

AQUAGUIDE



Missouri Department of Conservation—*Fish and Other Aquatic Life*

Managing for Large Bluegill

People of all ages enjoy catching bluegill, especially when the fish are large and provide a spirited fight. A large body of water is not needed to produce big bluegill. It is possible to create continuous fine fishing for large bluegill from your lake or pond, as long as that body of water is wisely managed. All that is necessary is a little planning and work.

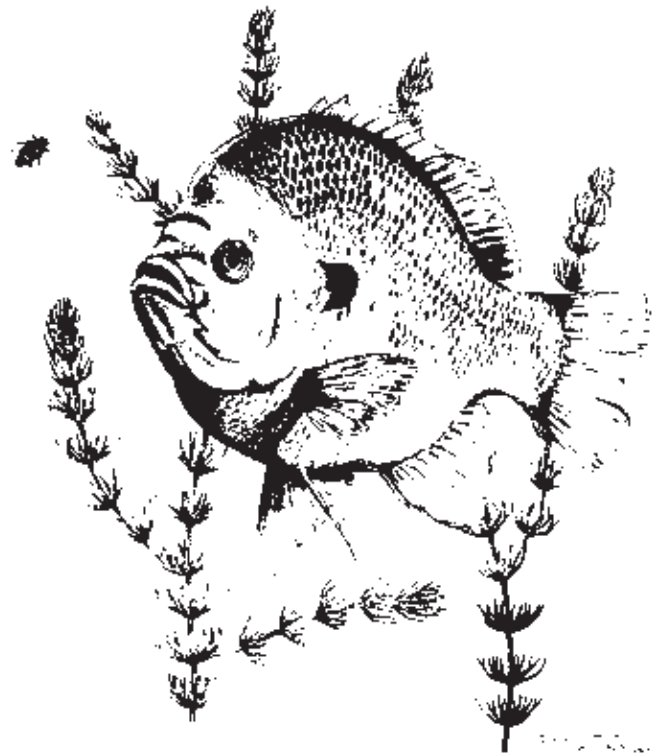
Big Bluegill Potential

Crops grow better in northern Missouri than in southern Missouri. This is due to the former's generally higher soil fertility. For this same reason ponds in north Missouri are more likely to support a crop of large bluegill than ponds in southern Missouri. Bluegill growth is also affected by the quality of the watershed, water clarity and color, aquatic plant densities, and other fish species present in a pond. Steep-sided ponds are ideal because it limits spawning areas, thus producing fewer bluegill that grow faster. Steep sided lakes also have a tendency to have lower amounts of nuisance aquatic vegetation.

Quality of the Watershed

The land that drains into a pond is its watershed. The ideal watershed ratio is 10 to 15 acres of land for every one acre of pond.

A pond owner should strive to keep a pond's watershed in grasses and trees. If this is not possible, maintain at least a 100-foot wide buffer strip of grass around the pond. Grass catches sediment before it enters the pond and absorbs excess nutrients, such as nitrogen and phosphorus, that may wash off fields or pastures. Although fish need nutrients to grow, too many nutrients may cause aquatic plant problems.



Water Clarity and Phytoplankton

Pond water with a slight greenish color usually produces fast growing fish. The green color is caused by very small plants called phytoplankton. The phytoplankton are eaten by small animals called zooplankton that are in turn eaten by young bluegill.

Ponds without good populations of phytoplankton typically produce slow-growing fish. Phytoplankton grow by using sunlight and nutrients in the pond.

Suspended particles in the water block sunlight and prevent phytoplankton from growing. So if your pond is muddy enough that you cannot see at least 18 inches into the water most of the year, it is fruitless to try raising large bluegill.

Alternately if the water in your pond usually remains clear enough that you can see more than three feet of depth, it is possible that it is not productive enough to raise large bluegill.

Other Aquatic Plants


Rooted aquatic plants are an important component of a lake or pond's cycle of life. They keep the water oxygenated and provide food, cover and nesting sites. They reduce shoreline erosion and provide homes and food for many aquatic insects. These insects are an important food source for large bluegill.

Bluegill grow quickly when underwater plants are managed at moderate levels. Ideally, the plants should cover 15 to 20 percent of a pond's bottom and surface. Conversely too many aquatic plants can make fishing impossible. In this case, the pondowner might choose some form of vegetation control.

A pondowner has three options for controlling aquatic vegetation: mechanical, chemical and biological controls. Mechanical and chemical controls work well for spot treating plants in a specific area. Introducing grass carp—a biological control—can generally reduce vegetation throughout the pond.

CAUTION!

If grass carp are used to control vegetation, keep stocking rates conservative. Removing grass carp from a pond when the correct level of vegetation is reached can be very difficult.

 **For more information:** To find about aquatic vegetation management and for the Conservation Department's aquaguide *Catching Grass Carp*, go to mdc.mo.gov/node/3312.

Fish Species Present

To grow large bluegill, you also need lots of largemouth bass in the pond. Bass feed on small bluegill, reducing their numbers so larger bluegill do not have to continually compete with smaller bluegill for available food.

