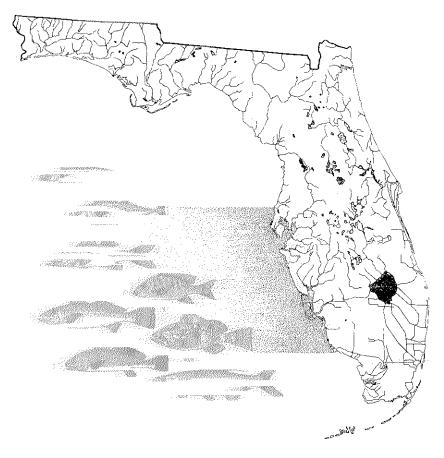
A Tackle Box Guide to:

COMMON SALTWATER FISHES OF SOUTHWEST FLORIDA

Captain Ralph Allen

James Seagle — illustrator



Florida Sea Grant Program — research, extension and education for a better coastal environment.

CODE OF ETHICAL ANGLING

Help fish stocks increase through catch and release.

Limit your take, don't always take your limit.

Observe regulations and report violations.

Only keep fish for trophy or dish.

Escape tradition, try a new catch in the kitchen.

Get hooked on fishing's thrill, not alcohol or drugs that kill.

Bring all garbage in, don't teach it to swim.

Captain your boat, practicing safety afloat.

Show courtesy and respect, others' rights don't neglect.

Share what you know to help your sport grow.

Commit yourself to ethical angling; the future of your sport depends on it. Pass it on!

- National Marine Fisheries Service

A Tackle Box Guide to:

COMMON SALTWATER FISHES OF SOUTHWEST FLORIDA

written by:

Captain Ralph Allen¹

edited by:

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illustrated by:

James Seagle³

August 1993

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(See back cover for information on how to order.)

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The idea for this book began with a desire on the part of numerous individuals, Sea Grant Extension advisory committees, and local Florida Conservation Association Chapters to help anglers better understand and appreciate the fishery resources of Southwest Florida's inland waters. The West Coast Inland Navigation District shared our interest in producing a handy-to-use fish identification guide, and funded development of this publication.

Information about the fishes in this book came from a variety of sources, including local lore. The challenging part involved linking my many years of observations with scientific facts not readily seen or known by fishermen. This task was performed admirably by two Florida Sea Grant Extension Agents: John Stevely and Don Sweat. Their professional expertise as marine biologists, coupled with years of field experience working with fishermen, proved invaluable.

Sea Grant Extension Agent Will Sheftall developed the project proposal and coordinated the writing and editing of the text. His editorial expertise in format, style and usage was indispensable. Special thanks goes to Carmen Sours of the Charlotte County Cooperative Extension office, who patiently typed and re-typed the many draft versions of the manuscript.

Finally, this book would be of little interest without the illustrations that form the basis for identifying each of the 86 species described within these pages. James Seagle, noted wildlife artist for many years, employed his considerable talent in creating illustrations that ensure the usefulness of this publication. All who make this book their tackle box companion are indebted to James for his selfless personal donation of these outstanding drawings.

Let's go fishing!

Captain Ralph Allen August 1993

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PREFACE

Florida is an angler's paradise. Our wide variety of fish makes fishing a popular activity. More than 5 million Florida residents and tourists spend in excess of \$2 billion each year on the sport (Florida Sea Grant College Program, 1993). The number of recreational fishermen has grown tremendously, and a continuing increase in the number of anglers over the next 20 years is expected--particularly along Florida's southwest coast. This growing pressure on fisheries resources within the West Coast Inland Navigation District and beyond makes information that can aid conservation of our fisheries timely as well as useful.

The rich diversity of Florida's marine fish species presents a challenge to the angler wishing to identify his catch. Obviously, identification is a must if one is to participate in proper conservation practices.

In many instances the first question asked by an angler upon catching a saltwater fish is: "What the heck is it?" A stream of other questions often follows: "Can I keep it? Can I eat it? Can it hurt me?" This book is designed to answer these questions and others at the time the fish is caught. Learning more about the fish you catch should improve your chance of properly applying the regulations and conserving our fishery resources. Because fishing regulations change frequently, they are not covered in this book, but should be obtained from state and federal agencies referenced on page v.

There are well over 150 species of fish caught by hook and line in local waters. The 86 species included in this book were selected by the author and editors because they are the most frequently encountered. For each species, important information about distinguishing features, biology/habitat, and fishing methods is provided. The often confusing common nicknames applied to each fish are noted, as well as the fish's preferred common name.

We hope that the information included in this book will not only add to the angler's enjoyment of fishing, but that it will also motivate anglers to take a more active role in conserving Florida's outstanding fishing resources.

The Editors

FISHING REGULATIONS

The Florida recreational angler is confronted with a complex set of state and federal regulations for a wide variety of fish species. These regulations include size limits, bag limits, gear restrictions, closed seasons and special ficenses. Even the experienced angler should keep the most recent summary of regulations handy. Please remember: Understanding and abiding by these regulations is vital to the protection of our fishery resources for present and future generations.

A common complaint from anglers is that fishing regulations are too complex. Unfortunately, developing effective and fair regulations is no simple task. Developing one regulation which fits all species is impractical because of differences in habitat requirements, growth rates, age at reproductive maturity, number of offspring produced, abundance, and harvesting effort.

Fishing regulations for Florida waters (out to 3 nautical miles on the Atlantic coast, out to 9 nautical miles on the Gulf coast) are developed by the Florida Marine Fisheries Commission. Federal regulations for Gulf waters are developed by the Gulf of Mexico Fishery Management Council.

Copies of the latest state and federal regulations are sometimes available from regional Florida Marine Patrol offices, county Sea Grant Extension offices, county tag offices, bait and tackle shops, and stores where fishing gear is sold. Copies can always be obtained by writing to:

Federal:

Gulf of Mexico Regional Fishery Management Council Lincoln Center, Suite 331 5401 West Kennedy Boulevard Tampa, FL 33609-2486 (813) 228-2815 FAX (813) 225-7015

State:

Florida Marine Fisheries Commission Douglas Building, Room 106 2540 Executive Center Circle West Tallahassee, FL 32301 (904) 487-0554

Note: There is a saltwater fishing license requirement for fishing in Florida, with some exceptions. Information and licenses can be obtained from county tag offices, some bait and tackle shops, and some stores where fishing gear is sold.

CATCH AND RELEASE

One of the best ways an angler can contribute to the conservation of fish along Florida's southwestern coast is to use catch and release techniques. There are indications that Florida's fish populations are beginning to be stressed from angling, as well as by habitat loss. Anglers can help maintain healthy fish populations by releasing their catch. Here's how to do it properly:

Reeling in the Catch

- Use barbless hooks or hooks with the barbs flattened or filed down.
- Set the hook immediately--this prevents the fish from swallowing the bait.
- If the fish is in deep water, work it to the surface slowly to allow it to adjust to pressure changes. If in shallow water, land the fish quickly--don't play it to exhaustion.
- Keep pliers, hook removers, and other release tools handy. Use hooks made of materials that rust quickly in case the fish has to be released with the hook in place.

Handling the Catch

- Minimize physical contact with the fish. If possible, leave the fish in the water and use a tool to remove the hook or cut the leader. Don't use a net unless it's the only way you can control the fish.
- If you must handle the fish, wear wet gloves or use a wet rag. Never use a dry rag to grasp a fish: it will remove too much slime and may eventually kill the fish.
- Keep the fish from thrashing by turning it on its back or by covering its eyes with a wet rag. Be careful not to stick fingers in the fish's eyes or gills. Be careful not to remove scales and mucus from the fish.
- · Return the fish to the water as quickly as possible.

Removing the Hook

- Back the hook out the opposite way it went in.
- Use needle-nose pliers, hemostats or a hookout to work the hook out.

- If the hook can't be removed quickly or if the fish is hooked deep inside its body, cut the leader as close as possible to the fish's mouth.
- For a large fish in the water, slip a gaff around the leader and slide it down to the hook. To release the hook, lift the gaff upward as the angler pulls the leader taut.

Releasing the Fish

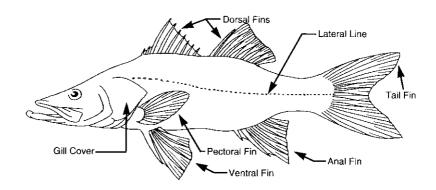
- · Place the fish in the water gently, supporting its mid-section and tail until it swims away.
- Revive exhausted fish by moving it back and forth in the water or towing it beside the boat to force water through its gills.
- Use an ice pick, needle or hook point to puncture the expanded air bladder of fish taken from deep water.
- Observe the fish. If it doesn't swim away, retrieve it and try again.

Remember: A released fish has an excellent chance of survival when handled carefully and correctly.

-- Adapted from National Marine Fisheries Service

USING THE SPECIES DESCRIPTIONS

Parts of a Fish



Text Outline

Preferred Common Name

other common names

Description:

- · Distinguishing physical characteristics
- Confusion with other species
- · Commonly-caught weight; top-of-range weight

Biology/Habitat:

- · Where the species occurs, according to life cycle and season
- · Habitat requirements
- · Age/size at which reproductive maturity is reached
- · Feeding habits

Fishing Notes:

- · Habitats where commonly caught
- · Baits used
- · Unusual behavior
- · Hazards to the angler
- · Protection status
- Edibility

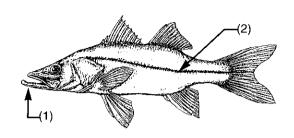
Snook

robalo, old linesides, soapfish

Description: Pointed head with strongly protruding lower jaw (1). Distinctive black lateral line (2). Usually under 10 lbs., can be over

50 lbs.

Biology/Habitat: Commonly an inshore fish, but can be found offshore. Tolerates a wide range of salinities. Moves from bay and fresh



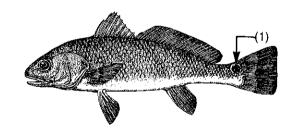
waters to Gulf beaches and passes in May-July (spawning season). Freshwater and brackish tidal creeks, salt marshes and seagrass beds are important nursery habitat. Juveniles begin spawning migrations when they start maturing (12-14 inches). Closed seasons protect easily caught spawning fish (summer) and fish stunned by cold weather (winter).

Fishing Notes: Caught under docks and piers, along mangrove shorelines, at mouths of tidal creeks, and along beaches and Gulf passes. Offshore, caught around shallow wrecks and reefs. At higher tides, caught in bays near structures, mouths of rivers, tidal creeks, and mangrove shorelines. Bait; live fish, shrimp, and crabs; lures. A regulated species. Prime eating fish with firm, mild meat, but must be skinned before cooking to avoid a soapy taste.

Red Drum

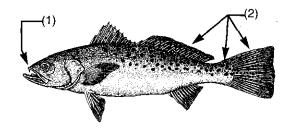
redfish, red, channel bass

Description: Bronzish-red with down-turned snout, tiny teeth, and prominent black spot at upper base of tail (1). Occasionally with more than one black spot, rarely a dozen or more. Very rarely with no black spot. Most commonly under 10 lbs. can reach 60 lbs.



Biology/Habitat: Rapidly growing juveniles under 24 inches (1-3 years old) inhabit canals and mangroves along bays and creeks. Larger juveniles to about 34 inches that are beginning to sexually mature move to more open bay waters, schooling on grass flats, along bars, and around Gulf passes. Adults (about 34+ inches) become fish of the open Gulf where they roam in large schools of similar-sized individuals. When small, consumes mostly shrimp and crabs; diet changes to other fish as it grows larger. Spawning generally occurs near Gulf passes in late summer and fall, peaking during September and October. May live 30+ years.

Fishing Notes: Popular gamefish noted for striking a wide assortment of baits, lures and spoons. Often spotted in very shallow water by "tailing" -- a behavior in which the top of the tail comes out of the water as the fish roots for food along the bottom. A regulated species. Edibility is good.



