

## A Panfish Reality Check



The Department of Natural Resources' fisheries program recently conducted a panfish survey. Based on the results and comments, it is clear that there are a few misconceptions about panfish biology and management:

### *The panfish are stunted in this lake; we need to keep more fish!*



**Reality:** Stunting usually occurs because high numbers of small panfish lead to slow growth and then few large fish.

There are multiple causes of stunted panfish populations, including a lack of predators, overabundant aquatic vegetation, or simply a big year class of fish. For bluegills, stunting can also occur if all the large males are harvested and smaller males opt to reproduce at a younger age as opposed to grow larger before reproducing. Reversing stunting can be difficult because there may be several reasons the fish are growing slow. Historically, the DNR encouraged anglers to harvest as many fish as possible to address stunting but this often does not work because anglers tend to keep the largest panfish they can catch. Thus, anglers are encouraged to keep small fish.

### *Panfish are pretty much the same in every lake*



**Reality:** The lakes across Wisconsin are incredibly variable and the panfish populations living in those lakes are just as variable. Panfish populations seem to vary most strongly with lake size, lake productivity, and angling pressure. How a panfish population responds to certain management actions will depend on a combination of those factors and one size rarely fits all. In some lakes, panfish have high levels of natural mortality and rarely live past nine—if anglers don't keep them they're lost. Yet in other lakes panfish grow to nearly 10 years old and a minimal amount of fishing pressure can totally change the population. While other lakes are highly productive and very large such that panfish can sustain excessive fishing pressure year after year and still provide a quality fishery.

### *All bluegills grow at the same rate.*



**Reality:** Bluegills grow relatively fast in the first 3-5 years of life, but once they reach sexual maturity growth slows considerably because some energy is being diverted to reproduction. Bluegill growth rates vary by lake size, habitat, predator abundance and water temperature. In Wisconsin, bluegill can usually grow to 3–5 inches in 3 years and up to 8 inches in 7-9 years. In extreme cases, bluegill may reach 11 years. Bluegill ages are estimated by counting annular rings that form within various structures, much like rings in a tree. Scales are often used to determine bluegill age, because they can be easily removed without killing the fish. However, biologists also use otoliths (tiny bones in the fish's inner ear - see photo at right) to provide more accurate age estimates.



### *Bluegill have simple life histories.*



**Reality:** Bluegill spawning begins as water temperatures warm into the upper-60's. Bluegills have one of the most complex and interesting spawning behaviors of all freshwater fish. Males build saucer shaped nests in the shallow water areas of lakes. Often many males will nest together in colonies. The largest males usually are set up in the middle of the colony.

Females come in and pick out a male (or often several males) to pair up with and drop eggs. There are also male bluegills that are referred to as “sneakers” or “mimics”. These smaller males do not build their own nests but will either “sneak” in to try and fertilize a female’s eggs in another nest or will have the coloration to “mimic” a female allowing them to get in close enough to fertilize females in another nest.

### *Because of contaminants, people should eat panfish only occasionally.*

 **Reality:** Bluegills, crappies, and yellow perch are generally the safest species to eat on a frequent basis because they tend to have short life spans and lower fat content compared to other species of fish. Panfish also tend to feed lower on the food chain, eating bugs, zooplankton, and other small fish. While all fish accumulate contaminants, panfish tend to accumulate lower levels compared to longer-lived, slower-growing species with greater fat content. Women of childbearing age (50 and younger) and children under 15 may safely eat up to 1 serving per week of panfish from most Wisconsin waters. Fewer servings should be eaten where higher levels of PCBs and mercury have been found in these and other species. Find more information at: [dnr.wi.gov/topic/fishing/consumption](http://dnr.wi.gov/topic/fishing/consumption).

### *Fish cribs benefit panfish populations.*

 **Reality:** For several decades placing fish cribs into lakes has been a popular activity. The belief was that this deep-water structure would benefit fish populations (particularly panfish) by giving small fish a place to hide. To date, we have not seen many positive impacts of fish cribs. There is little doubt that cribs are effective at concentrating fish, but we have not seen that they actually increase fish production. In fact, there is some evidence that concentrations of fish around cribs can make large panfish more susceptible to overharvest.

### *Anglers are the only panfish predators.*

 **Reality:** Besides anglers, there are a number of fish species that consume panfish as food. Based on research and management of lakes in the upper Midwest, walleyes, overall, emerge at the top of the list. Walleye prey on panfish year round and focus on these species for food even when a diversity of other fish species are available. Largemouth bass consume their fair share of panfish, but may focus on specific preferred prey species such as yellow perch, gizzard shad, or crayfish if available. Also, largemouth bass are not as active during winter months when water temperatures drop, thus reducing feeding. Musky and northern pike, have shown little utility as predators on slow-growing panfish populations. Studies conducted by the University of Wisconsin – Stevens Point of food habits of muskellunge in 34 Wisconsin lakes found most panfish species and walleyes did not comprise a large percentage of the muskellunge diet. Yellow perch and white suckers were the preferred food items.

### *All panfish anglers are alike and they all want the same thing.*

 **Reality:** We conducted a panfish angler survey from mid-February 2013 to the end of April 2013. Respondents could find the survey online, at public meetings held around the state in February and March 2013, or at fishing expos, sport shows and the Conservation Congress meetings. The responses were diverse. About one-third of the anglers are satisfied with the numbers of panfish they catch, one-third are not, and the remaining are neither satisfied nor dissatisfied. Some anglers prefer to catch a lot of fish that are smaller in size, while others prefer to catch fewer fish that are larger in size. Almost one-half of the respondents are satisfied with the current regulation. The other half would like to see a regulation change. All panfish anglers who responded to the survey are not the same. The survey will be used to develop a panfish management plan and address the diversity of angler preferences and opportunities.