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Where Baitfish Don't Belong

By Ted Williams

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Wild trout water more beautiful than northern Maine's Big Reed Pond doesn't exist. It is embraced by one of the few remaining old-growth forests in the East. It is one of about 307 lakes in the nation (305 in Maine) that still sustain native brook trout undefiled by hatchery genes and one of only 14 waters in the nation (all in Maine) known to sustain native populations of blueback trout, a grievously imperiled race of arctic char.

In the early 1990's guide Gary Corson found smelts in Big Reed. Smelts are native to Maine but not to Big Reed. They're legal bait in Maine but not in Big Reed. Someone — apparently in an effort to grow bigger brookies and bluebacks — had illegally introduced them.

It worked spectacularly. In fact, the bluebacks, which had averaged about 10 inches (big for landlocked char) were suddenly attaining lengths of over 20 inches. There was a problem, however: Recruitment all but ceased. The smelts were chowing down on blueback and brookie fry, then competing with surviving bluebacks for zooplankton. Corson, who used to fly his clients into Big Reed at least three times a week, says he wouldn't fish there today. "In the deeper water we'd get the occasional two- or three-pound brookie; and the shoreline was full of smaller fish. Everything disappeared." So it goes when baitfish are unleashed where they don't belong.

Thousands of other native fish populations across America have been undone by baitfish introductions. Anglers have dumped bait pails on purpose and by mistake, and bait dealers have introduced non-native baitfish in order to have additional waters to seine. One thing is certain: If baitfish are used in water where they are not native, they will become naturalized.

While the literature is rife with warnings about the dangers to salmonids from non-native spiny-finned fish like perch and bass, it scarcely mentions baitfish. But the second problem contributes to the first. Few bait dealers know what they're selling, fewer anglers know what they're buying and no one knows what they're seining. Often juvenile spiny-fins (perch, bass, sticklebacks and the like) are mixed in with the soft-fins (shiners, chubs, suckers and the like); and while the targeted soft-fins may be legal, non-target soft-fins in the haul frequently aren't.

An informal survey of bait dealers in Wyoming turned up juvenile trout infected with whirling disease mixed in with legal baitfish. And baitfish shipments, especially in the West, are often contaminated with sticklebacks, which promptly take over new habitat, carpeting the bottom and blowing off primary production. What's more, sticklebacks provide scant forage to game fish (largemouth bass actually lose weight when they eat them). The loudest complainers are the bait dealers themselves, because the sticklebacks they inadvertently spread around wipe out the baitfish they target.

Greg Gerlich, senior aquatic biologist for the Colorado Division of Wildlife, dispatched crews to purchase 60 baitfish from each of a dozen bait shops. "Only two of those shops had mono-specific cultures, like all fathead minnows," he says. "The rest contained everything from goldfish to small carp to suckers to yellow perch to sticklebacks. Minnows are expanding beyond their range. We're seeing new populations

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of sticklebacks, yellow perch, carp and goldfish."

"I think we're making some headway with baitfish introductions," says Maine's chief fish biologist, John Boland. "Ice fishermen [the primary baitfish users in the East] are much more cognizant about not dumping bait down the hole." Still, the level of ignorance is appalling. Most ice anglers receive their education not from managers like Boland, but from Internet, newspaper and barroom commentary, much of it provided by baitfish dealers. For example, in the February 18, 2007, Kennebec Journal the head of the Maine Bait Dealers Association, Stephen Staples, offered the following about alleged dangers of baitfish becoming naturalized in salmonid habitat: "If that happens, so what? Shiners are much needed forage for our fisheries and not harmful to the watersheds."

Try that out on the people who used to fish Oregon's sprawling Diamond Lake, so high in the headwaters of the Umpqua River that it was fishless until rainbow trout were stocked circa 1912. The rainbows grew an inch a month, commonly reaching 10 pounds. But sometime in the 1940's tui chubs were introduced by bait anglers or perhaps by bucket biologists as "much needed forage" for rainbows. The rainbows ate the chubs, but not enough to make a difference. The chubs cleaned out the zooplankton, slicing off the rainbows' food chain at the base and enabling the proliferation of toxic blue-green algae on which the zooplankton had grazed.

