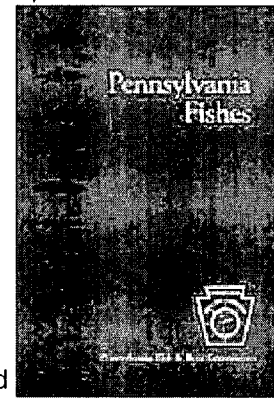


Chapter 22

Sunfishes

Family Centrarchidae

Family overview: The little bluegill in the local farm pond and the tackle-busting largemouth bass of the big lake are both members of the sunfish family. The two have plenty of "cousins" in Pennsylvania, because 17 sunfish species live in the state. The black basses (genus *Micropterus*), are represented by the largemouth bass, smallmouth bass and spotted bass. The sunfishes (genus *Lepomis*) include the redbreast sunfish, green sunfish, pumpkinseed, warmouth, bluegill, longear sunfish and redear sunfish. Others in the sunfish family include the black crappie and white crappie (genus *Pomoxis*), the rock bass (genus *Ambloplites*), the mud sunfish (genus *Acantharchus*), and the little sunfishes of the genus *Enneacanthus*, which are the blackbanded, bluespotted and banded sunfish.



The sunfish family (with one non-Pennsylvania exception) was originally confined to the fresh waters of North America east of the Rocky Mountains. Some of them, especially the basses, have been widely stocked for sport across the United States and in other countries. In many places, sunfishes are the dominant fishes of warmwater habitats. They typically live in warm, rocky, weedy lakes, ponds and slow-moving streams. In Pennsylvania the sunfishes are distributed across the state, although a few species have restricted ranges.

The rare blackbanded and banded sunfishes are known to be present only in the lower Delaware River watershed, near Philadelphia. The small bluespotted sunfish is found in sluggish water or weedy ponds in the Delaware and Susquehanna River watersheds, but it is absent from the rest of the state. The warmouth is widely distributed in the eastern United States. It has been documented in Pennsylvania in the Allegheny River watershed. Longear sunfish are found throughout the Midwest. They have been occasionally seen in northwestern Pennsylvania. Redear sunfish are also very restricted here, having been introduced into some waters in the central and southwest parts of the state. Other sunfishes are common, or their home localities are described in the species section.

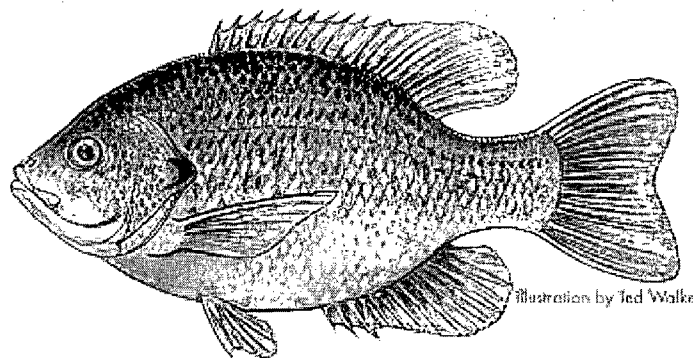


Illustration by Ted Walke

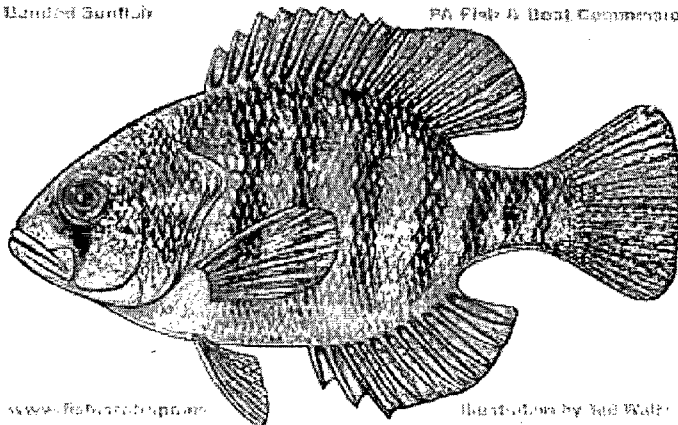
Redear Sunfish *Lepomis microlophus*

Banded Sunfish

PA Fish & Boat Commission

Blackbanded Sunfish

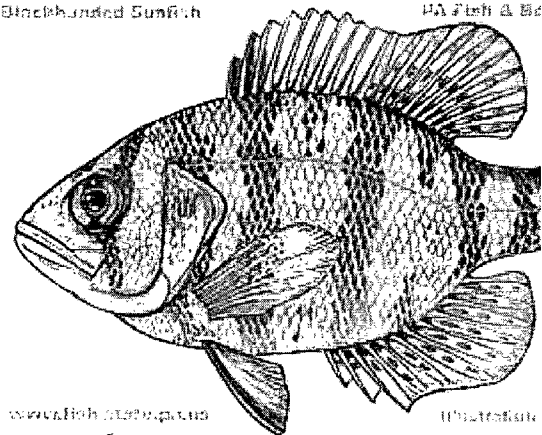
PA Fish & Boat Commission



www.fishbase.org

Illustration by Ted Walke

Banded Sunfish *Enneacanthus obesus*



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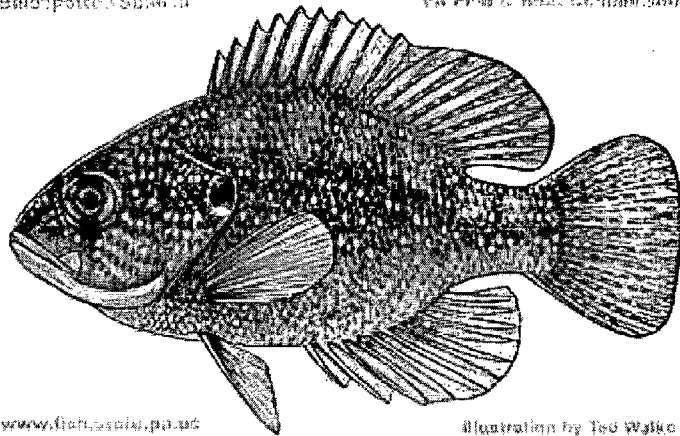
Illustration

