

# BLAMING THE BIRDS

Are pelicans, cormorants, and other winged piscivores harming game fish populations?

BY JACK BALLARD

Last September, game wardens with Montana Fish, Wildlife & Parks discovered roughly a dozen dead pelicans along a stretch of the Bighorn River a few miles downstream from Yellowtail Dam. The tailwater below the dam is considered one of the nation's top trout waters, though in recent years fish numbers have declined significantly. Game wardens said the pelicans, protected under federal law, were killed with a shotgun, and dozens more may have been shot and killed in the same area.

FWP officials know that many anglers blame the fish-eating birds for depressed trout numbers and suspect that some anglers are dishing out vigilante "justice."

In Montana, the American white pelican population has grown steadily during the 20th and early 21st centuries, according to *Birds of Montana*. What's more, there's no disputing that pelicans eat fish. An adult pelican ingests from 20 to 40 percent (3 to 6 pounds) of its 15-pound body weight in fish every day.

In addition to the Bighorn, FWP biologists report bird-related complaints from anglers on the Missouri and other trout rivers, and on

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Canyon Ferry Reservoir. In addition to pelicans, anglers are expressing concern about double-crested cormorants, another federally protected piscivore whose numbers have increased over the past 50 years after plummeting due to widespread DDT application in the mid-1900s. Fingerlings and adult fish in Montana lakes and streams fall prey to great blue herons and ospreys, too.

In short, there's no scarcity of fish-eating birds. And sometimes they eat trout. "Trout are especially delectable," says David Schmetterling, FWP Fisheries Research Program coordinator in Missoula. "They don't have a lot of bones or spines on the body, so they go down easy."

Yet Schmetterling points out that the diet of most fish-eating birds is mostly species *other* than trout and other game fish. Carp, suckers, and small nongame fish—abundant in all of Montana's river and reservoir sport fisheries—account for most of what pelicans and cormorants consume. For instance, a 2006 FWP study on Canyon Ferry Reservoir, stocked with tens of thousands of eight-inch rainbow trout each year, looked at stomach samples from 12 pelicans. Researchers found only a single trout among mostly carp and crayfish. The study also looked at stomach contents from 52 cormorants and found that the

birds were eating stonecats, a thumb-size member of the catfish family, far more than any other fish species. Though the study is 14 years old, biologists say that there's no reason to think that bird diets have changed since then.

A research project on Pathfinder Reservoir in Wyoming found that 77 percent of pelicans' diet (by weight) consisted of common carp and white suckers. The big-billed birds also scooped up Iowa darters (a finger-long member of the perch family), tiger salamanders, crayfish, and fathead minnows. "Predatory birds take the most available fish species," says Schmetterling. "And in almost every reservoir and river, those aren't game fish species."



**COMEBACK** A double-crested cormorant spreads its wings to dry after diving for fish. Numbers have increased on large rivers and reservoirs after the banning of DDT, which devastated populations. Though they eat fish, cormorants prefer smaller nongame species like stonecats rather than trout.

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#### MOSTLY SHALLOW

Each bird species has a different method of nabbing fish. Double-crested cormorants—dark, streamlined birds often mistaken for ducks—dive into the water and pursue fish

with the powerful propulsion of their webbed feet. Cormorants' powerful bills are hooked at the tip, enabling them to easily control wriggling fish. They tend to work the shallows but can dive to 25 feet when fishing.

Pelicans use the pumpkin-colored pouch on their bill similar to how an angler scoops fish with a hand net. Groups of pelicans, known as squadrons, often hunt cooperatively, "herding" schools of minnows and other fish into shallow water less than six feet deep where they're more easily scooped up. The big birds capably handle surprisingly large fish, too. At Pyramid Lake, Utah, researchers have documented pelicans occasionally taking carp and trout weighing up to 10 pounds. Pelicans sometimes feed at night, when crawfish and

certain fish species are more abundant in shallow water than during the day.

Great blue herons stand motionless at the edges of rivers and reservoirs waiting for passing fish, which they catch with a swift, powerful thrust of their bill. The long-legged birds are limited to hunting in water no deeper than two feet and usually stick to even shallower water along the shoreline. Small fish make up most of a great blue heron's diet, though the birds are known to spear frogs, snakes, and even ducklings and small mammals.

