

Bluegills

Summary: Explains how to identify bluegills, and where to find them based on what they need to survive.

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We hope this book helps you better understand bluegills and helps you to **find** them! Here are some helpful tools to find or catch fish:

- Hook and line
- Snorkel mask
- Aqua viewer
- Underwater camera

The slippery outside layer on fish helps them swim and fight diseases, so handle them carefully. Take them out of the net right away, take photos through a clear-sided container (not in your hand), and return them to the water as soon as you're done. (Justin Sipiorski, pers. comm.)

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Is it a bluegill?

Bluegills are a popular and beautiful sunfish. Bluegills have a very flattened body, kind of like the shape of your hand. A bluegill's ear flap is dark blue or black in color and stands out on the lighter color of their body (Becker and Lyons pers. comm.).

Juvenile bluegills are often blue in color and have **vertical** bars on the sides of their bodies (Lyons, pers. comm.). Adult female bluegills are similar in color to the **juvenile**, except they have a light yellow breast. Adult male bluegills are combinations of yellow, blue, green, and orange. Bluegills also have a dark spot on the **dorsal fin** (Becker).

Bluegills that have just hatched from their eggs are called fry. The fry are about a half-inch long (Becker). Adult bluegills are usually 6-9 inches in length (FWS.gov).

~~Fish similar to bluegills are the pumpkinseed and the green sunfish.~~

*Another helpful tool is the online fish identification guide and app at www.seagrant.wisc.edu/fish-id Check it out!

Adult bluegills are not growing as big as they used to across Wisconsin (Rypel, 2015). The same trend is seen in Minnesota (Olson and Cunningham, 1989). Overfishing is one likely reason for smaller adult bluegills (Rypel et al. 2016). Consider keeping fewer bluegills (Rypel et al. 2016; Pers. Comm. From Rypel, Lyons and Engebretson).

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Where do they live?

Young bluegills need shallow areas with lots of fallen trees and **aquatic plants** where they can hide from predators that are trying to eat them. (Becker). When bluegills don't have those things, fewer of their eggs and young survive.

As long as there are plenty of things to eat and lots of hiding places, bluegills will probably be there. Adult bluegills are often in deeper water near plants or rocks. Adults go into deeper water in the summer (Pers. Comm., Lyons).

Bluegills are found in lakes, ponds, swamps, and the slow-moving areas of rivers (Page, Burr). They are not found in trout streams (Pers. Comm. Lyons). [Bluegills are found in the yellow areas on the map.]

Watch a video of bluegills in their natural habitat at www.youtube.com/watch?v=SET3fP14P2o

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What do they eat?

Do you eat the same things that you did when you were a baby? Neither do bluegills!

When bluegills are small, they eat things that are small too. Bluegill fry eat:

- Zooplankton
- Algae
- Small insects

Zooplankton are tiny animals the size of the tip of a needle or smaller (Becker).

As bluegills get bigger, they still eat zooplankton, but they also eat:

- Other small fish
- Snails
- Crayfish
- Aquatic insects (Becker).

Bluegills need plenty to eat as juveniles so that they can grow to full adult size and lower their chance of being eaten.

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Lake food pyramid We eat bluegills.

Large predators like muskies, eagles and people eat bluegills.

We eat plant feeders.

Bluegills are small predators that eat plant feeders like aquatic insects, snails, and zooplankton.

We eat plants.

Plant feeders eat free-floating and attached algae, rooted plants, and dead plants from land that are on the lake bottom.

We need the sun.

Plants need nutrients and energy from sunlight to grow.

Fewer plants equals fewer fish.

We eat dead stuff.

If the bluegills are not eaten by **predators**, they eventually die and become food for **scavengers** like the crayfish.

We eat leftovers.

Decomposers work to break down what is left of the bluegill into nutrients.

~~Nutrients are recycled back into the pyramid and used by plants and algae to grow.~~

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Life cycle of bluegill

Between late May and early August, male bluegills sweep out a crater-shaped nest on the lake bed and try to impress a female (FWS.gov). If the male has impressed the female, she will lay her eggs in the nest while the male fertilizes them (FWS.gov). This is known as **spawning**.

The male then guards the nest until the eggs hatch (Becker). Once hatched, the bluegill fry are on their own (Becker). The fry need to grow as quickly as possible and need hiding places to avoid being eaten. As they grow, they go from fry to juveniles. Once bluegills are adults, they are ready to spawn and start the cycle over again.

Bluegills need water temperatures around 70° F (Habits and habitats of fish in the Upper Mississippi River, p.18) and sand or gravel areas with few plants to build their nests (Becker, Gosch et al., 2006).

See an **amazing** bluegill spawning video at www.youtube.com/watch?v=Z0oy88PeNMg

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Natural shoreline areas – on land and into the shallow water – provide essential habitat for fish.

You can help me and other fish if you:

- Keep fewer bluegills (Rypel et al. 2016). Consider keeping fewer bluegills (Rypel et al. 2016; Pers. Comm. From Rypel, Lyons and Engebretson).
- Leave trees in the water, including branches, leaves and needles. Fallen trees provide the shelter bluegills need to hide from predators.
- Plant trees and shrubs along the shoreline. They hold soil on shore and will become the shelter bluegills need.
- Leave aquatic plants and avoid chemical treatments to kill them. Aquatic plants provide shelter from predators.
- Leave the shoreline natural. Adding sand covers the underwater gravel bluegills need for spawning.

When trees, shrubs, and aquatic plants are removed, not as many bluegills survive to become adults.

(This page adapted from *The Water's Edge* except where noted otherwise)

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What do bluegills need?

Bluegills need:

- Lots of fallen trees and **aquatic plants** where they can hide from **predators** (Becker)
- Food including small fish, **aquatic insects**, crayfish, snails and **zooplankton** (Becker)

Hints to go find bluegills!

- Lakes, ponds, swamps and the slow-moving areas of rivers (Page, Burr)
- Water temperature from 32° to 90° F (John Lyons, pers. comm.)
- Sand or gravel bottom with few plants for spawning (Becker, Gosch et al., 2006)

Fewer plants = Fewer bluegills

Fewer trees in the water = Fewer bluegills

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Glossary

Algae: small plants without roots or stems that float in the water or attach to rocks or trees in the water

Aquatic insects: insects that spend at least part of their lives in the water

Aquatic plants: plants that live in the water

Decomposer: living organism that breaks down dead plants and animals

Dorsal fin: fin on the back of a fish

Fry: young fish that start feeding on their own, and start growing scales and fins

Habitat: place where an organism can complete its life cycle, and the population can sustain itself. For fish, habitat is 1) physical structure including aquatic plants and trees in the water and the lake bottom; 2) water quality including oxygen level, cloudiness, and dissolved materials; and 3) temperature. (Jacobson, et al. 2016; Sass et al. 2017)

Juvenile fish: fish that are not fully grown

Predator: animal that hunts other animals for food

Prey: animal hunted by another animal for food

Runoff: water, and anything it brings with it, coming off of the land or hard surface

Scavenger: animal that eats dead plants and animals (examples: turtles, crayfish)

Spawning: female fish lays her eggs in the nest while the male fertilizes them

Sunfish: includes bluegills, pumpkin seeds and green sunfish

Vertical: line that goes up and down

Zooplankton: tiny animals that live in the water, off the lake bottom

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