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Blackbanded Sunfish *Enneacanthus*

Bluespotted Sunfish

PA Fish & Boat Commission



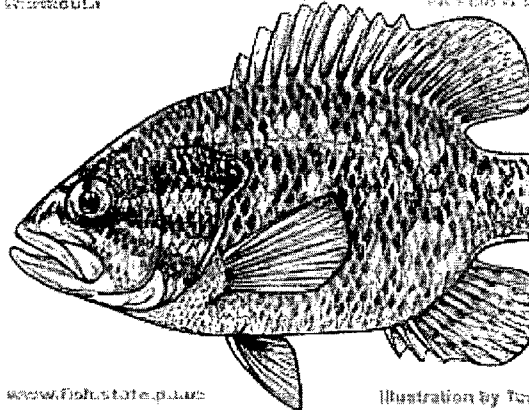
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Illustration by Ted Wainio

Bluespotted Sunfish *Enneacanthus gloriosus*

Warmouth

PA Fish & B.



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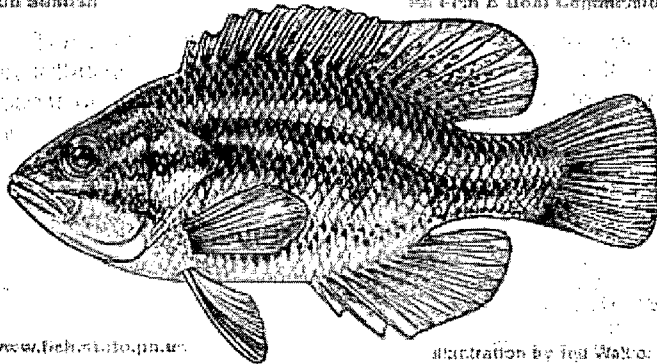
Illustration by Ted

Warmouth *Lepomis gulosus*

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Mud sunfish

PA Fish & Boat Commission



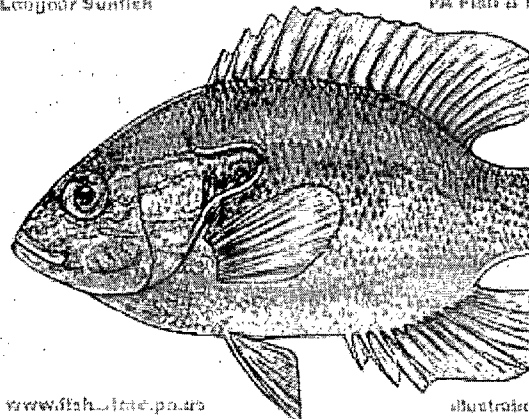
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Mud Sunfish *Acantharchus pomotis*

Longear Sunfish

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Illustration

Longear Sunfish *Lepomis megalotis*

ENDANGERED

General identification: Many species of the sunfish family are beautifully colored and patterned. As a whole, the smaller family members are “pan” shaped, narrow when viewed head on and wide when viewed from the side (laterally compressed). The nickname “panfish” is well-deserved for body shape as well as for popularity of many of the family in the fisherman’s frying pan. The eyes of the sunfish are large. The fish have no sharp spine near the back of the gill covers. The dorsal fin of sunfish has two sections, the front section with five to 14 sharp, spiny rays, and a back section, which is soft-rayed. The two dorsal fin sections are joined a little or a lot, depending on the species, so they may look like two fins or one continuous fin. The pectoral fins are relatively high on the side of the body. The pelvic fins have a leading spine and five soft rays. The anal fin also has spines on its leading edge. The sunfishes have ctenoid scales, which means that each scale has a toothed rear edge that makes the scale, and the whole fish, feel rough to the touch.

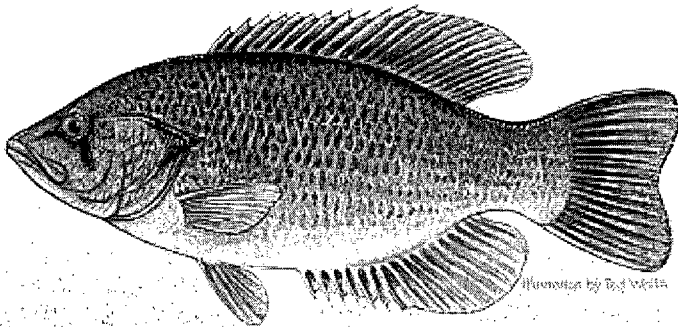
Life history: Male sunfish are territorial at spawning time, which is spring through summer depending on the species. Each male prepares a nest that it defends against other fish. The females have no part in nest-building. The males construct a nest by finning vigorously over bottom gravel, sand, vegetation or other material, until they have made a clean, circular, slightly depressed area. Two or more females may contribute eggs to the nest, which are fertilized by the male. The females leave the site after spawning. Care of the adhesive eggs is taken over by the male, which aerates them with swimming motions of his fins, and guards the nest against all predators. Because of overlapping spawning habitat and behavior, it is not unusual for sunfishes, especially of the genus *Lepomis*, to hybridize. Most sunfish have “hangouts” they prefer, such as submerged stumps, rocks or patches of water weeds. Sunfish are sight-feeders and get their food by lying in

wait and making a sudden lunge for it. Some sunfish are epibenthic feeders—they eat organisms typically attached to the surfaces of plants and rocks. Some sunfish pursue organisms like minnows and crayfish in the vicinity of these habitats. Some are bottom-feeders, and others go to the surface to grab a meal.

Angling tactics vary from “popping bugs” on the surface, especially for largemouth bass and bluegills, to bottom-bouncing jigs for crappies and smallmouth bass. Aggressive males can often be enticed to strike a bait or lure dragged across or near the nest.

