Largemouth Bass (*Micropterus salmoides)*

OTHER NAMES - Black Bass, Green Trout, Bigmouth Bass, Lineside Bass

DESCRIPTION

Largemouth bass grow 4 to 6 inches (10 to 15 cm) during their first year, 8 to 12 inches (20 to 30 cm) in two years, 16 inches (40 cm) in three years. They are usually green with dark blotches that form a horizontal stripe along the middle of the fish on either side. The underside ranges in color from light green to almost white. They have a nearly divided dorsal fin with the anterior portion containing nine spines and the posterior portion containing 12 to 13 soft rays. Their upper jaw reaches far beyond the rear margin of the eye.

LIFE HISTORY

Except for humans, adult largemouth bass are the top predators in the aquatic ecosystem. Fry feed primarily on zooplankton and insect larvae. At about two inches in length they become active predators. Adults feed almost exclusively on other fish and large invertebrates such as crayfish. Larger fish prey upon smaller bass.

In Texas spawning begins in the spring when water temperatures reach about 60°F. This could occur as early as February or as late as May, depending one where one is in the state. Males build the nests in two to eight feet of water. Largemouth bass prefer to nest in quieter, more vegetated water than other black bass, but will use any substrate besides soft mud, including submerged logs. As in Guadalupe bass, once the female has laid eggs in the nest (2,000 to 43,000) she is chased away by the male who then guards the precious eggs. The young, called fry, hatch in five to ten days. Fry remain in a group or "school" near the nest and under the male's watch for several days after hatching. Their lifespan is on average 16 years.

Immature largemouth bass may tend to congregate in schools, but adults are usually solitary. Sometimes several bass will gather in a very small area, but they do not interact. Largemouth bass hide among plants, roots or limbs to strike their prey.

HABITAT

Largemouth bass seek protective cover such as logs, rock ledges, vegetation, and man-made structures. They prefer clear quiet water, but will survive quite well in a variety of Habitats.

DISTRIBUTION

Largemouth bass were originally distributed throughout most of what is now the United States east of the Rockies, including many rivers and lakes in Texas, with limited populations in southeastern Canada and northeastern Mexico. Because of its importance as a game fish, the species has been introduced into many other areas worldwide, including nearly all of Mexico and south into Central and South America.

OTHER

Two subspecies of largemouth bass exist in Texas: the native Micropterus salmoides salmoides and the Florida largemouth bass, Micropterus salmoides floridanus, which has been introduced into many Texas lakes. The largemouth bass is by far the most sought-after fish in Texas. When anglers were asked to "name the fish you prefer to catch in freshwater in Texas", they chose largemouth bass three to one over striped bass, four to one over white bass, nearly five to one over channel catfish, and nearly ten to one over flathead catfish and white crappie. Because of the strong interest in largemouth bass fishing, there are hundreds of bass angling clubs in Texas devoted to fishing and conservation. Bass fishing adds greatly to the Texas economy each year and largemouth bass are highly prized for their value as food. Because of the species' popularity, it has been introduced into many waters in which it did not originally occur. As with nearly all aquatic species, pollution and drought are the biggest threats to the largemouth bass population.

Smallmouth Bass (*Micropterus dolomieu*)

OTHER NAMES - Brown Bass, Brownie, Bronze Bass

DESCRIPTION

The smallmouth bass is generally green with dark vertical bands rather than a horizontal band along the side. There are 13-15 soft rays in the dorsal fin, and the upper jaw never extends beyond the eye. Known maximum size in Texas exceeds 7.5 pounds. Micropterus is Greek meaning "small fin" [see Guadalupe bass for further explanation]. The species epithet dolomieu refers to the French mineralogist M. Dolomieu

LIFE HISTORY

In small streams a fish's activity may be limited to just one stream pool or extend into several. Spawning occurs in the spring. When water temperatures approach 60°F males move into spawning areas. Nests are usually located near shore in lakes; downstream from boulders or some other obstruction that offers protection against strong current in streams. Mature females may contain 2000-15,000 golden yellow eggs. Males may spawn with several females on a single nest. On average each nest contains about 2,500 eggs, but nests may contain as many as 10,000 eggs. Eggs hatch in about 10 days if water temperatures are in the mid-50's (°F), but can hatch in 2-3 days if temperatures are in the mid-70's (°F). Males guard the nest from the time eggs are laid until fry begin to disperse, a period of up to a month. As in other black bass, fry begin to feed on zooplankton, switching to insect larvae and finally fish and crayfish as they grow.

HABITAT

Smallmouth bass prefer large clear-water lakes (greater than 100 acres, more than 30 feet deep) and cool streams with clear water and gravel substrate.

DISTRIBUTION

Smallmouth bass originally ranged north into Minnesota and southern Quebec, south to the Tennessee River in Alabama and west to eastern Oklahoma and southwestern Arkansas. Today there are few states, east or west of the Rocky Mountains, where populations have not become established. Florida and Louisiana are apparently free of smallmouth bass. In Texas the species has been stocked in numerous areas, particularly streams of the Edwards Plateau.

Spotted Bass (*Micropterus punctulatus)*

OTHER NAMES - Kentucky Spotted Bass, Spotted Black Bass

DESCRIPTION

Micropterus is Greek meaning "small fin" [see Guadalupe bass for further explanation]. The species epithet punctulatus, Latin for "dotted", refers to rows of dark spots on the lower sides. Coloration is similar to that of Guadalupe bass, but does not extend as low on the body.

LIFE HISTORY

Although a large proportion reach maturity within a year, spotted bass found in spawning areas are usually three to four years old. Rock and gravel are usually chosen as suitable spawning areas at water temperatures of 57-74°F. Nest depths may vary widely. Females may lay between 1,150 and 47,000 eggs. Males guard the eggs during incubation and for up to four weeks after they have hatched. As young fish grow their diet shifts from zooplankton to insects, and finally to fish and crayfish.

HABITAT

Spotted bass seem to be segregated by Habitat type from closely related species. They tend to be found in areas with more current than largemouth bass, and they usually inhabit areas that are too warm, turbid, and sluggish for smallmouth bass.

DISTRIBUTION

Spotted bass are distributed throughout the Ohio River basin as well as the central and lower Mississippi River basin. The species may be found in Gulf Coast states from Texas east to Florida. Spotted bass are native to portions of East Texas from the Guadalupe River to the Red River, exclusive of the Edwards Plateau region.

OTHER

Despite the fact that spotted bass are not nearly so large and numerous as largemouth bass (in Texas their maximum size is less than one-third that of largemouth bass), they are excellent fighters. Spotted bass are very popular in east Texas, particularly in the Sabine, Neches, and Cypress Rivers. Known maximum size in Texas exceeds 5.5 pounds.

Guadalupe Bass (*Micropterus treculii)*

OTHER NAMES - Black Bass, Guadalupe Spotted Bass: State Fish of Texas

DESCRIPTION

Micropterus is Greek, meaning "small fin" and is a rather unfortunate misnomer arising from an injured type specimen that made it appear that the posterior rays of the soft dorsal fin formed a small separate fin. Treculi refers to Trecul, the French compatriot of Vaillant and Bocourt. Trecul actually caught the specimen. The Guadalupe bass is generally green in color and may be distinguished from similar species found in Texas in that it doesn't have vertical bars like smallmouth bass, its jaw doesn't extend beyond the eyes as in largemouth bass, and coloration extends much lower on the body than in spotted bass.

LIFE HISTORY

Guadalupe bass do not grow to large size because they are adapted to small streams. However, a propensity for fast flowing water, and their ability to utilize fast water to their advantage when hooked, make them a desirable sport fish species. Their preference for small streams enhances their allure to anglers because of the natural setting where small streams are usually found. Specimens in excess of 3.5 pounds have been landed.

Both males and females become sexually mature when they are one year old. Guadalupe bass spawning begins as early as March and continues through May and June. A secondary spawn is possible in late summer or early fall. Like all other black bass, Guadalupe bass build gravel nests for spawning, preferably in shallow water. As with spotted bass and smallmouth bass, males tend to build nests in areas with higher flow rates than largemouth bass. When a male has successfully attracted a female to the nest she may lay 400 to over 9,000 eggs. The female is then chased away and the male stands guard over the incubating eggs. After hatching, fry feed on invertebrates and switch to piscivory as they grow older. Very young fish and older adults tend to include more invertebrates in their diet than do largemouth bass. Juveniles and younger adults tend to include more fish in their diets than do largemouth bass.

HABITAT

Typically, Guadalupe bass are found in flowing water, whereas largemouth bass are found in quiet water.

DISTRIBUTION

The Guadalupe bass is found only in Texas and has been named the official state fish. It is endemic to the northern and eastern Edwards Plateau including headwaters of the San Antonio River, the Guadalupe River above Gonzales, the Colorado River north of Austin, and portions of the Brazos River drainage. Relatively small populations can also be found outside of the Edwards Plateau, primarily in the lower Colorado River. Introduced populations exist in the Nueces River system.

OTHER

The Guadalupe bass, like other "black bass" including largemouth, smallmouth, and spotted bass, is not a true bass at all but a member of the sunfish family Centrarchidae.

White Bass (*Morone chrysops)*

OTHER NAMES - Sand Bass, Barfish, Streaker, Silver Bass

DESCRIPTION

Morone is of unknown derivation. The species epithet chrysops is Greek meaning "golden eye." As with other true basses, the dorsal fin is clearly double, separated into spiny and soft-rayed portions. White bass are silvery shading from dark-gray or black on the back to white on the belly. Several incomplete lines or stripes run horizontally on each side of the body. Adults resemble young striped bass, and the two are often confused. However, striped bass have two distinct tooth patches on the back of the tongue, and white bass have one tooth patch. Striped bass have two sharp points on each gill cover, as opposed to white bass which have one, and the second spine on the anal fin is about half the length of the third spine in striped bass, whereas it is about two-thirds the length of the third spine in white bass.

LIFE HISTORY

White bass are active early spring spawners. Schools of males migrate upstream to spawning areas as much as a month before females. There is no nest preparation. Spawning occurs either near the surface, or in midwater. Running water with a gravel or rock substrate is preferred. Females rise to the surface and several males crowd around as the eggs and sperm are released. Large females sometimes release nearly a million small eggs during the spawning season. After release eggs sink to the bottom and become attached to rocks, hatching in 2-3 days. Fry grow rapidly, feeding on small invertebrates. White bass may grow eight or nine inches during the first year. Adults are usually found in schools. Feeding occurs near the surface where fish, crustaceans, and emerging insects are found in abundance.

Gizzard and threadfin shad are the preferred food items. White bass more than four years of age are rare.

DISTRIBUTION

White bass are native to the the central US west of the Appalachians, including the Great Lakes, as well as river systems in the Ohio and Mississippi river valleys. In Texas the species is native to the Red River drainage.

OTHER

White bass are the fifth most preferred species among licensed Texas anglers. Schools of white bass feeding on shad generate much excitement in the fishing community. Once a school has been located, successful anglers often fish the surface with spoons or spinners. Bottom fishing at night with live bait may also produce great success. White bass are excellent fighters, and are considered superb table fare.

Yellow Bass (*Morone mississippiensis)*

OTHER NAMES - Striper

DESCRIPTION

The meaning of the word Morone is unknown. The species epithet mississippiensis refers to the Mississippi River from which the species was first described. Although yellow bass are sometimes confused with white bass or young striped bass, there are several distinguishing characteristics. First, the belly may take on a yellow color, from which the species derives its common name. Second, unlike other temperate bass, the two lowermost stripes are distinctively broken just posterior to the middle. Also, the second and third anal spines are approximately equal in length.

DISTRIBUTION

Although native populations do exist in areas of Oklahoma, Texas, and Mississippi, the species was primarily restricted to the Mississippi River from Minnesota to Louisiana. Introduced populations ocurr as far west as Arizona, as far north as Wisconsin and Iowa, and as far east as central Tennessee. In Texas, yellow bass range from the Red River south to the San Jacinto drainage.

OTHER

Yellow bass are often found in schools. Like white bass, they may be captured using spoons, spinners, or live minnows. Due to their small size, averaging only about half a pound, and slow growth rate they are not highly sought by most anglers (a trophy fish may weigh one pound or less).

