

# Give me sanctuary

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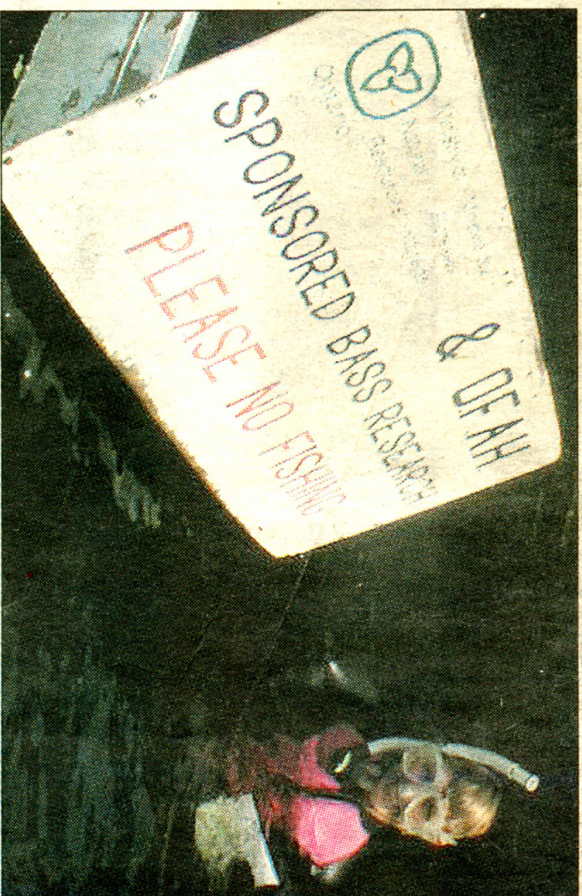
**H**IGH-POWERED FISHING boats are roaring across the lakes and rivers of eastern Ontario today, driven by eager anglers hunting for bass.

But beneath the surface, these are troubled waters. Today's bass season opening brings feelings of relief and trepidation for the many cottagers, fishing guides and fish biologists.

For the past seven weeks, since pike season began, they've watched anglers casting into sensitive bass-nesting territory, fishing illegally, either intentionally or out of ignorance of Ontario law. Their fishing tactics imperil largemouth and smallmouth bass which, to spawn successfully, must protect their eggs until warm weather allows the fry to hatch, grow and swim to the relative safety of a weed bed.

Illegal fishing is a serious problem in Ontario. Two weeks ago at the Windsor-Detroit border crossing, Ontario Ministry of Natural Resources (MNR) officers seized 1,500 pounds (675 kilograms) of fish being illegally taken back to the U.S. by American anglers. In just nine hours of checking coolers and live wells, 54 people were charged with offences under the Fish and Wildlife Conservation Act.

In our own backyard, at the Thousand Islands Bridge at Ivy Lea on the American Memorial Day weekend, MNR officers seized 275 pounds (124 kilograms) of illegal fish, laid 13



Biologist Julie Claussen floats beside a sign indicating a bass research area in Lake Opinicon

Paul Schliesmann/The Whig-Standard

charges, issued 10 warnings and levied \$3,315 in fines. Americans aren't the only ones taking fish out of season, but the border statistics do indicate a serious problem.

As the bass populations come under increasing pressure from fishing, more Ontarians, and even a team of fish biologists from Illinois, are searching for ways to preserve the stocks, and balance sound conservation practices with the economic benefits of sport-fishing tourism.

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**F**LOAT BACK IN TIME, ABOUT TWO weeks before today's bass season

opening, to the sparkling waters of Lake Opinicon near Chaffey's Lock. Dave Philipp rounds the point of a small island, nestles his boat into the shoreline and peers into the water. Philipp is looking for a male smallmouth bass that should still be protecting its recently hatched fry.

"He's a smart one," Philipp says admiringly. "He's got two escape routes under that rock."