Rock Bass *Ambloplites rupestris*

Species overview: Rock bass are basslike sunfish, sturdy-looking and more camouflage-colored than sunfish. Today they are found throughout Pennsylvania in suitable habitat, but they were originally distributed west of the Appalachian Mountains, in the Ohio River and Great Lakes watersheds. The canal systems of the last century are credited with giving the rock bass an avenue for colonizing Atlantic Ocean watersheds, like the Susquehanna River and Delaware River watersheds. The species name “rupestris” means “among the rocks.” The fish’s nicknames include “red-eye” and “goggle-eye.”



Identification: Rock bass are robust fish, not as flattened from the sides as most other sunfish. They are an overall dark-olive to golden-brown, mottled and shading lighter on the sides. The belly is whitish. The scales on the sides have a dark spot at the base. Together these spots form loose, horizontal rows of dots along the fish’s body. The eye is bright-red or orange, and its gill cover has a smudged-looking dark spot at its upper rear corner. The mouth extends past the front edge of the eye. Rock bass can also be distinguished by the five to seven spines on the front edge of the anal fin. They can easily reach a pound or more in weight in Pennsylvania, and a 12-incher is not uncommon.

Habitat: The rock bass is well-named because it is normally found around underwater rocks, stones and boulder rubble. It lives in warmwater lakes, reservoirs and especially in streams and rivers with rocky pools. Rock bass are often associated with smallmouth bass, and their surprisingly large mouth allows them to take baits, lures and jigs that are fished for smallmouths. In the northern part of its range, rock bass live in cool, clear lakes, frequenting rocky or stone rubble areas.

Life history: Rock bass spawn in spring or early summer, usually May or June, when the water temperature reaches 60 to 70 degrees. The males fan solitary circular nests in bottom sand and gravel. In streams, the nests are located in moderately flowing pools and are usually built near a log or large rock. Female rock bass produce 3,000 to 11,000 eggs, with an average of 5,000. The male guards the nest aggressively and stays with the hatched young until they disperse.

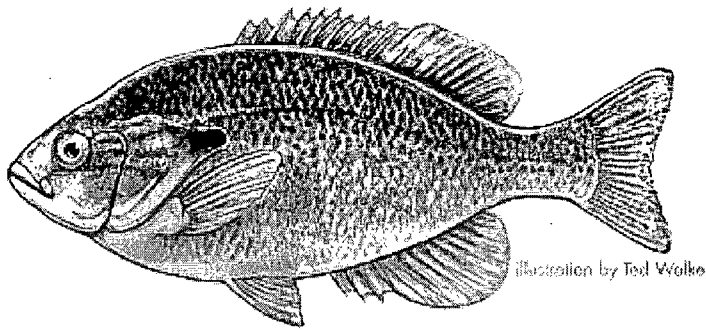
Rock bass are bottom-feeders, well-suited with a big mouth for preying on large aquatic insects, crayfish and small fishes. Adult rock bass move about in schools, and are one of the most common fish of large warmwater streams and rivers.

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- [Rock bass index](#)

Redbreast Sunfish *Lepomis auritus*

Species overview: The redbreast sunfish is native to Atlantic Coast watersheds. It is found in southern and eastern Pennsylvania in the Delaware, Susquehanna and Potomac River watersheds. The species name “auritus” means “eared,” referring to the long, dark gill flap. The common name describes the deep-orange or reddish belly.



Identification: Redbreast sunfish resemble bluegills, but with some important differences. The redbreast's back is blue-green to olive, and there may be indistinct, dark vertical bands against the lighter bluish green on the sides. The lower side and belly shades to yellow and orange. The breast, between the gill opening and the pelvic fin, may be a deep red-orange. The gill flap is very long, with an elongated black spot. The tail is slightly forked, not rounded as in most other sunfish. The mouth is small and the pectoral fins are short and round.

Habitat: The redbreast sunfish lives in a variety of habitats, from small creeks to big rivers and reservoirs. It can tolerate silted, turbid water. It prefers the same habitat as smallmouth bass and rock bass, and is often found in the larger rivers with them, but frequents the shallower water.

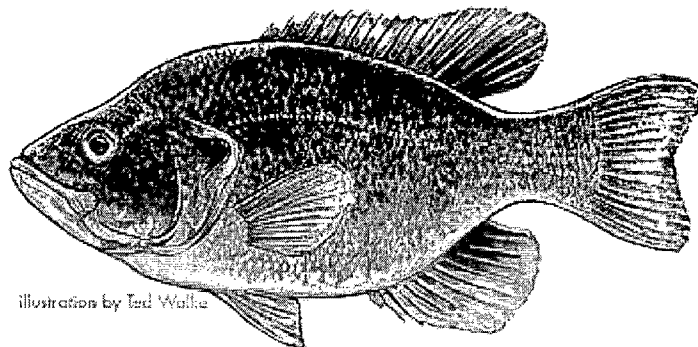
Life history: Except during the spawning season, the redbreast sunfish moves very little from its home area. Spawning is in spring and summer, usually June, when the water temperature reaches 68 degrees. Male redbreast sunfish fan a shallow nest of about 12 inches in diameter in gravel or sand. They guard the eggs and protect the young for a short while after the eggs hatch. The males construct a single nest, but the nests may be grouped in closely packed colonies, when appropriate bottom material is in short supply. The females deposit 3,300 or more eggs, depending on their size. Redbreast sunfish hybridize with bluegills and other sunfish. The redbreast feeds on aquatic insects and terrestrial insects that fall onto the water, including large ones like mayflies and dragonflies. They also eat crayfish and small fish. They are active in cooler water than the bluegill. Although widespread, redbreast sunfish don't become as locally abundant as other sunfishes, and they are normally loners when the water is warm. When the water cools, redbreasts form schools.

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Green Sunfish *Lepomis cyanellus*

Species overview: The green sunfish was originally found west of the Appalachian Mountains, throughout the Mississippi watershed. It has been introduced elsewhere in the East, and is now found in most of Pennsylvania, although not in great numbers. The species name "cyanellus" means "blue."



