

FISH HARVEST RESTRICTIONS

Among the many changes included in the 2008-10 fishing regulations are the elimination of a few fish size restrictions that Game and Fish has had in place for years.

Specifically, the 14-inch minimum size restriction for walleye on Lake Elsie, Brewer Lake and Dead Colt Creek Dam were taken out, as well as both walleye and northern pike size restrictions for Sprague Lake and Lake Tewaukon. These size restrictions were first put in place in 1994.

While these regulation changes won't affect a lot of anglers, they warrant mention here because they emphasize an ongoing philosophy within the Game and Fish Department's fisheries division: regulations are removed when they are no longer needed or haven't served their intended purpose.

While fish size restrictions were no longer necessary at the southeastern North Dakota lakes noted above, the 2008-10 regulations still maintain a number of lake/river-specific size restrictions that involve walleye, northern pike, largemouth bass and catfish. North Dakota also has one statewide minimum length for muskie. Each of these continuing regulations serves a defined purpose that is still functioning.

The other side of that philosophy is that before any new regulation is put in place, it has to address a valid concern and have a reasonable chance of succeeding. Over the past several years Game and Fish biologists have received considerable input from anglers regarding possible fish size restrictions on any number of waters, but most often related to walleyes in Devils Lake, Lake Sakakawea, and the Missouri River downstream of Garrison Dam.

Under the right circumstances, size limits can be effective, but many also fail. It often depends on the body of water. A restriction that benefits one lake could actually hurt a fish population in another.

Here's a rundown on the types of fish size regulations and the conditions under which they might prove beneficial.

Minimum size limits

Minimum size limits are designed to reduce harvest of small fish, allowing more fish to reach a desirable size. A minimum size limit works when there is high angling mortality, when natural mortality is low, when reproduction is low, and when growth is relatively good.

If a fish population doesn't meet the above criteria, a minimum size limit can harm the population. For example, if that population exhibits slow growth, fish may get harvested as soon as they reach the legal length and population size structure may shift to too many fish just below the legal length, resulting in a stunted population. Also, when fish are abundant below

the limit, there is potential for high mortality for fish under the size limit that are caught and released.

Many state anglers will recall a 14-inch minimum walleye size restriction on Lake Sakakawea that started in 1991. This was put in place to protect a couple of strong year-classes of stocked fish that had not yet reached 14 inches. At the time, Sakakawea was at a low level and had not had natural walleye reproduction for several years, and the walleye population was heavily skewed toward the smaller fish. Without a regulation, biologists felt there would be high angler harvest on these 12-13-inch fish, because the lake didn't have many other walleyes to spread out the catch.

Over time, those small walleyes grew up, water returned to Sakakawea, the walleye population balanced out and the 14-inch minimum was removed in 1998.

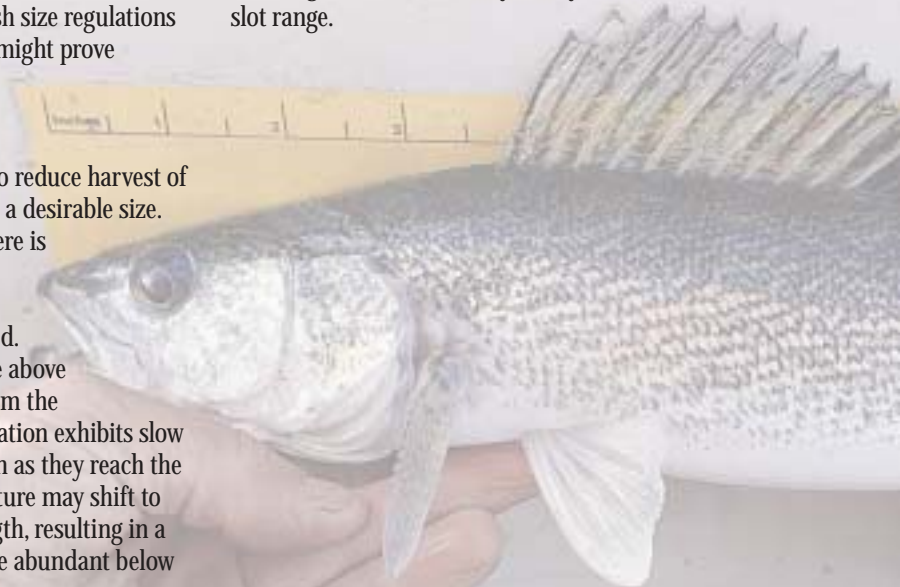
In addition, a minimum size limit is used for muskie to allow growth to trophy size.

