body in a line that runs along the top of the pectoral fin and the top of the caudal keel.

D

Demersal – Describes fish and animals that live near water bottoms. Examples are flounder and croaker.
Directed Fishery – Fishing that is directed at a certain species or group of species. This applies to recreational and commercial fishing.

E

Effort – The amount of time and fishing power used to harvest fish. Fishing power includes gear size, boat size and horsepower.
Environmental Impact Statement – An analysis of the expected impacts of a fishery management plan (or some other proposed action) on the environment.
Exclusive Economic Zone – All waters from the seaward boundary of coastal states out to 200 nautical miles.

F

Fishery – All the activities involved in catching a species of fish or a group of species.
Fishery Management Council – See council.
Fishery Management Plan – A plan to achieve specified management goals for a species. It includes data, analyses and management measures for a fishery.
Fishing Mortality – A measurement of the rate of removal of fish from a population by fishing. Fishing mortality can be reported as annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous mortality is the percentage of fish dying at any one time. The acceptable rates of fishing mortality may vary from species to species.
Fork Length – The length of a fish as measured from the tip of its snout to the fork in the tail.

G

Gills – Fish respiratory organs.
Groundfish – A species or group of fish that lives most of its life on or near the sea bottom.

H

Harvest – The total number or poundage of fish caught and kept from an area over a period of time.
Head Boat – A fishing boat that takes recreational fishermen out for a fee per person. Different from a charter boat in that people on a head boat pay individual fees as opposed to renting the boat.

I

Ichthyology – The study of fish.

J

Juvenile – A young fish or animal that has not reached sexual maturity.

L

Landings – The number or poundage of fish unloaded at a dock by commercial fishermen or brought to shore by recreational fishermen.

M

Magnuson-Stevens Fishery Conservation and Management Act – The federal law that created the regional councils and is the federal government's basis for fisheries management in the Exclusive Economic Zone.
Mariculture – The raising of marine finfish or shellfish under some controls. Ponds, pens, tanks or other

containers may be used, and feed is often used. A hatchery is also mariculture, but the fish are released before harvest size is reached.

Marine Mammal – Animals that live in marine waters and breathe air directly. These include porpoises, whales and seals.

Marine Recreational Fishery Statistics Survey – An annual survey by the National Marine Fisheries Service to estimate the number, catch and effort of recreational fishermen. It serves as a basis for many parts of fishery management plans.

Mollusk – A group of freshwater and saltwater animals with no skeleton and usually one or two hard shells made of calcium carbonate. Includes the oyster, clam, mussel, snail, conch, scallop, squid and octopus.

N

National Marine Fisheries Service – A federal agency, with scientists, research vessels and a data collection system, responsible for managing the nation's saltwater fish. It oversees the actions of the councils under the Fishery Conservation and Management Act.

National Standards – The Fishery Conservation and Management Act requires that a fishery management plan and its regulations meet 10 standards. The 10 standards were developed to identify the nation's interest in fish management.

Northeast Fisheries Science Center - The research arm of the National Marine Fisheries Service Northeast region, headquartered at Woods Hole, Mass.

Nursery – The part of a fish's or animal's habitat where the young grow up.

O

Ocellus – An eye-like spot.

P

Pelagic - Refers to fish and animals that live in the open sea, away from the sea bottom.
Possession Limit – The number and/or size of a species that a person can legally have at any one time. Refers to commercial and recreational fishermen. A possession limit generally does not apply at the wholesale market level and beyond.

Q

Quota – The maximum number of fish that can be legally landed in a time period. It can apply to the total fishery or an individual fisherman's share.

R

Recreational Fishery – The entire social, economic and regulatory structure associated with the harvest of fish for personal use, fun and challenge. The term encompasses the fish, fishermen and businesses impacted by recreational fishing. It does not include sale of catch.
Reef Fish Complex – The many species of fish found around natural reefs, artificial reefs, ledges and mud lumps. Snapper, grouper and tilefish are examples.

S

Shellfish – General term for crustaceans and mollusks.
Slot Limit – A limit on the size of fish that may be kept. Allows a harvester to keep fish under a minimum size and over a maximum size but not those in between the

minimum and maximum size. It can also refer to size limits that allow a harvester to keep only fish that fall between a minimum and maximum size.

Southeast Fisheries Center – Headquarters for the scientific staff of the National Marine Fisheries Service in the South Atlantic and Gulf of Mexico states. The center is in Miami, Fla., with smaller laboratories at several other locations.

Species – A group of similar fish or shellfish that can freely interbreed.

Stock – A grouping of fish or shellfish usually based on genetic relationship, geographic distribution and movement patterns. It can also mean a managed unit of fish or shellfish.

T

Total Allowable Catch – The annual recommended catch for a species or species group. The regional council sets the Total Allowable Catch from the range of the allowable biological catch.

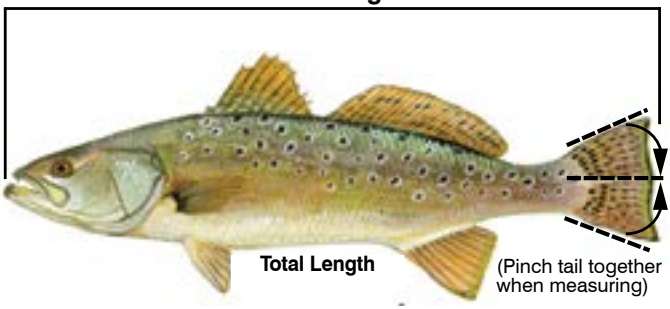
Total Length – The length of a fish as measured from tip of snout with mouth closed to top of compressed tail.

Y

Yield – The production from a fishery in terms of numbers or weight.

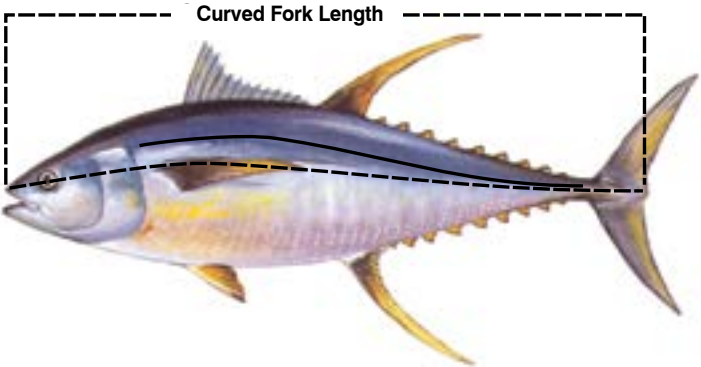
How to measure a Fish

Total Length



Fork Length

Curved Fork Length



FISH PROFILES

Inshore / Nearshore

Spotted seatrout

Cynoscion nebulosus

AKA: speckled trout, southern spotted weakfish, speck

Description: The spotted seatrout has a long, slender body with a dark bluish-silvery-gray back and silvery sides. Its body is marked by round, black spots on the back, upper sides and extending into the second dorsal fin and the caudal fin. The upper jaw has two large, curved, canine-like teeth.

Size: Spotted seatrout, on average, are 15 to 25 inches in length and 2 to 4 pounds, but they grow to as large as 40 inches and 12 pounds. Citations are given for fish weighing 5 pounds or more and for the live release of fish measuring 24 inches or longer.

Sometimes confused with: weakfish

Habitat: The fish is found in rivers, estuaries and shallow coastal waters over sandy bottoms. It is often associated with seagrass beds, as well as salt marshes and tidal pools of high salinity. Its geographical range

runs from New York to the northern part of Mexico but the fish is rare north of Virginia. The fish is sensitive to freezing temperatures and populations north of North Carolina tend to migrate south for the winter. Even with North Carolina's milder winters, a cold snap can cause a spotted seatrout kill.

Eating habits: Spotted seatrout feed on shrimp, crabs and fishes like mullet and Atlantic menhaden. Adults form schools and move onto shoals to feed with the incoming tide.

Life cycle: Spawning occurs several times during a single season from late April to early October in the deep parts of bays and adjacent grass beds. The fish can spawn, develop and spend its entire life in the estuarine environment. Spotted seatrout mature between age one and three and can live as long as 10 years.

Fishing tips: Anglers catch fish on light to medium spinning tackle using a variety of artificial bait. Popular baits include shrimp and minnows suspended from a float. Artificially scented lures are also popular.

Weakfish

Cynoscion regalis

AKA: gray trout, trout

Description: Weakfish are dark olive-green on top and silvery below, burnished on the back and sides with purple, lavender, green, blue, golden or copper. The sides are flecked with dark blotches that form wavy lines running down and forward, but not into the fins. The fins are yellow, and there are two large canine-like teeth in the upper jaw. The spot pattern distinguishes weakfish from the spotted seatrout because the spots do not appear on the tail or second dorsal fins.

Size: Weakfish grow to 36 inches, but most catches range between 10 inches and 16 inches. Citations are given for fish weighing 5 pounds or more and for the live release of fish measuring 24 inches or longer.