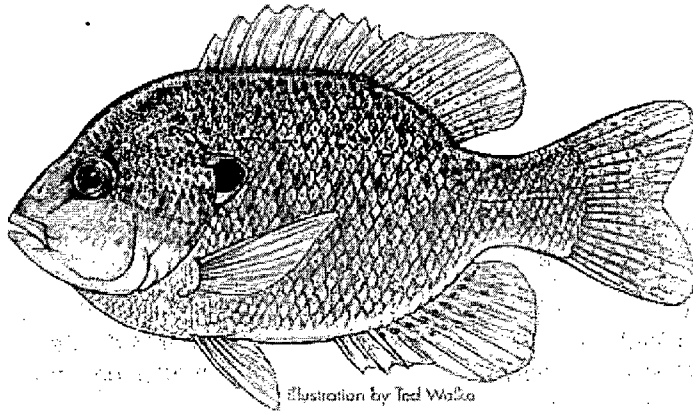
Identification: The green sunfish's back and sides are olive, with a blue-green sheen and small, scattered dark specks. The lower sides and the belly have a brassy-gold tint and the head has bright-blue spots or lines. The gill flap is black with a pale-red, pink or yellow edge, and the pectoral fins are short and rounded. There is a black blotch on the rear portion of the dorsal fin and at the base of the anal fin. The green sunfish's mouth is larger and the lips are heavier than in most sunfish. The top jaw extends past the front of the eye. Dorsal, caudal and anal fins are edged with a white, yellow or orange border. Green sunfish reach eight or nine inches in length.

Habitat: The green sunfish likes sluggish pools and backwaters in streams and rivers. It also lives in the shallows of ponds and lakes and is tolerant of siltation. Green sunfish do not roam far from their small home range.

Life history: Green sunfish spawn over several months, between June and August. The fish mature at two years of age, although they may be only three inches long. The males fan several dishlike depressions in the bottom with the tail, and defend the nests vigorously against other green sunfish males. Green sunfish may nest in colonies, and readily hybridize with other sunfish, like bluegills and pumpkinseeds. The females spawn 2,000 to 10,000 eggs onto the nests of several males, and the males stay with the nest about a week while the eggs develop. Green sunfish are prolific producers. They tend to overpopulate the shallow water areas where they live. Their rather large mouth lets them eat insects, snails, crayfish and even small fish.

Pumpkinseed *Lepomis gibbosus*

Species overview: As highly colored as any tropical fish, the pumpkinseed is one of our most common and frequently caught sunfish. Pumpkinseeds are found throughout Pennsylvania, and in eastern Canada and the eastern United States in the Atlantic watershed and upper Mississippi watershed. The species name "gibbosus" means that it is "formed like the full moon," appropriate for its flat, roundish body.



Identification: The pumpkinseed is one of our smaller sunfishes, with eight inches an average size. The body is an overall light-olive to golden-brown, with irregular blue or blue-green lines and a sprinkling of olive, orange or red-orange spots. The fish's cheeks and gill covers are marked with wavy light-blue lines. The belly is reddish orange to yellow. The best way to identify a pumpkinseed is to observe its gill flap, which is at the rear edge of the gill cover. The black gill flap is smaller and more rigid than the bluegill's. It is bordered with lighter color and, most importantly, has a bright orange-red tip.

Habitat: Pumpkinseeds are found in the quiet, weedy shallows of streams, lakes and ponds. They usually live in cooler water than other sunfish. They can tolerate poorer water quality, surviving periods of low oxygen. They also tolerate muddy water and acidic water.

Life history: Pumpkinseeds spawn in late May to early June. The males clear small, saucer-shaped nests on the bottom in water three feet deep or less. Pumpkinseeds nest in small groups of up to three nests, but these groups of nests can be very close. The nests may have several thousand eggs each, which have been deposited by several females. Although the nest is guarded, other males may rush in and fertilize eggs. It takes about three days for the eggs to hatch, and each nest may produce more than 14,000 young pumpkinseeds. Pumpkinseeds may hybridize with bluegills and green, redbreast, longear and other sunfish. They feed heavily on snails and have special throat structures for doing so. Pumpkinseeds feed mostly on the bottom of a stream or pond, where they also eat burrowing and other aquatic insects. Like the bluegill, small baits, jigs and flies take pumpkinseeds best.

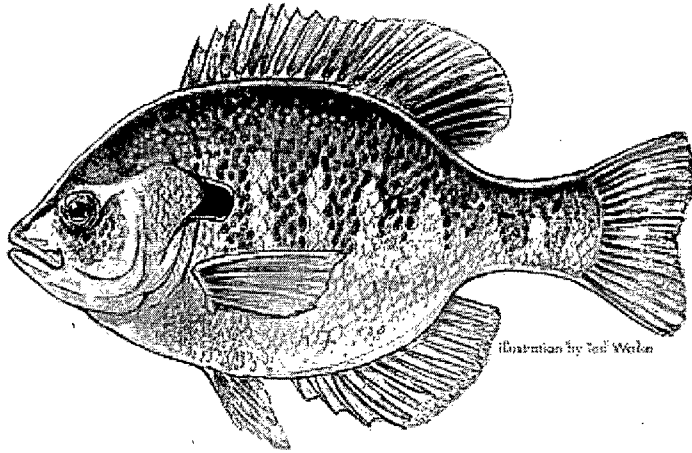
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Bluegill *Lepomis macrochirus*

Species overview: The bluegill is what many people think of as a "sunfish." It is what they usually catch when they go fishing for "sunnies." The common name refers to the bluish color that curves from the lower jaw around the bottom of the gill cover. The scientific species name "macrochirus" means "large hand," probably

describing the fish's body shape. The bluegill is found throughout Pennsylvania nowadays. It is believed not to have been present originally in Atlantic Ocean watersheds.



Identification: The bluegill has several characteristic markings, which are helpful because its colors vary so much. Generally, the bluegill has an olive to brownish back, with sides that shade to brownish, orange and even pink. The sides have eight to 10 sets of double, bluish vertical bars that may look chainlike. The belly is white to yellow or coppery-orange. The sides of the head are greenish to blue-green, with lighter metallic-looking blue on the lower edge of the gill flap and under the lower jaw. Breeding males are darker, with rosy or lavender sheens. The pectoral fin is long and pointed.