Striped Bass (*Morone saxatilis)*

OTHER NAMES - Striper, Rockfish, Lineside

DESCRIPTION

The striped bass is the largest member of the sea bass family, often called "temperate" or "true" bass to distinguish it from species such as largemouth, smallmouth, and spotted bass which are actually members of the sunfish family Centrarchidae. Although Morone is of unknown derivation, saxatilis is Latin meaning "dwelling among rocks." As with other true basses, the dorsal fin is clearly separated into spiny and soft-rayed portions. Striped bass are silvery, shading to olive-green on the back and white on the belly, with seven or eight uninterrupted horizontal stripes on each side of the body. Younger fish may resemble white bass *(Morone chrysops)*. However, striped bass have two distinct tooth patches on the back of the tongue, whereas white bass have one tooth patch. Striped bass have two sharp points on each gill cover, and white bass have one. Additionally, the second spine on the anal fin is about half the length of the third spine in striped bass, and about two-thirds the length of the third spine in white bass.

LIFE HISTORY

The striped bass can live in both freshwater and saltwater environments. In coastal populations, individuals may ascend streams and travel as much as 100 miles inland to spawn. There are land-locked populations that complete their entire life cycle in freshwater. These generally ascend tributaries of the lakes or reservoirs where they spend their lives. Spawning begins in the spring when water temperatures approach 60°F. Typically, one female is accompanied by several males during the spawning act. Running water is necessary to keep eggs in motion until hatching. In general, at least 50 miles of stream is required for successful hatches. Stripers may reach a size of 10 to 12 inches during the first year. Males are generally mature in two years, and females in three to four. Adults are primarily piscivorous, feeding predominantly on members of the herring family such as gizzard shad and threadfin shad. Alewife and glut herring are often found in their stomachs in the northern states.

HABITAT

The striped bass is anadromous, native to a variety of Habitats including shores, bays, and estuaries.

DISTRIBUTION

The striped bass is a coastal species that moves far upstream during spawning migrations in coastal rivers. The native range is along the Atlantic coast east of the Appalachian Mountains from New Brunswick south to Florida and west into Louisiana. The species has been introduced at scattered locations throughout the central US. There have also been introductions as far west as the Colorado River in Arizona, and at various sites in California. Although not native to Texas, the species has been stocked in a number of reservoirs. Because stream flow is required for a successful hatch, most reservoir populations are not self-sustaining and must be maintained through stocking. One notable exception is Lake Texoma along the Red River in northeastern Texas.

OTHER

Striped bass are the fourth most preferred species among licensed Texas anglers. It is estimated that the economic impact of striper fishing in the Lake Texoma area alone totals well in excess of $20 million. Stripers are often captured using artificial lures that imitate small fish, such as silver spoons. Deep running lures can also be effective, as may live bait, or cut bait. In Texas, stripers in excess of 50 pounds have been landed. Although specimens exceeding 100 pounds have been caught in saltwater, to date a 67.5-pounder was the largest individual reported from inland waters.

Blue Catfish (*Ictalurus furcatus*)

OTHER NAMES - Channel Cat, Hump-back Blue

DESCRIPTION

Ictalurus is Greek meaning "fish cat", and furcatus is Latin, meaning "forked", a reference to the species' forked tail fin. Blue catfish have a forked tail, and are sometimes very similar to channel catfish. However, only the Rio Grande population has dark spots on the back and sides. The number of rays in the anal fin is typically 30-35, and coloration is usually slate blue on the back, shading to white on the belly.

LIFE HISTORY

The spawning behavior of blue catfish appears to be similar to that of channel catfish. However, most blue catfish are not sexually mature until they reach about 24 inches in length. Like channel catfish, the blue catfish pursues a varied diet, but it tends to eat fish earlier in life. Although invertebrates still comprise the major portion of the diet, blue catfish

as small as four inches in length have been known to consume fish. Individuals larger than eight inches eat fish and large invertebrates. Blue catfish commonly attain weights of 20 to 40 pounds, and may reach weights well in excess of 100 pounds. It is reported that fish exceeding 350 pounds were landed from the Mississippi River during the late 1800's.

HABITAT

Blue catfish are primarily large-river fish, occurring in main channels, tributaries, and impoundments of major river systems. They tend to move upstream in the summer in search of cooler temperatures, and downstream in the winter in order to find warmer water.

DISTRIBUTION

Blue catfish are native to major rivers of the Ohio, Missouri, and Mississippi river basins. The range also extends south through Texas, Mexico, and into northern Guatemala. In Texas it is absent from the northwestern portions of the state including the Panhandle, but present elsewhere in larger rivers.

OTHER

The blue catfish is the largest freshwater sportfish in Texas. Where mature populations exist, 50-pounders are not unusual. Typically, the largest fish are caught by trotliners, some of whom have landed specimens in excess of 115 pounds. The Texas rod-and-reel record is 121.5 pounds. Catfish is the second most preferred group of fish among licensed Texas anglers, and blues rank third behind channel and flathead catfish. Like the channel cat, the blue catfish is considered an excellent food fish.

Channel Catfish (*Ictalurus punctatus)*

OTHER NAMES - Willow Cat, Forked-tail Cat, Fiddler, Spotted Cat, Lady Cat

DESCRIPTION

Ictalurus is Greek and *punctatus* is Latin, meaning "fish cat" and "spotted", respectively. Channel catfish are easily distinguished from all others, except blue catfish, by their deeply forked tail fin. Unlike flathead catfish, the upper jaw projects beyond the lower jaw. Coloration is olive-brown to slate-blue on the back and sides, shading to silvery-white on the belly. Typically, numerous small, black spots are present, but may be obscured in large adults. The anal fin has 24-29 soft rays, in contrast to the blue catfish which always has 30 or more rays in the anal fin.

LIFE HISTORY

Channel catfish spawn in late spring or early summer when water temperatures reach 75°F. Males select nest sites which are normally dark secluded areas such as cavities in drift piles,

logs, undercut banks, rocks, cans, etc. A golden-yellow gelatinous egg mass is deposited in the bottom of the nest. Males guard the nest, and may actually eat some of the eggs if they are disturbed. The eggs, if not devoured, typically hatch in about a week. Fry remain in the nest, under the guardianship of the male, for about another week. In clear water, young fish appear to be much more susceptible to predation and survival rates during the first year of life are much lower. Channel catfish less than 4 inches in length feed primarily on small insects. Adults are largely omnivorous, feeding on insects, mollusks, crustaceans, fish, and even some plant material. Sexual maturity is reached in two or three years in captivity, whereas data from natural populations indicates channel catfish in Texas reach sexual maturity in 3-6 years. Most are mature by the time they reach 12 inches in length.

HABITAT

Channel catfish are most abundant in large streams with low or moderate current.

DISTRIBUTION

Channel catfish are native to North America east of the Rockies from southern Canada, south into northeastern Mexico, and east of the Appalachians with the exception of much of the coastal plain north of Florida. The species has been widely introduced in other areas as far west as California. Today channel catfish range throughout Texas, however, it is believed that the species was not native to the upper Rio Grande and Pecos basins.

OTHER

Channel catfish ranks behind only bass and crappie as the most preferred fish to catch in Texas. Popular with trotliners as well as rod-and-reel anglers, channel cats may be captured on a wide variety of baits including liver, worms, grasshoppers, shrimp, chicken, cheese and stinkbait, among others. Undoubtedly, part of the reason for their popularity is their delicious flavor when cooked. Channel catfish in excess of 36 pounds have been landed in Texas waters. The North American record stands at 58 pounds.

Flathead Catfish (*Pylodictis olivaris)*

OTHER NAMES - Yellow Cat, Opelousa Cat, Pied Cat, Mississippi Cat, Mud Cat, Shovelhead Cat

DESCRIPTION

As the common name suggests, this catfish has a flat head, but other than that, it looks like any other catfish: it has smooth, scaleless skin, whisker-like barbels around the mouth, and long spines on the dorsal (back) fin and one on each side of the pectoral (shoulder) fin. Flathead catfish reach a length of 3 to 4 feet (0.9 to 1.2 m) and their weight can exceed 100 pounds (45 kg). Pylodictis is Greek meaning "mud fish", and olivaris is Latin for "olive-colored". Flathead catfish are typically pale yellow (hence the name "yellow cat") to light

brown on the back and sides, and highly mottled with black and/or brown. The belly is usually pale yellow or cream colored. The head is broadly flattened, with a projecting lower jaw. The tail fin is only slightly notched, not deeply forked as is the case with blue and channel catfish. Young fish may be very dark, almost black in appearance.

LIFE HISTORY

Unlike other catfish which are scavengers, flatheads prey only on live fish. Young flathead catfish feed mostly on invertebrates such as worms, insects and crayfish. When 10 inches or larger, their diet consists entirely of fish: shad, carp, suckers, sunfish, largemouth bass and other catfish (including their own kind). Flathead catfish are eaten by alligators, water snakes, turtles, larger fish, and humans. They reach sexual maturity between the third and sixth year. Spawning season is from late May through August, when the water temperature is between 75° and 80° F.

Males select hollow logs, caves or areas beneath the banks for their nest sites. Males may even improve their selected sites by creating shallow depressions for the females to lay their eggs. Egg number varies greatly depending on female size, but the average is up to 100,000 eggs at a time. Scientists estimate that a female will lay 1200 eggs for every pound she weighs. A female flathead that weights 50 pounds might release 60,000 eggs at a time. After an incubation period of four to six days, the fry (very young fish) will school together at the nest for several days after hatching; afterwards they will seek shelter beneath rocks, roots and other cover and begin their independent lives. Average lifespan of the flathead catfish is 12 to 14 years, but one recorded flathead catfish lived 24 years.

Adults are usually solitary, each staking out a favorite spot under a tree or in a cove, in deep water. At night, they move into shallow areas to feed. Males defend their nest and eggs aggressively. They will fan the nest with their tails to keep the eggs clean and provide them with oxygenated water. If females have been eating poorly, their bodies may conserve resources by not releasing eggs. Poor overall health and certain environmental conditions such as drought or flood can reduce flatheads' ability to spawn. In healthy times, clutches can reach 100,000 eggs, but only a small number will survive.

HABITAT

Flathead catfish prefer deep pools of streams, rivers, canals, lakes and reservoirs, where the water is turbid (cloudy) and the currents are slow.

DISTRIBUTION

Flathead catfish range from the lower Great Lakes through the Mississippi River watershed to the Gulf states.

OTHER

In size, flatheads are the second largest sport fish in Texas after their cousin, the blue catfish. "Catfish" is the second most preferred group of fish among licensed Texas anglers, and flatheads rank second behind channel catfish. Where mature populations exist, 50-pounders are not unusual. Typically, the largest fish are caught by trotliners, who have landed specimens in excess of 110 pounds. Rod and reel anglers may have the greatest success with flathead catfish just below reservoir dams. Because of their popularity with anglers, they

have been introduced in many other states where they have adapted well. In some cases, however, they have out-competed the native fish species, causing those native fish populations to decline sharply, disrupting some natural ecological processes.

Black Bullhead (*Ameiurus melas)*

OTHER NAMES - Polliwog, Chucklehead Cat

DESCRIPTION

Ameiurus is Greek and means "primitive" or "curtailed" in reference to the slight notch in the caudal fin; melas is also Greek and means "black." Black bullheads are typically black to greenish-black on the back, ranging to gray or white on the belly. However, in muddy water the back may be yellowish-brown. Chin barbels are dark or black, never white. The anal fin has 17-21 rays.

LIFE HISTORY

During late spring or early summer black bullheads excavate nests in mud bottoms and spawn. Areas with some sort of cover are preferred. Nests contain golden-yellow egg masses which are guarded by both parents (at least one is present at all times). Eggs hatch in four to six days. Fry begin to school in compact balls which are guarded by adults until individuals reach about one inch in length. Black bullheads are omnivorous, feeding primarily from the bottom on a wide range of plant and animal material, both live and dead. Fingerlings feed almost exclusively on crustaceans. Immature aquatic insects and crustaceans often comprise a considerable proportion of the adult diet. The average life span is usually less than five years, and most adults are less than one pound. However, some individuals may live more than 10 years and reach eight pounds.