Sometimes confused with: spotted seatrout

Habitat: Weakfish are found in coastal waters from Nova Scotia to northeast Florida but are more

abundant between New York and North Carolina. They migrate seasonally, moving south and offshore in autumn and winter, and north and inshore during spring and summer.

Eating habits: They are an omnivorous fish that adapt to available food conditions. Smaller fish usually eat shrimp, crabs and small clams on the bottom, and larger fish eat butterfish, herrings and other fish.

Life cycle: The fish mature at age 1 or 2 and spawn during the spring and summer in nearshore and estuarine waters. Juveniles move from waters of high salinity to waters of lower salinity throughout the summer. They leave the estuaries by winter. Weakfish live as long as 17 years.

Fishing tips: Anglers catch weakfish with natural or artificial baits by a variety of techniques including bottom fishing and jigging. They commonly use sting silvers and spec rigs. The weakfish have soft mouths. Anglers should keep the line tight, yet not pull too hard because the hook could rip through the lip.

Striped bass

Morone saxatilis

AKA: rockfish, rock, striper

Description: Striped bass have a large mouth with a long body and head and slightly forked tail. Their color on top varies from a dark olive-green, to steel blue or gray black. Their sides are silver with seven or eight black, horizontal stripes, one of which follows the lateral line. They have one soft and one spiny dorsal fin, separated at the base.

Size: Striped bass are typically 18 to 24 inches long in estuarine waters and between 30 and 40 inches long in ocean waters. Citations are given for fish weighing 35 pounds or more and for the live release of fish measuring 45 inches or longer.

Sometimes confused with: hybrid striped/white bass

Habitat: Striped bass are distributed along the Atlantic Coast from St. Lawrence River, Canada, to St. Johns River, Fla. They are anadromous and therefore found

in both freshwater and saltwater, often around piers, jetties, surf troughs, rips, flats and rocks.

Eating habits: Striped bass are carnivorous opportunistic predators that feed heavily on menhaden, anchovies, flounder, weakfish, herrings and many kinds of invertebrates.

Life cycle: Females reach maturity at age 4 or 5 and move from the ocean up rivers to freshwater spawning grounds in the spring. Water currents carry the eggs or newly-hatched larvae downstream to the estuaries, where they spend the first few years of their lives. As they mature, some striped bass leave the estuaries to join a migratory population and others remain. They reach a maximum age of 18 years.

Fishing tips: Fishermen catch striped bass by trolling, casting or jigging with artificial baits or floating or bottom fishing with natural baits. They also surf fish with spoons or heavy lures. Anglers land more large striped bass in North Carolina during the winter than in any other state.

Atlantic croaker

Micropogonias undulatus

AKA: hardhead, pinhead, kingfish

Description: Atlantic croaker is a silvery fish with a faint pinkish bronze cast. Its back and upper sides are grayish with brassy or brown spots that form oblique wavy lines on the fish's sides. Its body is moderately flat and elongated. The dorsal fins are continuous with a deep notch between the spiny and soft portions. It has a long head with a conical snout projecting beyond its downward-positioned mouth. It has a slightly pointed tail and small barbels on the lower jaw. A member of the drum family, Atlantic croaker derives its name from the croaking sound it produces by vibrating its swim bladder.

Size: Catches are commonly 9 inches and 1/3 pound, but Atlantic croaker are found as large as 20 inches and 5 pounds. Citations are given for fish weighing 3 pounds or more.

Sometimes confused with: pigfish, kingfish

Habitat: Atlantic croaker are found in both muddy and sandy bottom areas all along the East Coast from Cape Cod, Mass., to the South Atlantic and Gulf coasts to central Mexico. In North Carolina it is found throughout coastal waters.

Eating habits: Atlantic croaker are opportunistic feeders that eat crustaceans, worms, organic debris, mollusks and small fish.

Life cycle: Atlantic croaker mature between ages 2 and 3 and spawn offshore over a protracted period which usually peaks in October. Eggs and newly-hatched larvae drift toward land, and later, as juvenile fish, swim into estuarine nursery areas where they remain until the next fall when they migrate into open waters.

Fishing tips: Recreational anglers can catch croaker from the spring through the fall by fishing on the bottom with light tackle and natural baits, like shrimp, clams, bloodworms and squid. Fishing is best just before or just after high tide in channels or deep holes.

Pigfish

Orthopristis chrysoptera

AKA: hogfish, grunt

Description: Pigfish are characterized by a long, sloping snout, 12 to 13 anal fin rays and the grunting sound they make when removed from the water. The fish are a pale blue-gray color at the top that shades to silver below. The cheeks and upper sides have brassy or golden variable markings that form wavy lines and the fins are yellow-bronze.

Size: Pigfish grow to 19 inches and 2 pounds. No citations are given for pigfish.

Sometimes confused with: pinfish, Atlantic croaker

Habitat: Pigfish are found in warm, temperate waters as far north as Cape Cod, Mass., but are most abundant

south of the Chesapeake Bay in coastal waters over sand and mud bottom.

Eating habits: Adult pigfish are benthic carnivores that eat a variety of bottom invertebrates, such as worms, mollusks, amphipods, shrimp and crabs.

Life cycle: Spawning occurs inshore in the spring and early summer and in the open ocean just prior to migration into the estuaries. Pigfish reach maturity during the second year of life when the fish are as small as 7 inches.

Fishing tips: Pigfish can be caught in late spring and fall using a standard two-hook bottom rig baited with shrimp, squid or bloodworms. Anglers often find greater success while fishing near structures or on rough bottom.

Spot

Leiostomus xanthurus

AKA: yellow belly

Description: The body is short and grayish-silver with golden reflections along the upper sides. Between 12 and 15 wavy dark lines run from the dorsal fins to below the lateral line. A prominent black spot, about the same size as the eye, is located behind the gill cover. In the fall, spot have bright yellow stomachs, a trait likely associated with spawning.

Size: Spot grow to 14 inches, but typical catches range from 7 inches to 10 inches. Citations are given for fish weighing 1 pound or more.

Sometimes confused with: juvenile Atlantic croaker, silver perch

Habitat: Spot inhabit estuarine and coastal waters from the Gulf of Maine to Mexico, but they are most

abundant from Delaware Bay to Georgia in the summer and fall. Spot tend to occur in sandy or muddy shallow waters during the summer then move offshore to the continental shelf edge in the winter.

Eating habits: Spot feed on crustaceans, organic debris, worms and small fish.

Life cycle: Spot reach sexual maturity between ages 2 and 3 and spawn at sea in the fall and winter. Spot eggs hatch in early spring and are carried to estuarine nursery grounds by water currents. The fish grow rapidly and juveniles stay in the estuarine waters throughout the year. As they grow, the fish move into deeper, higher-salinity waters. As autumn and spawning season draws near, larger spot move into the nearshore ocean.

Fishing tips: Spot concentrate in large schools nearshore. Anglers catch spot from piers, bridges, jetties, the surf and small boats, usually with two-hook bottom rigs baited with shrimp, bloodworms or squid. Recreational anglers catch more spot in North Carolina than any other species.

Kingfish

Menticirrhus americanus (Southern)
Menticirrhus saxatilis (Northern)
Menticirrhus littoralis (Gulf)

AKA: sea mullet, whiting, Virginia mullet, roundhead

Description: The three kingfish species in North Carolina waters, combined here in one profile, are medium-sized fish with slender bodies and backs that appear slightly elevated. The southern kingfish are the most abundant of the three in North Carolina. They have a cone-shaped snout, a small mouth and a single rigid barb on the chin. Body color varies with the habitat, generally silvery gray on top, sometimes black and white below with dusky markings on the side often in the form of seven to eight dark bars. Juveniles are darker than adults.

Size: Kingfish grow to 18 inches, but catches average at about 11 inches. Citations are given for fish weighing 1 pounds or more.

Sometimes confused with: Atlantic croaker

Habitat: Kingfish range from Cape Cod, Mass., to Texas and may be found in the estuaries or the ocean on muddy and sandy bottoms.

Eating habits: Kingfish are bottom feeders that consume various shrimp, crabs and other crustaceans, as well as worms and small fish.

Life cycle: Kingfish mature around age 1 and spawn offshore from April to October. Wind and water currents carry the larvae through the inlets into the upper reaches of the estuarine nursery areas for food and shelter.

Fishing tips: Anglers catch kingfish from piers, jetties and boats in the nearshore ocean, usually with two-hook bottom rigs baited with shrimp, mole crabs, bloodworms or squid. Anglers also use jigs or spec rigs to catch kingfish. Kingfish are often caught while fishing for weakfish.

Northern puffer*

Sphoeroides maculatus

AKA: swell toad, puffer, blowfish, blow toad, toadfish, sea squab

Description: Small to medium-sized fish with a blunt body capable of inflating with water and air. Puffers have grayish-brown backs and upper sides, but are yellowish-white on the lower sides and belly. Tiny black spots are scattered over most of the body, particularly the cheeks, and there is a row of seven to 10 vertical bars along the sides. The head and body are covered with prickles that give the skin a sandpaper quality.