The giveaway marking that distinguishes this sunfish from others is that the flap at the end of its gill cover is black with no red spot. Bluegills also have a dark spot or blotch on the lower part of the back section of the dorsal fin.

Habitat: Bluegills prefer to live in habitats similar to those of largemouth bass. Bluegills are found in lakes, small farm ponds, and the slower parts of warmwater streams and rivers. Typical bluegill habitat has aquatic weeds, where the fish can hide and feed. They can also be found near submerged stumps, logs and rocks. In the daytime, schools of small bluegills can be found close to shore. Larger bluegills prefer nearby deep water. In the evening and early morning, the bigger bluegills move into the shallows to feed.

Dry flies and small poppers on a fly rod work well when bluegills are on the feed. Small jigs, wet flies, nymphs and a variety of small baits, fished on small hooks to accommodate the bluegill's small mouth, are also effective.

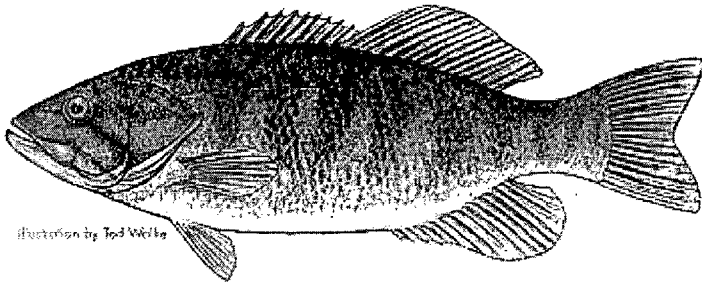
Life history: Bluegills spawn during a longer period than most sunfish, from May, when the water temperature reaches 67 degrees, until August. The males fan small, saucerlike depressions in sand and gravel as nests, and vigorously guard the eggs and hatched young. Large numbers of nests are often in the same area and form colonies. One female may deposit as many as 38,000 eggs in a nest. Bluegill eggs hatch in two to five days. Because several females have contributed, there may be more than 60,000 young fish produced from a single nest. Bluegills may overpopulate their habitat, resulting in smaller and slower-growing fish. As generalized feeders, bluegills eat aquatic insects, crustaceans and minnows, and they have been known to eat aquatic plants. The bluegill feeds only in the daytime and throughout the water column. It may grow to a foot long and up to two pounds, although nine inches is an average.

RELATED

- [Bluegill index page](#)

Smallmouth Bass *Micropterus dolomieu*

Species overview: The smallmouth bass was native to and found only in the Great Lakes and Ohio River watersheds until the mid-1800s. When the railroads spread around the country in the second half of the 19th century, so did the smallmouth. It was transported by train and eventually became a popular sport fish throughout the United States. It is now found all across Pennsylvania. Because of its body's brownish-gold tints, the smallmouth has been nicknamed "bronzeback." Its species name recognizes a French naturalist, M. Dolomieu.



Identification: The robust-looking smallmouth has a brownish or bronze cast to its back. It is lighter on the sides and has a white or pale-yellow belly. There is a goldish sheen to its scales, and smallmouths have a series of eight to 15 olive-colored vertical, broken bars along each side. The end of the upper jaw of a smallmouth does not extend beyond the back edge of the eye. The dorsal fin sections are separated by a shallow notch, not a deep notch as in the largemouth. The smallmouth's eye is orange-red, and dark lines radiate from the eye backward. In young smallmouths, the vertical side bars are prominent, and the tail fin has three colors: Orange at the base, then a black band, then white to yellow at the tip.

Habitat: Although largemouths and smallmouths may live in the same rivers or lakes, they are found in different habitats. Smallmouths prefer rocky locations, more water depth and heavier current than largemouths. In Pennsylvania, smallmouth bass are found in medium to large streams and clear, deep lakes and reservoirs with a summer water temperature between 60 and 80 degrees. In lakes, they hang around downed logs, stumps, stone rubble and rock outcrops, and along the steep sides of submerged creek channels. They prefer streams with riffles flowing over gravel or boulders, where they are found in the pools, pockets behind rocks, or in the deeper moving water.

Life history: Smallmouth bass spawn in spring, May to early June, when water temperatures reach 60 to 70 degrees. The male builds the nest. The male fans a circular depression in gravel or sand with his fins. The nest is 14 to 30 inches in diameter and usually in three or four feet of water, although it may be more than 20 feet deep in clear water, as in Lake Erie. Smallmouths in lakes often move into tributary streams to spawn. Several females spawn on the same nest, adding 2,000 to 7,000 eggs per pound of body weight. Because the females spawn at different times, the eggs the male is guarding do not all hatch at the same time. Depending on water temperature, the eggs hatch in two to nine days. The young fish are ready to leave the nest five or six days after that.

In rivers and streams, flow and temperature can affect the survival of young smallmouth bass. High flows can sweep eggs and fry downriver, where they may perish. Conversely, moderate flows may lead to high fry survival. These early season events frequently lead to low or high densities of adult smallmouth bass.

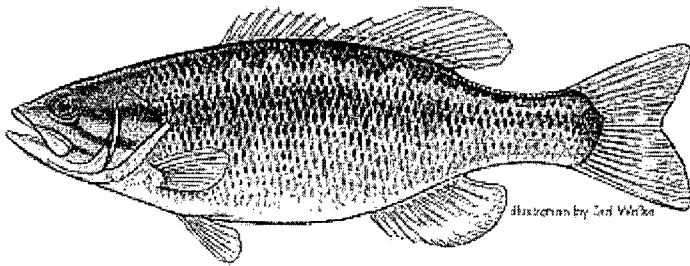
Young smallmouths eat tiny crustaceans. Then they graduate to insect larvae, crayfish and fish. Smallmouths may reach 20 inches or more in length. The Pennsylvania smallmouth angling record is over seven pounds.