Spotted Seatrout

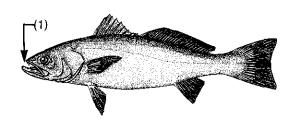
speckled trout, speck, trout

Description: Two "fangs" in upper jaw (1). Pronounced black spots along back and on tail fin and second dorsal fin (2). Commonly 1-5 lbs, but can be up to 15 lbs.

Biology/Habitat: Closely associated with seagrass beds; feeds on small fish and shrimp. Spawns from spring to fall, probably in deeper

portions of bays. Can be sexually mature by end of 1st year; generally mature by three years of age. Attains 14-15 inches when 3 years old. Larger fish tend to be females and can produce over 1,000,000 eggs. Can live to age of 8-10 years. Conservation laws (minimum size, bag limits) intended to ensure adequate spawning.

Fishing Notes: Most are caught over shallow seagrass beds during higher water; deeper edges of grass beds at lower water. Found in channels, holes, and canals when water is cold. Common to find schools of fish similar in size; if undersized, move on! Most commonly takes live bait (especially shrimp), but jigs and slow-moving lures are very effective. A regulated species. Edibility good; flesh gets mushy if not iced quickly.



Sand Seatrout

silver trout, trout

Description: Two "fangs" in upper jaw (1). Light colored fish without distinctive markings. Rarely larger than 12-14 inches and 1 lb. Another species (silver trout) is even smaller and tends to be found in deeper, more saline waters. Distinguishing these two species is difficult, and

often the names are used interchangeably.

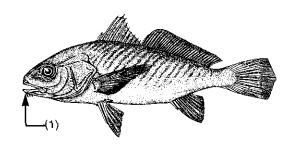
Biology/Habitat: Prefers deeper water than spotted seatrout. Found on bare bottom and channels, often schooling around minor bottom features in bays or just off gulf beaches. Not much known of its biology, but is thought to spawn in spring and summer. Juveniles are thought to prefer lower salinity waters.

Fishing Notes: Caught primarily on shrimp and shrimp-imitating jigs fished along the bottom. Edibility good if iced immediately.

Atlantic Croaker

croaker, hardhead

Description: Underslung mouth. Many tiny barbels along inner edge of lower jaw (1) distinguish croaker from whiting -- another member of the drum family -- which has a single rigid barbel. Silver gray body with distinct pattern of wavy diagonal markings on upper sides. Name derived from noises it makes. Generally under 1 lb, rarely over 2 lbs.



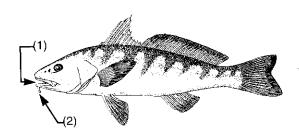
Biology/Habitat: Juveniles generally occur in shallow bay waters; adults more common in Gulf waters. More abundant on the east coast. Spawns offshore in fall-winter. Lives 2-4 years. A bottom feeder.

Fishing Notes: Usually caught while fishing for other bottom fish. Best caught with small hooks and bits of shrimp or squid. Handle with care due to sharp gill cover edges. Edibility excellent.

Whiting

kingfish

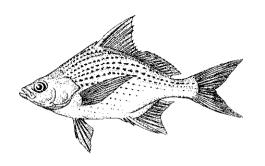
Description: Several similar species occur in southwest Florida waters. For all, lower jaw does not extend as far as upper jaw (1). Distinctive single chin barbel always present (2). Silvery-white color; may be darker on back and upper sides depending on species. Almost universally known as whiting in south-



west Florida; widely known as kingfish elsewhere. Usually less than 1 lb, but can be up to 3 lbs.

Biology/Habitat: Most common along Gulf beaches. Also found on sand and mud bottom areas of bays. A bottom feeder that uses its small mouth and chin barbel to locate prey.

Fishing Notes: Most often caught on sand fleas or bits of shrimp on small hooks. Fish bait on bottom. Edibility excellent.



Striped Mojarra

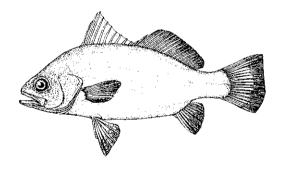
sand bream

Description: High dorsal fin. Body dark olive green above, tan to silvery on sides. Conspicuous, dark horizontal stripes on body sides, except toward belly. Small mouth; flexible membranes enable the lips to be extended outward. Usually under 1 lb. can reach 3 lbs.

Biology/Habitat: An inshore,

schooling fish most common on sandy or other open bottoms; often found in canals and waterways. Uses its extendable mouth to probe the bottom for small invertebrates (worms, shrimp, crabs, etc.).

Fishing Notes: Will readily take bits of shrimp or other cut bait. Due to small mouth size, best caught on small hooks. Schools of like-sized fish can often be seen in shallow water and can be caught with a hand-thrown cast net. Edibility is very good.



Silver Perch

sugar trout, croaker, sand perch

Description: Underslung mouth with tiny teeth which often go unnoticed. Silvery-white in color, dark olive green to bluish on top. Fins may be tinged with pale yellow. A small fish generally under 1 lb.

Biology/Habitat: A bottom feeder of open inland waters; also found in

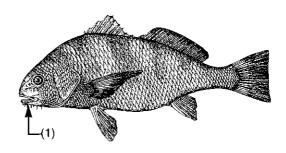
creeks and canals. Seldom found offshore in the Gulf. When young, feeds on small shrimp and shrimp-like animals. Diet changes to baitfish such as anchovies as the fish grows larger. Spawns spring to early summer. Three-year-old fish may be only 7 inches in length.

Fishing Notes: Often found in large schools, so if you catch one there may be more. Best caught on very small natural baits: pieces of cut shrimp or squid work well. Small mouth means that a small hook works best. Makes good live bait for many species of larger fish. Edibility excellent.

Black Drum

drum

Description: Heavy-set fish with distinctive barbels under chin (1). Young fish (up to about 10 lbs) have pronounced black vertical bars that gradually fade with age. Often mistaken for sheepshead which has narrower and more numerous black bands and has no barbels. Often 30-50 lbs; can be well over 100 lbs.



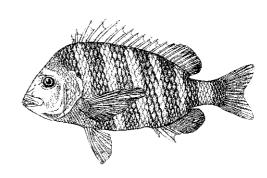
Biology/Habitat: Principally found inshore over sand and sandy-mud bottoms and near bridges, docks, piers, seawalls and oyster bars. Young, at about 4 inches, move from muddy shallows to deeper water. Bottom-feeder: uses barbels to locate food by feel. Grinding throat teeth enable it to crush clams, oysters and crabs. Schools form in spring and migrate to spawn near mouths of rivers and bays. Can attain 20 lbs by age 5, 60 lbs by age 10.

Fishing Notes: Fish natural baits (broken crab, clams, shrimp) on bottom, usually within a few feet of bridge and pier pilings. Best fishing is in cooler months. Deep drumming noise often heard when landed. A regulated species. Small fish (up to 10-15 lbs) good to eat; large fish tend to be tough and to have parasitic infections.

Sheepshead

convict fish, zebra fish

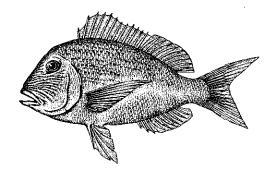
Description: Large head with prominent teeth. Human-like incisors in front, rounded grinding teeth behind them. Distinctive black and white vertical bars on body sides. Often confused with juvenile black drum. Usually under 5 lbs, can reach nearly 20 lbs.



Biology/Habitat: Can tolerate a

wide range of salinity. Usually found around docks, piers, reefs, rocks, mangroves, oyster bars, and anywhere else barnacles and oysters are found. Often found in coastal rivers. Feeds on shellfish such as crabs and shrimp, barnacles and small bivalves. Young often inhabit grassy flats before dispersing to adult habitat. In winter, larger adults migrate offshore to spawn near ledges and reefs in water depths up to about 50 feet.

Fishing Notes: Most commonly caught during winter, especially at height of spawning season. Fish baits on the bottom for best results; use small hooks. Good baits include fiddler crabs, sand fleas, shrimp, bits of clam or oyster. Be alert for small nibbles; sheepshead are notorious for stealing bait. Small fish less than one pound do not yield much meat and should be released. Edibility excellent; difficult to clean due to tough scales and bones.



Porgy

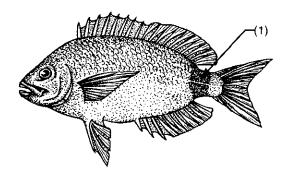
jolthead porgy

Description: Small mouth, high blunt forehead, large eyes, long continuous dorsal fin, and forked tail fin. Front incisor-like teeth and rear grinding teeth in both jaws. Light or white body sides. There are several similar species of porgy which are difficult to distinguish; most are under 3 lbs though the jolthead porgy

can exceed 20 lbs.

Biology/Habitat: Most porgy species of southwest Florida are Gulf bottom fishes. Found singly or in small groups, usually around edge of natural or artificial reefs. Strong teeth used to crush hard-shelled animals such as crustaceans, snails, and clams; occasionally eats small fishes.

Fishing Notes: Usually caught on or near bottom using small hooks and shrimp or squid for bait. All have firm white meat.



Spottail Pinfish

spottail bream

Description: Small mouth with prominent, nipping teeth. Bluishbrown above, white body sides. Prominent black spot at base of tail (1). Juveniles have faint vertical bars on body sides. Usually less than 1 lb, but can reach over 2 lbs.

Biology/Habitat: Juveniles found

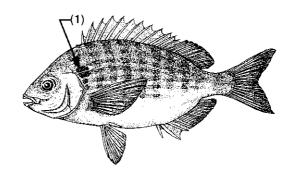
near jetties and piers in bay waters not far from the Gulf. Adults occur around reefs in Gulf. Sharp teeth used to pick food items from bottom; strong molars used to crush a variety of prey.

Fishing Notes: Uses small mouth to steal baits. Best caught on small hooks baited with bits of shrimp fished on bottom. Light tackle enables the angler to better detect nibbling bites. Usually not eaten due to small size.

Pinfish

sailors choice

Description: Small mouth with incisor-like teeth. Distinctive black spot behind the gill cover (1). Body bluish-silver (back darker than belly) with blue and orange-yellow horizontal stripes overlaid by 4-6 gray-shaded vertical bars. Called pinfish because of sharp dorsal spines. A



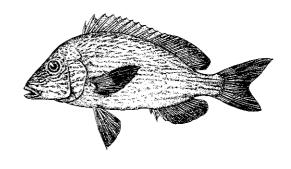
member of the porgy family. Small fish; usually less than 8 inches, but can reach 3 lbs.

Biology/Habitat: One of the most common fish associated with seagrass beds. Also found around bridge, pier, and marker pilings and around natural and artificial reefs in bays and Gulf. Spawning thought to occur in offshore waters. Can grow to six inches in first year. Eats a wide variety of worms, crustaceans and mollusks. Small individuals also consume plant matter. A major food item of the bottlenose dolphin.

Fishing Notes: Popular live bait. Caught on very small hooks baited with tiny bits of just about any bait. Notorious bait stealers, due to small mouth and sharp teeth. Not usually considered a food fish.

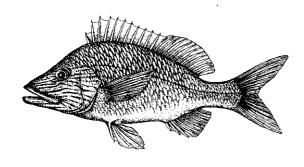
Pigfish

Description: Small mouth with tiny, barely noticeable teeth. Gray body; tends to have bluish cast to back. Gold to bronze dashes and broken line markings tend to form horizontal patterns on sides, often forming oblique lines on cheeks and upper back. A member of the grunt family. Small fish usually less than 8 inches, but can reach over 1 lb.



Biology/Habitat: Smaller specimens common on seagrass beds; larger specimens more common around natural and artificial reefs in the Gulf to about 60 foot water depths. Bottom feeder that searches through sediments for worms, crustaceans, and mollusks.

Fishing Notes: Popular live bait. Caught on small hooks with tiny bits of bait. Often makes grunting sound when handled in the boat; hence the name pigfish. Good to eat though not often eaten due to small size.