DISTRIBUTION

The original distribution of the black bullhead included the central plains west of the Appalachians and east of the Rockies, extending north into Saskatchewan and Manitoba, and south into south Texas and New Mexico. Today artificial introductions have extended the range west of the Rockies in isolated pockets including areas of British Columbia, Alberta, Mexico, California, Arizona, Nevada, and Idaho. In Texas the black bullhead is distributed statewide with the exception of the Trans-Pecos drainage.

OTHER

Black bullheads are not generally considered an important gamefish in Texas, though they are readily fished for by anglers in the Panhandle, and in far East Texas. A variety of baits

may be used to catch them, but worms are usually the best. The largest specimen reported to date in Texas was 5.15 pounds.

Yellow Bullhead (*Ameiurus natalis)*

OTHER NAMES - Mudcat, Polliwog, Chucklehead Cat

DESCRIPTION

Ameiurus means "primitive or curtailed" in reference to the notch in the distal end of the caudal fin, and natalis is Latin for "having large buttocks." Yellow bullheads are typically light yellow to olive-green on the back, often somewhat mottled. The belly is yellowish to white. The tail is not notched, and may be slightly rounded. Chin barbels are white. The anal fin has 23-27 rays.

LIFE HISTORY

During late spring or early summer, yellow bullheads excavate nests in mud bottoms and spawn. Both parents guard the nest, which may contain 2,000 to 12,000 eggs. In four to six days eggs hatch and fry begin to school in compact balls which are guarded by adults until individuals reach about one inch in length. Like the black bullhead, the yellow bullhead is omnivorous, feeding on a variety of plant and animal material, both live and dead. Immature aquatic insects and crustaceans often comprise a considerable proportion of the diet. Although yellow bullheads rarely achieve edible size, some individuals may exceed four pounds.

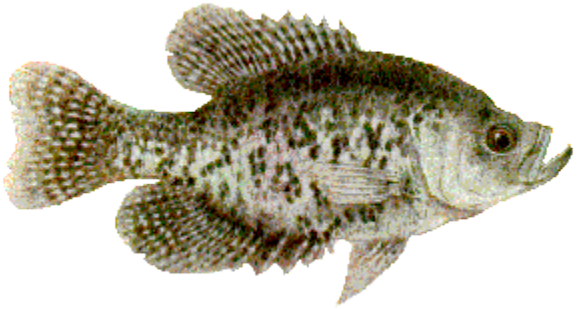
DISTRIBUTION

Yellow bullheads range throughout the central and eastern US from central Texas north into North Dakota and east through the Great Lakes region to the coast. The species is found throughout Texas with the exclusion of the Trans-Pecos and Panhandle drainages.

OTHER

Like black bullheads, yellow bullheads are not generally considered an important gamefish in Texas, though they are readily fished for by anglers in the Panhandle, and in far East Texas. Angling techniques for the two species are very similar. The largest specimen reported to date in Texas was 5.59 pounds.

Black Crappie (*Pomoxis nigromaculatus)*



OTHER NAMES - White Perch, Calico Bass

DESCRIPTION

Pomoxis is Greek for "opercle sharp", and refers to the fact that the fish's gill covers have spines. The species epithet nigromaculatus is Latin and means "black spotted." The black crappie is easily confused with the white crappie. However, it is deeper bodied than the white crappie, and silvery-green in color. There are no distinct vertical bars, rather there are irregular black blotches. The dorsal fin has seven or eight spines. Males do not develop specialized breeding coloration during spawning season.

LIFE HISTORY

Like other members of the sunfish family, black crappie are nest builders. They nest in the spring, generally when water temperatures reach 60°F. The biology of black crappie is very similar to that of white crappie. Growth in terms of weight is very similar between the two species. White crappie tend to have higher growth rates in terms of length, but black crappie are more robust in body construction. Black crappie adults feed on fewer fish, and more insects and crustaceans, than do white crappie.

DISTRIBUTION

The native range of the species was very similar to that of the white crappie, except that it extended slightly further north into Canada and east to the coastal plain south of Virginia. Currently, populations of black crappie can be found in each of the 48 contiguous United States. In Texas, black crappie are native to the central portions of the state exclusive of the Edwards Plateau, and have been widely introduced. However, black crappie are abundant primarily in clear, acidic waters of east Texas.

OTHER

Black crappie predominate in the acidic waters of east and northeast Texas. Black crappie over 3.5 pounds and almost 4.5 pounds have been captured from Texas public waters and private waters, respectively.

White Crappie (*Pomoxis annularis)*

OTHER NAMES - White Perch, Sac-a-lait

DESCRIPTION

Pomoxis is Greek for "opercle sharp" and refers to the fact that the fish's gill covers have spines. The word annularis is Latin for "having rings" and refers to the dark bands (vertical bars) around the body. The white crappie is deep-bodied and silvery in color, ranging from silvery-white on the belly to a silvery-green or even dark green on the back. There are several vertical bars on the sides. The dorsal fin has a maximum of six spines. Males may develop dark coloration in the throat region during the spring spawning season.

LIFE HISTORY

Like other members of the sunfish family, white crappie are nest builders. They are similar to bluegills in that they tend to nest in relatively large "beds", and they have very high reproductive potential which often leads to overpopulation and stunting in small lakes and impoundments. White crappie nest in the spring, generally when water temperatures reach 65°F to 70°F. However, spawning activity has been observed at temperatures as low as 56°F. Fry hatch in three to five days, but remain attached to nest substrate by an adhesive substance from the egg for a few more days. Just before leaving the nest, fry free themselves by vigorous swimming actions. Once free, they begin feeding on microscopic animals. Although fry do not appear to school, fingerlings do. Schools with large numbers of individuals are often found in the middle of lakes. Typically, white crappie grow three to five inches in length the first year, and reach seven to eight inches during the second year. Maturity is usually reached in two to three years. Adults feed on small fish and insects.

DISTRIBUTION

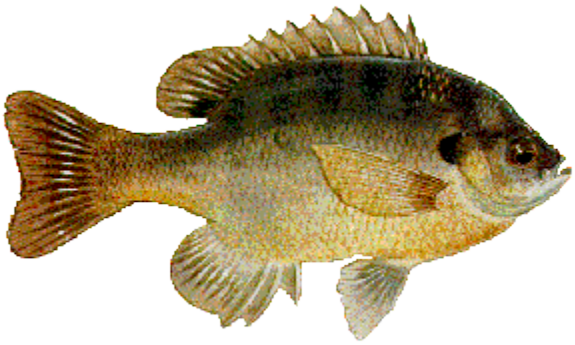
The native range of white crappie included the area west of the Appalachian Mountains north to southern Ontario and south to the Gulf of Mexico. The range extended west to Minnesota and South Dakota in the north, and to northeastern Mexico in the south. Today the range extends east to the Atlantic coast, and west to include California and portions of Nevada, Arizona, New Mexico, Montana, Colorado, Utah, and North Dakota. White crappie are native to the eastern two-thirds of Texas, but the species can now be found statewide except for the upper portions of the Rio Grande and Pecos drainages.

OTHER

Taken together, "crappie" (white and black combined) is the most popular panfish in Texas. The crappie group is the third most preferred group overall, ranking behind only "bass" and "catfish." Crappie are sought after by both bank and boat anglers. Typically, minnows are the

preferred bait, often producing monumental results when an aggregation is located, usually around submerged trees, boat docks, or other submerged structures. White crappie in excess of 4.5 pounds have been landed in Texas waters.

Bluegill (*Lepomis macrochirus)*



OTHER NAMES - Bream, Brim, Perch, Sunfish, Sunperch

DESCRIPTION

Lepomis, the generic name, is Greek and means "scaled gill cover". The species epithet macrochirus is also Greek and means "large hand" which may refer to the body shape or its size. Bluegills may be distinguished from other sunfish by the dark spot at the base of the dorsal fin, vertical bars on their sides, and a relatively small mouth. The spiny dorsal fin usually has 10 spines (but may have as many as 11 or as few as 9), and is broadly connected to the soft dorsal. The anal fin has three spines. The back and upper sides are usually dark olive green blending to lavender, brown, copper, or orange on the sides, and reddish-orange or yellow on the belly. Colors are more intense in breeding males, and vertical bars may take on a reddish hue.

LIFE HISTORY

Bluegills begin spawning when water temperatures reach about 70°F. Spawning may peak in May or June, but continues until water temperatures cool in the fall. Because of their long spawning season, bluegills have very high reproductive potential, which often results in overpopulation in the face of low predation or low fishing pressure. Nests are created in shallow water, one to two feet in depth. Gravel substrate is preferred. Fifty or more nests may be crowded into a small area, thus creating a spawning bed. Males guard the nest until the eggs hatch and fry leave. Young fish feed on plankton, but as they grow the diet shifts to aquatic insects and their larvae. Up to 50% of their diet may consist of midge larvae.

DISTRIBUTION

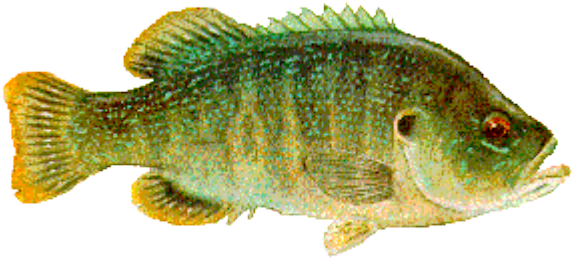
Bluegills appear to have been native to the eastern half of the United States, southeastern Canada and northeastern Mexico, exclusive of the coastal plain north of Virginia. Today, as a result of countless intentional as well as no doubt unintentional introductions, bluegill are found throughout the US and northern Mexico. Bluegills are found throughout Texas. Three subspecies are present: *Lepomis macrochirus macrochirus* which is native to the northeastern half of the state, *Lepomis macrochirus speciosus* which is native to the central, southern, and

western portions of the state, and *Lepomis macrochirus purpurescens*, a native of Atlantic coast states which has been introduced widely as a sport and forage fish.

OTHER

Although less than one percent of licensed Texas anglers say they "prefer" to catch sunfish, bluegill and other sunfish are nevertheless a vital part of many freshwater fisheries nationwide, including Texas. Many pre-license age anglers begin their fishing careers by bank fishing for bluegills and other sunfish. Bluegills provide plenty of fight, pound for pound. In Texas, bluegills approaching two pounds have been landed in public waters, and fish over three pounds are known from private tanks. The largest bluegill on record was 4 pounds 12 ounces, landed in 1950 from Ketona Lake in Alabama.

Green Sunfish (*Lepomis cyanellus)*



OTHER NAMES - Goggle-eye, Rock Bass, Branch Perch

DESCRIPTION

The green sunfish, like warmouth, has a large mouth and a heavy, black bass body shape. The body is dark green, almost blue, dorsally, fading to lighter green on the sides, and yellow to white ventrally. Faint vertical bars are apparent on the sides. Some scales have turquoise spots. *Lepomis*, the generic name, is Greek and means "scaled gill cover." The species epithet cyanellus is also Greek and means "blue.

LIFE HISTORY

The green sunfish is a very versatile species, able to tolerate a wide range of environmental conditions, and tends to do very well when competition with other sunfish is minimal. Its ability to tolerate environmental extremes makes it ideal for survival in prairie streams where conditions are not stable, and it is often the first sunfish species to repopulate depleted areas. Green sunfish nest in shallow water colonies where nests are often closely packed. Gravel or rocky bottom sites are usually preferred for nest building. Spawning occurs in late spring, when water temperatures rise above 70°F, and may continue throughout the summer. Hybridization with other sunfish species is very common. Males aggressively defend their nests for 6-7 days after eggs are deposited, at which time fry are usually free-swimming. Because of their enormous reproductive potential, green sunfish often overpopulate small lakes and ponds. Adults feed on insects and small fish.

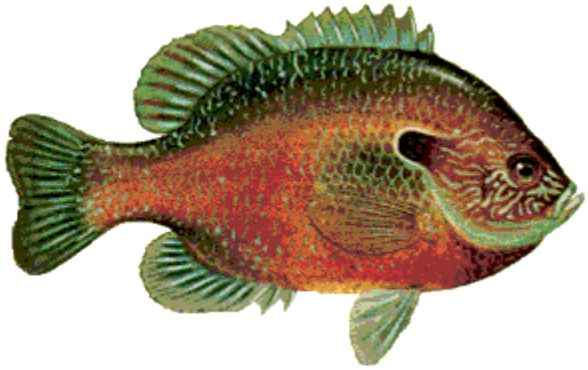
DISTRIBUTION

Originally the distribution of green sunfish appears to have been limited to the central plains west of the Appalachian Mountains and east of the Rocky Mountains, including northeastern Mexico. However, due to introductions the species has become nearly ubiquitous in the United States with the exception of Florida and parts of the northwest. Green sunfish are found throughout Texas.