RELATED

- Bass Index page

Spotted Bass *Micropterus punctulatus*

Species overview. The spotted bass is also called the "Kentucky" bass and is basically a southern fish. The spotted bass is uncommon in Pennsylvania, but it has been taken in the Ohio River near Pittsburgh and in the Beaver River. It is common in many Ohio River tributaries in Ohio and in the southern portion of the Mississippi watershed. Although in habitat preference and appearance it seems to be a cross between a largemouth and smallmouth bass, it is not. The spotted bass is a separate bass species. Its species name "punctulatus" means "dotted," referring to the rows of spots along its lower sides.



Identification: Spotted bass do not grow as large as either the largemouth or smallmouth bass, only to about 18 inches, and most are much smaller. The upper part of the head and back are a light to dark olive-green, its sides are silver-green and it has a whitish belly. There is a series of dark, generally diamond-shaped spots on its sides, above a splotchy dark-band that runs from head to tail. Below the band are scales with dark bases that form a pattern of horizontal or small spots. The spots below the lateral band give the fish its common name. Like the smallmouth, the upper jaw in the spotted bass does not extend beyond the eye, and there are dark bands radiating backward from the eye. The eyes are reddish.

Habitat: Spotted bass prefer long, deep, silted pools in sluggish water. They can tolerate water that is more turbid than the water smallmouths prefer. In a stream, they occupy the habitat left vacant by largemouths, which like weedy coves, and smallmouths, which live in the rocky riffles.

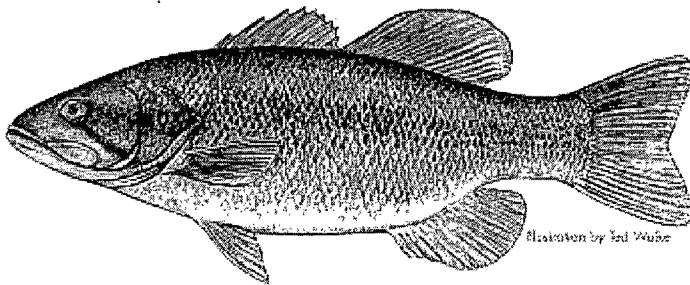
Life history: The spotted bass spawns in early summer. Like other sunfish, the males construct the nest and guard the eggs and young fish for a time. The nests are small, not more than 15 inches in diameter. They are made over gravel or a softer bottom on the edges of pools. Young spotted bass eat zooplankton and insects, and then switch to crayfish and fishes as they mature.

RELATED

- Bass Index page

Largemouth Bass *Micropterus salmoides*

Species overview: Largemouth bass were originally distributed in the Ohio River and Lake Erie watersheds in Pennsylvania. The largemouth has been established statewide in appropriate habitat. The largemouth bass is Pennsylvania's biggest sunfish. The state angling record is over 11 pounds, and the fish can grow two feet or more in length. The largest largemouths are generally females. The species name "salmoides" refers to trout ("salmo"), because the largemouth is sometimes called a "trout" in the southern United States. One nickname is "bucketmouth," which, like the common name "largemouth," is well-deserved by the fish's gaping jaw, with which it can swallow sizable prey.



Identification: Along with growing larger, the largemouth is more rotund and less flattened laterally (side to side) than other members of the sunfish family. The largemouth's head and back are a bright-green to olive-green. Its sides are lighter green, and the belly is whitish or pale-yellow. The largemouth's upper jaw extends beyond the back edge of its eye. It has a broad black stripe or a line of broken splotches running along its side from head to tail. In the largemouth, the two sections of the dorsal fin are nearly separate.

Habitat: The largemouth bass lives throughout Pennsylvania in suitable warmwater habitat, which is usually a pond or small, weedy lake. It is also found in the shallow backwaters and coves of large lakes and in the sluggish sections of big rivers. Largemouths are almost always associated with aquatic weeds, a soft bottom or stumps and downed logs. They are rarely found over rocks or in depths of more than 20 feet.

Life history: In true sunfish style, the male largemouth fans a circular nest for spawning and aggressively

defends the nest site, eggs and young fish. Largemouths spawn in spring and early summer, when water temperatures remain at 60 degrees for about three days. The typical nest is on gravel, sand or even soft mud. It is two to three feet in diameter, about six inches deep, and in one to four feet of water. Largemouths usually spawn within eight feet of a shoreline and keep their nests at least 20 feet apart.

Several largemouth bass females may spawn on one nest, each contributing 2,000 to 7,000 eggs per pound of body weight. Egg hatching takes about 10 days in 65-degree water. The young largemouths stay at the bottom of the nest for about a week, until the yolk sac is absorbed. Then they rise above the nest in a school and begin feeding. The male continues to guard them for as long as a month. Young bass feed on zooplankton, insects and small fishes, and they are cannibalistic on one another.

Frequently, spring lake conditions determine the abundance of these forage items. Thus, the abundance of these forage items also determines the abundance of young largemouth bass. The number of young largemouth bass produced each year varies according to lake conditions and ultimately leads to changes in adult largemouth bass abundance.

Adult largemouths are predators and eat mostly fish and crayfish, but they also take frogs, snakes, and even small mammals and birds, like mice and ducklings that happen onto the water's surface. Largemouth bass feed day and night.

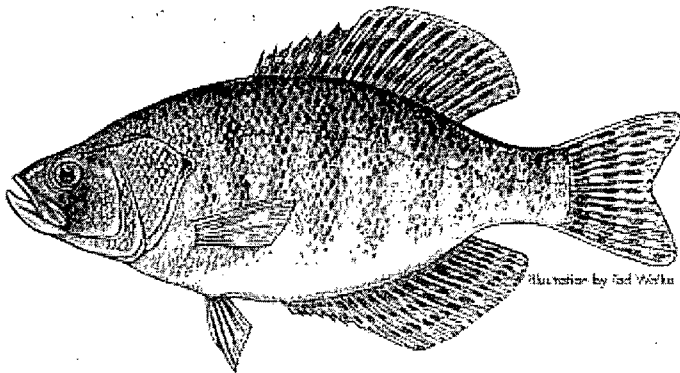
Attention-attracting, splashy surface plugs, minnowlike lures and soft-plastic worms or other slithery imitations, snaked through the weeds, all appeal to the aggressive largemouth.