White Grunt

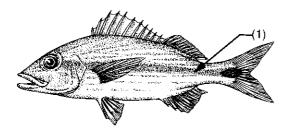
Key West grunt, gray snapper, flannel mouth grunt, Gulf snapper

Description: Bright orange mouth lining. Gray body with blue horizontal stripes on sides of head. Scales above lateral line noticeably larger than scales below lateral line. Produces sound by grinding "throat teeth"; hence the name grunt. Com-

monly to 1 lb; sometimes to about 3 lbs, can reach 8 lbs.

Biology/Habitat: Primarily a Gulf resident, found near reefs and wrecks. Grows slowly: sexual maturity reached during third year at size of about 10 inches. Roots through sediment for worms, crustaceans, and mollusks; also eats small fish.

Fishing Notes: Often taken in large numbers around Gulf reefs. Live bait or cut bait will work. Fish bait on bottom. Edibility excellent.



Tomtate Grunt

silver grunt

Description: Bright orange mouth lining. Light colored: gray to tan on back. Yellow to brown stripe from head to base of tail fin (1). Black blotch at base of tail fin fades away in larger specimens. One of the smallest grunts: can reach 10-11 inches and weigh less than 1 lb.

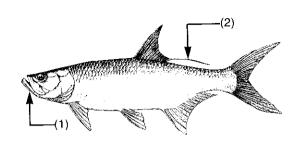
Biology/Habitat: A Gulf bottom fish found around reefs and hard bottom areas. Often in large schools of similar sized fish. Preyed upon by snappers and groupers.

Fishing Notes: Readily caught on a variety of cut bait. Schools of tomtate grunt will often plague reef fishermen by monopolizing bait, sometimes forcing an angler to change location. Frequently used as bait for larger fish. Not usually eaten, due to small size.

Tarpon

sabalo, silver king

Description: Bluish-gray back with silver sides. Large, heavy scales. Strongly protruding lower jaws (1). Last ray of dorsal fin elongated (2). Specimens from inland waters can take on a yellowish or golden tinge. Specimens under about 40 lbs are juveniles; adults average 70-100 lbs and can reach 300 lbs.



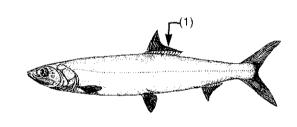
Biology/Habitat: Juveniles prefer low-salinity backwaters — often ranging many miles inland. Move into larger streams and estuaries as they grow. Most adults leave the Southwest Florida coastal area in winter, return for spring spawning. Huge schools form in Gulf passes in May and June. Often seen "rolling" (surfacing to gulp air). Disperse throughout the area in summer and fall. Reach sexual maturity at approximately 6-7 years of age (around 4 feet in length).

Fishing Notes: Prized game fish due to size, strength and spectacular leaps when hooked. Most fish are caught March through October, especially during spring spawning. Live baits and artificial lures are used. A highly regulated species; usually released alive. Edibility poor; very oily and bony.

Ladyfish

poor man's tarpon, ten-pounder

Description: Long slender fish with large eyes and abrasive jaws for grasping prey. Single dorsal fin occurs relatively far back on the body (1). Uniformly silver body with slightly darker, greenish-blue back. Usually under 3 lbs; can reach 10 lbs.



Biology/Habitat: Closely related to

tarpon. Like tarpon can tolerate a wide range of salinity: can be found from Gulf waters -- generally less than 20 ft deep -- inland to fresh water. Usually found in open water, but also in canals and waterways. Feeds primarily on small fish.

Fishing Notes: Popular sport fish because of aggressive strikes and spectacular tarpon-like leaps (called "poor man's tarpon" due to smaller size). Sometimes found in schools of similar-sized fish. Schools often located by flocks of feeding seabirds. Will hit just about any natural or artificial bait. Fishing up off the bottom provides best results. Abrasive jaws can wear through light fishing line: use heavy leader. Not generally eaten.



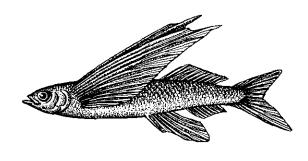
Needlefish

Description: Long slender fish with a needle-pointed jaw full of sharp teeth. Dorsal and anal fins far back on body. Greenish to bluish on back, shading to silvery on belly. Similar in appearance to ballyhoo and halfbeak, but has a distinguishing elongate upper jaw. Usually under 12 inches long, can exceed 20 inches.

Biology/Habitat: Found in inland

waters around mangroves, in canals around docks and piers, and in the Gulf particularly along beaches. Often seen just under the surface where it looks much like a floating stick. Also seen at night near lighted piers and bridges. Aggressive predator; feeds on other fish and shrimp. Evades predation by skipping along surface.

Fishing Notes: For its size will take amazingly large baits, sometimes lures. Sometimes used as live bait for snook and other inshore gamefish. Handle carefully since tiny sharp teeth can slice a finger. Generally too small to eat.



Flying Fish

Description: Bluish-green, torpedoshaped fish with extremely elongated pectoral fins used as "wings" to enable gliding over the water's surface. Related to ballyhoo and halfbeaks. Small fish: can reach 1 lb.

Biology/Habitat: Found primarily in the Gulf 15 miles or more away from land; rarely found in bay waters.

Often seen "flying" away from a

moving boat. Makes a rapid leap into the air, spreads large pectoral fins, and glides for a long distance, sometimes finning its tail furiously for added boosts. Known to fly into boat lights at night.

Fishing Notes: Sometimes used as bait. Can indicate the presence of larger fish: a school of flying fish taking to the air may be trying to escape a predator. Although sometimes consumed in remote island communities, not generally considered a food fish.

Sea Catfish

hardhead, mudcat

Description: Small mouth. Lacks long dorsal and pectoral spine filaments found on gafftopsail catfish. Has three pairs of barbels ("whiskers") - one on the upper jaw, two on the lower jaw (1). Maximum size is about 3 lbs.

Biology/Habitat: Feeds along the bottom, using barbels to assist in

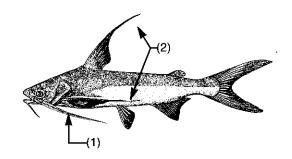
locating prey. Prefers marine environments, but occasionally enters brackish and fresh waters. Inhabits turbid waters over sand and mud bottoms. Males brood young in their mouths.

Fishing Notes: Opportunistic bottom feeder that takes just about any bait. Not generally considered a game fish, but has recreational value as a catch-and-release species. As with other catfish, handle with extreme caution; barbed spines in dorsal and pectoral fins are poisonous. Flesh is seldom eaten.

Gafftopsail Catfish

sailcat

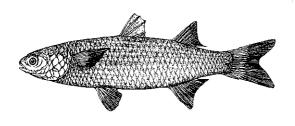
Description: Long "whiskers" on each side of wide mouth (1). Distinguished from hardhead catfish by extremely long filaments on the dorsal and pectoral spines (2). Color is uniform steel-blue above, white below. Can reach up to 8 lbs.



Biology/Habitat: Prefers intermedi-

ate salinity and is primarily an inshore fish of the bays and rivers. Sometimes found up to several miles out in Gulf. Males brood young in their mouth and do not feed during brooding.

Fishing Notes: Aggressive feeder that will take any bait fished on bottom. Will strike topwater lures. Handle with care; there is a rigid, poisonous, barbed spine in the dorsal fin and each pectoral fin. These are well positioned to injure an angler's hand. Punctures cause excruciating pain and swelling in some cases. Contrary to popular belief, edibility is good.



Mullet

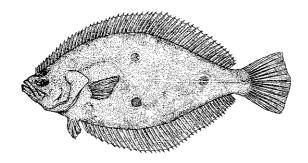
black mullet, striped mullet, silver mullet, lisa, finger mullet

Description: Three similar mullet species occur in southwest Florida. Black mullet is predominant; silver mullet is not uncommon. All have cylindrical body, with small toothless mouth and widely separated dorsal fins. Series of dark spots form conspicuous stripes on sides. Upper

body bluish-gray, shading to a white belly. Usually under 3 lbs; sometimes over 10 lbs.

Biology/Habitat: Tolerates a wide range of salinity and occurs from fresh water streams to Gulf waters. Large schools of black mullet congregate in Nov.-Dec. and migrate offshore to spawn. In southwest Florida, starts maturing sexually at size of 9-14 inches (1 to 2 years of age). Moderately long-lived fish that attains length of 24 inches after six years. Feeds by sucking up bottom surface mud which contains algae and organic material. Often jumps for no apparent reason.

Fishing Notes: Commonly caught recreationally with cast nets. Sometimes taken from freshwater with tiny, baited hooks. Juveniles (finger mullet) are popular sportfishing bait. A regulated species. A good eating fish when fresh. Spoils easily; should be quickly iced.



Gulf Flounder

flounder, flatfish, fluke

Description: A flat fish with both eyes on top side. Large sharp teeth. Top side mottled brown; bottom side white. Dorsal and anal fins run almost full length of body. Most common species among several found in SW FL; can be distinguished from others by three prominent spots in triangular pattern on

top side. Can reach 5 lbs. Southern flounder is more common on Florida's east coast; can reach 15 lbs.

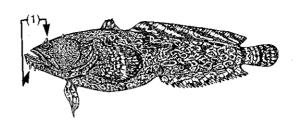
Biology/Habitat: Found on sandy bottoms both inland and out in the Gulf to about 60 feet of water. Lies flat on the bottom in wait for passing prey. Will aggressively chase after passing fish, shrimp, etc. Camouflages itself by changing color to match surroundings and by covering itself with sand, leaving only eyes exposed.

Fishing Notes: Aggressive feeder which will chase a passing bait or lure. Generally caught within a few feet of the bottom. Live shrimp and small fish make excellent baits as do jigs and spoons. A regulated species. Edibility excellent.

Toadfish

oyster toad, oyster cracker, mother-in-law fish

Description: Broad flattened head with fleshy protrusions from head and around large mouth (1). Muted in color with dark browns and yellows predominating. Small fish - up to maximum of 2 lbs.



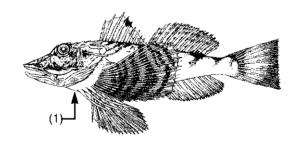
Biology/Habitat: Commonly an

inshore fish, but can be found in offshore waters. Conceals itself around pilings, oyster reefs, rocks, or in any hole or hiding place it can find. Ambushes a variety of passing prey; will also crush oysters and crabs. Unusual fish in that males brood young. Male prepares nest in which one to several females may deposit eggs. Male emits a boatwhistle-like call to attract females. Male protects and cleans eggs until young fish become free-swimming (5-12 days).

Fishing Notes: Will take any type of bait fished on bottom. Handle with care! Powerful jaws used to crush oysters can deliver a vise-like bite. Reported to be edible, but rarely eaten because of small size and unusual appearance.

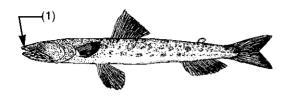
Sea Robin

Description: Broad, armor-plated head adorned with spikes. Triangular, tapered body. Large pectoral fins spread like bird wings (hence the name sea robin). Lower pectoral fin-rays appear leg-like (1) and are used for walking and probing. Several different species occur locally. Small fish, generally under 1 lb.



Biology/Habitat: A bottom fish found in both bay and Gulf waters. Uses fins to fan and probe the bottom in search of worms, mollusks and crustaceans.

Fishing Notes: Young anglers are fascinated by this strange-looking fish. Caught by baits fished on bottom. Flesh is edible, but seldom eaten as there is very little meat.



Lizardfish

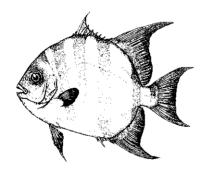
snakefish, sand diver

Description: Pointed "lizard-like" head with tiny sharp teeth (1). Cylindrical body. Dull brown with white spots on back; darker brown diamond-shaped markings on lower side. Belly and throat usually white. Usually a small fish; up to about 2 lbs.