OTHER

Due to their propensity to overpopulate and so become stunted, green sunfish rarely reach a desirable size for angling. The largest reported specimen caught in Texas to date was 1.3 pounds. In private ponds, specimens over 2 pounds have been recorded.

Longear Sunfish (*Lepomis megalotis)*



OTHER NAMES - Cherry Bream

DESCRIPTION

Lepomis, the generic name, is Greek and means "scaled gill cover." The species epithet megalotis is Greek and means "great ear." The name is derived from the fact that longear sunfish have an elongated opercle flap. This flap, always trimmed in white in adults, is unique and makes field identification relatively easy if hybridization has not occurred. Longear sunfish are quite colorful. Males are often bright orange or scarlet, and the head and fins usually have turquoise markings. Dorsal and anal fins, and their associated spines, are similar to those of redear sunfish.

LIFE HISTORY

Longear sunfish are primarily found in small streams and creeks. Like other sunfish they are often associated with vegetation, avoiding strong currents by inhabiting pools, inlets, and waters off the main stream channel. Spawning occurs throughout late spring and early summer. Males scoop nests out of gravel bars. Females are enticed to lay their eggs on a particular nest by a male who swims out to meet her, swimming around her rapidly and displaying his brilliant spawning colors. After the eggs have been laid, males chase the females away and guard the nest vigorously despite their small size, chasing away all intruders. Males may continue to guard the nest for a week or more after hatching, until larvae have dispersed. Insects and even small fish become part of the diet as fish approach adulthood. Longear sunfish rarely exceed six inches in length.

DISTRIBUTION

Longear sunfish are restricted to freshwater areas west of the Appalachian Mountains. Scattered populations occur as far north and west as southern Quebec and Minnesota, and as far south and west as north central Mexico and New Mexico. The species is found throughout Texas except for the headwaters of the Canadian and Brazos rivers.

OTHER

Because of its small size, the species' importance to anglers derives in three ways. Since they are relatively easy to capture with simple, natural baits such as earthworms, longears are an important species for young anglers with little experience. Like most sunfish, they provide more than enough fight for their small size. Longears may feed on the surface, providing the fly fishermen with a challenge, and finally, they are often a prized bait fish for trotliners.

Redbreast Sunfish (*Lepomis auritus)*

OTHER NAMES - Yellowbelly Sunfish, Redbreasted Bream

DESCRIPTION

This sunfish possesses a yellow belly that is sometimes an orange or a rusty color. It might have been better named the longear, as its opercle flap or ear is considerably longer than the opercle flap of the longear sunfish. In adults, the ear often reaches a length of one inch or more; it is narrow and usually not wider than the eye. The lower margin of the flap is usually pale. The redbreast is one of our larger sunfish, occasionally attaining weights of one pound or more.

LIFE HISTORY

In typical sunfish fashion, the redbreast spawns in beds or colonies on sand or gravel where the water is one to three feet deep. After hatching, the young may remain schooled for several weeks before scattering. Adults feed on insects, snails, crayfish, and small fish.

DISTRIBUTION

Redbreast sunfish were introduced into Texas from their original range, the streams of the eastern US that drain into the Atlantic Ocean. This species now occurs throughout the eastern and southern parts of Texas as far west as some streams of the Pecos drainage.

OTHER

At one time, this sunfish was raised by state hatcheries and widely distributed. Good populations of large redbreast can be found in the clear streams of central Texas, primarily in the San Marcos area.

Redear Sunfish (*Lepomis microlophus)*

OTHER NAMES - Shellcracker, Georgia Bream, Cherry Gill, Sunny, Sun Perch

DESCRIPTION

Lepomis, the generic name, is Greek and means "scaled gill cover." The species epithet microlophus is Greek for "small nape." The redear is a deep-bodied sunfish with a relatively small mouth. Color ranges from dark olive green above to almost white on the belly. The sides are usually yellow to green. The spinous dorsal fin, which is anterior to the soft dorsal fin, is normally equipped with 10 spines, although 9 or 11 spines are sometimes observed, and it is broadly connected to the soft dorsal fin. The anal fin has three spines. The species' most distinct characteristic is the red edge on the opercle ("ear") flap of the male (orange on the female). The opercle flap is never greatly elongated as it is in species such as the redbreast sunfish*(Lepomis auritus)* or the longear sunfish *(L. megalotis).*

LIFE HISTORY

Redear sunfish often utilize snails as a major food item, hence the common name "shellcracker." However, insect larvae and cladocerans may also be found in their diet. The species is usually found near the bottom in warm water with little current and abundant aquatic vegetation. Redears normally reach sexual maturity by the end of their second year. They spawn during the warm months of late spring and early summer, and in deeper water than most other sunfish, congregating in spawning "beds." Nests are saucer-shaped depressions in gravel or silt, and are sometimes so close they almost touch. There are usually one or two peaks of activity during spawning season. Few individuals survive more than six summers.

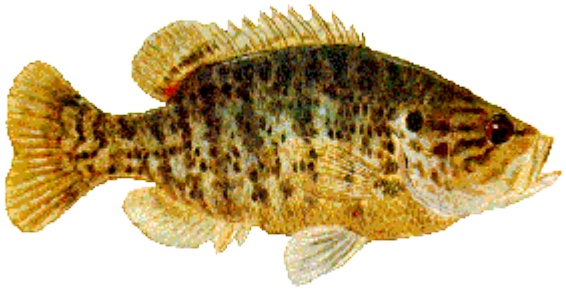
DISTRIBUTION

Redear sunfish were originally found in the southeastern US from Texas north to a line even with southern Illinois and east to the Atlantic Ocean. As a result of introductions, the range has been expanded and now extends west into New Mexico and north into Michigan, Ohio and Pennsylvania. In Texas the species is native to the eastern two-thirds of the state from the Red River to the Rio Grande. It has been widely introduced throughout the state.

OTHER

Unlike some other sunfish species, redears rarely approach the surface to take flies or other artificial top baits. They may, however, be readily captured using natural bait such as earthworms and grubs. Redear are often taken in early summer when they are concentrated on spawning beds.

Warmouth (*Lepomis gulosus)*



OTHER NAMES - Redeye, Goggle-eye, Red-eyed Bream, Stump Knocker, Mudgapper, Mo-mouth, Morgan, Molly, Rock Bass, Open Mouth, Weed Bass, Wood Bass, Strawberry "perch", Mud Bass, Warmouth Bass

DESCRIPTION

The warmouth is somewhat larger than either rock bass or green sunfish (with which it is often confused) but very similar otherwise in that it is large-mouthed and heavy-bodied. Adult warmouth are dark, with mottled brown coloration. Their belly is generally golden, and males have a bright orange spot at the base of the dorsal fin. Three to five reddish-brown streaks radiate from the eyes, and the gill flaps are often red. Warmouth have three spines in the anal fin, 10 spines in the dorsal fin, and small teeth are present on the tongue. These fish range in size from 4 to10 inches (10.2 to 25 cm), but can grow to more than 12 inches (31 cm), and weigh up to 2.25 pounds (1 kg).

LIFE HISTORY

Young warmouth feed on zooplankton and small insects. Adults feed on insects, mollusks, and small fish. Their predators include larger fish, water snakes, turtles, and herons. Warmouth reach sexual maturity at 3 to 4 inches (7.5 to 10cm), and spawn in the spring, when water temperatures reach 71° F (21.5° C), and continuing through the summer. Males construct a disc-shaped nest by fanning their tails and removing silt and debris over nesting site. Nests are made in 1.5 to 4 feet (0.45 to 1.23 m) of water near a stump, clump of vegetation or other large, submerged object. Females produce 4,000 to 63,000 eggs during spawning season. After an incubation period of three days, the young hatch. The fry leave the nest five to six days after hatching and grow to 1 to 2 inches (25.4 to 50.8 mm) by the fall. Their life span is not known.

Warmouth are quite secretive. They seek cover in rocky banks, stumps or weeds, or near other large objects, where they can hide and wait for food. They are sight feeders. When in breeding condition, the males' eyes turn red. After the female lays her eggs, the male fertilizes the eggs and aggressively defends the nest, eggs and fry from any intruder-including other females. Warmouth hybridize (crossbreed) with bluegill and green sunfish.

They can survive in polluted, low oxygenated waters where other sunfish cannot. Warmouth are often confused with rock bass. The difference between the two is in the anal fin: warmouth have three spines on the anal fin ray and rock bass have six spines.

HABITAT

Lakes, ponds, swamps, and quiet areas of streams with muddy bottoms and vegetation are preferred Habitat for the warmouth.

DISTRIBUTION

Warmouth are found in the Great Lakes and Mississippi River basins, from western Pennsylvania to Minnesota, south to the Gulf of Mexico; and the Atlantic and Gulf drainages from the Rappahannock River in Virginia to the Rio Grande in Texas and New Mexico.

OTHER

Warmouth are members of the sunfish family, which includes the largemouth bass. They are also known by more colorful local names such as redeye, goggle-eye, red-eyed bream, stump knocker, mudgapper, mo-mouth, morgan, molly, rock bass, open mouth, weed bass, wood bass, strawberry "perch" and mud bass. Because warmouth hit hard and are easily caught, they are popular with some anglers. They are good to eat when caught in clean water, but because they are bottom-feeders like catfish, the flesh can have a strong flavor.

Common Carp (*Cyprinus carpio)*

OTHER NAMES - German Carp, European Carp

DESCRIPTION

Cyprinus is Greek, and carpio is Latin; both words mean "carp." The common carp is a heavy-bodied minnow with barbels on either side of the upper jaw. Typically, color varies from brassy green or yellow, to golden brown, or even silvery. The belly is usually yellowish-white. The dorsal fin with 17-21 rays, and the anal fin both have a heavy toothed spine. Individuals 12-25 inches in length and weighing up to 8-10 pounds are common, although they can grow much larger. Common carp may live in excess of 47 years and weigh over 75 pounds. The all-tackle world record was landed in 1987 from Lac de St. Cassien, France, and weighed in at 75 pounds 11 ounces.

LIFE HISTORY

Although carp are generally considered a nuisance by North American anglers, they are highly prized as sportfish in Europe, as they are often excellent fighters. A growing number

of anglers in the US are becoming interested in carp as a sportfish. Although flavor varies with the quality of the water from which fish were captured, their sheer abundance has made them an important food fish in some areas.

DISTRIBUTION

Common carp are native to temperate portions of Europe and Asia. They were first introduced into North America in 1877. At that time they were considered so valuable that the precious brood stock was fenced and guarded. Since that time countless introductions both intentional and unintentional have allowed *Cyprinus carpio* to become one of the most widely distributed fish species in North America, ranging from central Canada to central Mexico, and from coast to coast. In Texas, common carp are ubiquitous.

OTHER

Although carp are generally considered a nuisance by North American anglers, they are highly prized as sportfish in Europe, as they are often excellent fighters. A growing number of anglers in the US are becoming interested in carp as a sportfish. Although flavor varies with the quality of the water from which fish were captured, their sheer abundance has made them an important food fish in some areas. The Texas rod-and-reel record is currently 43.13 pounds. The North American record exceeds 57 pounds.

Grass Carp (*Ctenopharyngodon idella)*

OTHER NAMES - White Amur, Waan Ue

DESCRIPTION

Ctenopharyngodon and idella are both Greek words, meaning "comb-like throat-teeth" and "distinct" respectively. The grass carp is one of the largest members of the minnow family. The body is oblong with moderately large scales, while the head has no scales. There are three simple and seven branched rays on the dorsal fin. Grass carp are silvery to olive in color, lacking the golden hue of common carp, and they have no barbels. This species typically reaches sizes of 65 to 80 pounds in its native Habitat, but individuals approaching 400 pounds have been reported.