Other sunfishes, crappie and bullheads, also compete with bluegill for food. The best results in managing for large bluegill require a pond that doesn't contain large numbers of competing fish species, and a combination of only bluegill and bass would be ideal.

Fish Stocking Rates

New Pond (without fish)

New ponds that are to be managed for large bluegill must be stocked with both largemouth bass and bluegill. If you buy fish from a commercial producer, both species may be stocked in the spring as described below. Channel catfish may be stocked in ponds with bluegill (see table 1) but should be maintained at relatively low numbers. This is particularly important if you intend to do supplemental feeding of the bluegill.

Existing Pond (with fish)

Managing for large bluegill in an existing pond is relatively easy as long as the bass harvest is controlled. When choosing an existing pond for bluegill management, consider the pond's fish producing potential in light of the points previously outlined.

Supplemental Feeding

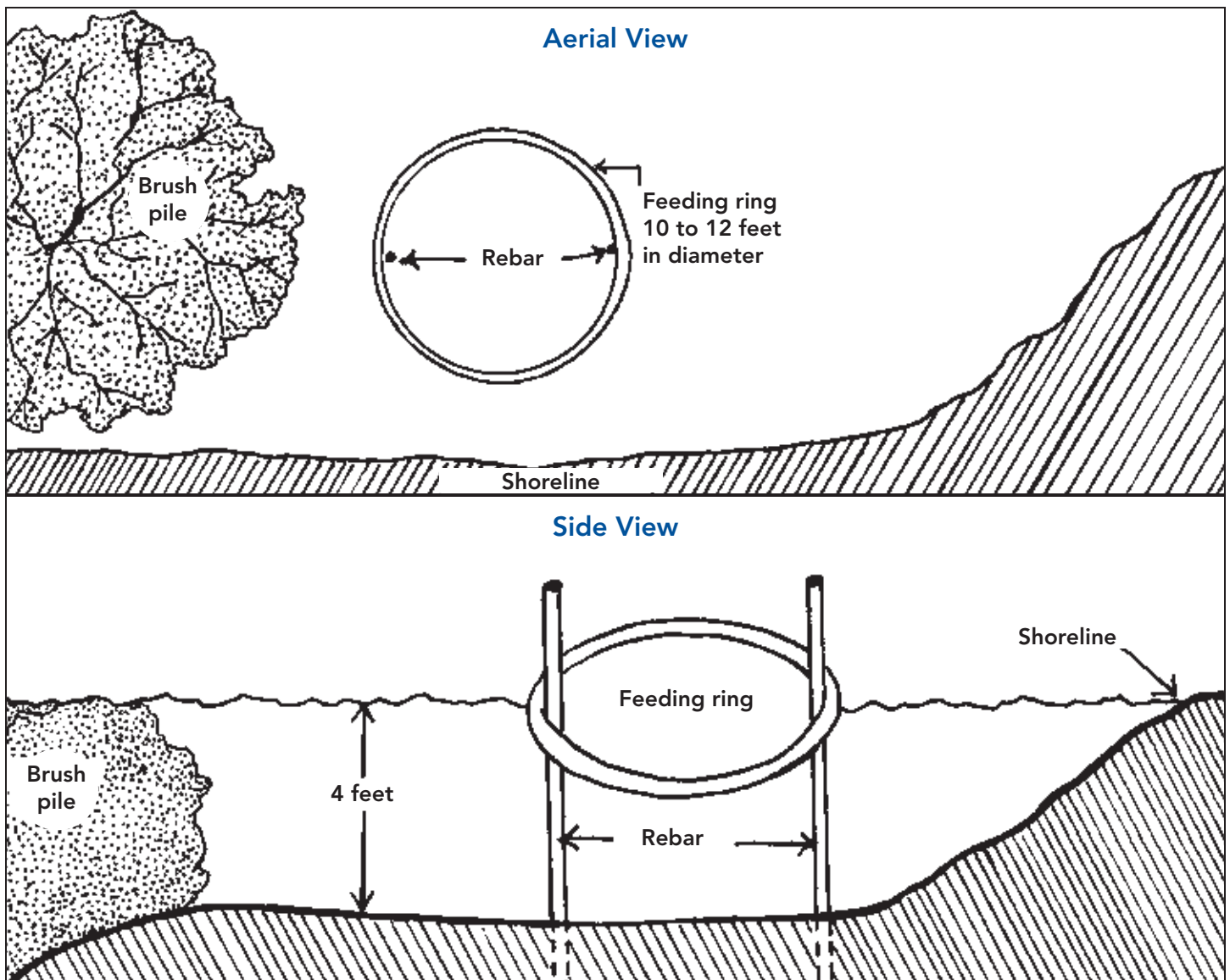
Supplemental feeding of bluegill to increase growth rates is recommended in ponds where fertility is low. This is especially true in the Ozark portions of southern Missouri. When supplemental feeding of bluegill, keep the following recommendations in mind:

- Floating fish food containing at least 25 percent protein should be used. Floating food allows you to monitor food consumption in case disease or oxygen problems develop.
- Do not over-feed the fish! Feed an amount that is consistently consumed in 15 to 20 minutes.
- Feed fish from May 1 to October 1. Discontinue feeding if the water temperature is lower than 50 degrees or greater than 85 degrees.
- Feed fish once a day five to seven times a week to maintain maximum growth.
- Feed fish the same time each day. Feeding bluegill during the evening is suggested.
- Feed fish in the same place every day with the use of feeding rings. Feeding rings, which are PVC pipe structures used to hold floating fish food in one location, should be placed in at least 4 feet of water next to brush piles. Use one feeding ring per acre of water.

