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Bluegill (*Lepomis macrochirus*) Management and Fishing in Pennsylvania

*Prepared by R. Lorantas, B. Frick PFBC Warmwater Unit;
and Fisheries Management Biologists*

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Goal: Maintain or enhance Bluegill sport fisheries through harvest management of naturally sustained Bluegill populations and through habitat preservation and enhancement. Judiciously stock Bluegill in compatible new and reclaimed habitats.

Bluegill occur throughout Pennsylvania and were originally indigenous to the Ohio River and Lake Erie Drainages. The Ohio River Drainage includes the Ohio River, Allegheny River, and Monongahela River Drainages. Bluegills typically occupy reservoir and lake (lentic) habitats, as well as slow moving river and stream (lotic) habitats within these drainages. Bluegill stocking by the Pennsylvania Fish and Boat Commission into the Delaware, Susquehanna, and Potomac River Drainages lead to colonization of waters within these drainages. The Susquehanna River Drainage includes the West Branch Susquehanna River and Juniata River Drainages. The Delaware River Drainage includes the Lehigh River and Schuylkill River Drainages. Bluegill are now self-sustaining throughout Pennsylvania. Most natural, warm-water lakes and man-made reservoirs in Pennsylvania contain self-sustaining Bluegill populations. In Pennsylvania, Bluegills generally occur at lower densities in rivers and streams compared to lakes and reservoirs.

Bluegill populations are managed for sport fishing through harvest management, habitat management, habitat enhancement, and through stocking. Stocking for many warmwater or coolwater fish species does not often occur on an annual basis to maintain populations. Stocking typically occurs in conjunction with establishing a self-sustaining Bluegill population in newly filled or newly acquired reservoirs that do not contain Bluegill or contain low-density Bluegill populations. Stocking is typically carried out from one to several years to establish a self-sustaining population or enhance a depressed population. Bluegill populations in Pennsylvania waterways are naturally sustained and do not require annual maintenance stocking. Since 1978, annual stocking of fingerlings and adults have been made to establish Bluegill populations in various waters. From 2013 to 2017, Bluegill have been stocked in from 4 to 11 waters, or water sections, per year. Annual [stocking summary](#) details are posted elsewhere on this web site. Our [Warmwater and Coolwater fishing map](#) provides a broad selection of waters where Bluegill fishing opportunities can be found in Pennsylvania.

Pennsylvania anglers may be curious as to the maximum size this species can attain in Pennsylvania waters. [Current Pennsylvania state record fish](#) can provide perspective regarding maximum size attainable. Below, we illustrate the growth of Bluegill in Pennsylvania, and note that a 7-inch Bluegill is approximately 4 years old (Figure 1) and weighs about 0.2 pounds. When Bluegill are 9 inches in length, they are approximately 8 years

old and weigh about 0.5 pounds. With respect to harvest management, [inland regulations](#) accommodate harvest of up to 50 panfish per day, which includes Bluegill and other species. No minimum size limit or seasonal restrictions apply. Bluegill are generally considered a prolific species, which has led to liberal harvest rules. In some cases, Bluegill can become too dense and grow slowly. This results in few individuals attaining desirable size. Liberal harvest is desired in these circumstances, where less competition for limited resources leads to faster growth. Despite liberal harvest rules the average creel size of anglers completing their fishing trip in Pennsylvania who have kept at least one Bluegill or Pumpkinseed (*Lepomis gibbosus*) is 11 Bluegill and/or Pumpkinseed. Overall, angler creels range from no Bluegill kept to 50 kept. The low average harvest may reflect an increased practice of catch and release fishing. However, in some cases anglers may encounter few Bluegill of desirable size in a population for other reasons.

Many small Bluegill may be a result of slow growth as describe above, or alternatively result from angler removal of desirable size Bluegill such that those remaining are of small size. Where harvest is especially intense smaller size Bluegill may make up most of the population. If a biologist is faced with angler harvest reducing density of desirable size Bluegill, harvest restrictions may be applied though selective application of [Panfish Enhancement regulations](#). In this program, Bluegill, Pumpkinseed, and Redear Sunfish (*Lepomis microlophus*) harvest is limited to specimens 7 inches or greater in length, with a maximum daily harvest of 20 combined species. This size enhancement program in Pennsylvania has proven effective where growth is adequate and where angler harvest truncates size structure. Biologists regularly sample fish populations to measure their density, growth, size structure, and sample anglers while fishing to measure harvest. Circumstances more complex than those described may apply where a variety of alternate management approaches may be employed.