LIFE HISTORY

Typically, spawning occurs in the spring when water temperatures reach 59-63°F, and under rising water conditions. Eggs are semi-pelagic and must remain suspended during the 20-40 hour incubation period. Therefore, long river stretches are usually necessary for successful spawning. Once young grass carp reach approximately three inches in length, they become nearly 100% herbivorous. Their feeding habits make them ideal as vegetation control agents, as they are capable of consuming 40% to 300% of their body weight per day in plant

material. The species shows a high tolerance for salinity; specimens have been known to survive for several days in water up to three times as salty as sea water.

DISTRIBUTION

Grass carp are native to large rivers in Asia, ranging from the Amur River in China and Siberia south to the West River in China and Thailand. As a food fish, the species has been cultured nearly worldwide. Because of its utility as a biological control for aquatic vegetation, the grass carp has been legally introduced into at least 35 states in the US. In Texas, triploid (sterile) grass carp have been widely introduced in small private ponds and a few public waters. Diploid (non-sterile) populations have been established by escapees from legal experiments in Lake Conroe and illegal stockings. These fish are known to reproduce in the Trinity River-Galveston Bay area.

OTHER

Grass carp are potentially harmful to native resources. Currently, only triploid (sterile) grass carp are legal for use in Texas, and a permit is required to obtain them. Because grass carp is a potentially invasive species, an angler who catches one must immediately remove the intestines, except in waters where a valid Triploid Grass Carp Permit is in effect. In those waters, any grass carp caught must be immediately returned to the water unharmed. The herbivorous feeding habits of this species make it very difficult to catch. When landed, grass carp are excellent table fare despite their bones. The rod-and-reel record in Texas stands at 53.5 pounds. A specimen in excess of 69 pounds was landed by a bow fisher.

Texas Shiner (*Notropis amabilis)*

DESCRIPTION - Notropis is Greek for "back keel" and amabilis is Latin for "lovely." The Texas shiner is distinguished by large eyes, black lips and a clear stripe just above a black stripe along its side. The stripe is most distinct toward the rear of the fish, close to the tail fin. There are 9 rays on the anal fin.

LIFE HISTORY

Texas shiners are predaceous and their large eyes are believed to be an adaptation for sight feeding in swift water. The species is typically found in schools, with individuals as large as 2.5 inches. Spawning behavior has not been studied.

HABITAT

Typical Habitat includes rocky or sandy runs, as well as pools.

DISTRIBUTION

The species range includes portions of Mexico as well as Texas. In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. In Mexico, the species is found in Rio Grande tributaries including Rio Salado and Rio San Juan.

Golden Shiner (*Notemigonus crysoleucas)*

DESCRIPTION

Both Notemigonus and crysoleucas are Greek, meaning "angled back" and "golden white" (a reference to the fish's color). The golden shiner is a deep-bodied minnow. There are 7-9 branched rays in the dorsal fin, and 8-19 branches rays in the anal fin. The mouth is small and upturned. The lateral line has a strong downward curve. The back is olive green, with a darker stripe along the midline. The sides range in color from silver to gold. In Texas, golden shiners in excess of 8 inches and weighing 0.25 pounds have been reported.

LIFE HISTORY

Spawning begins in the spring when water temperatures reach about 70°F and ceases when temperatures exceed 80°F. Sometimes spawning resumes in late summer if temperatures drop below 80°F. No nest is prepared. Adhesive eggs are scattered over algae or submerged vegetation and hatch in approximately 4 days under good conditions. Golden shiners are omnivorous. Plant material makes up about half the diet; the other half is animal material such as crustaceans, insects, and snails.

HABITAT

Typically, golden shiners prefer water with little to no current.

DISTRIBUTION

The golden shiner ranges over most of eastern North America. In the east, the species if found from Nova Scotia south to Florida. In the central plains it becomes very rare, especially west of a line extending from central Texas through central Montana. However, the species is well represented in parts of Arizona and California. In Texas, the golden shiner is nearly ubiquitous, probably as a result of bait releases. It is believed to have been native only to east Texas streams.

OTHER

Often used as a bait fish

Blacktail Shiner (*Cyprinella venusta)*

DESCRIPTION

Cyprinella is Greek for "small carp" and venusta is Latin for "beautiful, like Venus." The blacktail shiner is a somewhat slender minnow with 8-9 rays on the anal fin, and a prominent black spot at the base of the tail fin. The back is usually yellowish-olive, and the sides are silvery with hints of blue. Adults in Texas have reached 4.6 inches in length.

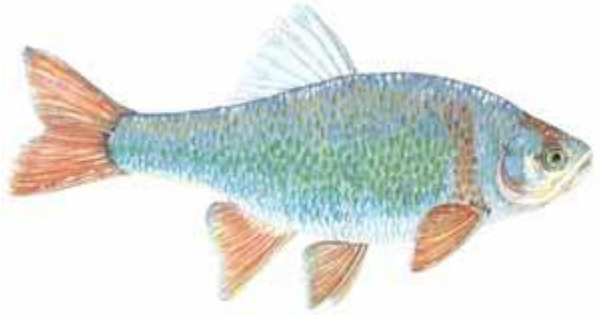
HABITAT

Unlike the golden shiner, the blacktail shiner prefers flowing waters. It is usually most abundant in areas with little vegetation, swift current, and gravelly bottoms.

DISTRIBUTION

Blacktail shiners are found in the southern United States west of the Appalachian Mountains. The species ranges east and west from north central Florida to West Texas, and north to southern Illinois. In Texas, blacktail shiners are unknown in the Panhandle, being found primarily from the Edwards Plateau eastward.

Red Shiner (*Cyprinella lutrensis)*



OTHER NAMES - Red-horse Minnow

DESCRIPTION

Cyprinella is Greek for "small carp" and lutrensis is derived from the Latin lutra which means "otter", a reference to Otter Creek, Arkansas, where the species was first captured. Coloration is similar to the blacktail shiner, olive green above and silver on the sides. Spawning males become bluish on the sides and the fins redden. There are 7-8 rays in the dorsal fin. The anal fin has 8-10 rays (usually 9). Maximum size is only about 3.5 inches. The species is sometimes confused with the golden shiner and exotic minnows such as the rudd and roach.

LIFE HISTORY

The red shiner spawns over an extended period of time from spring into fall months, with a peak from early to mid-summer. Spawning may occur on riffles, on or near submerged objects, over vegetation beds, or in association with sunfish nests. Adults typically school in midwater or near the surface. The species is thought to feed primarily on small invertebrates.

DISTRIBUTION

The red shiner is native to central North America west of the Mississippi River drainage, ranging as far west as New Mexico. Latitudinally, the species ranges from central Mexico north to South Dakota. Clearly a plains species, red shiners range throughout Texas. One subspecies, Cyprinella lutrensis blairi, formerly found in the Big Bend region, is thought to be extinct.

OTHER

Often used as a bait fish

Alligator Gar (*Atractosteus spatula)*

OTHER NAMES - Gator Gar

DESCRIPTION

Gars are easily distinguished from other freshwater species by their long, slender, cylindrical bodies, long snouts, and diamond-shaped interlocking (ganoid) scales. The tail fin is rounded. Dorsal and anal fins are placed well back on the body and nearly opposite each other. Alligator gar is the largest of the gar species. It can grow up to 8 feet long and weigh more than 300 pounds. Adults have two rows of large teeth on either side of the upper jaw. Coloration is generally brown or olive above and lighter underneath. The species name *spatula* is Latin for "spoon", referring to the creature's broad snout.

LIFE HISTORY

Alligator gar can live for many decades. They grow very fast when young, but growth slows with age. In general, for every additional foot the fish grows, its age doubles. A 3-foot gar is typically about 2.5 years old; a 4-foot gar about 5, and a 7-foot trophy catch might be 40 years old. The world record, caught in Mississippi in 2011, weighed 327 pounds and was probably at least 95. Alligator gar are slow to mature; they usually don't spawn until they are about 10 years old. Spawning typically takes place in shallow areas of flooded vegetation when springtime water temperatures exceed 68 degrees. In Texas, this generally occurs in April and May. Eggs hatch within a couple of days. Young fish feed on larval fishes and insects. Adults will eat whatever they can catch, consuming primarily fish, but occasionally taking birds, mammals and other animals.

DISTRIBUTION

Alligator gar are present in the Gulf coastal plain from the Econfina River in Florida west and south to Veracruz, Mexico. The historic range extends north in the Mississippi River basin to the lower reaches of the Missouri and Ohio rivers. In Texas, alligator gar may be found in large rivers and reservoirs, as well as in coastal bays. Recent surveys indicate the species is declining or has disappeared in many areas of the southeastern United States. Texas populations are still strong.

THREATS AND REASONS FOR DECLINE

Good conditions for spawning don't happen every year, and there may be years when alligator gar produce few if any offspring. The long life span of this species has no doubt enabled it to survive periods of drought and low river flows; however, it also means that populations could take decades to recover from effects of overfishing.

OTHER

The Texas state record is 302 pounds, caught on a trotline in 1953. Bow fishers and rod and reel anglers have landed several specimens in excess of 200 pounds. Historically considered a "rough fish," the alligator gar has recently gained popularity as a sport fish, attracting national and international attention after being featured on several television shows. Texas has one of the best remaining fisheries for this unusual freshwater fish. To help ensure that high quality, recreational fisheries remain compatible with long-term conservation of the species, Texas Parks and Wildlife Department imposed a one-per-day bag limit on alligator gar beginning in 2009.

Longnose Gar (*Lepisosteus osseus)*

OTHER NAMES - Needlenose Gar, Billfish, Billy Gar

DESCRIPTION

Lepisosteus is Greek, meaning "bony scale", and osseus is Latin, meaning "of bone." Longnose gar are distinguished from other gar species found in Texas by the long snout whose length is at least 10 times the minimum width.

LIFE HISTORY

Spawning activity occurs as early as April, in shallow riffle areas. Females, typically the larger sex, may be accompanied by one or many males. Although nests are not prepared, gravel is swept somewhat by the spawning action itself. Each female may deposit a portion of her eggs at several different locations. The adhesive eggs are mixed in the gravel, hatching in six to eight days. Yolk-sac fry have an adhesive disc on their snouts by which they attach themselves to submerged objects until the yolk sac is absorbed. Fry feed primarily on insect larvae and small crustaceans such as water fleas. Fish appear in the diet very early.

HABITAT

Longnose gar are typically associated with backwaters, low inflow pools and moderately clear streams. They often do very well in man-made impoundments.

DISTRIBUTION

Longnose gar range widely throughout the eastern US and north into southern Quebec. The species is especially common in the Mississippi River drainage and in the Carolinas. It may be found as far south and west as the Rio Grande drainage in Mexico, Texas and New Mexico. Longnose gar appear in most Texas rivers.

OTHER

Longnose gar may be captured by entangling the teeth in nylon threads, or by bowfishing. In Texas, specimens in excess of 80 pounds have been landed using a bow and arrow.

Shortnose Gar (*Lepisosteus platostomus*)

OTHER NAMES - Billy Gar, Short-billed Gar, Stub-nose Gar

DESCRIPTION

Lepisosteus is Greek, meaning "bony scale", and platostomus is also Greek, meaning "broad mouth." Shortnose gar may be distinguished from other Texas species in that they lack the double row of teeth in the upper jaw of the alligator gar, the long snout of the longnose gar, and the spots of the spotted gar.

LIFE HISTORY

Shortnose gar spawning activity may occur from May into July. Females are often accompanied by more than one male. Yellow eggs are scattered in vegetation and other submerged structures, usually hatching within eight days of spawning. The fry remain in the yolk-sac phase for another week, at which time they begin to feed on insect larvae and small crustaceans. At little over an inch in length, fish appear in the diet. Sexual maturity is usually achieved when fish reach about 15 inches in length. Shortnose gar are more tolerant of high turbidity than other gar species.

HABITAT

They inhabit large rivers and their backwaters, as well as oxbow lakes and large pools.

DISTRIBUTION

Shortnose gar are present in the Mississippi River drainage from the Gulf Coast as far north as Montana in the west, and the Ohio River in the east. In Texas, shortnose gar may be found in the Red River basin below Lake Texoma.

OTHER

As with alligator gar, shortnose gar may be captured by entangling the teeth in nylon threads or by bowfishing. Shortnose gar up to five pounds have been brought in by anglers. The Texas state record, captured with a bow and arrow in Lake Lavon, weighed in at 11.15 pounds and measured in excess of 37 inches.

