Catching spawning Florida bass won't deplete populations, study shows

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(PhysOrg.com) -- Recent cold weather has delayed largemouth bass spawning, says a University of Florida expert whose research suggests anglers should enjoy the opportunity for easy catches, despite naysayers.

In Florida, the bass usually begin spawning in January or February but this year they started at least a month late, said Mike Allen, a fisheries professor with UF's Institute of Food and Agricultural Sciences.

Largemouths are the state's most popular freshwater game fish. To spawn, male bass make shallow nests in the sand, court females, and then protect the eggs and hatchlings for several weeks.

Males guarding nests are notoriously aggressive, striking anything that moves. The fish are easy to catch, but it's commonly believed that spawning-season fishing reduces bass populations. Allen's latest study suggests that notion is rarely true.

The findings were published in the current issue of the journal *Transactions of the American Fisheries Society*.
"We found that in most cases, spawning area closures won't improve bass populations, for a couple of reasons," he said. "One is, there's a lot of catch and release nowadays. The other is, if you lose some nests, the ones that are left have higher survival rates."

Catch and release is the practice of setting fish free, rather than keeping or "harvesting" them. In 2008, Allen and colleagues published a study

showing that the percentage of largemouth bass harvested by anglers had fallen by half since the 1980s.

When nesting male bass are harvested — or if they're released after a long delay — their nests are likely to be invaded by predators such as bluegill, which gobble up eggs and hatchlings.

However, the young bass that survive face less competition for food and shelter, giving them a better chance at reaching adulthood, Allen said.

The study used mathematical models to predict changes in two types of bass populations. One was typical of southern states, with fast growth rates, early maturation and high natural mortality. The other had the opposite qualities, typical of northern states.

Allen and biological scientist Daniel Gwinn, the study's other author, gathered data on anglers catching bass during spawning seasons in three states. The researchers plugged the data into mathematical models representing several types of restricted and unrestricted fishing.

The results showed that prohibiting bass fishing during spawning season would only boost populations in waters where very high percentages of spawning bass are caught.

"Those conditions are pretty rare," Allen said.

To test his findings in the field, Allen is collaborating with researchers from the Illinois Natural History Survey. They'll catch nesting bass in two Florida lakes and four Canadian lakes to see if it influences the number of young that reach adulthood.
If there is no decrease, some officials might want to reconsider their policies, Allen said.

Wildlife managers in some northern states prohibit bass fishing during spawning, arguing that it protects bass populations. Local anglers don't always agree, he said.

In Florida, no spawning-season restrictions on largemouth bass are likely, Allen said. But the study may have implications for proposed fishing restrictions on other species.

"This research shows that protecting fish just to let them spawn won't improve sustainability," Allen said. "If overfishing happens, we will need a larger closing to reduce annual fishing-related mortality — closing over a longer time or a larger area."

Provided by University of Florida