Size: Northern puffer grow to 14 inches and 1 pounds. No citations are given for Northern puffer.

Sometimes confused with: oyster toadfish, porcupine fish, striped burrfish

Habitat: Puffer are found from Cape Cod, Mass., to northeastern Florida over sand bottom near or amid sea grass in waters ranging from 3 feet to 180 feet deep.

Eating habits: Puffer have four powerful teeth that allow them to crush any small animal they capture, such as crabs, clams, mussels, shrimp, worms, sea urchins, sponges, sea plants and sea squirts.

Life cycle: Puffer reach sexual maturity between ages 1 and 2. Spawning occurs inshore during warmer months. The eggs attach to objects on the water bottom, sometimes in a clump.

Fishing tips: Puffer are caught by hook and line from piers, jetties, boats and from shore usually with two-hook bottom rigs baited with shrimp, bloodworms or squid.

*The Northern puffer is not deadly poisonous like its tropical counterparts and has been eaten by humans for years. However, some scientists believe there are low-level toxins in the skin and organs. Fishermen are advised to thoroughly clean the Northern puffer of all skin and viscera before eating.

Pinfish

Lagodon rhomboides

AKA: sea bream, pin perch, sand perch

Description: A small fish with an oval body, small mouth, incisor-like teeth and sharp dorsal spines. The body is silvery with yellow and blue horizontal stripes and four or five vertical lines. There is a black spot behind the gill cover. The pectoral and caudal fins are yellow. The dorsal fin is blue and yellow striped.

Size: Pinfish grow to 8 inches, but common catches range between 2 inches and 4 inches. No citations are given for pinfish.

Sometimes confused with: spot, pigfish

Habitat: Pinfish are found around pilings, rocks and vegetated areas in shallow waters from Cape Cod,

Mass., to Yucatan, Mexico, including the Gulf of Mexico, Bermuda and the northern coast of Cuba.

Eating habits: Pinfish eat shrimp, fish eggs, insect larvae, worms, amphipods and plants. Smaller food is swallowed whole while larger food is nibbled into pieces.

Life cycle: Pinfish reach sexual maturity around age 1. Spawning takes place in the fall and winter as the larger fish move offshore.

Fishing tips: Anglers catch pinfish from piers, docks, bridges and small boats, using two-hook bottom fishing rigs baited with shrimp, squid or bloodworms. Pinfish are notorious bait stealers and are often used as live bait by anglers fishing for larger fish.

Atlantic spadefish

Chaetodipterus faber

AKA: angelfish

Description: This medium-sized fish is commonly found from Massachusetts to Brazil. Adults have flat, spade-shaped bodies with pointed dorsal and anal fins and a blunt snout. Adults are silver-gray with three to six prominent black vertical bands on each side of the body. Juvenile fish are usually black.

Size: Atlantic spadefish grow to 36 inches and 20 pounds. No citations are given for Atlantic spadefish.

Sometimes confused with: sheepshead, black drum

Habitat: Preferring warm water, Atlantic spadefish are

found inshore during the summer, but move offshore in temperate areas during the winter. They are found inshore and nearshore near reefs, wrecks, buoys and pilings.

Eating habits: Atlantic spadefish feed on benthic invertebrates such as crustaceans, mollusks and other marine life such as algae or jellyfish. Feeding occurs throughout the day, but peaks around midday.

Life cycle: Spawning occurs in open water at the surface during the summer near buoys. The fish travel in large schools with juveniles often swimming at an angle or parallel to the surface to disguise themselves as debris.

Fishing tips: Anglers land Atlantic spadefish using tiny hooks baited with pieces of shrimp or jellyfish. Divers can catch spadefish with spears. Fishermen occasionally snag them with unbaited treble hooks around the pilings of ocean piers.

Southern flounder

Paralichthys lethostigma

AKA: flounder

Description: A flat, oval-shaped fish found throughout North Carolina's estuaries. Southern flounder are brown on their left side with numerous dark and light spots and blotches, but they are not ringed or ocellated as are other flounder species. The right side of a southern flounder is white.

Size: Typical Southern flounder catches range from 15 inches to 18 inches, but the fish can grow to as large as 33 inches. Citations are given for flounder weighing 5 pounds or more.

Sometimes confused with: summer flounder, Gulf flounder

Habitat: Southern flounder are found in the oceans and estuarine waters along the Atlantic seaboard from Virginia to southeast Florida and the Gulf of Mexico.

Eating habits: Southern flounder are predators that ambush prey from the bottom where they lie camouflaged under a thin layer of mud or sand. Large flounder feed on blue crab, shrimp and other fish.

Life cycle: Southern flounder spend the early portion of their lives in the lower-salinity portions of the coastal rivers and sounds. The fish reach sexual maturity around age 2 and spawn offshore in the fall and winter. The post-larval and juvenile fish move into the estuarine nursery areas for food and cover.

Fishing tips: Anglers catch Southern flounder using live fish, such as finger mullet, on a single-hooked rig and artificial lures. Southern flounder are caught under bridges and docks and in the nearshore ocean. Fishermen plug for flounder with jigs along soundside marshes. They also catch flounder at night with gigs and spears from boats equipped with lights.

Summer flounder

Paralichthys dentatus

AKA: fluke, flounder

Description: A flat, disc-shaped fish that is white on the right side and brown, gray or olive on the left side. The colored side has three distinct ocellated dark brown spots near the tail that form a triangle pointing to the head. There are usually other spots on the side nearer to the head.

Size: Summer flounder grow to 32 inches, but catches typically range from 10 inches to 16 inches. Citations are given for flounder weighing 5 pounds or more.

Sometimes confused with: Southern flounder, Gulf flounder

Habitat: Summer flounder are found from Massachusetts to Florida, but are most abundant from

Delaware to Cape Lookout, N.C. They inhabit high-salinity coastal and estuarine waters in the spring and summer but move offshore in the winter. They often camouflage themselves under a thin layer of sand.

Eating habits: Summer flounder are active predators that swim vigorously to chase their prey. They feed on shrimp, crabs and other fish.

Life cycle: Summer flounder spawn at sea in the fall and winter. Currents and winds carry the larvae to coastal and estuarine nursery areas where they live for the first 18-to-20 months of their lives. Afterward, they move into the ocean where they mature and join migratory adult fish. The maximum age is 15.

Fishing tips: Anglers catch summer flounder with standard bottom rigs or specialized flounder rigs using cut bait, shrimp or live minnows. Anglers have also had luck with small bucktail lures and jigs. Summer flounder can be caught by surf fishing, drifting in inlets, trolling or fishing from piers. New ocean flounder fisheries have developed on nearshore wrecks and hard-bottom areas.

Gulf flounder

Paralichthys albigutta

AKA: flounder

Description: The Gulf flounder has the familiar flat, rounded body and olive-brown color of other flounders that can change shade depending on the color of the bottom. It has three prominent, ocellated dark spots arranged in a triangle on its eyed side. One spot is above and one is below the lateral line while the third is in the middle of the line. The spots may become obscure in larger fish. There are also numerous white spots scattered over the body and fins.

Size: Gulf flounder are common up to 2 pounds. Citations are given for flounder weighing 5 pounds or more.

Sometimes confused with: summer flounder; southern flounder

Habitat: Gulf flounder are found nearshore on rocky reefs and inshore, ranging into tidal creeks, on sandy or muddy bottoms.

Eating habits: Gulf flounder feed on shrimp, blue crabs and fish.

Life cycle: Spawning occurs from October through February off the southeast Atlantic and Gulf coasts as water temperatures drop from about 73 degrees to 57 degrees Fahrenheit. Both sexes reach sexual maturity around age 2. Juveniles migrate into estuarine nursery areas from January through April where the young fish find food and shelter.

Fishing tips: Flounder are caught by hook and line, using bottom rigs with live fish, such as finger mullet and artificial lures, by gigging or in nets. In recent years, a robust fishery for this species has developed on nearshore ocean wrecks, ledges and hard bottom areas.

King mackerel

Scomberomorus cavalla

AKA: kings; kingfish, snakes, smokers

Description: King mackerel are long, slender fish with greenish-blue backs and silvery sides. Faint bronze spots along the sides may fade as the fish get larger. They have large, forked tails and a lateral line that starts high and dips sharply downward at the second dorsal fin. King mackerel lack a black area on the anterior portion of the first dorsal fin.

Size: King mackerel are found up to 72 inches, but most catches range between 30 inches and 45 inches. Citations are given for fish weighing 30 pounds or more and for the live release of fish measuring 45 inches or longer.

Sometimes confused with: Spanish mackerel

Habitat: King mackerel live in open ocean waters near the coast, from North Carolina to southeast Florida, making inshore and offshore migrations that are triggered by water temperature and food supply. In the winter, they congregate just inside the Gulf Stream

along the edge of the continental shelf. In the summer and fall, they move inshore along the beaches and near the mouths of inlets and rivers.