There are no other boats in sight on the lake. If he wanted to, Philipp could easily catch himself a tasty bass dinner. In fact, he sometimes fishes bass out of season — with a special permit for re-

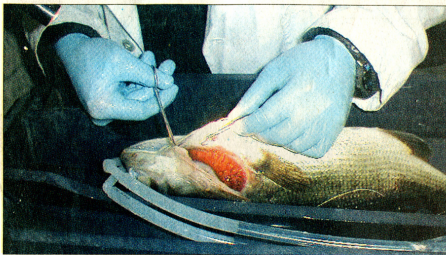
search purposes. Today, the University of Illinois fish biologist is looking for the numbered tag that identifies the nest as part of his ongoing bass study.

Philipp's knowledge of the bass he monitors in several eastern Ontario lakes and rivers is surprisingly intimate, but that's to be expected. Most days, from when he first arrives at the Queen's University Biological Station in May, Philipp literally dives into his work, donning a wetsuit, fins, mask and snorkel. Joined in the water by his wife, Julie Claussen, they methodically check nests along the shorelines.

On Opinicon, they have identified dozens of nesting sites around four small islands. Each site is plotted on a map, then regularly checked to note when the eggs are laid, when they hatch, how often the parent fish has been hooked and taken away from the nest and whether the nest has been abandoned.

Philipp is a fisheries biologist with the Illinois Natural History Survey and a professor at the University of Illinois at Champaign, and his work also ties into the state's Department of Natural Resources. The lakes and rivers of Illinois are too murky to conduct field tests, so Philipp conducts his research at the Queen's biology station and takes his data back to Illinois where the science can be applied. Some of the work on land is as exciting as the underwater work.

## COVER STORY



## BASS

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In a lab filled with fish tanks, for example, one of Philipp's former PhD students, Chris Bunt, is wiring portable transmitters to male bass. The transmitters can send signals to a computer to monitor blood flow through the aorta of the fish. Over a speaker comes the steady whooshing sound of the pumping blood. It's the scientists' hope to use the system to record the stress male bass experience when they are hooked off their nests.

Bass are exposed to other external pressures. With increased lakeshore development on eastern Ontario's lakes, boat traffic and new environmental pressures such as zebra mussels – and, of course, more and more anglers working the shorelines – Philipp wonders how much longer the bass population can remain as healthy as it is.

It's the pre-season fishing that concerns Philipp the most. Pike fishing starts the second weekend in May, while bass season opens the last Saturday in June. Too often, pike fishermen, out of ignorance or by design, are casting into shallow shorelines where bass nest.

Using bass baits, or fishing over bass habitat, out of season, are illegal. With few MNR officials on the lakes to enforce these laws, it's basically an honor system for anglers. Most are honourable, but, as Philipp's underwater studies have shown, it only takes one pass along a prime nesting shoreline to upset the delicate reproductive process.

"There's lots of pre-season, illegal catch-and-release angling going on. And a lot of the impact depends on the two big weekends," says Philipp. "The weather on Victoria Day weekend and Memorial Day weekend, particularly Memorial Day weekend because it's usually right in the middle of the spawning season, if it's nice, calm, and man, there's lots of boats, lots of illegal fishing going on."

Once the female lays the eggs on the nest she leaves. It's the male that fertilizes them and stays to protect the egg mass from predators. When the waters warm, the eggs hatch and the male remains with the tiny fry to keep predators at bay. Smallmouth bass will stay at the nest site with their young. Largemouth are more likely to lead the teeming "fry ball" of little fish away and guard them until they can scatter and swim by themselves to the relative safety of the weeds.

Male bass may be on the nest site for several weeks, barely eating, losing weight and getting hungrier by the day. If a juicy-looking fishing bait lands near the nest, there's a good chance they'll snap at it.

"We've done studies to see how vulnerable they are," said Philipp. "We had two anglers in a boat and we fished a 200-metre stretch in half an hour. We watched some people and figured that's about the rate people fish with a trolling motor just going along fishing the shoreline."