Biology/Habitat: Found in rivers,

bays, shallow saltwater creeks, along beaches, and offshore to a depth of several hundred feet. Lies on bottom or buries itself with only eyes exposed. Aggressive feeder; darts up from bottom to capture prey.

Fishing Notes: Often caught with live or dead bait on the bottom, but will also take a lure. Anglers are often surprised to catch lizardfish not much larger than the lure. Not considered a food fish, but eaten in some parts of the world.



Spadefish

angel fish

Description: Disk-shaped. Blunt head with small mouth. Silvery to dark tan in color. Dark brown vertical bar pattern is sometimes strikingly distinct and sometimes barely noticeable. Larger fish generally have a darker background, with less distinctive bars. Usually under 3 lbs; can reach 16 lbs.

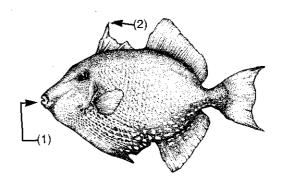
Biology/Habitat: Schools of spadefish (a few individuals to several hundreds) are generally associated with structure (reefs, wrecks, pilings, bouys, etc.). On calm days schools sometimes can be seen lolling at the surface with the tips of their dorsal fins out of the water. During summer months such behavior may indicate spawning activity. Consumes a diversity of food items, including jellyfish, sponges, and sea squirts.

Fishing Notes: Difficult to hook because of small mouth and unusual diet. Doesn't venture far from structure. Best caught on light tackle and very small hooks. Good baits are small strips of squid and bits of shrimp. The school may follow a hooked fish back to the boat. Edibility is good. Rich meat spoils rapidly.

Gray Triggerfish

triggerfish

Description: Tiny mouth with sharp protruding teeth (1). First spine of dorsal fin a rigid spike (2). When this spine is erect, it can be "unlocked" only by depressing the smaller spike just behind it (the "trigger"). Olive green to gray body color. Tough, sandpapery skin. Averages under 2 lbs, can reach 5 lbs.



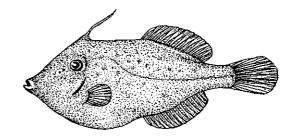
Biology/Habitat: Found around reefs and wrecks in the Gulf. Seldom caught in bay waters. Primarily a bottom fish, but sometimes will slowly swim up and down through the water column. Lays eggs in guarded nest. Powerful teeth enable it to crush and feed on heavily-shelled animals such as crabs, barnacles and even spiny urchins.

Fishing Notes: Usually caught on or near bottom. Because of small mouth size, very small hooks work best. Whole or cut shrimp preferred, but cut squid or fish can be effective. Will sometimes take a very small jig bounced along the bottom. Tough hide makes cleaning a chore, but flesh is excellent eating.

Orange Filefish

Description: Tiny mouth with protruding sharp teeth. Serrated dorsal spine almost always bent or irregular. Tough, sandpaper-like skin with light orange splotches on a brown to grayish background. Can weigh up to 3 lbs.

Biology/Habitat: Usually found in inshore waters. Most common around structure (pilings, docks and



reefs), occasionally on seagrass beds. Widely varied diet includes sponges, sea whips, hydroids, and soft-bodied invertebrates. To avoid predators, can tightly wedge itself into crevices by distending its belly.

Fishing Notes: Often rises up from the bottom to pick at baits being retrieved; will then hang just beneath the boat. Very sluggish, but adept at removing bait with quick nips of small teeth. Best caught with very small hooks and bits of shrimp or other cut bait. Edible although not commonly eaten.



Southern Puffer

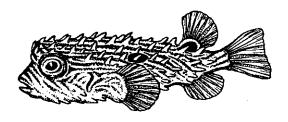
blowfish, blow toad

Description: Beak-shaped mouth with two powerful teeth above and two below. Light colored fish with pale tan rings and splotches; smooth, scaleless skin. Several species of puffer fishes occur in local waters. Small fish, usually less than 1 lb.

Biology/Habitat: Can occur in wide

range of habitats, including Gulf waters, but most common around inshore sea grass beds. Powerful teeth are used to crush any small animal it can capture, including crabs, clams, shrimp, worms, etc. When alarmed, inflates with water or air to prevent being swallowed by larger fish.

Fishing Notes: A small mouth and heavy teeth make it difficult to hook this fish (infamous for its ability to "steal" bait). Take care when handling: sharp teeth can deliver a nasty bite. Difficult to distinguish from other species of puffer fishes, many of which produce an extremely toxic poison and can only be eaten if correctly and carefully cleaned. Meat is delicious.



Burrfish

porcupine fish, spiny puffer

Description: Small beak-like mouth similar to southern puffer. Easily distinguished by the numerous spines covering the body. Usually less than 1 lb, but have been reported to reach 18 inches in length.

Biology/Habitat: Found on inshore

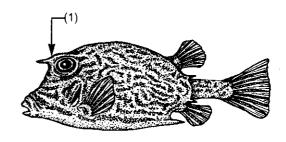
seagrass beds. Able to inflate itself with water (or air) to discourage predators.

Fishing Notes: Sometimes caught by anglers seeking trout or other sportfish on seagrass beds. Can be difficult to handle because of spines. Can deliver a nasty bite. Produces croaking sounds when out of the water. Not usually eaten.

Cowfish

boxfish

Description: Trademark "horns" over the eyes (1). Tiny mouth with parrot-like beak. Body colored with blue lines and scrawls. Called box-fish because head and most of body are enclosed in a hard boxlike "shell." The "shell" is so rigid that the fish is able to move only its tail and fins, and its eyes and mouth. Small fish: generally under 1 lb.



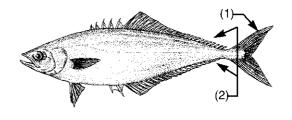
Biology/Habitat: Usually found around inshore seagrass beds. Occasionally found in Gulf waters around patch reefs.

Fishing Notes: Often seen in shallows by anglers trout-fishing. Seldom caught due to small size and small mouth; sometimes caught in nets. There is a small but very good finger-sized piece of meat in the lower body.

Leatherjacket

yellowtail, skipjack

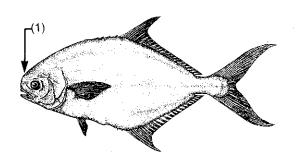
Description: Very thin body; resembles a small mackerel. Sides generally light-colored or white; tail bright yellow (1). Sharp dorsal and anal fins. Rear parts of dorsal and anal fins consist of a series of finlets (2) characteristic of mackerels and tunas. Finlets are modified, separate rays behind the main part of



dorsal and anal fins; they serve to control turbulence when swimming. Generally under 1 lb.

Biology/Habitat: Common both around inshore seagrass beds and in the Gulf around bars and reefs. Very aggressive feeder which preys upon small fish and shrimp. Related to the jack family.

Fishing Notes: Due to aggressive nature, is often caught on baits and lures intended for much larger fish. Occasionally used for bait for larger fish; most are released. Handle with extreme caution: fins carry a poison, making punctures very painful. Aching and throbbing from such a wound can persist for hours. Edibility not known.



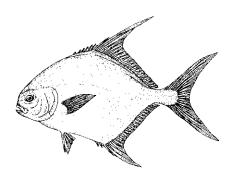
Pompano

Description: Short, blunt snout (1). Small mouth with soft, rubbery lips. Silvery white body color. Commonly 1-2 lbs; can reach about 8 lbs. Extremely difficult to distinguish from young permit. Sometimes confused with jack crevalle.

Biology/Habitat: Pompano feeds at the bottom, commonly along Gulf beaches and around passes. For-

ages for coquina clams and sand fleas in the surf zone. Sometimes found far up in bays, and occasionally several miles out into the Gulf. Grows rapidly; attains maturity in 1-2 years. Lives 3-4 years.

Fishing Notes: Spring and autumn runs are common along southwest coast beaches. Best baits include sand fleas, fiddler crabs, shrimp or small jigs worked with a slow retrieve on the bottom. A regulated species. Highly sought as a food fish.



Permit

Description: Disk-shaped, silvery-colored fish, sometimes with yellow highlights on belly and lower fins. Small mouth with rubbery lips and tiny teeth. Nearly identical in appearance to pompano when small; grows much larger than pompano and has a deeper, more disk-shaped body. Usually under 15 lbs, can exceed 40 lbs.

Biology/Habitat Small individuals

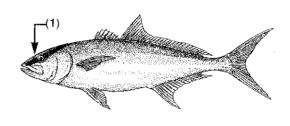
under about 3 pounds often school with pompano along Gulf beaches and in inland waters around reefs and piers. Larger individuals gather in schools around Gulf wrecks and reefs out to about 100 feet of water. Primarily eats crabs, shrimp and other crustaceans.

Fishing Notes: Fish on bottom along the beach or around passes for smaller permit. Best baits are crabs and shrimp. Gulf wreck fishing is best done by suspending crabs just under the surface, even in 100 feet of water. A regulated species. Edibility is very good: much like pompano.

Greater Amberjack

amberjack, jack, A.J.

Description: Head bluntly pointed; heavy jaws. Dark amber colored bar extends through eye to beginning of dorsal fin (1). Olive green on back, tan to white on sides and belly. Often with broad, diffuse yellowish stripe along midside. Commonly to 50 lbs, can reach 150 lbs.



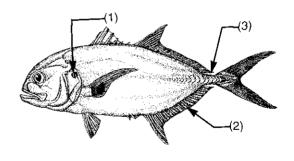
Biology/Habitat: Inhabits the open Gulf, usually in 40 feet or more of water depth. Almost always found around structure with high vertical relief. Schools throughout the entire water column. Larger fish become more solitary. Feeds primarily on a wide variety of fish; also eats crabs and squid.

Fishing Notes: Most are caught around wrecks in the Gulf. Fish at various depths to locate. Just about any small live fish makes a good bait. Occasionally will hit dead baits and lures. Famous for its tenacious fighting ability. Good eating; best if bled immediately. A regulated species. Large fish often harbor harmless worms in flesh; these can be easily seen and cut out.

Jack Crevalle

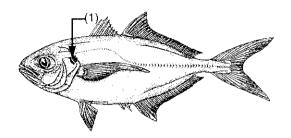
yellow jack, jack

Description: High blunt head. Powerful jaws with pronounced teeth. Prominent black opercular spot (1). Olive colored above; can have yellowish lower body and anal fin (2). Pronounced hard ridge along center of body near tail (3). Commonly weighs 2-5 lbs., but larger fish can reach around 15 lbs inshore, as much as 50 lbs offshore.



Biology/Habitat: Free roaming fish that can appear along Gulf coast at anytime, often in large schools of similar sized fish (large fish tend to become increasingly solitary). A common feeding tactic is to corner bait fish against a seawall or other structure. Tolerates a wide range of salinities and may venture into fresh water. Thought to spawn offshore.

Fishing Notes: Schools of jack crevalle are indicated by jumping fish and "boiling" water when they go into a feeding frenzy. Bait: live fish and shrimp. Rapidly retrieved spoons and lures work well. Powerful fighter. Although its dark flesh is not appreciated by every angler, it is easily filleted and especially good smoked.



Blue Runner

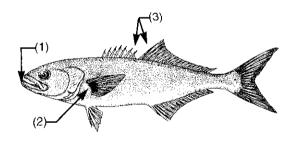
hardtail

Description: Bluish-green to olive green on back, silver to brassy below. Distinctive black opercular spot (1). Pronounced hard ridge along centerline of body near tail. Usually under two lbs, can reach 4-6 lbs.

Biology/Habitat: Common in

nearshore Gulf waters out to about 10 miles, often along bars and around passes. Occasionally found in bay waters around artificial reefs and piers. Often found in large schools of similar-sized fish.

Fishing Notes: Frequently caught by anglers fishing for spanish mackerel with which blue runner school. Aggressive feeder. Hits live baits and lures. Used as live bait for sharks and barracuda. Edibility fair; dark rich meat has strong flavor.



