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LIVING

Carp here to stay

OUR CHANGING SEASONS
Drew Monkman

Carp die-offs are commonplace — they generally do not destroy the entire population; nor do they usually result in long-term ecological change

When I think of carp, the first image that comes to mind is the gaping mouths of the fish that came to feed at the old monkey house at the Riverview Zoo. We would buy our kids food pellets from a small vending machine, and they would gleefully feed the schools of carp from the Otonabee River which swam up under the building to an opening in the floor. In those less environmentally-aware times, little thought was given to how feeding these fish contributes to the abundance of a species that can do considerable damage to aquatic habitats.

God only knows what else people fed them. Whatever it might be, these fish obviously had stomachs of steel. So, if I was to pick a fish that would be the victim of a large scale die-off, carp would be the last on my list. However, as we'll see, carp die-offs actually occur with some regularity, and we probably don't need to be overly concerned.

The carp that frequent the Kawartha Lakes are the feral ancestors of a wild form of the fish that was originally native to the Caspian Sea and east Asia. Old World fish farmers domesticated the carp as an easy to grow food fish. By the 17th century, they had already been introduced to the United Kingdom. Immigrant farmers therefore welcomed their introduction into North America in the late 1800s. It is believed that carp were first brought to Ontario in 1880. At this time carp were still very popular as a food fish. As is often the case with alien species, however, some of the fish eventually escaped from fish farms and private ponds into wild lakes and streams. They have been part of North American fish communities ever since.

Paradoxically, a large part of the reason for the carp's bad reputation is its hardiness. Carp can thrive in degraded habitats such as polluted urban lakes, reservoirs, and rivers with low oxygen levels, murky water, and soft bottom sediments. For some reason, we have little respect for the fact that they are well-adapted to survive in the squalid conditions that humankind has created. When you think about it, this same disdain extends to the gulls that clean up our litter and the vultures that remove the carnage of dead animals caused by our automobiles.

Carp are especially noticeable from late spring into early July when they thrash and splash their way into the shallow, weeded areas of protected bays and backwaters to spawn. This presents a great opportunity for fish-watching. They often jump right out of the water and, at times, are in water so shallow that their bodies are almost completely exposed. It's even possible to see groups of 10 or more males pursuing the same female in a race to fertilize her eggs. Carp produce prodigious quantities of eggs. Large females can lay over a million in a breeding season. The adhesive eggs are deposited rather haphazardly onto vegetation and, once fertilized by the male, they are deserted.

Jeanne Pengelly, Examiner

County employees dispose of dead carp from the north side of the causeway in Bridgenorth earlier this summer.

Maybe part of the reason we dislike carp is because they are omnivorous. In other words, they eat all manner of invertebrates, plant material and, when given the opportunity, even so-called garbage. Carp feed by ingesting mouthfuls of bottom sediment. They then expel the mud itself into the water, but eat the insects, crustaceans, mollusks, worms, algae and other types of plant material contained within — hence the name "swimming pigs." You can even sometimes see and hear carp sucking in floating insects or algae at the water's surface. The sight of the large dorsal fins of surface-feeding carp have probably tricked more than one observer into thinking they were sharks.

Since carp have been present in our area for so long, their impact on native fish and other wildlife is hard to determine. It's difficult to imagine their influence is positive, however. There are a litany of complaints leveled at carp. First of all, our native fish species must compete with hungry carp for invertebrate food items like aquatic insects, snails and crustaceans. In addition, because carp rummage about in bottom sediments, they often uproot and destroy aquatic vegetation. In many cases, these are plants that provide food and cover for birds such as ducks. Equally important, by grubbing around in the sediments, they muddy the waters and further disturb the feeding, spawning and nursery areas of native fishes. Sight-oriented predators like bass and sunfish quickly scatter when carp are muddying the waters. The end result is often a deteriorated habitat for fish, birds and other animals requiring clear water with healthy vegetation.

There is even evidence that carp sometimes prey on the eggs of other fish species. Mario Hodder, an angler friend of mine, has observed carp pushing spawning rainbow trout off of their nests and then eating the eggs.

This rather disparaging account of carp behaviour brings us to the question of this summer's mysterious die-off. Although I don't claim to have any particular expertise or inside information in the area of fish disease, I do know that die-offs do occur with some frequency. They generally do not destroy the entire population of the fish in question — at least some individuals in a given lake or area manage to survive — nor do they usually result in long-term ecological change.

Carp die-offs are commonplace. One of Canada's largest freshwater fish kills ever took place in the St. Lawrence River in Quebec during the summer of 2001. It only affected common carp, however. After many months of probing, it was eventually linked to bacterial infections which gained hold because the fish were already stressed from high water temperatures, low water levels, and fatigue from spawning. A number of U.S. states have experienced recent carp die-offs as well. Just last month, large numbers of carp died in Seneca Lake, Ohio. As in the Kawarthas, Ohio officials are not yet certain of the cause. This past May, another die-off took place in the upper Mississippi River of Wisconsin.

As we have learned this summer, what actually kills the fish in a given die-off can be difficult to ascertain. What soon becomes clear, however, is that a number of different pathogens can be responsible. In other words, the cause of the fish kill is not necessarily the same thing from one die-off to the next. In the case of the 2,000 to 4,000 channel catfish that died in the Ottawa River a year ago, MNR concluded that a bacterium known as columnaris was to blame. It is believed that a "stressed" environment, resulting from high temperatures, torrential rains and heavy runoff, allowed columnaris bacteria — which is always present in the environment to some extent — to spread quickly through the catfish population. Columnaris can affect almost any species of freshwater fish. Even though the columnaris bacterium has been identified in the samples of Kawartha Lakes carp sent to laboratories for testing, it is not believed to be the primary reason why the carp are dying.

Viruses are another common cause of fish die-offs. VHSV, or viral hemorragic septicemia virus, is often singled out as the culprit. It causes fish to bleed to death. In some of the carp die offs in the U.S., for example, viruses were indeed responsible. Now, it looks like spring viremia virus may also present a threat. Historically, viremia has only been a problem in Europe. However, it was found to be the cause of the recent Wisconsin carp die-off. Finally, there is also a virus known as Koi herpes virus (KHV) which kills carp, especially a form of the fish known as koi. These various viruses do not present a human health hazard.

According to biology professor Michael Fox at Trent University, the present carp die-off is probably not the result of pollution or poor water quality. If, for example, there was a toxic substance in lake and river sediment, we would have expected other bottom-feeding species in the Kawarthas such as pumpkinseeds and yellow perch to have been affected, too.

Their tainted reputation notwithstanding, a surprising number of people fish for carp. They are especially popular with British anglers who you can sometimes see along the Otonabee, often decked out in full camouflage gear. The carp's popularity is not surprising. According to Hodder, "Carp put up a good fight. In fact, you can even lose your fishing rod if you're not hanging on tightly when they take the bait."

Anglers often "pre-bait" an area by scattering corn in the water an hour or so before they start fishing. Endowed with a keen sense of smell, carp come to feed on the offering of easy food. Most fishers then simply put a worm, kernels of corn or a dough-ball on the hook to catch the fish. Carp taken from clean water are said to be excellent eating. In fact, Lake Michigan carp used to be harvested and sold commercially. It is illegal to use small carp as bait fish.

As with the introduction of most exotic species, what first seemed like an excellent idea can turn out to be anything but. Nevertheless, despite this summer's setback, the species is here to stay. Looking on the positive side, carp offer great fish-watching opportunities and an easy and exciting angling experience. Even dead carp provide plentiful food for scavengers like snapping turtles. Feeding carp to entertain your kids, however, is not something I'd recommend.

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