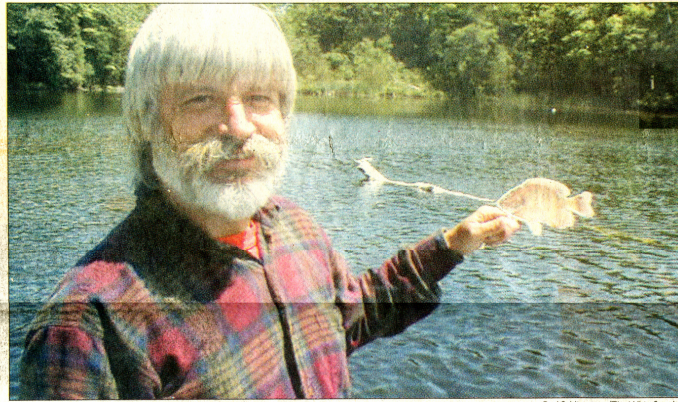
Each fish they caught had an identification notch cut in the tail and was then released near its nest.

"Then we went back in with our snorkelling gear and swam those areas and located all the nesting bass sitting there and saw which ones of those had the notched tails," said Philipp. "In one pass, with two anglers, at that rate, we caught 42 per cent of all the nesting bass. That's one pass. And, interestingly, 95 per cent of the fish we caught were nesting bass. So you're not out there catching lots of other fish and oc-

Top and right: Chris Bunt, one of Dave Philipp's former PhD students, performs surgery to attach a blood-flow monitor to a bass

Above: Bunt examines a bass sporting a monitoring device

Photos by Paul Schliesman  
The Whig-Standard



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Biologist Dave Philipp is studying the bass in eastern Ontario's lakes and rivers. Philipp is holding a plastic replica of a bluegill, which is used to test how the nesting bass react to predators.

asionally a few males. The fish that are in the shoreline are all nesting males."

Many anglers will argue that in catching and releasing nesting bass they aren't interrupting the spawning process. Philipp says that's not so. Predators move in quickly and eat up the eggs or fry. The male bass, caught, dazed and bruised from the fight at the end of a fishing rod, may abandon the nest. Dishonest anglers may decide to keep the tempting bass dinner dangling off the end of their line.

In Philipp's 10 years of intensive bass research in eastern Ontario, he's found that the big fish are producing the most offspring. Their survival and spawning success have long-term effects on natural selection.

"The good breeders are the ones that are getting caught," said Philipp. "If you start taking away the big fish, not only are there obviously less big fish out there, but what that does, too, is that determines... who gets to spawn. What it does is it allows the smaller and younger males to mature and enter into the breeding pool. If you take lots of the big males away, younger and younger males start maturing and the whole population goes down in ultimate size."

Bass mortality rates are extremely high. Philipp estimates that from a nest of 20,000 to 30,000 eggs, only one or two bass will survive their first year. A spawning male may only produce another adult fish over its entire lifetime of eight to 10 years.

Philipp's had numerous run-ins on the water with anglers fishing over bass nests, even the ones clearly marked as research areas on floating signs. He's almost been snagged him-

self by overenthusiastic fishermen.

"You're snorkelling in the water and sometimes anglers would be casting along the shoreline, and they'd see you, but they'd keep fishing right by you, and they'd be curious. But you'd know they were there because the lure would land right in front of you. I'd come up and say, 'By the way, I'm swimming over bass nests, what are you fishing for?'"

"Oh, yeah, I'm fishing for pike," "Sure," Queen's biology station manager and senior instructor Frank Phelan has worked with Philipp on his studies over the past decade. They are advocating legally designated sanctuaries for bass – sectioning off the best spawning habitats on certain lakes.

## ILLEGAL FISHING

The sanctuaries would be enforced until bass opening. So anyone fishing inside the area before opening day would automatically be charged with illegal fishing. Once the season opened, however, there would be no restrictions.

Philipp had secured in Illinois \$20,000 US to kick-start the sanctuary research project here in Ontario. But the province's Ministry of Natural Resources hasn't taken the bait, and if Kingston-based MNR management biologist Mark Ferguson has his way, they never will.