Eating habits: King mackerel are opportunistic carnivores that favor menhaden, mullet, thread herring, sardines and squid. Feeding fish often leap out of the water in pursuit of prey. Fishermen refer to this as "skyrocketing."

Life cycle: King mackerel mature at about age 3 and spawn at sea in the spring and summer. They can live up to 26 years, but most are between 3 years old and 12 years old.

Fishing tips: Anglers catch king mackerel from boats or from the ends of ocean fishing piers. They are taken by trolling with various live and dead baitfish, spoons, jigs and other artificial lures. Slow trolling is the most popular method used. Multiple baits are pulled behind the boat at a slow speed. Live Atlantic menhaden and cigar minnows, along with dead ribbonfish, are the baits most often used. King mackerel is a primary target species for countless fishing tournaments along the coast.

Spanish mackerel

Scomberomorus maculatus

AKA: Spanish

Description: Spanish mackerel have greenish backs with silvery sides and belly. Golden yellow spots above and below the lateral line cover the sides of the body. The front of the first dorsal fin is black. The lateral line curves gently to the base of the tail and the body is covered with tiny scales.

Size: Spanish mackerel grow to 37 inches and 12 pounds, but most catches range between 14 inches and 18 inches and 1 pound and 3 pounds. Citations are given for fish weighing 6 pounds or more.

Sometimes confused with: juvenile king mackerel

Habitat: Spanish mackerel live in open waters near the coast from the Gulf of Maine to the Yucatan Peninsula, migrating north and south with water temperatures. They may be found in the sounds or mouths of rivers in the summer.

Eating habits: Spanish mackerel feed on small fish, such as anchovies, sardines, threadfin herring and silversides, as well as shrimp and squid.

Life cycle: Spanish mackerel spawn in the ocean at night from May to September. They reach sexual maturity at about age 2 and can live as long as 12 years.

Fishing tips: Anglers catch Spanish mackerel from the surf, piers and boats, with almost any small, shiny metal lure or jig retrieved or trolled quickly. Large Spanish mackerel are often caught by fishermen slow-trolling live bait for king mackerel.

Black drum

Pogonias cromis

AKA: drum

Description: Black drum have short, deep bodies (less than three times as long as deep) with high-arched backs and flattish bellies. They have conspicuous chin barbells and make a loud grunting noise when excited. Adults have dusky to black fins and are silver with a brassy luster when alive, but change to a dark gray after death. Young drum possess four to six black vertical bars.

Size: Black drum grow to 5 feet and 146 pounds. Citations are given for fish weighing 35 pounds or more and for the live release of fish measuring 40 inches or longer.

Sometimes confused with: sheepshead, spadefish
Habitat: Black drum are found from southern New England to Mexico but are more commonly caught from

New Jersey southward. They prefer coastal waters of the bays, sounds and inlets, with a range of salinities. **Eating habits:** Black drum feed on the bottom and use their chin barbels to search for food. They have strong throat teeth that allow them to eat clams, mussels, oysters and crabs. They also eat worms and some fish.

Life cycle: Black drum reach sexual maturity by age 3. Adults form schools and, in the spring, migrate to spawning grounds at sea near mouths of rivers and bays. Newly hatched drum reside in estuaries for the first year of their lives, then move offshore.

Fishing tips: Black drum are rarely caught with artificial lures since feeding is through feel and smell. Anglers more commonly use conventional bottom rigs with sinkers or one or more drops with single hooks and no sinker. Fishermen catch black drum fishing from banks, in the surf or from anchored boats using cut mullet, menhaden, shrimp and blood worms. Larger fish are often taken on clams or pieces of crab.

Red drum

Sciaenops ocellatus

AKA: channel bass, redfish, puppy drum, spottail bass

Description: The red drum, or channel bass, is North Carolina's state saltwater fish. Red drum are iridescent silvery-gray overall with a coppery cast that appears darker on the back and upper sides. They have an inferior mouth, no barbels on the chin and one or more black ocellated spots on the upper side near the base of the tail.

Size: Red drum grow to 5 feet and 100 pounds. No citation is given for landing a red drum but an award is given for the live release of a fish measuring 40 inches or longer.

Sometimes confused with: large Atlantic croaker

Habitat: Found in coastal and estuarine waters from

Massachusetts to Key West, Fla., and in the Gulf of Mexico.

Eating habits: Red drum are generally bottom feeders that eat small crabs and shrimp but also will feed in the water column on small fish. Red drum can be found "tailing" with their head down in the grass and the tail exposed to the air when feeding in shallow water.

Life cycle: Females reach sexual maturity at age 3 and spawn at dusk in coastal waters near passes, inlets and bays, from late summer to early fall. Winds and currents carry the larvae into the estuaries where the young fish remain for 6-to-8 months.

Fishing tips: Anglers catch red drum while surf fishing or sight casting with traditional flyfishing rods. Angling success for red drum along the Outer Banks is legendary and a catch-and-release fishery targeting fish in excess of 50 pounds has developed in Pamlico Sound around the mouths of the Neuse and Pamlico rivers.

Cobia

Rachycentron canadum

AKA: ling, lemonfish

Description: Cobia have elongated, torpedo-shaped bodies with long depressed heads. The eyes are small and the snout is broad. The lower jaw projects past the upper jaw. Cobia are dark brown in color and have a darker, lateral stripe from the eye to the tail. Young Cobia have alternating black and white horizontal stripes with splotches of bronze, orange and green.

Size: Cobia grow to 6 feet and more than 100 pounds. Citations are given for fish weighing 40 pounds or more and for the live release of fish measuring 33 inches or longer.

Sometimes confused with: sharks

Habitat: Cobia are a pelagic species normally solitary in nature except when spawning. They are found off the United States from Virginia south and throughout the Gulf of Mexico in inshore and nearshore waters of the inlets and bays. Cobia prefer water temperatures between 68 degrees and 86 degrees Fahrenheit. They

migrate south to warmer waters during autumn and winter, and journey back north when temperatures rise again in the spring. They are commonly found near natural and manmade structures such as reefs, wrecks, buoys and shelves.

Eating habits: Cobia are opportunistic predators that eat some fishes, such as mackerels and eels, but the bulk of their diet is crustaceans, like shrimp and crabs.

Life cycle: Spawning season runs from late June to mid-August along the southeastern United States. Females reach sexual maturity at around age 3.
Cobia grow very fast through age 2.

Fishing tips: Anglers catch Cobia by sight casting with bucktails as they migrate along the East Coast. Anglers also catch Cobia while trolling for king mackerel and by bottom fishing with live bait near reefs and wrecks. Often anglers will see Cobia hanging around an inlet buoy or other navigation marker. Cobia are also a favorite fly rod catch.

Sheepshead

Archosargus probatocephalus

AKA: convict fish

Description: Sheepshead are greenish-gray with a laterally compressed body marked by five or six vertical dark bars on the sides. They have prominent teeth with incisors, molars and rounded grinders that enable them to crush shellfish and sea urchins. They have strong, sharp spines on the dorsal and anal fins.

Size: Sheepshead are common at around 30 inches and 5 pounds to 15 pounds. Citations are given for fish weighing 8 pounds or more.

Sometimes confused with: black drum, spadefish

Habitat: Sheepshead are found in saltwater and brackish coastal waters around jetties, wharfs,

pilings, shipwrecks and other structures covered with barnacles, mussels and oysters.

Eating habits: Sheepshead have well-defined teeth to scrape and crush mollusks and crustaceans, such as fiddler crabs.

Life cycle: Sheepshead spawn offshore in the spring and return to nearshore and estuarine waters. Juvenile sheepshead are most abundant in grass flats and over muddy bottoms. As they grow, they begin to leave the grass flats and congregate with adults around jetties, breakwaters, piers and wrecks.

Fishing tips: Sheepshead are difficult to hook because they take the bait fast. To catch sheepshead, fishermen may choose hand lines, cane poles and spinning tackle and use fiddler crabs, barnacles, oysters, clams, crabs and shrimp for bait. Some anglers chum the area with crushed oysters or crabs before fishing. Many anglers fish next to a piling. Others anchor their boats adjacent to a jetty and allow the tide to carry the bait across the rocks.

Bluefish

Pomatomus saltatrix

AKA: blues, snappers, choppers, Taylor blues

Description: Bluefish are greenish-blue along the back fading to silver on the sides and the belly. They have stout bodies with large mouths and prominent, sharp teeth. The lower jaw juts out noticeably. The dorsal fin is divided into two sections with the first section about half as long and high as the second section. The second dorsal fin is nearly the same size as the anal fin.

Size: Bluefish grow to 34 inches and 19 pounds. Citations are given for fish weighing 15 pounds or more and for the live release of fish measuring 34 inches or longer.

Habitat: Bluefish are found in the western Atlantic in temperate to warm waters from Nova Scotia to Uruguay off the west African shelf. Bluefish school and make seasonal migrations north in the spring and south

in the winter. Larger fish tend to congregate in the northern part of the range.

