Are soft plastics killing bass?

Recently the state of Maine pondered legislation to ban soft plastic lures in state waters. Ultimately, the state decided against any legislative action at this time, largely because of a lack of evidence of impacts of soft plastic lures on fish populations, combined with opposition from fishing tackle retailers and the fishing public. This issue will probably surface again, and in this column we summarize what we know about the effects of discarded soft plastics on fish and fisheries. Further, we outline some key uncertainties where we need new science on this issue.

First, we went to the scientific literature to look for the prevalence of soft plastic lures in bass stomachs, which could indicate the potential for impacts to fish populations. We reviewed eight studies that did diet analyses on black bass. Almost no studies mention soft plastics in diets of bass. Researchers classified some percentage of food items as “miscellaneous items, inorganic materials or unidentified materials.” One study reported that miscellaneous items made up 7 percent of the total weight of food items in stomachs from 1,817 largemouth bass. Another study of 991 largemouth bass stomachs from Crab Orchard Lake, Ill., revealed that 10 percent of stomachs contained unidentified matter. Due to the lack of any mention of soft plastics in the studies, reports of unidentified matter can be considered as absolute maximum when treating all unidentified matter as soft plastics. Most likely, this means that the occurrence of soft plastics in the diets of bass is probably at low levels.

This is very similar to our observations evaluating hundreds of bass diets in Florida — that presence of soft plastic baits in fish does occur, but only at a low rate (less than 2 to 3 percent).

Our review did not find evidence that ingestion of soft plastic lures by bass was common in any study, and based on this, it is unlikely that the usage of these lures is contributing to any detrimental population-level effects. This means that soft plastics probably don’t harm bass populations substantially, which is a primary concern of most fisheries biologists and anglers. Most diet studies were done years ago, and there is a need to update these observations with current studies in lakes that receive lots of fishing pressure with soft plastic lures.

However, population-level impacts to bass populations are not the only concern. Certainly there are individual fish that ingest plastics and may have growth or survival problems. Such impacts to individual fish would constitute harm, even if it does not substantially reduce overall bass abundance.

Further, it is possible that other fish species are more likely to ingest these discarded lures than black bass, and thus could have a higher rate of problems from soft plastics. Russ Danner and colleagues published a recent paper showing that brook trout readily consumed soft plastic lures from both the water surface and from the bottom, and fish that had soft plastics in their guts had slower growth than those that did not. While researching this, we found several instances where lake trout had large numbers of soft plastic baits in their stomachs, and so we need to know more about how other species are affected. It’s certainly feasible that population-level effects can occur for other fish species. Future work should identify how prevalent soft plastic baits are in diets of a wide range of fish species.

Probably the most common-sense approach moving forward is to educate anglers not to discard soft plastics into waterways. These can cause harm to some animals, and thus it’s far better to save them on the boat and discard with garbage or, even better, recycle them! The recent upset ReBaits program is one option for tournament anglers to recycle these lures (www.bassmaster.com/news/re-baits-reduce-soft-plastic-dumping). Maybe this program will provide an alternative as we move forward, but as an angler, please don’t discard plastics into our water!

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