Apart from inland harvest regulation programs and Panfish Enhancement Regulations, Pennsylvania Fish and Boat Commission biologists have also collaborated with biologists in neighboring states to develop harvest regulations that apply to border waters to sustain high quality fishing experiences. These waters include Lake Erie, and Conowingo Reservoir on the lower Susquehanna River. [Border water regulations applying to these locations may differ from inland harvest regulation and can be found elsewhere on this website](#). Anglers should consult the current Summary of Fishing Laws and Regulations and reference and abide by harvest rules applicable to boundary waters they fish.

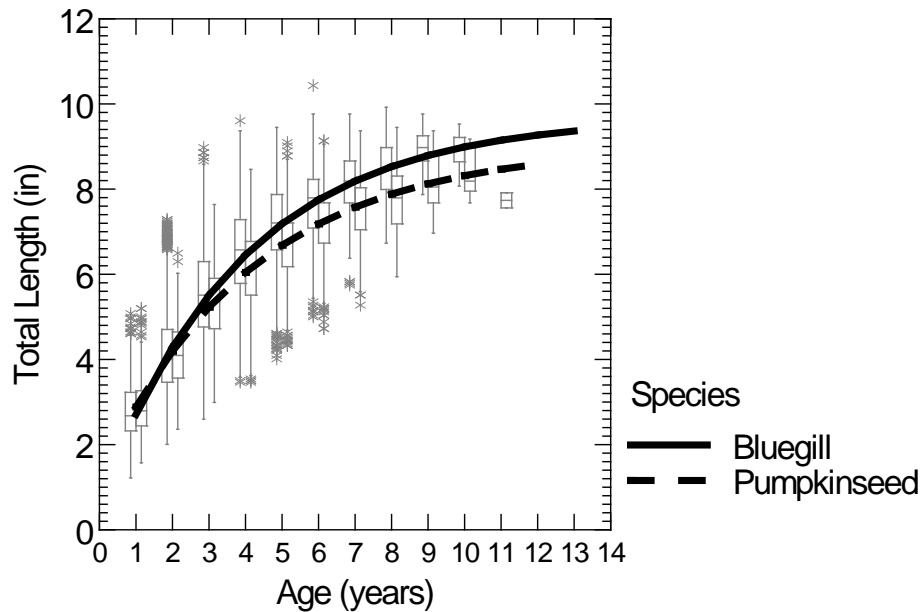


Figure 1. Average length at age of Bluegill and Pumpkinseed collected by Fisheries Biologists in assessment gear in Pennsylvania (March-June).

To illustrate a Fishery Biologists' management approaches, a biologist faced with many slow growing and small Bluegill in a reservoir or lake may elect to reduce refuge habitat of young Bluegill through (1) vegetation control, or (2) increase predator density to thin Bluegill numbers, or a combination of both. Findings of such evaluations and proposed management approaches are often detailed in [biologist reports](#) contained elsewhere on this web site. By way of example, to reduce refuge habitat, a planned, over-winter partial draw-down will freeze and desiccate near shore vegetation and serve to concentrate predators and prey over winter. This procedure may successfully thin Bluegill numbers to enhance their growth (size). Alternatively, where refuge habitat is sparse, predator abundance might be enhanced through predator stocking, such as Walleye (*Sander vitreus*) stocking, or through application of predator harvest restrictions to bolster predator abundance. For example, [Big Bass regulations](#) may be applied to bolster abundance of black bass. Biologists may also prescribe addition of habitat devices that attract Bluegill. These devices can bolster angler harvest. What determines the specific course of action on a water body relates to diverse features including those mentioned and others. For example, some species of aquatic plants are more susceptible to control (reduction) through water level management and others are not, managers must also consider the capacity of the aquatic resource to sustain an increased density of predators, which is influenced by resource productivity. With respect to placement of fish attractant devices, the Pennsylvania Fish and Boat Commission has an active corps of volunteers that assist in construction and placement of structures after an approved habitat plan has been developed. We encourage organizations interested in volunteering time to contact our [Habitat Unit](#) for more information.

Table 1. Average weight and average age of Bluegill at a given length, collected by fisheries biologists in Pennsylvania (March-June).		
<i>Inches</i>	<i>Pounds</i>	<i>Years</i>
4.5	0.1	1.8
5	0.1	2.2
5.5	0.1	2.6
6	0.1	3.0
6.5	0.1	3.5
7	0.2	4.1
7.5	0.2	4.7
8	0.3	5.5
8.5	0.4	6.5
9	0.5	7.9
9.5	0.6	10.0
10	0.7	15.1
10.5	0.8	> 15.1
11	1.0	> 15.1
11.5	1.1	> 15.1
12	1.3	> 15.1
12.5	1.5	> 15.1
13	1.7	> 15.1

In association with evaluations performed by Biologists, growth of Bluegill is examined by measuring length, weight, and taking a scale sample to determine age. We have tabulated average ages and weights for a variety of lengths of Bluegill in Pennsylvania (Table 1). Anglers find these tables useful in approximating the weight and age of their catch. It should be known that weight and age based on length can be variable between populations and individuals. Fish length at age depends on a variety of factors including habitat, gender, genetics, forage abundance, and other conditions. Age of individuals is essential to other assessments conducted by biologists. In standard biological collections, the decrease in relative or absolute number of Bluegill at each age can be used to describe their total annual mortality rate. On average, the total annual mortality rate of a Bluegill population is 51%, which includes annual losses due to fishing and loss due to natural causes such as predation and disease. In addition to measuring losses, biologists index production of Bluegill by examining age structure. Growth, production of young, and loss of older Bluegill are important considerations in developing harvest regulations that produce desirable size Bluegill for harvest.