Eating habits: Bluefish have aggressive feeding habits, eating butterfish, menhaden, round herring, silversides, anchovies, sea trouts, Atlantic croaker, spot, shrimp, lobster, crabs, worms, other bluefish and many other items.

Life cycle: Bluefish are a pelagic schooling species that primarily travel in groups of like-sized fish. Females reach sexual maturity around age 2. Spawning occurs offshore in the South Atlantic in the spring and to a lesser extent in the summer and fall, and in the mid-Atlantic during the summer.

Fishing tips: Bluefish will strike almost anything in the water. Anglers fish from boats, piers, bridges, jetties and the surf using cut baits fished on the bottom, or casting or trolling artificial lures, such as metal spoons, bright-colored popping lures, jerk jigger style baits and lead-headed plastic grubs. Because of their razor-sharp teeth, bluefish should be handled with care.

Florida pompano

Trachinotus carolinus

AKA: pompano

Description: A Florida pompano has a deep, laterally compressed body with a short, blunt snout. It has six small spines in front of the dorsal fin and two spines in front of the anal fin. In the water, the pompano appears to have a golden belly and fins with whitish-platinum sides. When removed from the water, the pompano turns dark greenish-blue on top and silvery-white on the bottom.

Size: Florida pompano are usually smaller than 3 pounds. Citations are given for fish weighing 2 pounds or more.

Sometimes confused with: permit, jack crevalle

Habitat: Florida pompano are abundant in high-salinity,

nearshore and inshore waters, especially along sandy beaches, oyster banks and grass beds.

Eating habits: Adult pompano feed on small surf clams, amphipods, crabs, shrimp and mussels.

Life cycle: Florida pompano reach sexual maturity at around age 1 and spawn offshore between March and September. Young fish grow rapidly, reaching a length of 8 inches by the end of the first year of life.

Fishing tips: Anglers catch Florida pompano by bottom fishing with natural baits, such as sand fleas, cut bait, fiddler crabs and shrimp. They are most often caught in the surf just behind the breakers. Pompano are often taken just inside the surf zone in shallow water with soft-shelled sand fleas.

Silver perch

Bairdiella chrysoura

AKA: sand perch

Description: The fish has a greenish-blue back with bright silver or brassy sides and belly. It can be distinguished from other drums and croakers by its terminal mouth, five to six chin pores, lack of chin barbels and strong spines on the gill cover.

Size: Silver perch grow to 9 inches. No citations are given for silver perch.

Sometimes confused with: croaker, juvenile weakfish, spotted seatrout or kingfish

Habitat: Silver perch are found inshore in sea grass beds, tidal creeks, rivers and marshes.

Eating habits: Silver perch feed on small crustaceans, silversides, anchovies and herring.

Life cycle: Spawning occurs in the late spring or early summer, beginning later and having shorter duration at higher latitudes. Off North Carolina, spawning lasts from April through August.

Fishing tips: Silver perch are often taken by hook and line as incidental catches and used as live bait for bluefish, mackerels and striped bass.

White perch

Morone americana

AKA: gray perch, blue-nosed perch, silver perch, sea perch

Description: White perch are silvery chunky-bodied fish, about three times as long as they are deep, not counting the tail. The back is olive-brown to blackish-green with the color shading to a paler silvery-green on the sides and silver-white on the belly. The fins are dusky. A tiny notch separates their two dorsal fins. Young fish, with dark lateral stripes, may resemble striped bass. The stripes on an adult white perch are faint or non-existent.

Size: White perch grow to 19 inches, though catches commonly range from 8-to-10 inches, weighing less than a pound. No citations are given for white perch.

Sometimes confused with: juvenile striped bass, white bass.

Habitat: White perch are found in brackish and freshwaters along the Atlantic coast from Nova Scotia to South Carolina, especially in large sounds like the Chesapeake Bay or Albemarle Sound.

Eating habits: The diet of white perch varies with the season. They eat bottom-dwelling insect larvae in the winter and early spring. In the warmer months, they eat large burrowing mayflies, water fleas and small fish, squid and crabs. White perch also eat the eggs of many fish species.

Life cycle: White perch are semi-anadromous, migrating from brackish water to freshwater to spawn in the spring, moving back to deeper, saltier water for the fall and winter. Peak spawning in North Carolina occurs in April and May.

Fishing tips: Anglers catch white perch by drift fishing with live minnows and casting or trolling small artificial baits, such as jigs and spoons, in the vicinity of surface-feeding schools. In North Carolina, most white perch fishing occurs in the Albemarle and Pamlico sounds and their tributaries.

Offshore

Yellowfin tuna

Thunnus albacares

AKA: yellowfin

Description: Yellowfin tuna are torpedo-shaped fish that are a metallic dark blue on the back and upper sides with a yellow belly that changes to silver. The dorsal and anal fins, and finlets are bright yellow. It has elongated anal and dorsal fins.

Size: Yellowfin tuna grow to 400 pounds. Citations are given for fish weighing 70 pounds or more.

Sometimes confused with: bigeye tuna, blackfin tuna, albacore

Habitat: In the western Atlantic, yellowfin tuna are found from Massachusetts to Brazil, including the Gulf of Mexico and the Caribbean. They cover enormous distances around the globe and all stocks mingle.

Yellowfin tuna often school with other species of the same size. They are frequently found schooling below drifting objects such as logs, grass and debris.

Eating habits: Yellowfin feed in open ocean waters on fishes and invertebrates associated with seaweed called Sargassum. They eat larval crabs, shrimp, squids, filefish, triggerfish and jacks.

Life cycle: Spawning takes place at sea year round but is most frequent in the summer. The age of sexual maturity varies by region, but most fish are capable of reproduction at the age of 2 or 3.

Fishing tips: Sport fishermen catch yellowfin tuna by trolling brightly colored lures with ballyhoo at high speeds. North Carolina anglers land more pounds of yellowfin tuna than anglers in any other state in the nation. It is the primary species supporting the offshore charter fleet.

Dolphin

Coryphaena hippurus

AKA: dolphinfish, mahi mahi

Description: The dolphin has bright turquoise, green and yellow patterns, which fade almost immediately upon death. Its body tapers sharply from head to tail and has irregular blue or golden blotches scattered over the sides. Dolphin have a single dark dorsal fin extending from just behind the head to the tail.

Size: Dolphin are common up to 50 pounds. Citations are given for fish weighing 35 pounds or more.

Sometimes confused with: pompano dolphin, bottlenose dolphin

Habitat: Dolphin are found in offshore warm waters and are attracted to Sargassum, a seaweed, which serves as a hiding place and source of food. As shallower Continental Shelf waters warm in the summer, the fish move closer to shore, and are occasionally found within 10 miles of the coast.

Eating habits: Dolphin feed on food associated with Sargassum, such as small fish, crabs and shrimp. They may also pursue fast-swimming fish, such as flying fish or mackerels. Often man-made garbage is entangled in the floating Sargassum and is consumed by dolphin, which mistake the trash for food. Plastic wrappers, small light bulbs, rope and string have been removed from the stomachs of Dolphin. Dolphin serve as an important forage species for many of the ocean's predators, such as marlins and sharks.

Life cycle: Dolphin spawn off North Carolina in the Gulf Stream in June and July. They are a fast-growing fish with a short life span of about 6 years. The species matures at an early age, estimated as early as 3 months. Adult females are smaller than males.

Fishing tips: Sport fishermen catch dolphin by trolling artificial and natural baits from large boats. Bailing, another popular method, consists of keeping one live fish in the water to attract others to the boat and incite them into a frenzy.

Wahoo

Acanthocybium solanderi

Description: The wahoo has a long, narrow body, a long snout and a long dorsal fin. Its body is steel blue on top and pale blue on the bottom. There are 25 to 30 blackish-blue vertical bands that extend down the side to below the lateral line. Wahoo have no gill rakers.

Size: Wahoo grow to 6 feet and 100 pounds. Citations are given for fish weighing 40 pounds or more.

Sometimes confused with: king mackerel

Habitat: The wahoo is an offshore, warm-water fish usually found alone or in small groups congregating near drifting objects like seaweed. In the western Atlantic, they range from New Jersey to Colombia, migrating through the Gulf Stream north in the summer and returning to the tropics in the winter.

Eating habits: Wahoo feed primarily on other fish such as frigate mackerel, butterfish porcupine fish and round herring, as well as squid. They aggressively pursue

and overcome their prey, capturing the fish with their strong jaws.

Life cycle: Wahoo are short-lived, grow rapidly and reach sexual maturity in their first year. Spawning along the southeastern United States occurs in the summer months.

Fishing tips: Anglers catch wahoo with boats trolling at high speeds over deep ocean waters. Many use heavy fishing lines rigged with artificial lures, such as brightly colored ballyhoo skirts on wire leaders. High-speed plugs and lures are also used.