Ospreys capture fish by diving into water after spotting them from overhead. The raptors are uniquely equipped for fishing. Their feathers are dense and oily like those



**ROUGH FISH ROUNDUP** White pelicans often feed in groups, herding smaller fish into the middle before scooping them up in their oversize bill. In one FWP study, nongame species like carp, along with crayfish, were the most common food item found in the birds' stomachs.



**FISH HAWK** Ospreys dive for trout and other game and nongame species, using their specially engineered talons to grasp the slippery prey. Studies show that no game fish populations have ever been significantly reduced from osprey predation.



**BIG GULP** Great blue herons stand motionless in the shallows of rivers and reservoirs. Normally they kill small fish with a thrust of their swordlike beak, but occasionally the tall wading birds take larger specimens like adult common carp.

of ducks and geese, allowing them to shed water. Unlike bald eagles, which only pluck fish from the water surface, ospreys may fully submerge when diving feet-first in pursuit of prey. Valves on their nostrils seal shut to prevent the bird from breathing water. Their opposable hind talons aid in grasping wriggling fish, as do tiny spines on the bottom of their feet known as “spicules.”

For centuries, ospreys worldwide were maligned by commercial and recreational fishermen as pests thought to significantly reduce the number of fish available for humans. While it’s true that ospreys take mostly trout, studies indicate the raptors remove only a tiny percentage from a population and have no effect on recreational angling.

#### ARTIFICIAL CONCENTRATIONS

In natural environments with native fish populations, pelicans, cormorants, and herons similarly have little effect on game fish populations. That’s how piscivores and fish have coexisted for eons.

But effects are different in manmade environments. “Bird predation tends to concentrate in places altered by humans where fish

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numbers are artificially concentrated,” Allison Begley, FWP avian conservation biologist, says. If not protected by nets, commercial catfish ponds in the South and hatchery ponds in other states can see substantial losses. Stocked trout ponds concentrate fish in ways that practically invite avian predators.

Although pelicans and cormorants are protected by the 1918 Migratory Bird Treaty Act, many states have been granted permission by the U.S. Fish & Wildlife Service to kill both species. According to Schmetterling, Montana has resisted such extreme measures. “Many people don’t think it’s right to create fish-rich conditions that attract species like cormorants and pelicans, and then go out and shoot the birds,” he says.

In Montana, tailwater fisheries below dams create human-altered, fish-dense

environments where piscivores gather in unnaturally high numbers. Trout and other fish may be stunned or injured when passing through hydroelectric turbines or after tumbling down a spillway, making them easy pickings. “Like human anglers, pelicans love tailwaters for the water clarity and high fish densities,” says Begley.

It can be especially frustrating for anglers who aren’t catching fish to see pelicans paddling nearby. “Pelicans can temporarily decrease fishing opportunities by putting trout ‘down.’ But we track trout numbers each year on all the major rivers, and there’s no evidence that pelicans or any other bird piscivores harm game fish populations anywhere,” Schmetterling says.

That’s true even on the Bighorn, where 2019 trout numbers were the lowest on record. Mike Ruggles, FWP regional fisheries manager in Billings, says the population crash is due to water releases from Yellowtail Dam, operated by the Bureau of Reclamation. The releases have either been too high or too low for adequate trout reproduction downstream. In some cases, ill-timed flows have nearly wiped out all the eggs or fry of the river’s rain-

bow and brown trout. “We know that pelicans are not the reason that trout numbers are down on the Bighorn,” Ruggles says.

Brian Scott, a native Montanan, has been a fly-fishing guide on the Missouri River for more than 30 years and sees pelicans every day. “They sometimes shut the fishing down to a degree, but I’ve also seen trout rising right next to where pelicans are swimming,” he says. One time Scott watched two pelicans nab a couple of healthy adult trout when the fish were on the surface chasing bugs. But he’s observed many more instances where the opportunistic birds preyed on exhausted fish released by anglers. “I’ve been a vocal defender of pelicans,” says Scott. “When I was a kid, there really weren’t any around. I like to see them on the river.”

So do others who frequent rivers and reservoirs. “A squadron of white pelicans soaring overhead is one of the great wildlife sights in Montana,” Schmetterling says. “I’m not the only one who considers it odd that someone would actually shoot those majestic birds, especially when doing so is a federal offense and wouldn’t improve their fishing one bit.” 🐾

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