Bluefish

blue, snapper (small fish), chopper (large fish)

Description: Large mouth with powerful jaws and large sharp teeth (1). Greenish to bluish along back, silver on sides and belly. Usually has a blackish blotch at base of pectoral fin (2). First dorsal fin separated from second dorsal fin (3). Medium-sized fish: most under

5 lbs. Commonly reaches 10 lbs; can exceed 20 lbs.

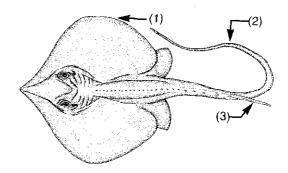
Biology/Habitat: Bluefish school by size and make seasonal migrations. All sizes are more common along Gulf beaches and passes. Larger fish feed in more open waters, smaller fish enter bays and rivers. Voracious predator that feeds on small fish. Can attain 7 lbs in 5 years, and 15 lbs in 10 years.

Fishing N: tes: Readily takes most live and artificial baits; will take cut natural bait also. Sometimes taken in large numbers when schooling. Some anglers use wire leaders to avoid cut-offs from sharp teeth. Be wary of teeth when handling. A regulated species. Edibility of smaller fish is good, but larger specimens are considered by many to be too oily.

Southern Stingray

Description: Mouth located on underside. Very broad, wing-like pectoral fins (1). Slender tail longer than body (2). Venomous barbed spine at base of tail (3). Generally tan to brown in color, but undersides are always white. Usually under 5 lbs but can exceed 100 lbs.

Biology/Habitat: Inhabits coastal waters. Most common along Gulf

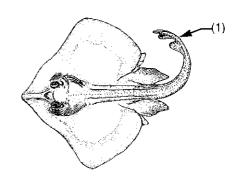


beaches during warmer months. Bottom feeder which preys on worms, clams, shrimp, crabs and small fish. Powerful grinding teeth for crushing shells. Locates prey by digging with its pectoral fins. Shallow, bowl-shaped depressions in bottom surface often result from such feeding activity. A few fully-formed young are born live each year. Hides by partially burying itself in the bottom.

Fishing Notes: Use dead or live bait fished on the bottom. Cleaning meat from pectoral fins can be a chore; fins must be skinned and meat separated from cartilage. Handle with extreme caution to avoid painful puncture wound from spine; waders should shuffle feet along bottom (injuries result from stepping directly on the stingray). Soak injury in hot water. Seldom eaten, but is edible.

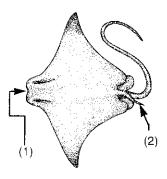
Skate

Description: Tan colored with white underside. Mouth located about under the eyes. Similar in appearance to southern stingray, but with a tail only as long as the body and meaty all the way to its end with fleshy lobes (1). Unlike the stingray, does not have a poisonous barb near the base of the tail. Smaller relative of the ray; usually under 3 lbs, but can reach 20.



Biology/Habitat: Exclusively a bottom feeder. Generally found in 5-100 feet of water, both in bays and in the Gulf. Each developing egg encapsulated in a dark, leathery case (referred to as devil's or sailor's purse). Reaches sexual maturity at about 2 feet in length.

Fishing Notes: Use dead or live bait fished on bottom. Good eating, but like stingrays, are difficult to clean.



25 lbs, but can reach 60 lbs.

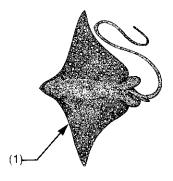
Cow Nosed Ray

bat ray, bat

Description: Similar to other rays and skates in appearance. Head is blunt, square-shaped, and similar in appearance to a cow's nose (1). Uniform dark brown on top and lighter on the bottom, sometimes with a yellowish tinge. Tail is usually not longer than the body, and has a basal spine (2). Commonly under

Biology/Habitat: Tolerates a wide range of salinities: can be found in bays, estuaries and Gulf waters. Often seen swimming near the surface in large schools. When wing tips of this fish come out of the water as it swims, they can be mistaken for shark fins. Bottom feeder. Primarily eats crustaceans. Gestation period is 11-12 months. Young are born live.

Fishing Notes: Will take baits fished on the bottom. However, many caught on hook and line are actually snagged as they swim by and pick up the line with their wide wingspan. Requires careful handling due to barbed spine. Edibility is considered poor compared to other rays and skates.



Spotted Eagle Ray

Description: Easily distinguished from other rays by light spots on the dark back (1). Underside white. Can measure over 7 feet across and weigh up to 500 lbs. Black tail can be twice as long as body.

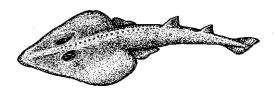
Biology/Habitat: Occurs in warmer waters throughout the world. Usually seen swimming singly cruising the flats in several feet of water, but can

be seen in pairs or in large schools. Like other large rays, can be seen executing spectacular leaps out of the water. On rare occasions, eagle rays have landed in boats on such leaps.

Fishing Notes: A protected species. Any spotted eagle ray caught must be returned unharmed to the water.

Guitarfish

Description: Resembles a long thin stingray with a shark-like tail: ray-like flat head; thick, tapered shark-like body. Mouth and gill slits on underside. Two well-developed dorsal fins. Brownish above, with numerous small light spots. Underside light or whitish. Rough shark-like skin. Related to rays and sharks. Commonly about 2 1/2 feet in length.



Biology/Habitat: A bottom feeder of inland waters, much like stingrays. Probes bottom for crustaceans. Young are born live.

Fishing Notes: An unusual catch: guitarfish are not abundant and it is possible to fish for years without catching one. Most are caught on shrimp fished on bottom.

Sawfish

Description: Unmistakable "saw" bill in front resembles a double-edged hedge trimmer! Mouth on underside below the eyes. A species of ray that is related to the sharks. Has rough scaleless skin like a shark. Large fish: lengths well over 10 feet have been reported.



Biology/Habitat: Generally a shallow water fish of inshore bars, man-

grove edges, and seagrass beds. Occasionally found along Gulf beaches. Bottom feeder that locates prey by stirring the bottom with its "saw." Also attacks schools of small fishes by slashing sideways with its "saw" and then eating the wounded fish.

Fishing Notes: Occasionally caught on the bottom on shrimp or cut bait; is somewhat sluggish. A protected species now rarely seen. If caught must be released unharmed.

Sharks

Almost all sharks caught by recreational anglers in Southwest Florida waters will be among the 12 species treated in this book. Species illustrations have been grouped for ease of comparison. Characteristics common to all sharks are described below; features particular to each of the 12 species are covered in the individual descriptions.

Description: A skeleton of cartilage distinguishes sharks and rays from bony fishes. Skin has a tough, sandpapery texture. Sensory abilities include smell, motion detection, sight and electrolocation (the ability to detect electrical currents generated by the nervous system of living organisms).

Biology/Habitat: Sharks are slow growing, long-lived fishes which produce small numbers of offspring. Young of most species are born live; others (such as nurse shark) hatch from a leathery egg case laid on the bottom.

Fishing Notes: Due to excellent sense of smell, can be attracted by chumming. Will scavenge dead baits but usually take live baits best. Like most predators, are attracted by weakened or struggling prey. Can be found from top to bottom of the water column, so fish at a variety of depths. Wire leader recommended to avoid cutoffs from sharp teeth. Rough skin can wear through monofilament line, so use a leader longer than the length of the shark being sought. All species are under management regulations. All sharks are edible, but must be bled and iced promptly after capture to maintain quality.

Silky Shark — A medium-sized shark. Second dorsal fin has long, trailing free tip. Skin smoother than most other sharks. Found in Gulf waters, usually well offshore. Feeds on fishes, crabs and squid. Can reach 10 ft.

Dusky Shark — Usually found in Gulf waters, sometimes in deeper Gulf passes. Most often caught in the cooler months. Young born live at a size of about 3 ft. Can reach 12 ft.

Brown Shark — Also called sandbar shark. Usually found just outside Gulf passes. Most frequently caught in cooler months. Migrates south in schools to wintering grounds from N.C. to Florida. Can reach 10 ft.

Tiger Shark — Young have *tiger" stripes which become less distinct on larger specimens. Usually found in Gulf waters. Live-born pups measure 18-19 inches at birth. One of the largest of the sharks: can reach up to 18 ft and over 1,000 lbs.

Hammerhead Shark — Easily recognized "hammer" shape of head. Sometimes confused with bonnethead shark. When small, found in bay waters, especially during spring months; larger hammerheads more common in the Gulf. Often basks nearly motionless at the surface on calm days. Known to form large schools. One of the most difficult sharks to get to bite a bait. Can reach 20 ft and 1,000 lbs.

Bonnethead Shark — A small shark with a spade-shaped head; often mistaken for a juvenile hammerhead. Sometimes called shovelnose shark. Common in both bay and Gulf waters year round. Feeds on crustaceans including shrimp and crabs. Can reach 5 ft.

Blacktip Shark — Distinguishing black tip on dorsal and pectoral fins; often confused with spinner shark which has similar black tip on anal fin. Probably the most commonly caught shark in bays and rivers during summer months. Popular sport fish; will jump when hooked. Medium-sized shark to about 8 ft in length.

Spinner Shark — A slender shark. Longer, more pointed snout; smaller eyes; and black on anal fin distinguish it from the blacktip shark. More commonly found in offshore waters. Known for making impressive spinning leaps. Can reach 8 ft.

Blacknose Shark — Distinctive black moustache on tip of snout. Often mistaken for lemon shark due to its yellowish color. One of the most common small Gulf sharks. Sometimes found in bay waters near Gulf passes. Can reach 5 ft.

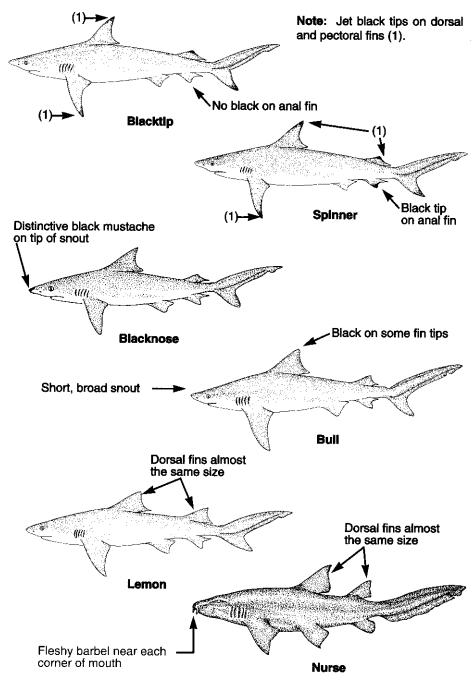
Bull Shark — Stout-bodied with short, broad, rounded snout. Young common inshore; larger fish more common in Gulf. Tolerates a wide range of salinity and can be found up rivers into nearly fresh water. Will follow spring tarpon runs into Gulf passes. Can reach 11 ft.

Lemon Shark — Yellow-gray shark with 2 dorsal fins of about equal size positioned relatively far back on body. Found in both bay and Gulf waters. Often caught near ledges or wrecks.

Nurse Shark — Rusty-brown or yellow-brown. Fleshy barbel at the front edge of each nostrit. Small mouth. Dorsal fins nearly equal in size. Common in both bay and Gulf waters. One of a few sharks that regularly lies motionless on the bottom. Will hide under rock ledges and wrecks. Sluggish fighter when hooked. Can reach 14 ft.

Sharks Note: Silky, Dusky, Brown and Tiger Sharks have a thin, distinctive ridge of raised skin between the two dorsal fins (1). Smooth feeling skin Sliky Dusky Dorsal fin starts about middle of pectoral fin Diagonal "tiger stripes" Brown Broad, blunt snout Tiger Blunt hammershaped head, eyes on outside Rounded, spade-shaped head, eyes on outside Hammerhead **Bonnethead**

Sharks



Schooling Baitfishes

Several species of small, densely-schooling fish are commonly referred to as "baitfish." Because of similarities in their behavior, habitat and methods of capture, they are treated here as a group. They are not all closely related, however.