Spotted Gar (*Lepisosteus oculatus*)

DESCRIPTION

Gar are long and cylindrical with elongated mouths. Spotted gar grow to a length of 3 feet (0.9 m), weighing 8 pounds (3.6 kg). Their upper body is brown to olive, and they have silver-white sides. Head, body, and fins have olive-brown to black spots that help camouflage the fish. A broad, dark stripe is on the sides of immature fish. Their long, snout-like mouth is lined with strong, sharp teeth, and their body is covered with thick, ganoid (diamond-shaped) scales. Spotted gar may be distinguished from other Texas gar species by the dark roundish spots on the top of the head, the pectoral fins and on the pelvic fins.

LIFE HISTORY

Gar move slowly unless trying to catch food, which it grabs in its jaws in a quick sideways lunge. They often bask near the water's surface on warm days. Fry feed primarily on insect larvae and tiny crustaceans, but fish appear on the diet of young gar very early. Prey is usually swallowed headfirst. Spotted gar are eaten by larger fish, alligators, herons, and cottonmouth snakes.

The long-lived gar has a life span up to 18 years. Males mature in two to three years. Females mature when three to four years old. They spawn in shallow water with low flow and heavy vegetation. Several males court a single larger female at the same time. Spawning season is from April to May. The number of eggs varies greatly, but up to about 20,000 green, adhesive eggs are attached to aquatic plants. Fry hatch after 10 to 14 days. Young gar have specialized pads on their upper jaws that allow them to adhere to vegetation. They remain attached to plants until they are about 0.75 inches (2cm) long. The pad is lost when last of the yolk sac is absorbed.

Gar have a specialized swim bladder which allows them to gulp air and live in the poorly oxygenated back waters of Texas' streams, swamps and lakes. Lepisosteus is Greek and means "bony scale", referring to the large ganoid scales. Oculatus means "provided with eyes" in Latin and refers to the dark spots on head, body, and fins. The common name, gar, is rooted in the Anglo-Saxon language and means "spear." The roe (or egg mass) is highly toxic to humans, animals, and birds.

HABITAT

Spotted gar prefer clear, quiet, vegetated waters of streams, swamps and lakes. They sometimes enter brackish waters along the Gulf Coast.

DISTRIBUTION

Spotted gar are very widespread, and can be found from central Texas east into western Florida. Their territory extends north through the Mississippi River drainage into Illinois, the lower Ohio River, and the Lake Erie drainage.

OTHER

The spotted gar is one of three gar species native to Texas. They are primitive fish and date back to the Cretaceous period, some 65 to 100 million years ago. The ancestors of spotted gar swam with the dinosaurs! A large gar can eat a lot of fish, including catfish, causing them to compete with some anglers. Because of the competition and because many people think gar are difficult to clean, gar are sometimes called a "trash" fish. This term may not be warranted when you consider that spotted gar, like all native species, have an important role to play in their ecosystem.

Bigmouth Buffalo (*Ictiobus cyprinellus)*

OTHER NAMES - Gourdhead, Redmouth Buffalo, Common Buffalo

DESCRIPTION

Ictiobus is Greek for "bull fish" and *cyprinellus* is Latin meaning "small carp." Bigmouth buffalo are similar in color and shape to smallmouth buffalo, except that the mouth is not oriented downward in typical sucker fashion, but rather straight ahead.

LIFE HISTORY

As with smallmouth buffalo, bigmouth buffalo appear to spawn in very shallow water during the spring when water temperatures reach 60°F to 65°F. Eggs hatch in 9-10 days. Typically, the species may occur in schools. Young fish seem to prefer eating bottom-dwelling invertebrates, while older individuals prefer crustaceans dwelling in the midwater.

DISTRIBUTION

Bigmouth buffalo are found in the Lake Erie drainage, and in the Mississippi River drainages from southern Canada south to the Gulf Coast. In Texas the range is limited to the Red River below Lake Texoma and to the Sulphur River in the northeast.

OTHER

As with smallmouth buffalo, some anglers consider bigmouth buffalo to be a rough fish. However, the species is highly prized in many areas. Many people consider it quite a food

fish despite its many bones. Some even relish the species' bony nature. Bigmouth buffalo in excess of 58 pounds have been landed by rod-and-reel anglers, whereas the trotline record in Texas is 75 pounds. Angling techniques are similar to those used for smallmouth buffalo.

Black Buffalo (*Ictiobus niger)*

OTHER NAMES - Mongrel Buffalo, Current Buffalo

DESCRIPTION

Black buffalo resembles its cousin, the bigmouth buffalo, but has a smaller, nearly horizontal mouth and thicker lips. The front of the upper lip lies well below the lower margin of the eye, and the upper jaw is as long or longer than the eye's diameter. The body of a black buffalo is typically thicker than that of a smallmouth buffalo, but not as deep. Coloring is similar to the bigmouth buffalo, but usually a little darker. Ictiobus is Greek for "bull fish", while niger is Latin for "dark" or "black.

LIFE HISTORY

Like other buffalo species, the black buffalo appears to spawn in shallow water during spring. This species occurs more often in strong currents, which gives rise to its common name, "current buffalo." Adults may reach weights of 50 pounds.

DISTRIBUTION

The black buffalo occurs throughout the Mississippi, Ohio, Missouri, and adjacent river basins. In Texas, it is largely confined to the Red River basin.

OTHER

Buffalo will sometimes take dough baits made with cottonseed meal, and when hooked, provide exceptional sport. Black buffalo are infrequently caught in Texas.

Smallmouth Buffalo (*Ictiobus bubalus)*

DESCRIPTION

Ictiobus and bubalus are both Greek words meaning "bull fish" and "buffalo", respectively. The back and sides are light brown or otherwise dark with a coppery or greenish tent. The belly is pale yellow to white. Smallmouth buffalo scales are large, and the species sometimes be confused with common carp by the novice. However, buffalo lack the barbels of carp. Smallmouth buffalo, as opposed to bigmouth buffalo, have a distinctive sucker-type mouth, oriented downward.

LIFE HISTORY

Although the **Life History** of smallmouth buffalo is not well understood, spawning seems to occur in the spring when water temperatures reach 60-65°F. Eggs are broadcast over weeds and mud bottom, hatching in one to two weeks. This species is primarily bottom feeding which is why insect larvae, algae, detritus, and sand often make up significant portions of the fishes' gut contents.

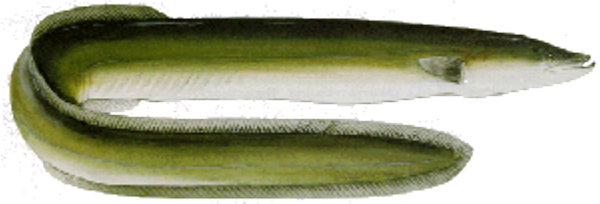
DISTRIBUTION

The native range of the smallmouth buffalo includes larger tributaries of the Mississippi River from Montana east to Pennsylvania and West Virginia. The species is also found in Gulf slope drainages from Alabama to the Rio Grande River drainage. In Texas, smallmouth buffalo are found in most large streams, rivers, and reservoirs exclusive of the Panhandle.

OTHER

Although some anglers consider smallmouth buffalo to be a rough fish, in many areas the species is highly prized. Specimens in excess of 82 pounds have been landed by rod and reel anglers, whereas the trotline record is 97 pounds in Texas. Buffalo will sometimes take doughballs made with cottonseed meal, and when hooked provide exceptional sport. Many people may be unaware that smallmouth buffalo is quite a food fish. It is the number one species sold by commercial freshwater fishermen.

American Eel (*Anguilla rostrata)*



OTHER NAMES - Freshwater Eel

DESCRIPTION

Anguilla and rostrata are both Latin, meaning "eel" and "beaked," respectively. The latter is probably a reference to the fish's snout. The American eel has a slender snakelike body with very small scales, and the fish may appear naked. A long dorsal fin usually extends for more than half the length of the body and is continuous with a similar ventral fin. Pelvic fins are absent. The back may be olive-green to brown shading to greenish-yellow on the sides and light gray or white on the belly.

LIFE HISTORY

Like the European eel, the American eel spawns during the winter in the Sargasso Sea, a tropical area northeast of Cuba. Adult eels spend most of their lives in freshwater, although the amount of time may vary among individuals. At some point, however, adults leave their freshwater Habitats and move toward the Sargasso Sea. Neither adults or eggs have been collected in the vicinity of the Sargasso Sea, but newly hatched eels are found there. Presumably, spawning takes place in deep water and the adults die shortly thereafter. Young eels are transparent and leaf shaped. Years ago when they were first collected they were thought to be a new fish species and erroneously give the scientific name Leptocephalus. Within about a year, growing and moving toward the mainland, the American eels transform into more eel-like forms called "glass eels" or "elvers" and are ready to enter freshwater (European eels have a much longer journey and the process takes about three years). By the time American eels get close to the coast they are about 6 inches in length. The species begins to develop coloration only when the young reach nearshore areas. Once they reach freshwater, females continue to migrate deep inland as far up rivers and tributaries as they can. Males remain much closer to coastline areas. Eels tend to hide under rocks during the day, and venture out only at night to feed.

DISTRIBUTION

The American eel occurs in a variety of Habitats. Known from Greenland to Brazil, it probably spans a wider range of latitudes than any other species in North America. American eels occur as far west as New Mexico, and are common throughout the Caribbean and the West Indies. Although it is native to much of Texas, the construction of dams, which impede upstream spawning migrations, has eliminated this species from most central and western areas of the state.

OTHER

Although many anglers are put off by the snake-like appearance of eels and the prodigious amounts of slime they produce when captured, eels are in fact exceptionally good fish. In

Texas, they are usually caught by anglers fishing for something else. The state rod & reel record is 6.45 pounds and 42 inches in length. The world record is 9.25 pounds.

Bowfin (*Amia calva)*

OTHER NAMES - Grindle, Dogfish, Grinnel, Cypress Trout, Mud Fish

DESCRIPTION

Amia is a Greek name for an unidentified fish, probably the bonito, and calva is Latin meaning "smooth," referring perhaps to the fish's scaleless head. The bowfin has a large mouth equipped with many sharp teeth. Its large head has no scales. The dorsal fin is long, extending more than half the length of the back, and contains more than 45 rays. None of the fins have spines. The tail is rounded, and the backbone extends part way into it. There is a barbel-like flap associated with each nostril. The back is mottled olive green shading to lighter green on the belly. There is a difference in color among the fins. The dorsal is dark green, while all others are light green (coinciding perhaps with overall body color changes). Young fish have a distinctive black spot near the base of the upper portions of the tail fin. The spot is usually margined with yellow or orange. Although it persists in adult fish, it is less prominent in females.

LIFE HISTORY

Bowfins spawn in the late spring. Nests are constructed by males in shallow, weedy areas. Vegetation and silt are removed from the nest by males and the adhesive eggs attach to any hard structure that is left, such as roots, gravel, wood, etc. Eggs hatch in 8-10 days. Males guard both incubating eggs and fry which may remain in the nest for about nine days after hatching. Initially, bowfin young feed on small invertebrates such as cladocerans (water fleas). By the time they reach about four inches in length they are primarily piscivorous, although crayfish can make up a substantial proportion of the diet, and frogs are also consumed. Young fish may grow as much as 12-14 inches during their first year. Bowfins tend to be found in deeper water during the day, and migrate into shallower areas used to feed at night. Their swim bladder is used as a lung and they may be seen surfacing to renew their air supply from time to time. In general, the average size in Texas is six to eight pounds.

DISTRIBUTION

With the exception of the Appalachian Mountains, the bowfin is native to the eastern US, ranging from extreme southeastern Canada to the Gulf Coast. In Texas the species is found in the Red River, San Jacinto River and Sabine River systems, as well as the downstream reaches of the Brazos and Colorado rivers.

OTHER

Although bowfins are not usually sought after in Texas, it is generally acknowledged that once hooked they are excellent fighters. Indeed, some anglers relish the thought of hooking a bowfin. Relative to consumption, bowfins are typically considered a rough fish rather than one for the table.