RELATED

- [Largemouth Bass: Focus on Habitat](#)
- [Bass Index page](#)

White Crappie *Pomoxis annularis*

Species overview: Today the white crappie is found throughout Pennsylvania. It has been widely introduced around the United States. Biologists believe it was native to the Mississippi and Great Lakes watersheds, but not originally in Atlantic Coast watersheds. In Pennsylvania, the white crappie is less common than its cousin, the black crappie, but it is found across the state. The white crappie has a tendency sometimes to overpopulate its home waters, resulting in stunted fish. The species name "annularis" means "having rings," and probably refers to the bars on the side of the fish's body.



Identification: White crappies are wide when viewed from the side, but very compressed when observed head-on. They are olive to bright-green on the back, and silvery, with greenish or yellow hints, on the sides. The sides have about eight to 10 vertical, dark, broken bars, and other mottling. Dark spots or dark wavy lines pattern the dorsal, anal and tail fins. Males during the breeding season become darker. The white crappie is the only member of the sunfish family that has five or six spines on its dorsal fin, and a corresponding five or six spines on its anal fin. Its usual size is six to 12 inches long, but fish of 15 inches and several pounds are not uncommon. The white crappie has a large mouth, but the membrane behind the lips is thin and tears easily. This gives the fish its nickname, "papermouth."

Habitat: White crappies live in lakes, ponds and sluggish sections of streams and rivers. They tolerate, and seem to prefer, silted, turbid conditions. The fish isn't a bottom-dweller, but it does like cover, such as submerged brush, logs, stumps and tree roots. It doesn't need the cooler, clear waters with hard, clean bottoms that black crappies prefer, and it doesn't associate with underwater vegetation as much as the black crappie.

Life history: The white crappie spawns in late spring and early summer, May to June, when water temperatures are a little under 60 to a little over 70 degrees. The nests are about a foot in diameter and are located in water deeper than the nests of most other sunfishes, up to eight or 10 feet. White crappie nests may be solitary or in colonies of as many as 50, located two to four feet apart. The male white crappie comes to the breeding grounds first, where he constructs a nest by fanning his fins over plant roots and submerged brush, or over gravel and small stones. When white crappies live in streams and rivers, they spawn in protected areas, such as coves or slow, deep pools. Females produce from 10,000 to as many as 160,000 eggs, depending on their age and size. They spawn in the nests of several males throughout the breeding season. Hatching takes two to five days, depending on the water temperature. The male guards the nest until the fry disperse. Young white crappies eat small aquatic insects and zooplankton.

White crappie populations can fluctuate. During a good year, when spawning and food conditions are right, many white crappies survive. This brood dominates the population for several years until the spawn of another good year can survive and become the next dominant year-class. Then the pattern repeats. This explains why anglers catch large crappies for several years and then almost none or only small fish.

White crappies eat crayfish, leeches, crustaceans, insects and, most especially, small fish. Fish are the largest part of its diet. Because it is so prolific, white crappie populations may sometimes become overcrowded and outstrip their food supply, causing slow-growing, small individuals. Although the crappie's mouth opens wide for prey, it is caught best on small minnows, lures and jigs, and it can be taken on streamers and weighted nymphs, fished like jigs.

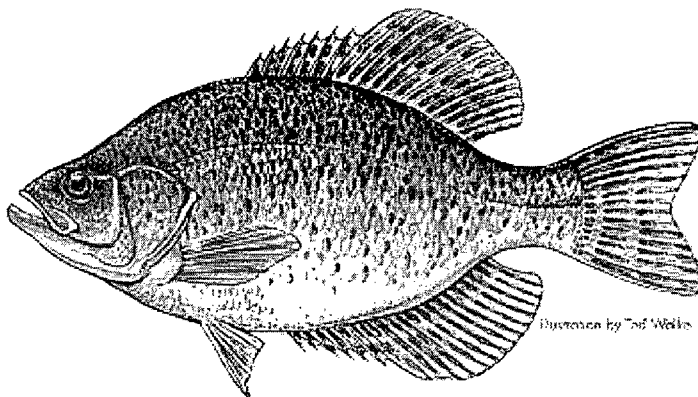
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Black Crappie *Pomoxis nigromaculatus*

Species overview: The black crappie closely resembles its cousin, the white crappie, but has physical and habitat differences. The range of the black crappie has been expanded through introduction. Originally it was found in the Mississippi watershed and eastern North America, and not present along the Atlantic Coast north of the Carolinas. Today in Pennsylvania it is widely distributed around the state. Its species name "nigromaculatus" means "black-spotted." The black crappie's nicknames are sometimes the same as those of the white crappie, and they include "calico bass," "crappie bass" and "papermouth," for its thin-mouth tissues.

Identification: On first impressions, the black crappie looks black and white, but on closer examination it shows iridescent colors and sheens. Viewed from the front, its body is very compressed, narrow from side to side. Viewed from the side, it is deep-bodied, not as long-looking in its proportions as the white crappie. The back is olive to bright metallic-green, or a bluish gray. On its silvery sides are dark spots that are scattered or that appear in indistinct horizontal rows, not in vertical rows, as on the white crappie. There are also splotches that make a wavy pattern on its dorsal, anal and caudal fins. One way to distinguish the black crappie from the white is to count the spines on its dorsal fins. The black crappie has seven or eight spines on its dorsal fin. The white crappie has only five or six dorsal spines. Black crappies that live in clear, vegetated water have darker contrasting patterns on the body, while those from murkier water are lighter, appearing more "bleached."