Biology/Habitat: Found in both bay and Gulf waters over seagrass beds and around pilings and piers. Sardines, menhaden and herring have gillrakers which allow them to filter plankton from the water. Baitfishes represent a critical link in the marine food chain between microscopic organisms and predators.

Fishing Notes: Some can be caught on very small hooks, but all are more commonly taken with cast nets for use as live bait.

Scaled Sardine (shiner, razor belly, white bait, greenback, pilchard) -- Tan to greenish back, silvery-white sides. Single dorsal fin located at mid-body. Deeply forked tail fin. Deep belly compared to Spanish sardine. Popular bait. Can be chummed into cast net range. Maximum size 8 inches.

Spanish Sardine -- Back bluish gray, sometimes greenish. Sides silvery to brassy. Slender body; depth equal to head length. Single dorsal fin located at mid-body. Deeply forked tail. Maximum size 10 inches.

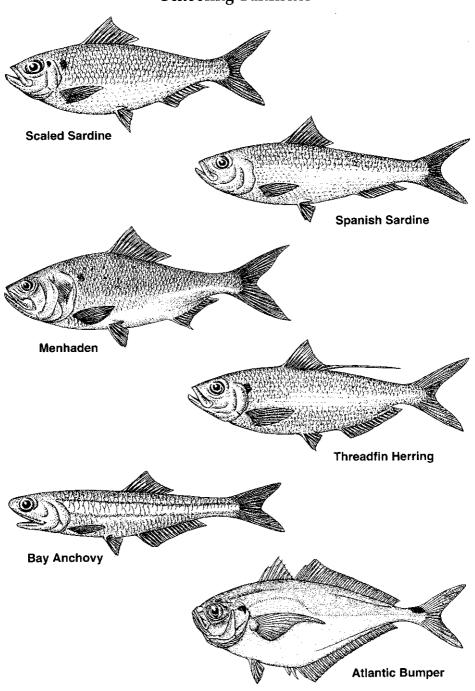
Menhaden (shad, pogy, mossbunker, bunker) -- Greenish to bluish back with silvery sides. Single dark shoulder spot. Considered good bait alive or dead. During colonial times was called candle fish: dried fish are so oily they can be ignited at one end and will burn like a candle. Mostly under six inches but can reach nearly 2 lbs.

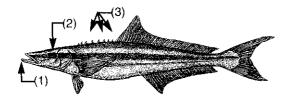
Threadfin Herring (thread herring, threadfin, greenback, shiner, white bait) -- Bluish or greenish back, silvery sides. Dark spot behind gill cover. Black dots along top of back toward tail. A distinctive "thread" trails along the back from the rear of the dorsal fin. Can reach 10 inches.

Bay Anchovy -- Short, rounded fish with underslung mouth. Relatively large eyes. Narrow silvery stripe along sides. Dorsal fin far back on body. Can reach 4 inches.

Atlantic Bumper (hatchet shiner) -- Small disc-shaped fish with pearly-white sides and golden fins. Conspicuous black saddle at base of tail. Not exclusively a plankton feeder; will eat small live fish. Can reach 6 inches.

Schooling Baitfishes





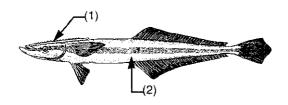
Cobia

ling, lemonfish, crab eater, bonito

Description: Wide head with protruding lower jaw (1). Dark horizontal band, wider than eye, extends from snout to base of tail fin (2). Spines in front part of dorsal fin are all separated (3). Brownish color. Large fish; commonly 10-40 lbs, but can weigh over 100 lbs.

Biology/Habitat: Found in bay and open Gulf waters. More common in bay waters during warmer months. Often found near channel markers, buoys and other structures. Will also cruise in 2-3 feet of water, following large rays, manatees or turtles. Out in Gulf, usually found near the surface around wrecks, reefs, and buoys. Eats fish but bulk of diet is shrimp and crabs. Sexually mature at 2-3 years (2-3 feet in length). Lives 10-15 years.

Fishing Notes: Will take almost any live, dead or artificial bait, but live fish like pinfish and squirrel fish are probably best. A regulated species. Excellent eating when small; large specimens can have tough meat.



Remora

sharksucker

Description: Most distinctive feature is suction disk on top of head (1). A long slender fish with horizontal brown and tan stripes (2). Due to body shape and horizontal stripes, this fish can be confused with juvenile cobia. Commonly about 1 lb, but can reach several lbs. Known to reach 3 1/2 ft in

length.

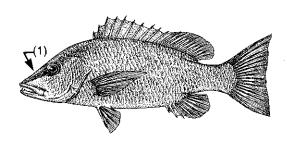
Biology/Habitat: Found in bays and Gulf waters. Uses suction disk to attach itself to larger animals--particularly sharks, but also sea turtles, any larger fish, and even divers. Does not harm the animal it attaches to; is simply catching a free ride to feed on "table scraps" when the larger animal is eating. Can be seen free swimming.

Fishing Notes: Opportunistic feeders that will take just about any bait. Although seldom eaten, they are good table fare if you catch one large enough to be worth cleaning.

Gray (Mangrove) Snapper

black snapper, mango

Description: Oblique stripe through eye is usually apparent (1). Back and upper scales typically dark gray to gray-green. Lower sides and belly typically grayish with a reddish tinge. Body coloration and shading vary greatly from almost black to almost white on the sides.



The most common inshore snapper. Sometimes confused with white grunt or red snapper. Commonly weighs 1 lb or less, but can be 16 lbs in offshore waters.

Biology/Habitat: Juveniles usually found inshore near rock outcroppings, pilings, docks, mangroves or anywhere they can find structure. Larger fish occur near reefs and structures in offshore waters up to 300 ft deep. Attains sexual maturity at about 9 inches (approximately 3 years old).

Fishing Notes: Extremely wary fish: small hook and light leader may be required to produce strikes. Live baits are best. Unhook carefully: will snap at fingers moving near its face, and teeth are needle sharp. A regulated species. Edibility is excellent.

Mutton Snapper

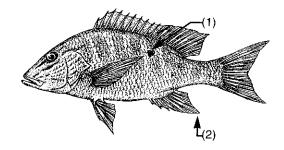
muttonfish, mutton

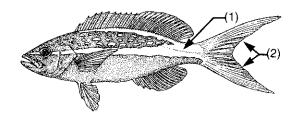
Description: Pale greenish to pinkish in color. Horizontal blue stripes on side of head below eye. Small but distinctive dark spot on mid upper-back (1). Anal fin distinctly pointed (2). Usually under 10 lbs, can reach 25 lbs.

Biology/Habitat: Bottom fish found on Gulf reefs and wrecks. Rarely

occurs inshore along southwest Florida coast. More common farther south. Spawning occurs in July and August.

Fishing Notes: Will take live or dead baits, including shrimp, squid and just about any small fish. A regulated species. A prized catch: edibility excellent.





Yellowtail Snapper

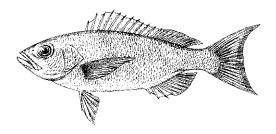
yellowtail, flag (large specimens)

Description: Trademark yellow stripe extends from snout to tailfin (1). Light blue to tan on back, white on belly. Yellow spots above, narrow yellow horizontal stripes below. Deeply forked bright yellow tail (2). Usually under 2 lbs, uncommon above 5 lbs.

Biology/Habitat: Found near Gulf

reefs and wrecks, usually at depths of 50 feet or more. Primarily a tropical species, more common farther south. Often found in schools of similar sized fish. Inhabits mid-water; unlike most other snappers, is not primarily a bottom feeder.

Fishing Notes: Chum continuously to bring fish up where it can be caught just under the surface. Will also take baits fished on or near bottom. A wary fish: light tackle and small hook may be required to produce strikes. A regulated species. Regarded as a delicacy.



Vermillion Snapper

beeliner, redeve

Description: Streamlined body. Large red eye. Almost uniformly pink in color: darker on back, lighter toward belly. Usually around 1 lb, can exceed 6 lbs.

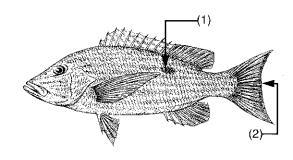
Biology/Habitat: Deep water Gulf fish associated with hard bottom and reefs in greater than 70 ft of water.

Occurs and feeds in the water column up off the bottom. Active at night, but also feeds during the day. Spawns from April through September.

Fishing Notes: Best caught on small hooks baited with shrimp, squid or cut bait fished near bottom. A regulated species. Edibility very good.

Lane Snapper

Description: Brightly colored; orange and yellow horizontal stripes. Large black spot on mid-back above lateral line (1). Rear edge of tail fin black (2). Specimens to several inches in length often confused with pinfish and other baitfish. One of the smallest snappers at maturity: commonly to 1 lb, can reach 5 lbs.



Biology/Habitat: Adults are primar-

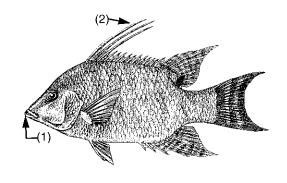
ily bottom fish found around Gulf reefs and wrecks. Juveniles (less than about 6 inches) are widely distributed in bays and inland waters. Feeds on a variety of marine animals.

Fishing Notes: Among the easiest snappers to catch; will hit a variety of cut baits fished near bottom. A regulated species. Edibility excellent.

Hogfish

hog snapper

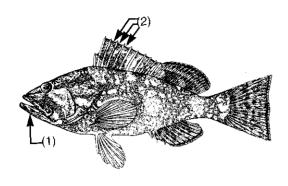
Description: Deep-bodied fish. Color highly variable, but usually reddish-orange. Large canine teeth project outward (1). First 3 spines of dorsal fin elongated to form distinctive "rooster comb" (2). Juveniles usually lighter with pink, gray and white mottling along sides. Large males develop long, piglike



snout and pronounced forehead with dark "mask." An unusually large member of the wrasse family. Generally under 3 lbs, can reach 25 lbs.

Biology/Habitat: Gulf bottom fish associated with reefs and wrecks. More common farther south. Changes sex with age: begins reproductive life as female; later changes to male. Feeds on a wide variety of slow-moving animals such as mollusks, crabs and sea urchins.

Fishing Notes: Caught on shrimp and other crustaceans fished on bottom. Check regulations. Firm white meat; edibility excellent.



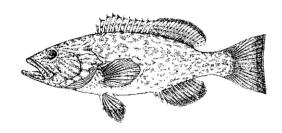
Red Grouper

Description: Like all groupers has protruding lower jaw (1). A stocky "broad-shouldered" fish with mottled pink-orangish blotches and orange mouth lining. Front portion of dorsal fin's top edge is smooth (2) as opposed to jagged. Usually under 10 lbs, but can reach 50 lbs.

Biology/Habitat: Found in reef and hard bottom areas of the Gulf.

Occasionally found in passes and around bridge pilings. Estuarine habitat is thought to be vitally important for several grouper species; younger juveniles are known to occur in sea grass beds. Favorite prey include shrimp, crabs, fish, octopus and squid, which are ambushed from a hiding place and swallowed whole. Like other groupers, changes sex during its life. Female red grouper begin changing to males at 18 to 26 inches in length (4-10 years old).

Fishing Notes: Caught on just about any kind of bait fished on the bottom. Sometimes will hit a lure fished near its hiding place. Larger fish require heavy tackle; a hooked fish will immediately try to dive back into its lair. A regulated species. Edibility excellent; firm mild flesh.



Gag Grouper

black grouper, grass grouper

Description: Brownish to gray with varying darker patches that often look like lip-prints. Like most groupers, can change color pattern for camouflage. Coloration of landed fish can change quickly. Often confused with the relatively uncommon black grouper which has small yellow or gold spots on its lower sides.

Commonly under 10 lbs, but can reach up to 70 lbs.