Sailfish

Istiophorus platypterus

Description: Sailfish are dark-blue along the upper half of the body fading to brownish-blue on the sides to silver-white on the belly. The upper jaw is elongated, looking like a spear. The first dorsal fin is high and sail-like, blue-black and covered with small black spots. All related billfishes have a high dorsal fin as juveniles, but only the sailfish retains the high fin throughout life. On the sides are 15 to 20 vertical bars consisting of several small blue spots.

Size: Sailfish grow to 11 feet and 110 pounds. No citation is given for landing a sailfish but an award is given for the live release of sailfish, regardless of size.

Sometimes confused with: white marlin, juvenile blue marlin

Habitat: Sailfish are found offshore throughout the western Atlantic from the Gulf of Maine to Brazil,

including the Caribbean and the Gulf of Mexico. Sailfish are generally found nearer to shore than marlins and swordfish in water depths ranging from 120 to 300 feet and temperatures from 77 degrees to 82 degrees Fahrenheit.

Eating habits: Sailfish feed primarily during daylight hours on fishes and squids. Favorite foods are tunas, mackerels, halfbeaks, jacks, needlefish, herring and other surface-swimming species. Pods of sailfish encircle schools of fish, using their high fins to form a confining wall. One by one, the sailfish dart in to feed, then return to the outer circle to wait their next turn.

Life cycle: Sailfish can live as long as 10 years. Spawning occurs throughout much of the western Atlantic during the warmer months. A major spawning area is along the lower east coast of Florida.

Fishing tips: Sport fishermen land sailfish off North Carolina from May through October. They troll artificial and natural baits such as mullet, Spanish mackerel, bonito and ballyhoo.

White marlin

Tetrapturus albidus

AKA: Atlantic white marlin

Description: The body is dark blue to chocolate brown along the upper half shading to a silvery-white belly. The upper jaw is elongated in the shape of a spear. The first dorsal fin is blue-black and covered with small black spots. The other fins are brown-black. Unlike the blue marlin, the white marlin usually has no spots or bars on the sides. The dorsal and anal fins are rounded and there is a visible lateral line.

Size: White marlin grow to 9 feet and 165 pounds. No citation is given for landing a white marlin but an award is given for the live release of sailfish, regardless of size.

Sometimes confused with: blue marlin, sailfish

Habitat: An offshore pelagic and oceanic fish, the white marlin is found in the western Atlantic from Nova Scotia to Argentina, including the Caribbean and the Gulf of Mexico. White marlin inhabit the upper 40 to 100 feet of the water column in waters warmer than 66 degrees

fahrenheit. White marlin migrate extensively, moving north off the United States from May through October and south in the cooler months.

Eating habits: White marlin feed near the surface during daylight hours on a variety of fishes including mackerels, herrings, dolphin and flyingfish, as well as squids and crabs.

Life cycle: Spawning occurs in the summer in deep oceanic waters with high surface temperatures. Both sexes reach sexual maturity at about 51 inches. They are fast-growing and live at least 6 years.

Fishing tips: Fishing methods for white marlin are similar to those for blue marlin, sailfish and dolphin. Fishermen troll with natural baits. Boats pull up to eight lines at speeds ranging from 4-to-8 knots. Two of the lines are pulled close to the boat, on the surface, and are called flatlines. The others are attached to outriggers. An artificial hookless teaser is pulled in the wake to attract marlin to the surface.

Blue marlin

Makaira nigricans

AKA: marlin

Description: The body is cobalt blue on top shading to a silvery white on the belly. The upper jaw is elongated in the form of a spear. There are approximately 15 blue vertical bars on the sides. The dorsal and anal fins are pointed, as opposed to the white marlin, which has rounded dorsal and anal fins.

Size: Blue marlin is the largest game billfish. It is common up to 11 feet but has been known to be as long as 14 feet and weigh more than 2,000 pounds. Citations are granted for fish weighing 400 pounds or more and for the live release of a fish, regardless of size.

Sometimes confused with: white marlin, sailfish

Habitat: Blue marlin are found in blue oceanic waters throughout the western Atlantic. They migrate seasonally to stay in warm waters near the surface.

Eating habits: Blue marlin feed on squid and a variety of pelagic fishes, such as dolphin, tunas, mackerels and flyingfish. Scientists debate with what frequency the blue marlin uses its spear to stun or impale its prey. Predators of blue marlin include white and shortfin mako sharks.

Life cycle: Blue marlin spawn in the North Atlantic from July through September and in the South Atlantic in February and March. The eggs and larvae are free floating. Blue marlin can live to more than 15 years, although most fish caught are younger than 10 years.

Fishing tips: Sport fishermen catch blue marlin by trolling artificial and natural baits. Boats pull up to eight lines at speeds ranging from 4-to-8 knots. Two of the lines are pulled close to the boat on the surface and are called flatlines. The others are attached to outriggers. An artificial hookless teaser is pulled in the wake to attract marlin to the surface.

Greater amberjack

Seriola dumerili

AKA: amberjack, jack

Description: Amberjack have a dark stripe on the head, which runs from the nose, through the eye, to the front of the first dorsal fin. Their backs are blue or olive-colored, the sides and belly are silver-white. Occasionally, there is an amber or pinkish color to the body. Juveniles have five or six vertical bars along the sides. They have a long anal fin base.

Size: Greater amberjack grow to 6 feet and more than 200 pounds. Citations are given for fish weighing 50 pounds or more and there is an award for the live release of a fish 50 inches or longer.

Sometimes confused with: lesser amberjack and almaco jack

Habitat: Amberjack are an offshore fish found in the western Atlantic from Nova Scotia to Brazil, including

the Gulf of Mexico and the Caribbean. They are frequently found near reefs, wrecks, rocky outcrops, Sargassum patches and floating debris from the outer reefs to open waters. Studies indicate amberjack move in the spring from the Carolinas to southeast Florida.

Eating habits: Amberjack are opportunistic predators that feed over reefs and wrecks in small groups. Their diet includes crabs, squids and other fish found on reefs.

Life cycle: Amberjack spawn offshore from March through July, with a peak in May or June. Females reach sexual maturity between ages 3 and 5.

Fishing tips: Amberjack are powerful fighters that test anglers' tackle. Anglers catch amberjack by drifting with live or cut baits and by trolling with spoons and other deep running artificial lures. Chumming will attract and hold schools of amberjack near the boat. Anglers commonly catch Amberjack while targeting king mackerel.

Little tunny

Euthynnus alletteratus

AKA: false albacore, albacore, little tuna, bonito, Fat Alberts

Description: Little tunny is a tuna-shaped fish that is steel blue on top and silver below with wavy stripes along the posterior portion of the back. Several dark spots are scattered below the pectoral fin and small finlets behind the second dorsal and anal fins.

Size: Little tunny grow to 20 pounds. No citation is given for landing a little tunny, but an award is given for the live release of a fish measuring 34 inches or longer.

Sometimes confused with: Atlantic bonito

Habitat: Little tunny school by size and migrate north through coastal waters in the spring and south in the fall and winter.

Eating habits: When a large school is actively feeding they are noisy, splashing and foaming the water. They feed on fishes such as herrings, sardines and scads but will also readily eat squid and crustaceans. Other tunas, dolphin, wahoo, Atlantic sailfish, swordfish and various sharks prey on the little tunny.

Life cycle: Little tunny are fast-growing and short-lived fish that seldom live longer than five years. Females reach sexual maturity at 14 inches and spawn offshore in waters deeper than 100 feet.

Fishing tips: Anglers catch little tunny by trolling, casting or float fishing with lures or live bait such as bluefish, pinfish or spot. When trolling, fishermen usually use small lures with mullet or ballyhoo or colored feathers to locate the fish. Once they find a school anglers cast metal spoons or silver jigs retrieved in a fast, jerky movement. Flyfishing is also a popular way to catch little tunny.

Red porgy

Pagrus pagrus

AKA: pinky, pink porgy, silver snapper

Description: The fish is reddish on top and silvery-white on the bottom, highlighted by rows of small blue spots along the upper body. It has two blue streaks, one above and the other below the eye. The teeth are pronounced and the back teeth are molar-like.

Size: The average size of red porgy off North Carolina is 16 inches and 2 pounds. Citations are given to fish weighing 4 pounds or more.

Habitat: Young red porgy are typically found closer to the shore at a depth of around 60 feet and are usually found in grass beds. As they mature, red porgy prefer deep, warm-water zones of the continental shelf in the western Atlantic from North Carolina to Argentina. They are found on the rough bottom at depths from 90 feet to 350 feet in the Gulf Stream waters.

Eating habits: Red porgy are carnivorous bottom feeders that use their strong teeth to eat snails, crabs and sea urchins. They tend to feed in schools and migrate looking for food. They also feed on worms and small fishes.

Life cycle: Red porgy change sex from female to male with increased size. Most fish longer than 18 inches are males. Females mature by age 4 and spawn at sea from January through April.

Fishing tips: Off the southeastern United States, the species is taken almost exclusively by hook and line using sturdy tackle. Anglers often catch red porgy while bottom fishing for grouper and other fish. This species is heavily regulated. Be sure to check the latest rules before leaving the dock.