Table 1
Stocking Rates
(100%)

Species	Size	Number Per Acre	Stocking Period
Bluegill	2"	250–500	Spring
Largemouth Bass	2–3"	50–100	Spring
Channel Catfish	2–3"	25–50	Spring

(Adjust numbers by referring to table on page four.)



■ If only a few fish or none come up to feed when previously they had been feeding regularly, stop feeding at once. Problems, such as disease or low oxygen conditions, can cause fish to stop feeding and should be investigated and corrected before resuming the feeding schedule. Fish seen “gassing” at the surface suggest low oxygen levels. You are most likely to see such behavior in the morning just after sunrise. You must start some type of aeration immediately to keep your fish from dying. Contact your local MDC Office for technical advice.

Harvesting Fish

It is difficult to provide general, statewide bass and bluegill size and harvest limits that will predictably produce large bluegill. In most cases, no more than 50 adult bluegill should be harvested per acre per year. Excessive harvesting of bluegill can deplete the number of large fish available. Keep in mind that it normally takes at least 6 years for a bluegill to reach 8 inches in length.

In order to maintain good bluegill growth, reproduction must be controlled. Maintaining a high-density bass population using a 15-inch minimum length limit will control bluegill numbers.

If you supply good information about your fish population to a Missouri Department of Conservation fisheries biologist, he or she will be able to prescribe specific size and harvest limits for your pond.

For more information: To keep track of the species and sizes of fish caught, go to mdc.mo.gov/node/3312 for the Conservation Department’s aquaguide *Good Record Keeping*.

Growing large bluegill takes a little time and work, but it’s a fun challenge that leads to great fishing. If you want an outstanding place for young and old to catch a lot of fish, properly managing a pond for large bluegill will give you just that.

MDC Suggested Stocking Rates for New Ponds to be Managed for Large Bluegill

New pond recommended stocking sizes and sequences: Bluegill: September–October, 1–2 inch
 Channel catfish: September–October 2–4 inch
 Largemouth bass: May–June, 2–4 inch

Adult Fathead minnows should be stocked in early spring or fall the year before stocking with sport fish species.

*Stock all fish species when water temperatures are between 50 and 70 degrees Fahrenheit to reduce temperature shock.

CODES: 1—100% rate: 100 largemouth bass, 500 bluegill, 50 channel catfish per surface acre of water 2—50% rate: 50 largemouth bass, 250 bluegill, 25 channel catfish per surface acre of water									
County	Code	County	Code	County	Code	County	Code	County	Code
Adair	1	Clay	1	Iron	2	Montgomery	1	St. Clair	2
Andrew	1	Clinton	1	Jackson	1	Morgan	2	St. Francis	2
Atchison	1	Cole	2	Jasper	1	New Madrid	1	St. Genevieve	2
Audrain	1	Cooper	2	Jefferson	2	Newton	2	St. Louis	1
Barry	2	Crawford	2	Johnson	1	Nodaway	1	Saline	1
Barton	1	Dade	2	Knox	1	Oregon	2	Schuyler	1
Bates	1	Dallas	2	Laclede	2	Osage	2	Scotland	1
Benton	2	Daviess	1	Lawrence	2	Ozark	2	Scott	1
Bollinger	2	DeKalb	1	Lewis	1	Pemiscot	1	Shannon	2
Boone	1	Dent	2	Lincoln	1	Perry	2	Shelby	1
Buchanan	1	Douglas	2	Lafayette	1	Pettis	1	Stoddard	1
Butler	2	Dunklin	1	Linn	1	Phelps	2	Stone	2
Caldwell	1	Franklin	1	Livingston	1	Pike	1	Sullivan	1
Callaway	1	Gasconade	2	McDonald	2	Platte	1	Taney	2
Camden	2	Gentry	1	Macon	1	Polk	2	Texas	2
Cape Girardeau	2	Greene	2	Madison	2	Pulaski	2	Vernon	1
Carroll	1	Grundy	1	Maries	2	Putman	1	Warren	1
Carter	2	Harrison	1	Marion	1	Ralls	1	Washington	2
Cass	1	Henry	2	Mercer	1	Randolph	1	Wayne	2
Cedar	2	Hickory	2	Miller	2	Ray	1	Webster	2
Chariton	1	Holt	1	Mississippi	1	Reynolds	2	Worth	1
Christian	2	Howard	1	Moniteau	2	Ripley	2	Wright	2
Clark	1	Howell	2	Monroe	1	St. Charles	1		

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