Habitat: The black crappie prefers waters that are clearer and cooler than those inhabited by the white crappie. The black crappie lives among more aquatic vegetation. It's a fish of quiet ponds and small lakes, the

shallower areas of large lakes, and the slow-flowing sections of rivers, where it is almost always associated with underwater weeds. Black crappies are not as tolerant of silted water as white crappies, so they have probably been replaced by the white crappie where aquatic habitat has been made muddy by human influence.

Life history: Black crappies spawn in the spring or early summer, when water temperatures reach 66 to 68 degrees. Like other sunfish, the males clean dish-shaped nests on the bottom, near or among underwater plants in three to six feet of water. The nests are eight to 15 inches in diameter, in colonies, but spaced five to six feet apart. A half-pound black crappie female produces from 20,000 to 50,000 eggs, and may spawn in the nest of more than one male. The males guard the nest and eggs, which hatch in three to five days. The males protect the hatched fry for a short time, until the young fish leave the nest. Immature crappies eat tiny crustaceans and aquatic insects and grow fast, to about 3 1/2 inches the first year and to eight inches the second year. It usually takes four years for black crappies to reach 12 inches, and the fish may grow to 16 inches long, making them one of our largest panfishes. They mature in two years. As they grow, black crappie food preferences change to eating other fish, but as adults they also feed on mayflies, midges, dragonflies, other aquatic insects and crustaceans.

Black crappies are school fish, traveling, feeding and spawning in a group. They feed most actively early in the morning and late at night. Black crappies continue to feed during the winter, which makes them popular with ice anglers. Minnow imitations and live minnows work well for catching black crappies.

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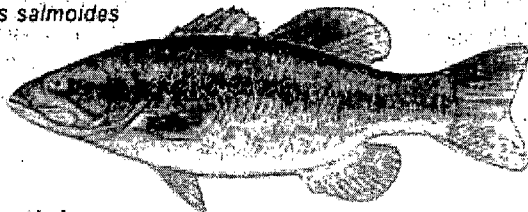
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Bass (Sunfish Species)

Identification

Largemouth bass

Micropterus salmoides

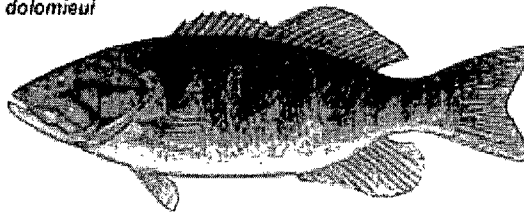


Largemouth bass has bright-green to olive-green head and back; sides are lighter green; usually has a broad, black stripe or line of broken splotches running along the sides from head to tail; belly is white or pale yellow. Dorsal fin sections are deeply notched and nearly separated.

Upper jaw extends beyond the back edge of the

Smallmouth bass

Micropterus dolomieu

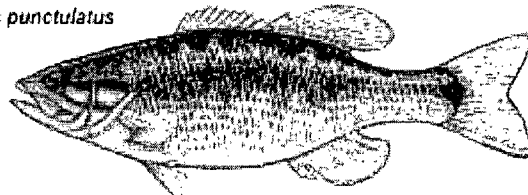


Smallmouth bass has brownish to bronze cast to its back, shading to lighter hues on the sides with dark, vertical bars on sides; belly is white or pale yellow. Dorsal fin sections are separated by a shallow notch.

Upper jaw does not extend beyond the back edge of t

Spotted bass

Micropterus punctulatus



Spotted bass has light to dark olive-green back with silvery green sides and diamond-shaped spots on its sides above a splotchy dark band that runs from head to tail. Scales below the band have black bases that form a pattern of horizontal small spots.

Upper jaw does not extend beyond the rear portion of the eye.

Related species



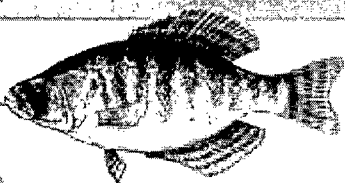
Green sunfish
Lepomis cyanellus



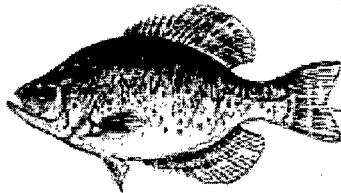
Rock bass
Ambloplites rupestris

Panfish Identification

White crappie
Pomoxis annularis



White crappie has head, back and upper sides dark green with 8 to 10 vertical bars. Dorsal fin has 5 to 6 spines.

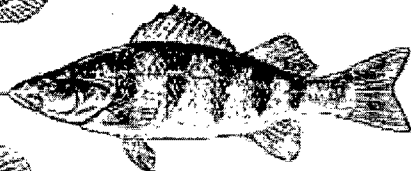


Black crappie
Pomoxis nigromaculatus

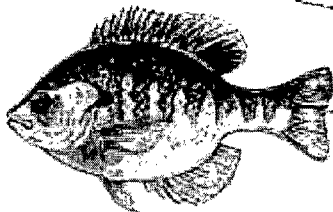


Black crappie has scattered spots and 7 to 8 dorsal spines.

Yellow perch
Perca flavescens



Yellow perch has separate spiny rayed and soft-rayed dorsal fins. Sides have 6 vertical bars.

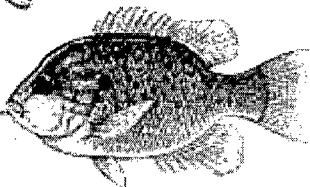


Bluegill
Lepomis macrochirus

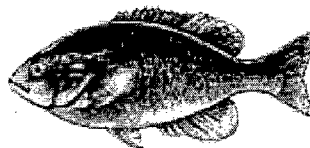


Bluegill has a dark spot at base of dorsal fin. Spiny ray and soft-rayed dorsal fins are joined. Black spot on gill flap. Dark vertical bars on body.

Pumpkinseed
Lepomis gibbosus



Other sunfish



Rock bass

Ambloplites rupestris
Red or orange eye, 5 to 7 spines on anal fin, dark mottling over light belly.

Redbreast sunfish

Lepomis auritus
Long gill cover, short, rounded pectoral fin.



Illustration: Ted Wolf

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