Gag grouper

Mycteroperca microlepis

AKA: black grouper, gag

Description: Gag grouper have long, compressed bodies and 11 to 14 rays in the anal fins. Their color varies and changes with the size of the fish. Large gag are dark brownish-gray on top and paler on the bottom, with traces of dark wavy markings on the sides. Smaller fish are much lighter and have numerous dark brown or charcoal kiss-like marks along the sides. Gag grouper have deeply notched gill covers, distinguishing them from black grouper.

Size: Gag grouper grow to 51 inches and 55 pounds. Citations are given for grouper weighing 20 pounds or more.

Sometimes confused with: black grouper, scamp
Habitat: Adult gag grouper can be found from North Carolina to Brazil over low and high profile hard-bottom waters 60-to-250 feet deep. Young gag inhabit estuaries from Massachusetts to Cape Canaveral, Fla.

They often congregate around rocky ledges and swim in small groups.

Eating habits: Gag grouper feed on round scad, sardines, porgies, snappers, grunt, crabs, shrimp and squid.

Life cycle: Gag change sex from female to male with increased size. Sexual transition occurs between 10 and 11 years of age. Sexual maturity is attained at age 5 or 6, when fish are 27-to-30 inches long. Spawning takes place in February off the coast of the Carolinas and in January through March in the Gulf of Mexico. Gag may live for 15 years.

Fishing tips: The best way to catch gag grouper is by bottom fishing with live bait, such as cigar minnows and squid, using depth finders to locate deepwater rock piles, ledges, wrecks and artificial reefs.

White grunt

Haemulon plumieri

AKA: common grunt, redmouth, ruby red lips

Description: The white grunt's body is silver-gray with numerous blue and yellow stripes on the head and body. On some, the scales appear tipped with bronze. The pectoral fins are chalky and the other fins are gray. The lining of the body cavity is black. The interior of the mouth is bright red. The white grunt produces an audible grunting sound.

Size: White grunt grow to 25 inches and 8 pounds, but most catches are around 15 inches and 1 pounds. There is no citation for white grunt.

Sometimes confused with: other grunt

Habitat: White grunt inhabit irregular bottom areas of the continental shelf from Virginia to Brazil, including Bermuda, the Caribbean and the Gulf of Mexico. White

grunt are commonly found from the shoreline to the outer reef edge to depths of 80 feet and offshore over hard bottoms to depths of 115 feet. The adults form schools with other species of fish over coral reefs or sandy bottoms. Juvenile white grunt reside inshore in seagrass beds.

Eating habits: White grunt are carnivores that feed on bottom-dwelling invertebrates. At night, they migrate off the reefs to open, sandy, muddy or grassy areas to feed, typically moving off the reef shortly after sunset and returning to the reef just before sunrise.

Life cycle: White grunt reach sexual maturity during their third year, or at about 8 inches long. Spawning occurs in the late spring and summer on offshore hard bottoms or reefs.

Fishing tips: Anglers usually do not target white grunt, but they catch them incidentally while fishing for porgy, triggerfish, groupers and snappers. Sport fishermen on charter boats and head boats use manual and electric-powered reels to catch white grunt over natural and artificial reefs.

Vermilion snapper

Rhomboplites aurorubens

AKA: beeliner

Description: Vermilion snapper have relatively slender bodies with short snouts. The lower jaw projects slightly. The body is red on top and pale to silver white on bottom with irregular, narrow gold streaks below the lateral line. The dorsal fin is a rose color with a yellow margin. The caudal fin is red with a faint black margin.

Size: Vermilion snapper are found up to 25 inches long and 6 pounds. There is no citation for vermilion snapper

Sometimes confused with: red snapper

Habitat: Vermilion snapper are found in tropical waters of the western Atlantic from Cape Hatteras to southeastern Brazil, including Bermuda, the West Indies and the Gulf of Mexico. The preferred habitat is irregular reef-like bottom in waters ranging in depth from 80 feet to 350 feet.

Eating habits: Vermilion snapper feed midway in the water column, sometimes coming to the surface. They forage on small animals such as small crustaceans, squids, small fishes and fish eggs.

Life cycle: Females may reach sexual maturity at 3 years of age, or 10-12 inches in length. Multiple spawning is characteristic of the species. Spawning takes place from April to September.

Fishing tips: Vermilion snapper have small mouths so anglers should use small hooks to catch them. Anglers use depth finders to find offshore irregular bottoms, and fish with sturdy boat rods with electric or manually operated reels. They are considered a bottom fish by many anglers, but they are not true bottom feeders.

Black sea bass

Centropristis striata

AKA: blackfish, Atlantic sea bass, bass, rock bass, old humpback, pinbass

Description: Larger black sea bass are black, while the smaller ones are more of a dusky brown. The exposed parts of scales are paler than the margins, making the fish look like it is barred with a series of dots running lengthwise. The belly is slightly lighter than the sides. The fins are dark, and the dorsal is marked with a series of white spots and bands. The upper portion of the caudal fin ends as a filament. During spawning, males may have a conspicuous blue hump at the nape of the neck.

Size: Black sea bass grow to 24 inches and 6 pounds. Citations are given for fish weighing 4 pounds or more.

Sometimes confused with: black drum, bank sea bass, rock sea bass

Habitat: Black sea bass inhabit irregular hard-bottom areas, such as wrecks or reefs. They are found from

Cape Cod, Mass., to Cape Canaveral, Fla., and those found in the South Atlantic usually occur more inshore with other tropical reef fish, such as snappers, groupers, porgies and grunt. Juveniles are common in the high-salinity areas of the estuaries during the summer.

Eating habits: Black sea bass are opportunistic feeders eating whatever is available, but they prefer crabs, shrimp, worms, small fish and clams.

Life cycle: Black sea bass change sex with size. Large individuals are males, and smaller individuals are female. They spawn from February through May in the South Atlantic. Females reach sexual maturity when they are around 7 inches long and males when they are around 9 inches long. Seasonal inshore and offshore migrations occur along the northern part of the black sea bass range above Cape Hatteras.

Fishing tips: Anglers bottom fish for black sea bass over wrecks and reefs using strips of squid or fish as bait.

Gray triggerfish

Balistes capriscus

AKA: triggerfish, taly, leatherjacket, leatherneck

Description: Gray triggerfish have large incisor-like teeth and deep laterally compressed bodies covered with tough, sandpaper-like skin. The action of the dorsal spines give the triggerfish its name. The first spine is large, and when erect it remains so until the smaller second spine is deflexed, triggering the first. Gray triggerfish are generally gray with green overtones, with about three faint, broad dark blotches on the upper body and often white dots and lines on the lower body and fins. There are bluish, purplish spots and lines on the upper body and dorsal fin. There is a pale, narrow band on the chin and the upper rim of the eye is blue.

Size: Gray triggerfish grow to 30 inches and 13 pounds. Citations are given for triggerfish weighing 5 pounds or more.

Sometimes confused with: filefish

Habitat: Along the western Atlantic, gray triggerfish are typically found in hard bottom areas such as wrecks, rock outcroppings and coral reefs in waters 80-to-300 feet in depth.

Eating habits: Triggerfish use their dorsal and anal fins to ascend and descend vertically and hover over the bottom searching for food. They use powerful jaws with incisor-like teeth to chisel holes, dislodge and crush hard-shelled prey.

Life cycle: Spawning occurs offshore during spring and summer when fish are 2 to 3 years old. Triggerfish have demersal eggs that are deposited in nests. Adult triggerfish guard the nest. After hatching, juvenile fish head to the surface and are often associated with Sargassum (floating seaweed).

Fishing tips: Triggerfish are hard to catch with hook and line because they nibble the bait. They are usually caught by anglers bottom fishing for other reef species.

Sharks

Rhizoprionodon terraenovae (Atlantic sharpnose)
Carcharhinus limbatus (blacktip shark)
Isurus oxyrinchus (shortfin mako)
Mustelus canis (smooth dogfish)

At least 73 species of sharks inhabit the waters of the U.S. Atlantic Coast and the Gulf of Mexico. The four discussed here represent those most commonly caught by recreational fishermen in North Carolina. They also represent four ecological categories of sharks used for management purposes.

Atlantic sharpnose sharks represent the small coastal shark group managed under the National Marine Fisheries Service Fishery Management Plan for Atlantic Tunas, Swordfish and Sharks. The group also includes blacknose, finetooth and bonnethead sharks.

Atlantic sharpnose sharks have long, slender bodies with long flattened snouts. They are a brownish-gray color on top with a white underside. Juveniles have black edges on the dorsal and caudal fins and may have small white spots on the side.

The species is found inshore in the surf and bays and estuaries, but also in shallower offshore waters. They grow to about 4 feet.

Blacktip sharks represent the large coastal shark group under the federal plan. The group also includes sandbar, silky tiger, bull, spinner, lemon, nurse, hammerhead and dusky sharks.