Chain Pickerel (*Esox niger)*

OTHER NAMES - Pike, Jackfish

DESCRIPTION

Esox and niger are both Latin words. Esox means "pike", and niger means "dark", or "black." Like its close relatives, northern pike and muskellunge, the chain pickerel is equipped with a large mouth, well adapted for piscivory. The lower jaw, which extends further forward than the upper jaw, is equipped with four sensory pores on the underside. The dorsal and anal fins are set well back on the body. Chain pickerel are usually olive-green or yellowish-brown on the back and sides, shading to a creamy yellow underneath. There is a distinctive pattern of interlocking dark bands on the back and sides that is reminiscent of a chain-link fence. During their first year they may reach 12-14 inches in length. Growth slows somewhat during the second year when they may attain lengths of 1.5 feet. In Texas they typically reach sizes of 3-4 pounds and about 2 feet in length.

LIFE HISTORY

In Texas chain pickerel spawn between December and February. Strings of sticky eggs are deposited on aquatic vegetation and subsequently fertilized. There is no parental care. When the young hatch they feed on plankton, aquatic insects or even their own siblings. At about three inches the diet becomes almost exclusively other fish. Individuals that shift to a diet of fish earliest tend to grow faster. The species prefers cover and is most often found in patches of aquatic vegetation. In general, they lie in wait and strike when unsuspecting prey swim their way.

DISTRIBUTION

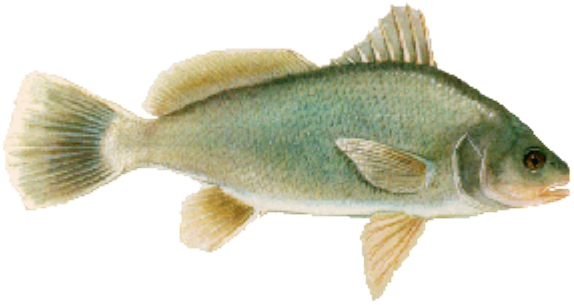
Chain pickerel are distributed along the Atlantic coast of North America from New Brunswick and Nova Scotia south to Florida. The species is found in the Mississippi River drainage from the Gulf Coast as far north as Illinois and Indiana, and may be found in Gulf drainages as far west as the Sabine and Red rivers in Texas.

OTHER

Fishing for chain pickerel is basically a winter-time activity in Texas. It begins with the first real cold front in the fall and continues until March or April when water temperatures warm.

Like northern pike, chain pickerel are bony, but usually considered tasty. Although the national record is over nine pounds, the Texas state record is 4.75 pounds (23.75 inches).

Freshwater Drum (*Aplodinotus grunniens)*



OTHER NAMES - Drum Fish, Gaspergou, Gou, Sheepshead

DESCRIPTION

Aplodinotus is Greek for "single back", and *grunniens* is Latin for "grunting", referring to the fact that the species may be observed (or felt) making "grunting" sounds. Except for color, freshwater drum resembles its marine relative the red drum. The fish is deep-bodied and equipped with a long dorsal fin divided into two sections. The dorsal fin usually has 10 spines and 29-32 rays. Freshwater drum are silvery in color and lack the distinctive tail fin spot of red drum.

LIFE HISTORY

In Texas freshwater drum may spawn in April or May. Spawning seems to occur in open water. The eggs float until they hatch. Freshwater drum appear to be basically benthic, spending most of their time at or near the bottom. They feed primarily on fish, crayfish, and immature insects, often by rooting around in the substrate or moving rocks to dislodge their prey. The presence of heavy throat-teeth also allows them to consume mollusks to a certain extent. In Lake Erie, they have been found feeding on zebra mussels (although not nearly enough to control the zebra mussel population).

DISTRIBUTION

Freshwater drum occurs in a variety of Habitats, and is one of the most wide ranging fish latitudinally in North America. Populations can be found from Hudson Bay in the north to Guatemala in the south. East to west, the species ranges from the western slopes of the Appalachians to the eastern slopes of the Rockies. In Texas freshwater drum are ubiquitous exclusive of the Panhandle.

OTHER

Although freshwater drum is considered a rough fish by many anglers, it is prized as a food fish in some areas. Drum are also sought after as bait for other species. In Texas the rod and reel record exceeds 30 pounds, and the trotline record is 55 pounds.

Red Drum (*Sciaenops ocellatus)*

OTHER NAMES - Redfish, Rat Red, Bull Red, Or Just "Red"

DESCRIPTION

The most distinguishing mark on the red drum is one large black spot on the upper part of the tail base. Having multiple spots is not uncommon for this fish but having no spots is extremely rare. The color of red drum ranges from a deep blackish, coppery color to nearly silver. The most common color is reddish-bronze. Red drum is a fast growing fish reaching approximately 11 inches and one pound in its first year, 17-22 inches and 3 1/2 pounds in two years, and 22-24 inches and 6-8 pounds in three years. The record red drum was 94 pounds and was caught on the East coast. The current Texas record is 59 1/2 pounds.

LIFE HISTORY

For the first three years of their lives red drum live in the bays or in the surf zone near passes. Evidence from tag returns show that they remain in the same area and generally move less than 3 miles from where they were tagged. As they mature, they move from the bays to the Gulf of Mexico where they remain the rest of their lives, except for infrequent visits to the bays. Although there is little evidence of seasonal migrations, anglers find concentrations of red drum in rivers and tidal creeks during the winter. Daily movement from the shallows to deeper waters is influenced by tides and water temperatures. During the fall, especially during stormy weather, large adult red drum move to the gulf beaches, possibly for spawning, where they can be caught from piers and by surf anglers. This is known as the "bull redfish run."

Young red drum feed on small crabs, shrimp, and marine worms. As they grow older, they feed on larger crabs, shrimp, small fish, and sometimes their cousins, the Atlantic croaker. They generally are bottom feeders but will feed in the water column when the opportunity arises. A phenomenon called "tailing" occurs when the red drum feed in shallow water with their head down in the grass and the tail exposed to the air. Predators include humans, birds, larger fish, and turtles.

Between the third and fourth year, the red drum reaches sexual maturity. Spawning season is from mid-August through mid-October in Gulf waters, near the mouths of passes and shorelines. Eggs incubate for 24 hours. Larvae are carried into tidal bays by the current. They move to quiet, shallow water with grassy or muddy bottoms to feed on detritus (dead or decomposing plant and animal matter). The oldest recorded red drum was 37 years old!

During spawning, red drum males attract females by producing a drum-like noise by vibrating a muscle in their swim bladder. They sometimes swim in water so shallow that their backs are exposed.

Red drum are related to black drum, spotted seatrout, weakfish, mullets and croakers, most of which also make drumming sounds. Scientists believe that the black spot near their tail helps fool predators into attacking the red drum's tail instead of their head, allowing the red drum to escape.

HABITAT

Red drums prefer shallow waters (1-4 feet deep) along the edges of bays with submerged vegetation such as seagrasses. They are found over all bottom types but they seem to prefer areas with submerged vegetation and soft mud. These fish are also commonly found around oyster reefs. Breaks in continuity of shorelines such as coves, points, jetties, old pier pilings, and guts attract them. They prefer soft mud along jetties, pier pilings and jetties. They are often found in water so shallow that their backs are exposed while swimming. During cold spells large numbers of red drum can be found in tidal creeks and rivers. They can live in fresh water and have been found many miles upriver.

DISTRIBUTION

Red drum range from Massachusetts to Key West, Florida, and along the Gulf Coast to Tupxan, Mexico.

HOW TO CATCH

One attractive characteristics of this fish is its willingness to take most kinds of bait, both natural and artificial. The best natural baits are live shrimp, small finger mullet, Atlantic croaker, and small live blue crabs. Live shrimp are fished under a popping cork or "free shrimped" using a small weight and letting the shrimp swim freely. Live fish are best on the bottom using a slip-sinker type rig where the fish can swim freely. The bait fish are hooked through the lips or through the top of the back behind the dorsal fin. Small blue crab are fished on bottom and are hooked through one of the swimming legs at the rear of the crab.

Stalking the shallow grass flats for red drum is the ultimate challenge for the wade anglers. Artificial baits such as 1/2 and 1/4 ounce shallow-running gold, copper, or silver spoons are favorites. A weedless spoon is used in areas of heavy submerged or floating vegetation.

Fish-shaped plugs, both floating and shallow-running, are effective over the grass flats. Shrimplike plastic worms and jigs are good and both are fished under corks or bounced along the bottom.

The surf provides excellent red drum fishing. The best artificial baits are the heavier spoons and slow sinking fish shaped plugs. Plastic worms are also effective bounced along the bottom.

Saltwater flyfishing for red drum is increasing in popularity. Flyfishers sight-cast small surface popping plugs, baitfish type streamers or shrimp and crab imitation flies to "cruising" or "tailing" red drum. Rod lengths range from 8 1/2 to 9 1/2 feet casting weight forward, floating line from six to nine weight. Leader lengths can be from seven to 9 feet with a tippet strength from eight to 15 pounds. Once hooked, a red drum on flyfishing tackle is a worthy, exciting adversary.

"Bull" reds are best caught with natural bait. Fresh cut mullet, larger live mullet (6-8 inches long) and blue crab are the best baits. Both single and double-drop bottom rigs are good. A heavy grabbing sinker is needed to keep baits stationary on the surf bottom.

Tackle varies according to angler preference. Surf and pier fishers for "bull" reds prefer rods more than 10 feet in length and stiff enough to handle a heavy terminal tackle. Reels should be large enough to handle several hundred yards of 25-40 pound test line and reels should have a good drag system.

For smaller fish (less than 10 pounds), the best rod to use should be 6 1/2 to 8 feet long, has a medium action, and has a two-handed grip to help the anglers in long distance casting. Reels should be able to hold at least 100 yards of line. Line strength will vary depending on what type of Habitat is being fished. Heavier line (17-25 pounds) is needed when fishing around oyster shell, rocks, or pilings. Lighter line (8-15 pounds) is favored when fishing the grass flats. Leaders are optional, depending on line weight and where the fishing occurs.

Anglers must remember that there are bag and possession limits and minimum-maximum size limits on red drum. Be sure to be familiar with the regulations each year when fishing on the Texas Gulf coast.

OTHER

The red drum is a popular game fish in coastal waters from Massachusetts to Mexico. Red drum is considered a great sport fish because it will hit on most kinds of bait. The Texas record for a red drum catch was 59.5 pounds (23 kg); however, a red drum weighing 94 pounds (42.69 kg) was caught along the North Carolina coast.

Paddlefish (*Polyodon spathula)*

OTHER NAMES - Spoonbill, Spoonbill Cat, Shovelnose Cat

TEXAS STATUS

Threatened

DESCRIPTION

Paddlefish grow up to 87 inches (221 cm) long - that's over 7 feet long! They can weigh as much as 200 pounds, but most are usually between 10-15 pounds. Paddlefish have a gray, shark-like body with a deeply forked tail, and a long, flat blade-like snout (looks like a kitchen spatula) almost one third of its body's entire length. It opens its huge mouth when feeding. Paddlefish resemble sharks not only by shape, but by their skeletons as well. Both paddlefish and sharks have skeletons made of cartilage, not bone. Paddlefish have no scales. Their gill cover is long and comes to a point, and they have tiny eyes.

LIFE HISTORY

Paddlefish have no teeth and eat by swimming through the water with its mouth held wide open, scooping up tiny plants and animals in the water called plankton. They filter out the food with their gill rakers. The underside of the paddlefish's "paddle" is covered with taste buds (like the ones on your tongue) and probably helps it to find places where plankton is the most abundant.

Male paddlefish are old enough to spawn when they are four to nine years. Females spawn when they are 6-12 years old. Spawning season is from March through June, when spring rains raise the water levels of rivers and water temperatures reach 50-60 degrees. Males and females gather in schools and release their eggs over gravel or sandbars. This is called "broadcast spawning." By the end of their first year, baby paddlefish grow about 10 to 12 inches. They can live up to 30 years.

Paddlefish are sometimes called a spoonbill, spoonbill cat, or shovelnose cat because some have mistaken the paddlefish as a member of the Catfish family. It is one of only four cartilaginous fish native to Texas. The chestnut lamprey, brook lamprey and shovelnose sturgeon are the others. Paddlefish were first seen by Europeans in the 16th century, when Hernando De Soto explored the Mississippi River.

HABITAT

Paddlefish like to live in slow moving water of large rivers or reservoirs, usually in water deeper than four feet (130cm).