Tabulating catch and harvest by anglers from various waterways is also essential in developing harvest regulations. Information derived from creel surveys coincidentally yields information of interest to anglers, since seasonal peaks in angler catch occur for most species. These surveys show that Bluegill can be caught in most any time of year, generally though, highest catch per hour occurs in spring and early summer on medium and large size reservoirs (Figures 2 and 3). Since Bluegill form large colonies in spring in association with spawning and brood guarding, adults can be concentrated and quite vulnerable to anglers. Fall yields the highest catch rate on rivers (Figure 4). Ice fishing catch rates rival catch rates of spring on large reservoirs (Fig. 3). With fishing destinations identified from [maps on this site](#) and information describing the best seasons to catch Bluegill, anglers need only select an effective bait or lure. Most anglers were introduced to fishing by catching

Bluegill with a worm and bobber combination. Small jigs, flies, and surface poppers are attractive baits in spring and summer. Grubs are a popular live bait in winter. The abundance of Bluegill in many waters across the state and the ability to catch them in summer, fall, and through the ice in winter makes them an especially popular panfish.

A [summary of Bluegill information](#) including fishing tips, best fishing waters, species identification, and more can be found elsewhere on this website. Additional information helpful in answering angling questions can be found on the [Fishing FAQs](#) page located elsewhere on this website.

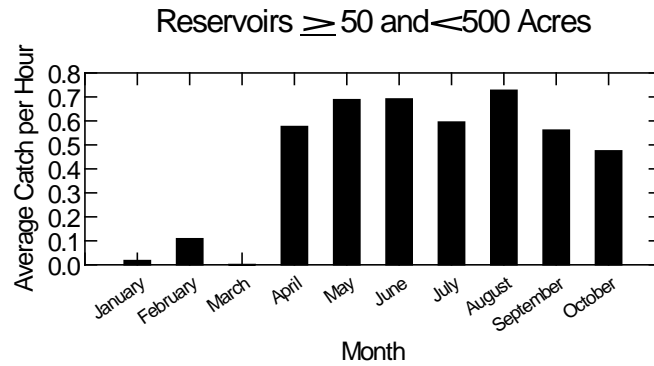


Figure 2. Average catch per angler hour, by month, of Bluegill from medium size Pennsylvania reservoirs.

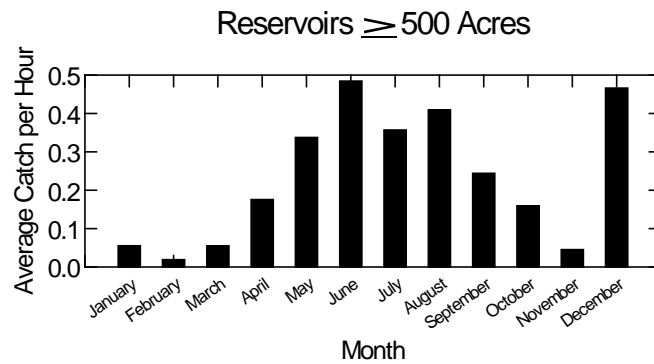


Figure 3. Average catch per angler hour, by month, of Bluegill from large size Pennsylvania reservoirs.

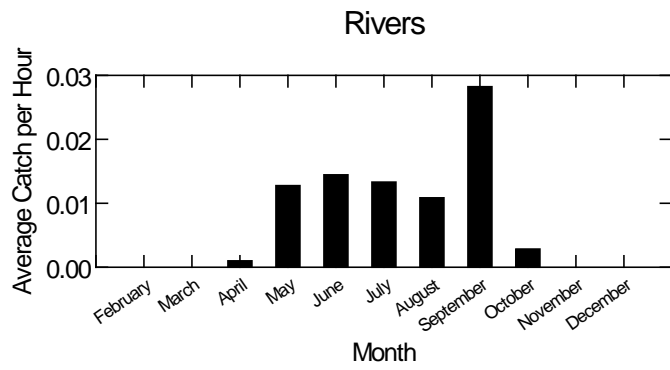


Figure 4. Average catch per angler hour, by month, of Bluegill from Pennsylvania rivers.