Blacktip sharks are stout bodied with a long, pointed snout, long gill slits and erect, narrow-cusped upper teeth. The first dorsal fin is slightly posterior to the pectoral fins high on the midsection of the body, and it has a pointed tip. They are dark gray or blue to brown on the upper body with a white or yellowish-white belly. The tips of the pelvic fins are persistently black, while the tips of pectoral fins, first and second dorsal fins and lower caudal lobe are black in the young, but fade with growth.

They are found in inshore and nearshore waters, often near river mouths and bays. They can grow to as long as 9 feet.

Shortfin mako sharks represent the pelagic shark group managed under the federal plan. The group also includes longfin mako, thresher, big eye thresher, oceanic whitetip, sevengill, sixgill, bigeye sixgill, porbeagle and blue sharks.

Shortfin mako sharks have half-moon-shaped caudal fins with a lateral keel at the base of the tail. The snout is conical and pointed. They are a deep blue color on top shading to metallic blue sides and snow-white belly. The teeth are long and bladelike.

They are found offshore, often near the surface. They are common at 6-to-8 feet long, but can grow as large as 13 feet.

Smooth dogfish are in the dog-fish category of sharks, which also includes spiny dogfish.

Smooth dogfish have a slender body with two dorsal fins nearly equal in size. The second dorsal fin sits slightly ahead of the anal fin. They have cat-like eyes and are a tan-gray, slate-gray or brown on top with a white, grayish-white or yellowish belly.

They are the most commonly caught shark species along the North Carolina coast. They are found in

waters less than 60 feet deep during the spring and summer and are often discarded by pier and surf fishermen. They can grow to about 5 feet.

Populations of some shark species have been in decline for many years prompting state and federal management agencies to implement many catch restrictions to control harvest. Possession of many species is prohibited. Because sharks are difficult to identify, fishermen should take great care to research the proper identification of sharks before keeping one.

Places to start researching are the Florida Museum of Natural History website at www.flmnh.ufl.edu/fish/ and the National Marine Fisheries Service website at www.nmfs.noaa.gov/sfa/hms/sharks.html. A brochure titled "Shark Sense: Atlantic and Gulf Regions" is also available through the N.C. Sea Grant website at www.ncseagrant.org/. And the WorldFish Center maintains a searchable database of fish species at www.fishbase.org/home.htm.

Taking the bait

For some anglers, nothing but fresh, live bait will do. Before they even think about heading out for a day of fishing, they head into the rivers, inlets and sounds to throw their cast nets, pull seines or fish Sabiki rigs.

Surveys show that nearly 25 percent of those who fish recreationally in North Carolina coastal waters use a cast net.

Using live bait greatly increases an angler's chances of fishing success with almost any species. Here are some of the more popular bait fishermen use:

Atlantic menhaden

Brevoortia tyrannus

Also known as pogy or fatback, Atlantic menhaden are small, blue-black fish with metallic flanks and a deeply forked tail. They have a prominent dark spot on the shoulder, often followed by two or three irregular rows of smaller spots. They spawn in the ocean then enter the estuaries for food. They swim in large schools and provide an important role in marine ecosystems as a forage fish for larger predators.

Atlantic menhaden is a popular baitfish for numerous species, including spotted seatrout, bluefish, king mackerel, tuna and sharks.
Anglers can purchase live menhaden from floating "bait barges" along coastal waterways. Contact a local tackle shop for availability and location.

Mullet

Mugil cephalus (striped)
Mugil curema (white)

Two species of mullet are important to recreational fishing in North Carolina: striped mullet (also called jumping mullet) and white mullet. Both have long, cylindrical bodies, small mouths, widely separated dorsal fins and thick, fleshy eyelids that give the fish a sleepy look.

Striped mullet have bluish-gray to green backs that shade to white bellies, with about six horizontal stripes on the sides.

White mullet have dark olive to bluish backs that shade to silver bellies. A dark spot is often found at the base of the pectoral fins and bronze-golden blotches are found on each side of the head.
Like menhaden, mullet make good bait for several species, including flounder, red drum, king mackerel and amberjack.

Round scad

Decapterus punctatus

Also called cigar minnows and cigarfish, round scad are cigar-shaped fish with a line of enlarged scale running the length of the body and a tiny finlet behind the dorsal fin and behind the anal fin. They are a greenish color on top, white underneath and commonly grow to 6 inches.

Shrimp

Farfantepenaeus aztecus (brown)
Farfantepenaeus duorarum (pink)
Litopenaeus setiferus (white)

Three species of shrimp are caught in North Carolina. They look similar, with two principal body sections, the head (carapace) and the tail, or abdomen. However, they spawn and migrate in and out of the upper reaches of the estuary at different times of the year.

Pink shrimp, also called spotted shrimp, have a short rostrum, a blue-edged fantail and a spot on the abdomen. Pink shrimp spawn in the ocean from April through July and move into the upper estuaries, where a significant number over-winter before moving back into the ocean in the spring.

White shrimp, sometimes called green tails, have a long rostrum and antennae and a yellowish-green fantail. They spawn in the ocean from November to March before moving into the upper estuaries. They migrate out of the estuaries southward during the fall and early winter.

Brown shrimp, the most abundant shrimp species in North Carolina, have a moderate rostrum and a reddish-purple-edged fantail. They spawn in the ocean in February and March and move into the upper estuaries. They move to the deeper, saltier waters of the sound and ocean in late fall.

Shrimp are by far the most popular live bait in the South Atlantic and Gulf of Mexico. Many coastal tackle shops sell live shrimp, especially in the fall when the spotted seatrout fishery gets under way.

Bycatch basics

An angler will not cast his line many times before he pulls it back with something on the hook he'd just as soon not catch. But just because you're not interested in frying it up for supper doesn't mean you leave it to die on the shore. All marine species play a vital role in the ecosystem. In some cases, these species have commercial or medical benefits. If you're not going to keep it, release it back into the water alive.

Here are a few you may run across as you're fishing:

Inshore lizardfish

Synodus foetens

The inshore lizardfish, also called a sand pike, is found in shallow saltwater creeks, rivers and sounds, as well as along the beaches. They are especially active at night. Inshore lizardfish have cylindrical bodies, pointed, reptile-like heads and tiny, sharp teeth. They are notorious bait stealers and their slanted mouth gives them the appearance of always grinning at you.

Oyster toadfish

Opsanus tau

Also called mud toads, oyster toadfish are found in shallow waters around pilings, oyster reefs and garbage dumps. Oyster toadfish are often described as ugly. They have broad, flat heads with bulging eyes and fleshy protrusions. The skin is slimy and scaleless. It is brownish yellow with mottled brown vertical bars. Oyster toadfish make a grunting sound when alerted to food or danger but produce a boat horn sound as a mating call.

Oyster toadfish are used extensively for neurological and diabetes research.

Skates/rays

Raja eglanteria (clearnose skate)
Dasyatis say (bluntnose stingray)
Rhinpotera bonasus (cownose ray)

Skate and rays are triangular-shaped, disk-like fishes with long tails.

The clearnose skate, the most common skate along the southeastern United States, inhabits shallow coastal waters. It is brown on the back with numerous black spots. The underside is white. As the name implies, the clearnose skate has translucent spaces on either side of the snout. It is also called a briar skate because it has thorn-like spines in a single row along the midridge of the back and in patches along the pectoral fins and near the eyes. These thorns are not poisonous, but

could injure someone if they step on or pick up the skate.

The bluntnose stingray, on the other hand, does have a venomous barb at the base of the tail. While it is generally a non-aggressive species, it will use the spine in self-defense. Anglers should use extreme caution when handling one.

The bluntnose stingray has rounded corners and a short, blunt snout. It has a few tubercles and spines along midline, and a well developed fold on the upper surface and lower surface of tail. It is yellowish or light brown on top and white on the bottom, with well-developed dorsal and ventral fin folds on the tail.

Cownose rays are large stingrays that can reach a disc width of 40 inches and weigh over 50 pounds. They have a bulbous head with a notch that, from the top, looks somewhat like a cow muzzle. They also have a set of remarkable teeth plates designed for crushing clams and oyster shells. Cownose rays have a stinger on the tail, close to the body, that is only used in self-defense. It is coated with weak venom that can create symptoms similar to that of a bee sting.

Skate and rays are preyed upon by sharks and other large fishes and are often used in medical research.

Blue crab

Callinectes sapidus

The saying, "One man's trash is another man's treasure" sure applies to blue crabs. While anglers may hate to see one on the end of their hooks, blue crab is North Carolina's most valuable commercial fishery. Many recreational fishermen set crab pots, too.

Blue crabs are common in North Carolina coastal waters at different times of the year. Despite the name, the blue crab varies in color. The back shell is dark green or brownish green. The undersides of the body and legs are off white with hints of yellow and pink. Females can be identified by their triangular or rounded aprons and orange-red coloration on the tips of their claws.

A note of thanks

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"To go fishing is a sound, a valid and an accepted reason for an escape. It requires no explanation."

— Herbert Hoover

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