Instead, Ferguson advocates voluntary conservation zones like the 12 he oversees on lakes in his territory. His most successful project is the one he set up on Loughborough Lake 10 years ago with long-time Battersea fishing guide Larry York.

As York and Ferguson stand on a dock overlooking the Battersea Bay, they sweep their hands along the vista. Signs clearly marking the sanctuary

area, paid for by local businesses, cottager groups and the fishing guides' organization, dot the shoreline. "See," says Ferguson, "not one boat fishing there."

Indeed, the waters are free of anglers. Fishing boats speed in and out of Battersea, but they head off between the islands to other fishing destinations on Loughborough Lake where northern pike can be found.

It wasn't always this way, recalls York, who has been guiding on the lake for 50 years. Twenty years ago, Battersea Bay had more anglers but fewer bass. When the fishing declined, the visitors started going to other lakes and resorts where it was better.

York and his fellow fishing guides on Loughborough Lake realized that if the bass stocks were in jeopardy, so were their livelihoods. So the guides agreed that they would try to talk their fishing clients, most of them Americans, into catching and releasing the large bass that weighed over three pounds – "breed fish," as York calls them.

The plan seemed to help. Some guides even carried Polaroid cameras so the anglers could take home a photo trophy instead of the real thing. Then came another setback. American tournament fishermen started arriving in Battersea prior to the bass season opening, deliberately catching nesting bass as they practised for fishing competitions back home.

The guides had had enough. York contacted Ferguson and they started planning the voluntary sanctuary program. They had sanctuary signs made up and posted. On MNR letterhead they typed up a fact sheet about the negative effects of pre-season bass fishing. As anglers checked into area re-

sorts and motels, they found the fact sheets on their pillows and tacked to the back of bathroom doors.

When guides or cottagers found anglers floating over bass nests – "pounding them" as York describes early-season fishing – they would pull up to the offending fishers and hand them a fact sheet. Then the anglers got the lecture delivered in a measured, non-confrontational manner. "If you approach a man roughly, he responds roughly," says York. "If you approach a man smoothly, he responds smoothly."

After 10 years, says York, the voluntary sanctuaries approach has improved fishing and anglers' appreciation for limited resources. "The whole attitude has changed, but it didn't change overnight."

Ferguson praises York as the catalyst for the program's success. "One fisherman talking to another fisherman, that's a great start," he says. "We're educating through people like Larry. Larry can touch hundreds of people I will never see."

It was Ferguson who initially steered the Loughborough fishing guides away from pushing for legislated sanctuaries. He says that if other communities, cottage associations or guide groups are thinking about sanctuaries, he will provide them with similar advice and support to start up their own voluntary system.

Ferguson admits that because of cutbacks the MNR doesn't have the staff to adequately enforce fishing laws everywhere. "The problem with legislated sanctuaries is now you're into law rather than a voluntary approach. Now you're dealing with law, false arrests," says Ferguson. "With the voluntary system, you go out and sensitize them to the sensitivity of the resource. Most of them get embarrassed. They say, 'I never knew.'"

When the Loughborough guides started up their sanctuary system, Dave Philipp and Frank Phelan both came down from Chaffee's Lock to swim the shorelines, help find the best spawning areas and monitor hook rates, the number of times nesting fish are caught and released. They both believe stricter laws are required, as well as more MNR involvement in research.

"The ministry, in terms of management, has been cut right to the bone," says Phelan. "And so situations like ours where we have a co-operative kind of effort can fill some of those gaps. But I think the ministry still needs to be back more into real science and having something to say about it and looking at all aspects. Fishing is only one factor."

Philipp says that even legally designated sanctuaries would only succeed if cottagers and fishing guides helped monitor them. But in designating no-fish zones, he argues, "there's no question whether or not you are fishing for bass. Inside that zone, you're illegal until season opening."

"It would protect a certain number of spawners, because right now they're all getting snagged."