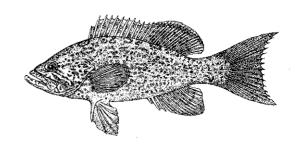
Biology/Habitat: Adults dependent on reef or hard bottom habitat in Gulf waters out to depths of 250 ft; occasionally inhabit inshore reefs. Adults migrate from deeper water in summer to shallow, near-coastal waters in winter. Spawns in Gulf during winter (Jan.-Mar.). Small juveniles common in shallow water seagrass beds (hence nickname *grass grouper*). Reaches sexual maturity at age 5-6 years and size 27-30 inches. Like other groupers, changes sex (female to male) as it grows, with transition usually occurring at age 10-11 years. Preys primarily on fishes and crabs.

Fishing Notes: Prefers live natural baits, but can be taken on dead baits and artificial lures. Will swim away from structure to take bait—even to the surface, but heads for cover when hooked. A regulated species. Edibility excellent.

Scamp

broomtail grouper (large specimens)

Description: Similar to and often confused with the much more common gag grouper. Main difference is in color pattern. Scamp has numerous small dark freckles while gag has larger markings. Large specimens develop extended, ragged-looking rays on the tail fin,



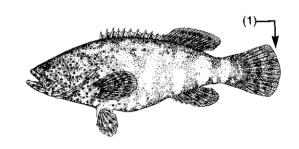
hence the nickname broomtail grouper. Commonly 5-10 lbs, can exceed 20 lbs.

Biology/Habitat: A bottom fish of the open Gulf, more common in water depths over 100 ft. Small specimens occasionally caught in water as shallow as 40-50 ft. Occurs around reefs and wrecks with prominent vertical relief. Spawns in April and May. Known to live as long as 20 years.

Fishing Notes: Caught by fishing on bottom in relatively deep water. Will take live and dead baits. A regulated species. Considered by many to be the most desirable of the groupers to eat.

Jewfish

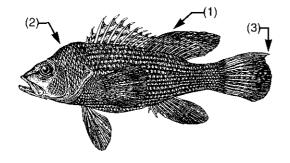
Description: Yellow-green blotches or bands with dark freckles (blackish brown spots) distinguish smaller individuals of this species from other groupers. Streamlined silhouette becomes football-shaped as fish ages. Older fish have pale brown blotches or bands. Head and fins are covered with distinct freckles. Less distinct freckles cover the



body. A rounded tail (1) distinguishes the jewfish from other grouper species. Largest of the groupers. Weighs up to 700 lbs; weights over 100 lbs common.

Biology/Habitat: Like other groupers, inhabits reef or hard bottom with crevices and holes to hide in. Its large size limits the number of such spots to wrecks and large ledges in the Gulf. Not a deep water species; seldom found in water deeper than 100-150 feet. Near shore, can be found around artificial reefs, bridge pilings, fishing piers and deep channels. Eats fish and crustaceans. Long lived; largest specimens are thought to be 30-50 years old.

Fishing Notes: Caught on live or dead baits fished on or near the bottom. Sluggish feeder compared to other groupers. Seldom hooked on artificial lures. Will not travel far from cover to take bait. Will try to dive into its lair when hooked. A protected species; all harvest prohibited.



Black Sea Bass

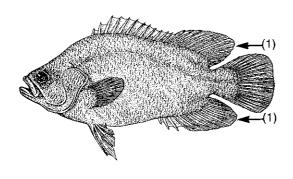
sea bass, black will

Description: Dark colored fish-black to dusky brown, belly only slightly lighter than sides. Dorsal fin marked with white spots and bands (1). Viewed from the side, appears to be mottled with pale dots. Larger fish have a pronounced hump above the head (2) and develop filaments trailing from the tail fin (3). Com-

monly 1 lb or less, maximum in Gulf 3-4 lbs.

Biology/Habitat: Dependent upon rocks or reefs in bay and Gulf waters for holes or crevices in which to hide. A close relative of the groupers and shares much of the same habitat. Thought to be a long lived, slow growing fish reaching 5 inches its first year and 12 inches by age 5. Changes sex as it grows: reaches reproductive stage as a female; eventually develops into a male.

Fishing Notes: Larger fish usually caught in Gulf waters. Inshore, artificial reefs also produce black sea bass. Aggressive feeder that will take live or dead bait and strike lures. A regulated species. Edibility excellent; very mild, white, firm meat.



Tripletail

buoy fish

Description: Appears to have three tails because the rounded dorsal and anal fins extend far back on the body (1). Color varies from quite dark to mottled yellowish-brown, depending upon surroundings. Most commonly 1-10 lbs but can exceed 30 lbs.

Biology/Habitat: Drawn to cover

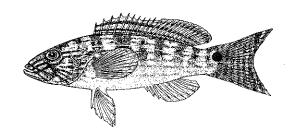
such as floating debris, navigation buoys, crab trap floats, channel markers, and even pier and bridge pilings. Tends to get right next to cover, nosing against floats (hence the name buoy fish) and pilings as it waits in ambush. Often floats near the surface on its side, and can easily be mistaken for a clump of algae or a floating leaf. Can attain age of 7-10 years; thought to reach sexual maturity by the end of the first year.

Fishing Notes: Generally caught in bays and rivers in summer months and near-shore Gulf waters in winter months. Most are caught on live shrimp or small live fish worked close to buoys and channel markers. Slow moving lures also work. Excellent eating fish; don't be discouraged by the tough skin and heavy scales.

Sand Perch

squirrelfish

Description: Small fish with distinctive coloration. Tan background with vertical brown bars on sides and bright blue horizontal lines on snout, cheeks, and sides. Dorsal fin has orange horizontal stripes. Nickname squirrelfish causes confusion; true squirrel fishes are small, predominantly red, nocturnal species



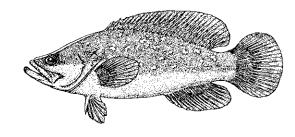
inhabiting tropical reefs (seldom found in our area). Usually less than 1 lb.

Biology/Habitat: Bottom fish usually found near rocks, reefs, and jetties, but also on sand bottom. Found in Gulf waters more often than in bays. Relative of the seabasses and groupers. An individual can function as either male or female—both sperm and eggs can be produced simultaneously in a mature fish. Grows slowly: attains size of only 10-11 inches after 6 years.

Fishing Notes: Aggressive feeder which will hit bottom-fished lures or natural baits. Often used as bait for other larger fish. Handle with care due to sharp jagged edge on gill covers. Edibility is good; because of small size, is not often considered a food fish.

Soapfish

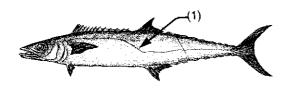
Description: Long, sloping nose. Brownish-green with lighter spots. Tail fin rounded. Very soft to the touch. Called soapfish because an angler can work up a lather by rubbing hands together after handling soapfish body slime. Generally under 10 inches in length.



Biology/Habitat: Gulf reef fish

most common in 30 to 100 feet of water. Body mucous contains substance toxic to other fishes.

Fishing Notes: Usually caught by anglers targeting snapper or sheepshead. Other fish are repelled by soapfish body slime: rinse hands thoroughly after handling or soapfish might be the last catch of the day. Not considered a food fish.



King Mackerel

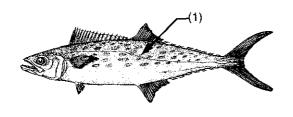
kingfish, king

Description: Large, torpedoshaped body. Pointed jaw with closely-set razor-sharp teeth. Gray back; light silver sides and belly. Gold spots on lower sides of small king mackerel cause misidentification as Spanish mackerel; spots fade as fish grows. Can be distinguished from Spanish mackerel by a

lateral line which drops abruptly (1). Commonly to 10 lbs, often to 40 lbs, can exceed 100 lbs.

Biology/Habitat: Migratory, schooling fish of the open Gulf, usually in 20-60 ft of water; seldom found in bay waters. Small king mackerel often school with similar-sized Spanish mackerel. Very large individuals are usually solitary. Migrates northward along southwest Florida coast in spring; southward in fall. Grows to 18-24 inches in first year! Preys primarily on schooling baitfish.

Fishing Notes: Schools often indicated by baitfish near bottom, or by diving sea birds. Fish at various depths to find school. Most often taken by trolling. Will strike a variety of spoons, jigs and plugs as well as live bait. Wire or heavy monofilament leader recommended. A regulated species. Dies quickly: follow guidelines for releasing. Edibility good.



Spanish Mackerel

Description: Long thin fish with razor-sharp teeth. Upper body bluegrey, sides and belly silver-white. Gold spots on upper body and sides, but not on belly. A smaller relative of king mackerel; can be distinguished from small king mackerel by difference in lateral line (1). Usually under 3 lbs; can reach 14 lbs.

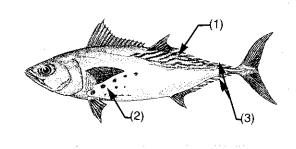
Biology/Habitat: Migratory fish of open Gulf and bay waters often found in large schools that may travel many miles in a day. Schools may number thousands of fish. Generally, schools migrate northward along the coast of southwest Florida in spring, then return southward in fall. Small numbers are present year-round. Feeds on small schooling baitfish. Often found near rocky areas and artificial reefs which attract baitfish. Fast growing fish that can reach 12-15 inches in its first year. Can live to a maximum age of 5-8 years.

Fishing Notes: Schools feed aggressively at varying depths. Often located by flocks of sea birds feeding at the surface. Readily takes live baits, but most are caught by trolling or casting spoons or other lures. Teeth are sharp: use wire or heavy monofilament leaders. A regulated species. A desirable food fish, but spoils quickly if not iced down immediately.

Little Tunny

bonito, false albacore

Description: Streamlined, football-shaped body. Blue to greenish back with silver belly. Intricate pattern of wavy lines along mid to upper back (1). Several dark spots below short pectoral fins (2). Small finlets behind dorsal and anal fins (3). Slot in top of back allows dorsal fin to recess and streamline for speed. Generally 5 to 10 lbs, can exceed 25 lbs.



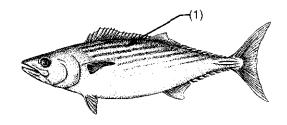
Biology/Habitat: Usually found from surface to bottom in open water deeper than 20 ft. One of the most abundant tunas; sometimes found in massive schools. Fast growing, short-lived migratory schooling fish (moves northward in spring, southward in fall). Feeds primarily on small fish, crustaceans, and squid.

Fishing Notes: Diving birds may indicate presence of a feeding school. Powerful fighter. Often taken by trolling or casting spoons or jigs. Also taken by floating baits near surface. When one is caught, others are usually nearby. Dark red meat edible when immediately bled and iced.

Atlantic Bonito

Description: Blue to gray back, silver sides and belly. Distinct pattern of oblique dark stripes on upper back (1). Sometimes confused with little tunny. Generally under 2 lbs, but can reach over 20 lbs.

Biology/Habitat: A migratory fish of the open Gulf often found with bluefish, little tunny, Spanish mackerel and king mackerel in schools of

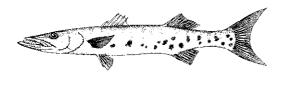


similar-sized fish. Much more common on the east coast. Grows rapidly, reaching more than 1 ft in length the first year. Spawns May - July. Primarily eats fish but also preys upon squid and shrimp.

Fishing Notes: Best caught by trolling small jigs or spoons around the edge of schools visible at the surface. Meat is dark and oily. Edibility good if bled and iced immediately.

Barracuda

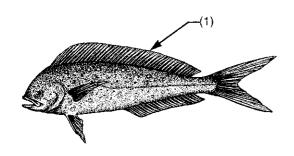




Description: Cigar-shaped body. Long jaws with rows of closely set, razor-sharp teeth. Dorsal fins far apart. White belly shades toward dark gray or black along the back. Random pattern of black spots on rear half of body is different for each fish. Usually under 15 lbs; often to 30 lbs, can exceed 60 lbs.