DISTRIBUTION

The native range of paddlefish includes the Mississippi River basin from New York to Montana and south to the Gulf of Mexico. Historically in Texas, paddlefish lived in the Red River's tributaries, Sulphur River, Big Cypress Bayou, Sabine River, Neches River, Angelina River, Trinity River, and San Jacinto River.

OTHER

Paddlefish are the oldest surviving animal species in North America. Fossil records indicate that it is older than dinosaurs (300 million years). Females may spawn only once every 4 to 7 years. The paddlefish has only one other relative in the world, another paddlefish that lives in China. Polyodon is Greek for "many teeth" and refers to the paddlefish's gill rakers, even though they have no teeth at all. The word spathula is Latin for "spatula" or "blade."

The State of Texas has protected the paddlefish since 1977. It is considered a threatened species. It is unlawful to catch, kill or harm paddlefish in Texas.

Paddlefish face a number of problems in Texas. They need large amounts of flowing water in order to reproduce. The construction of dams and reservoirs along Texas rivers decreases water flow and interrupts spawning.

The eggs of paddlefish can be used to make palatable caviar. When caviar becomes difficult, and expensive, to get from Russia paddlefish are often taken illegally (or poached) for their dark, edible eggs.

Paddlefish seldom bite a baited hook, but on occasion are "snagged" accidentally by anglers using treble hooks. Most often paddlefish are caught by using illegal nets, such as gill nets.

Rainbow Trout (*Oncorhynchus mykiss)*

Photo courtesy USFWS/Duane Raver

DESCRIPTION

Oncorhynchus is Greek meaning "hook snout", and mykiss is the Kamchatkan name for rainbow trout. Rainbow trout have a characteristic salmon-like shape. Dark spots are clearly visible on the tail fin, which is slightly forked. The anal fin has 10-12 rays. The back is usually a dark olive color, shading to silvery white on the underside. The body is heavily speckled, and there is a pink to red stripe running lengthwise along the fish's sides.

LIFE HISTORY

Rainbow trout is an anadromous, cool- to cold-water fish species. Although rainbows have been known to tolerate higher temperatures, they do best in areas where the water remains below 70°F. Eggs are laid in shallow nests dug out by the female in gravel riffles. The eggs require continuous oxygenation. At temperatures of about 55°F, the eggs will hatch approximately 21 days after they are laid. Rainbow trout are carnivores, but not exclusively piscivorous. They feed on a wide variety of prey including insects, crustaceans, mollusks and fish. Rainbows with access to the sea have been known to exceed 42 pounds. The record size for those confined to freshwater is 31.27 pounds.

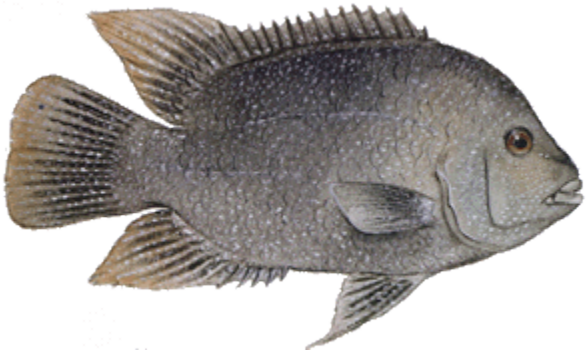
DISTRIBUTION

Rainbow trout are native to North America west of the Rockies from Alaska into northwestern Mexico. Introductions have extended the range to include the Great Lakes region, south central Canada and portions of the Great Plains east of the Rockies, and southwestern Mexico. In Texas, high temperatures prevent reproduction or even over-summer survival in most areas, though some may survive in tailrace areas below large dams such as at Canyon Reservoir. The only self-sustaining population in the state exists in McKittrick Canyon in the Guadalupe Mountains.

OTHER

Since rainbow trout generally do not reproduce in Texas, and are unable to survive through the summer in most areas, the species is primarily used in winter put-and-take fisheries. Each winter, several hundred thousand rainbows are stocked in community fishing lakes around the state. Much enthusiasm is generated by the annual stockings. On occasion, banks are lined with anglers eager to catch their limit immediately after trout are stocked. The state record is 8.24 pounds and was taken from the Canyon Reservoir tailrace.

Rio Grande Cichlid (*Herichthys cyanoguttatus)*



OTHER NAMES - Rio Grande Perch, Texas Cichlid

DESCRIPTION

The Rio Grande cichlid is a native member of the Cichlid family of fishes, which also includes the exotic tilapia. The word cyanoguttatus is Greek and means "blue spotted." Rio Grande cichlid are distinctive in that they exhibit cream and turquoise colored spots, giving them a speckled look. Background color varies from very dark to light olive. Lighter colored specimens usually exhibit five dark vertical bars. Both dorsal and anal fins are long and tapered extending behind the caudal peduncle (fleshy portion of the tail). Unlike tilapia and most sunfishes, which typically have three spines on the anal fin, Rio Grande cichlids are equipped with five to six anal fin spines. Adult males may also develop a pronounced "hump" on the head which is not present in tilapia. These fish may grow to exceed 10 inches in length.

LIFE HISTORY

Like most of its family, the Rio Grande cichlid is generally considered a warm-water fish, and is very sensitive to cold. In general, this fish does not survive at water temperatures below 49°Fahrenheit. The species may do well in heated water, and in spring-fed waters with constant favorable temperatures. Spawning occurs in early spring. Both parents protect their young, which feed primarily on small fish, insects and crustaceans. Adults are also known to consume large quantities of fish eggs when they are available.

DISTRIBUTION

The distribution of the Rio Grande cichlid in Texas appears to have originally been limited to the lower reaches of the Rio Grande. However, a number of populations have been established in river drainages of Central Texas' Edwards Plateau including the San Marcos, Guadalupe, San Antonio and Colorado rivers. Minimum temperature tolerances in the Colorado River have been measured at 57-66°F.

OTHER

The Rio Grande cichlid is a fine fighter, and easily caught. It is considered good table fare. The Texas state record was caught at Lake Dunlap in 2011 and weighed 2.02 pounds.

Gizzard Shad (*Dorosoma cepedianum*)

OTHER NAMES - Shad, Hickory Shad, Herring, Skipjack

DESCRIPTION

Dorosoma is Greek for "lance body", referring to the lance-like shape of young shad. The species epithet cepedianum refers to the French naturalist Citoyen Lacepede. Gizzard shad are usually easily distinguished from threadfin shad by the fact that the upper jaw projects well beyond the lower jaw. Amateur ichthyologists can run a finger underneath the mouth forward, and if the fingernail catches on the upper jaw and opens the mouth, in most cases the fish is a gizzard rather than a threadfin shad. The anal fin usually has 29-35 rays, as opposed to 20-25 rays found in threadfin shad. The upper surface is silvery blue, and grades to nearly white on the sides and belly. Fins do not have the yellowing tint present in threadfin shad. Unlike threadfin shad, the chin and floor of the mouth in this species is not speckled with black pigment. Although the species commonly grows to lengths of 9-14 inches, some have been reported to exceed 20 inches in length. In Texas the record (taken with a spear gun) is an 18.25-inch specimen that weighed in at 2.97 pounds.

LIFE HISTORY

The species is most often found in large schools. The common name "skipjack" is derived from the fact that individuals within a school may often be observed leaping out of the water or skipping along the surface on their sides. Spawning generally takes place in late spring, usually in shallow protected water. Eggs and milt are released in the school, seemingly without regard for individual mates. Adhesive eggs attach to submerged objects and hatch in about 4 days. Although adult shad are moderately deep-bodied, fry are extremely slender and delicate looking until they reach about 1.25 inches in length. Gizzard shad are planktivorous. Young feed on microscopic animals and plants, as well as small insect larvae. Adults feed by filtering small food items from the water using their long, close-set gill rakes.

HABITAT

Gizzard shad are most abundant in large rivers and reservoirs, avoiding high gradient streams.

DISTRIBUTION

In Texas, gizzard shad are found in all major streams and reservoirs. The species is native to eastern North America. In the north the range includes the Saint Lawrence River and the Great Lakes (except Lake Superior), and extends west into North Dakota. Gizzard shad are found as far south as eastern Mexico, and as far west as New Mexico. The species is not found in New England, south Florida, or through most of the Appalachian Mountain chain.

OTHER

Gizzard shad provide forage for most game species. They rarely bite on a hook, and when they do, they are generally considered worthless as a food fish. The species is often used as cut bait for other fish species.

Threadfin Shad (*Dorosoma petenense)*

DESCRIPTION

Dorosoma is Greek for "lance body", referring to the lance-like shape of young shad. The word petenense refers to Lake Peten in the Yucatan, the species type locality. Threadfin shad are usually easily distinguished from gizzard shad by the fact that the upper jaw does not project beyond the lower jaw. The anal fin usually has 20-25 rays, as opposed to 29-35 rays found in gizzard shad. The upper surface is silver-blue and grades to nearly white on the sides and belly. All fins have yellow tint except the dorsal. In this species, unlike gizzard shad, the chin and floor of the mouth is speckled with black pigment. Adults are considerably smaller than gizzard shad adults, rarely exceeding 6 inches in length.

LIFE HISTORY

Threadfin shad are more likely to be found in waters with a noticeable current and are usually in the upper five feet of water. They are quite temperature sensitive, with die-offs reported at temperatures below 45°F. Spawning begins in the spring when water temperatures reach approximately 70°F, and may continue into the summer. During spawning, one or more females are accompanied by several males.

HABITAT

Like gizzard shad, threadfin shad are most commonly found in large rivers and reservoirs.

DISTRIBUTION

Threadfin shad naturally occur in waters west of the Appalachian Mountains, north to Kentucky, west to East Texas, south to the Rio Grande drainage, and east to Florida. The species has been widely introduced in California and Arizona, as well as Appalachian and southern Atlantic states. Threadfin shad are common in all East Texas streams and have been introduced as forage fish in many reservoirs statewide.

OTHER

Often used as a bait fish. Threadfin shad almost never bite on a hook.

Walleye (*Sander vitreum)*

OTHER NAMES - Walleyed Perch

DESCRIPTION

Stizostedion is Greek and vitreum is Latin, meaning "pungent throat" and "glass", respectively. The latter is probably a reference to the species' large eyes. As is typical of perches, the walleye is equipped with two separate dorsal fins. The anterior fin has spines, and the posterior dorsal has 19-22 soft rays. The anal fin has 12-14 rays and two spines. The body is generally mottled with dark blotches on a yellowish-to-greenish brown background. Colors on the lower body shade to white on the belly. The lower lobe of the tail fin has a light tip. Walleyes are obvious carnivores with teeth in the jaws and on the roof of the mouth.

LIFE HISTORY

Walleyes are early spring spawners. They are generally nocturnal with most activity, including spawning, occurring at night. In the spring, spawning begins when water temperatures reach 45-50° Fahrenheit. Fish begin to move upstream into tributaries. Typically, spawning takes place on riffles after fish have moved upstream, but in lakes it may also take place on rip-rap dams or reefs (as in the Great Lakes). Eggs are scattered at random by females who are accompanied by several males that fertilize the eggs. Walleye eggs are adhesive and stick to the substrate. At water temperatures of 57°F, they hatch in about seven days. There is no nest building, and no parental care for eggs or fry. Young walleyes are fast growers and may attain lengths of ten inches or more during their first year if conditions are favorable. Although young fish may consume crustaceans and various insects and their larvae, adults are primarily piscivorous. Walleyes typically live to be 7-8 years old and weigh 12-15 pounds. However, individuals in their mid "teens" have been collected, and the world all-tackle record is 25 pounds.

DISTRIBUTION

The walleye is native to the central portion of North America from the Rocky Mountain to the Appalachian Mountain chains, ranging as far south as Arkansas, Mississippi, and Alabama, and as far north as Great Slave Lake, the Mackenzie River and the Peace River in northwest Canada. Introductions have extended the range beyond the Appalachian Mountains in the east, to the Columbia river in the west, and as far south as Texas. The species has been stocked in several Texas reservoirs.

OTHER

High summer water temperatures restrict walleye growth and survival in much of Texas. However, in the north Texas lakes, such as Lake Meredith, the species does very well. Six-to-eight pound specimens are common at times. The state record comes from Lake Meredith and stands at 11.88 pounds. Walleye is considered an excellent food fish from Texas to the northern states.