Slot limits

Slot limits are designed to increase the number of larger walleye by protecting mid-sized fish. An example of a slot limit would be a requirement that anglers release all walleyes from 18-23 inches in length. Many believe that harvest below the slot takes advantage of surplus smaller walleye, while possibly increasing catch and harvest opportunities for larger fish. For a slot limit to be effective, the population should exhibit high reproduction, slow growth (especially for smaller fish), high natural mortality, and be subject to high angling effort.

The other side of slot limits is that they are usually not popular because anglers must release nice-sized walleye they are accustomed to keeping. There is also little documented evidence that slot limits work.

Determining the actual slot range is tricky, as lake productivity and walleye growth rates need to be considered. If growth slows, walleyes may accumulate in the slot range.



Maximum size limit

A maximum size limit requires release of all fish longer than a certain length. This regulation is designed to reduce the harvest of large fish, and is effective when there is high angling mortality on large fish, and reproduction is limited by the lack of large fish. This restriction is not often used as anglers may have to release a trophy of a lifetime.

A derivative of the maximum size limit is the “one-over” regulation. This restriction allows harvest of one fish longer than the specified length.

In North Dakota, a one-over 24 inches regulation is in place for catfish on the Red River System. This rule effectively allows limited harvest of large catfish while preventing overharvest of mature fish.

The state also had a one-over 18 inches regulation for walleyes on Lake Oahe and the Missouri River south of Garrison Dam, starting in 1999. At the time, because of a smelt population crash in Lake Oahe, walleye growth rates were very low. The regulation was put in place to protect large, mature walleyes, while encouraging harvest of smaller fish, which at the time were plentiful.

This regulation was eliminated in 2002.

All fish size restrictions are intended to conserve fish, or to improve fish population balance. To be effective, however, the fish population must have the potential to respond.

If there is no biological reason for a size restriction, and a majority of anglers are happy with a given lake's walleye size structure, then a regulation is not needed.

On the other hand, even if anglers and Game and Fish Department biologists aren't happy with a fish population size structure, it doesn't make any sense to set up a regulation that in the long or short run won't help the situation.

In the past year or so the Department has received a fair number of inquiries regarding the need for some type of size regulation for walleye on the Missouri River below Garrison Dam and Devils Lake. Department biologists routinely collect growth, recruitment and mortality information on these walleye populations to ensure that appropriate regulations are in place for the health of these

fisheries and to provide a quality angling opportunity. The information collected helps fishery managers determine if benefits could be realized from length restrictions.

Following is a brief explanation of the current rationale that there is no need to implement specific regulations on the Missouri (Devils Lake is very similar).

Minimum length limit

The Missouri River walleye population meets two of the criteria (good growth and low natural mortality) necessary to benefit from a minimum length limit. However, it does not meet the other two criteria (low reproductive or stocking success and high angling mortality). Applying a minimum length limit to this fish population would needlessly restrict angler harvest. A minimum length limit could even negatively impact this walleye population by increasing competition for food among small fish, which may ultimately decrease growth and increase natural mortality.

Slot length limit

The Missouri River walleye population meets one of the criteria (good natural reproduction) necessary to see a benefit from a slot length limit. Another criteria, high angling effort, may be met by North Dakota standards. However, the amount of angling effort this walleye population receives is not excessive relative to walleye fisheries across North America. The Missouri River walleye population definitely does not meet two of the criteria (slow growth and high natural mortality of small fish) necessary to see a benefit from a slot length limit. Similar to a minimum length limit, a slot limit on this fish population would needlessly restrict angler harvest by requiring them to return many fish desired for eating. In the absence of slow growth, many walleye would be allowed to quickly grow into the protected size range, resulting in few harvestable fish below the slot.

Maximum length limits

The Missouri River walleye population does not meet any of the criteria (high angling mortality of large fish and limited reproduction due to lack of large fish) necessary to see a benefit from a maximum length limit. Natural reproduction is not limiting this walleye population and few anglers harvest more than one fish over 20 inches during each trip. A one-over 20 inches length limit would have little influence on the number of large walleye that anglers harvest.

What do you think? To pass along your comments, send us an email at ndgf@nd.gov; call us at 701-328-6300; or write North Dakota Game and Fish Department, 100 N. Bismarck Expressway, Bismarck, ND 58501.