Biology/Habitat: Adults almost always found in the Gulf, usually around high profile wrecks and reefs. Young barracuda sometimes found inshore near Gulf passes. At one year of age, is slightly under 1 ft in length; attains 30 inches after 5 years. Can live as long as 14 years. Aggressive predator; feeds on other fish.

Fishing Notes: A live bait in distress will often provoke a barracuda hit, as will artificial lures moving very quickly at or near the surface. A wire leader is necessary to prevent cut-off. Use extreme caution when unhooking since sharp teeth can quickly sever a finger. Smaller barracuda considered edible. Larger fish from tropical reef areas can carry ciguatoxic poison harmful to humans; consumption of larger barracuda from these areas should be avoided.



Dolphin

mahi-mahi, dorado, bull dolphin (large males), cow dolphin (large females), chicken dolphin (schooling)

Description: Beautifully irridescent blue, green and yellow sides; colors fade rapidly after death. Large males develop high, blunt forehead. Females have smaller head that is more rounded in front. Long, contin-

uous dorsal fin (1). Commonly under 10 lbs, can reach 85 lbs.

Biology/Habitat: Usually found at least 15 miles offshore in schools of similar sized fish. Larger adults often found alone or in pairs. Feeds on marine life associated with floating mats of seaweeds; also pursues other fishes. Fast-growing, short-lived fish; may not live much longer than 5 years.

Fishing Notes: Often congregates around "weed lines" and mats of debris. Caught at or near the surface by trolling lures; will also strike baits. Sometimes a school will follow a hooked fish to the boat. Many anglers leave a hooked fish in the water to keep the others nearby. A regulated species. Edibility excellent.

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PREVENTING FISHING INJURIES

Fishing is far from being a dangerous sport, but accidents can happen. Fishermen can encounter a number of fishes and other marine animals that can cause painful injuries. Often, simple first aid will be sufficient, but more serious injuries may require professional medical attention.

Hooks and Barbs: A common angling injury results from getting snagged on a hook. In some cases, the hook can easily be backed out of the skin and first aid can consist of nothing more than applying an antiseptic. However, for a deeply imbedded hook, medical assistance for removal as well as treatment is commonly required.

Fins and Gill Covers: Several species of fish described in this book have sharply pointed fins. These fins, some of which contain venom, can cause painful injuries. Gill covers, also, are sometimes sharp and can cause cuts if the angler is careless. Handle fish with a wet glove or towel. Puncture wounds and cuts should be cleaned and medicated.

Teeth: Sharks, barracuda, and other predatory fish can cause serious injuries with their razor-sharp teeth. In addition, many types of harmless-looking fish can also inflict a painful bite.

Jellyfish: Stinging jellyfish are often encountered while wade-fishing. If stung, flush and then soak the injury, using hot water if possible, until the pain subsides.

Stingrays: The bony spine at the base of a stingray's tail can deliver a slashing wound or puncture that is made worse by the injection of venom. If wounded by a stingray, seek medical help immediately! The pain can be reduced by soaking in hot water or by applying a heat pack (sold in camping equipment stores) directly to the wound. Medical treatment can include an x-ray to see if pieces of the spine are still imbedded, a tetanus vaccine, and antibiotics.

WARNING: Sunshine can be hazardous to your health!

Skin cancer and cataract cases are increasing rapidly in Florida, and damage to the skin and eyes from solar radiation is the prime cause. To minimize the effects of sun exposure while fishing:

- Keep as much of the body covered as possible and always wear a hat.
- Wear sunscreen. Use an adequate protection strength.
- · Avoid fishing during the middle of the day when possible.
- Wear sunglasses. Polarized sunglasses are recommended. Sunglasses not only help protect the eyes, they also reduce glare and make it easier to see submerged objects — especially bay bottom and fish.

RELEASING HOOKED AND ENTANGLED SEABIRDS

Most anglers would be surprised to learn that a major cause of death for Florida seabirds is entanglement in monofilament fishing line. Birds entangled in fishing line are often condemned to death by slow starvation when the line gets snagged in the mangroves. In addition, fish hooks cause painful injuries that result in infection and death. Many of these deaths and injuries could be prevented if anglers would be a little more careful. For instance:

- ALWAYS dispose of fishing line properly. Discarding line over the side of a boat or pier, or even
 just leaving it on the dock, creates a deadly snare for seabirds.
- Don't feed seabirds. Feeding birds, especially tossing fish remains to them, encourages birds to stay close to anglers and greatly increases the likelihood that the birds will get hooked or entangled.
- Avoid casting when seabirds are present. Some birds will actually try to snatch your bait in midair. If successful, they may be firmly hooked to your line.
- If you lose tackle and line in the mangroves from casts that go too far, RETRIEVE it. Many
 pelicans, cormorants and wading birds become fatally entangled in monofilament left where these
 birds routinely perch and roost.

If you hook or encounter a hooked or snared bird:

- 1. DON'T CUT THE LINE! If you simply cut the line, the bird will fly away with the line trailing behind. It won't take long for the bird to become fatally snared.
- Carefully capture the bird, preferably in a hand net or large hoop net. Do not lift or pull the bird by the hooked line. Get someone to help you. It is virtually impossible for one person to control a wild bird while removing a hook or fishing line.
- 3. USE CAUTION! Unless in a weakened condition, a snared bird will try to defend itself with its bill. It will instinctively aim for your eyes.
- 4. Grasp and maintain a grip on the bird's bill before removing it from the net.
- 5. Place a towel or other cloth over the bird's eyes to help calm it.
- Carefully remove all the line wrapped around the bird; even small pieces can cut off circulation and result in the loss of legs or wings. If no hooks are caught in the bird, carefully release it.
- 7. If a hook is embedded in the bird, gently push it through until the barb is exposed. Clip the barb off and back the hook out. (Cover the barb with a cloth before clipping it; the barb will fly off and could hit you in the eye.) Don't leave the barb in the bird!
- 8. If the bird doesn't seem especially strong and healthy, it should be taken to a veterinarian or other specialist for treatment. (See inside back cover for listing of telephone numbers for treatment facilities.)

TO LEARN MORE, VISIT . . .

Clearwater Marine Science Center

249 Windward Passage - Clearwater, FL

Phone: 813-447-0980

Open: M-F 9-5; Sat. 9-4; Sun. 11-4

Admission: \$3.50 Adults; \$2.00 ages 3-11; Tour Group Rate of \$1.25 per person for groups of 10 or more (must be pre-arranged) Major Attractions: Features "Sunset Sam," an injured dolphin. Visitors can see injured turtles being treated. Feedings occur every two hours. Exhibits describe local marine life.

The Pier Aquarium

800 2nd Avenue NE - St. Petersburg, FL

Phone: 813-895-7437

Open: Mon.-Sat., 10-8; Tues. 1-8; Sun. 12-6

Admission: Free

Major Attractions: Features several tanks ranging in size from 450-900 gallons housing marine gamefish from the Tampa Bay area, California sharks, and coral reef tropical fish.

South Florida Museum and Planetarium

201 10th Street West - Bradenton, FL

Phone: 813-746-4132

Open: Tues.-Sat. 10-5; Sun. 12-6; Closed M Admission: \$5 Adults; \$2.50 5-12; 1-5 free Major Attractions: Features "Snooty" the manatee. Exhibit called *Charting a Course Through History* has navigation charts for the Tampa Bay area from 1722 to 1910.

Mote Marine Laboratory

1600 Ken Thompson Parkway - Sarasota, FL

Phone: 813-388-2451 Open: Sun.-Sat. 10-5

Admission: \$6 Adults; \$4 students 4-17;

under 4 free

Major Attractions: Aquarium features a 135,000 gallon shark tank. A 1,000-gallon "touch tank" allows visitors to handle various marine animals from the local area.

Charlotte Harbor Environmental Center

10941 Burnt Store Road - Punta Gorda, FL

Phone: 813-575-4800

Open: School year, Mon.- Sat., 8-3. Summer

hours, Mon. - Fri., 8-12.

Admission: Donations accepted

Major Attractions: Saltwater aquarium features estuarine life. Three miles of nature trails through coastal marsh and forest habitats. Guided trail walk 3 times each week.

Ding Darling National Wildlife Refuge

1 Wildlife Drive - Sanibel, FL

Phone: 813-472-1100

Open: Wildlife drive open every day except Fri., sunrise to sundown. Visitor Center open 9-4, May-Oct., closed Fri. & Sun. Nov.-Apr.

Visitor Center open 9-5, closed Fri.

Admission: Wildlife drive \$4.00 per car; visi-

tor center free

Major Attractions: Premier location for viewing and photographing wading birds in their natural habitat. Visitor Center has orientation video and exhibits.

Sanibel-Captiva Conservation Foundation

3333 Sanibel-Captiva Road - Sanibel, FL

Phone: 813-472-2329

Open: 9-4 Dec.-May, Jan-Nov. 9-3
Admission: \$2 Adults: under 12 free

Major Attractions: Exhibits include a detailed explanation of barrier islands. Features marine "touch tank" and 4 miles of nature trails.

Ostego Bay Foundation

718 Fisherman's Wharf Fort Myers Beach, FL **Phone**: 813-765-8101

Open: Sat. 10-4; Sun. 1-4; Closed Aug.

Admission: Donations accepted

Major Attractions: Touch tank and exhibits explain local marine environment. Seagrass bed exhibit. Guided tours for groups by appt.

FOR ASSISTANCE, CONTACT . . .

Conservation Enforcement and Emergency Assistance

Sheriffs' Offices:

911 for Emergencies

Pinellas County - 813-587-6200

Hillsborough County - 813-745-3717

Sarasota County - 813-364-4400

Charlotte County - 813-743-1222

Lee County - 813-335-2477

Collier County - 813-774-8428

Florida Marine Patrol:

Tampa - 813-272-2516
Fort Myers - 813-332-6971
(to report fishing violations, harassment of manatees, and injured wildlife)
1-800-DIAL-FMP

Florida Game and Freshwater Fish Commission:

(to report harassment of wildlife, poaching or environmental crimes) - 1-800-342-8105

U.S. Coast Guard:

Cortez - 813-794-1261 Fort Myers Beach - 813-463-5754

Marine Resource Use Information

Florida Sea Grant Marine Extension Programs:

Pinellas County - 813-582-2100 Hillsborough, Manatee, Sarasota, and Collier Counties - 813-722-4524 Charlotte County - 813-639-6255

National Estuary Programs:

Tampa Bay National Estuary Program 813-893-2765 Sarasota Bay National Estuary Program 813-361-6133

National Estuarine Research Reserves:

Rookery Bay - 813-775-8845

Department of Environmental Protection:

Boca Ciega and Terra Ceia Aquatic Preserves - 813-744-6168 Southwest Florida Aquatic Preserves 813-283-2424 or 813-283-2929 Shellfish Assessment Office - 813-255-0083

West Coast Inland Navigation District:

Venice - 813-485-9402

Wildlife Rescue and Rehabilitation

Manatee and Turtle Hotline:

(To report injured, dead or tagged manatees and sea turtles, or harassment of these animals) - 1-800-342-1821

Licensed Wildlife Rehabilitators:

Pinellas County. Humane Society of No. Pinellas 813-797-7722 Suncoast Seabird Sanctuary - 813-391-6211 Hillsborough County: Karen Green Wildlife Rehab - 813-737-1436 Manatee County: Beach Vet Clinic - 813-792-2838 Wildlife Rescue - 813-753-9620 Wildlife Rescue & Rehab. - 813-778-2385 Sarasota County: Pelican Man's Bird Sanct. - 813-388-4444 TLC for Wildlife - 813-924-0273 Charlotte County: Amber Lake Wildlife Refuge - 813-475-4585 Peace River Wildlife Center - 813-637-3830 Lee County: Southwest Florida Native Wildlife Ark 813-543-4440 Collier County:

Conservancy Wildlife Clinic - 813-262-0304

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