In 1954 the state successfully reclaimed the lake with rotenone, and the trophy fishery recovered, eventually attracting 100,000 anglers a year. But around 1990 someone introduced tui chubs again. Again the chubs took over, dominating the biomass and facilitating poisonous algae blooms that made it unsafe to swim or even fish. Finally — in September 2006 at a cost of \$6 million in federal, state, county and private money — the state again reclaimed Diamond Lake, killing an estimated 90 million tui chubs. "In two or three years we hope the nutrients tied up in the chubs that were killed will recycle back into invertebrates and zooplankton," says Rhine Messmer, of the Oregon Department of Fish and Wildlife. "We'll then ramp up our stocking, and hopefully we'll have the trophy fishery we had before."

But such happy endings, if this turns out to be one, are rare. Most bait-infected salmonid waters are too big or have too many inlets, springs or marshes to be reclaimed. We lose them forever. Consider the fate of native brook trout in New York State's Adirondack Park as reflected in the microcosm of the Saranac Lake Wild Forest management unit. An estimated 94 percent of the unit's 19,010 acres of ponded surface water historically supported brook trout. Today three percent supports brook trout, and the figure would be only .5 percent had the state not done reclamations. Furthermore, only one of the 156 ponds and lakes in this unit is thought to have been affected by acid rain; the rest have been rendered troutless by alien fish.

Golden shiners, white suckers and yellow perch are among the worst invasives, and all appear to have been moved around in bait buckets. Of the thousands of Adirondack ponds that have been lost to soft-fins and spiny-fins, only a few are suitable for rotenone treatment. But there's another problem—key people within the Adirondack Park Agency choose not to learn about rotenone and therefore fear it. And, largely because an ecologically illiterate NGO called the Adirondack Council keeps hissing in the agency's ear, it forbids helicopters in state-designated wilderness during summer (the only practical way of transporting equipment and the only time surveys and reclamations are possible). "We have people in the Park Agency telling us our data is too old to justify management," says Bill Schoch, the Department of Environmental Conservation's regional fish manager. "And, at the same time, the agency tells us we can't fly into these ponds to get new data. It's incredibly frustrating."

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The ongoing game of musical chairs we play with baitfish endangers more species than those that titillate us by bending our rods. For instance, non-native baitfish-especially red shiners-are impeding restoration of federally threatened spikedace and loach minnows (which occur only in the Gila River basin of Arizona and New Mexico) and threatened pike minnows and endangered razorback chubs in the Colorado River system.

Although golden shiners can be a major threat to wild salmonids when humans fling them around the waterscape, they're every bit as important to their native ecosystems as brook trout are to theirs. The European rudd-with which bait dealers and bait anglers have polluted the Great Lakes, the St. Lawrence River system and now Maine-threatens to hybridize our native golden shiners out of existence.

Not all tui chubs are prolific. Two races — the Mohave tui chub of California's Mojave River and the Owens tui chub of California's Owens Valley — are now federally endangered largely because non-native chubs, unleashed in their habitat by bait anglers or bait dealers or both, are crossbreeding with them. The California Department of Fish and Game would like to keep these endangered fish on the planet by reclaiming a little of their lost habitat, but antimycin is illegal in California, and the department's senior fish biologist, Steve Parmenter, correctly notes that use of rotenone isn't "politically feasible." In other words, public ignorance, which got these fish into trouble in the first place, is now preventing their recovery.

Damage to native-fish habitat in the West, grievous as it is, palls beside damage in the East. One reason is that many Western states have decent regulations (if not enforcement), while regulations in the East are hopelessly inadequate. Montana and Wyoming have banned live baitfish west of the continental divide-their best trout water. Colorado has banned live baitfish in water above 7,000 feet-its best trout water. Washington and Oregon prohibit all live baitfish in freshwater. California has a virtual ban. West of the divide New Mexico permits only fathead minnows.

New York, on the other hand, hopes to narrow down legal baitfish species to 15 including the golden shiner and white sucker with which it has had so much trouble. But at this writing, just about any soft-fin goes (though all baitfish have been banned and will continue to be banned in important native brook trout water). In Pennsylvania it is actually legal to seine baitfish from water where they are native or naturalized and release them in water where they are neither. Maine, which has lost about 90 percent of its wild brook trout habitat but nonetheless retains an estimated 97 percent of all ponded native brook trout water in the nation, has also banned live baitfish in much of its remote trout water. But major brook trout strongholds-including the 92-mile-long ribbon of lakes, ponds, rivers and streams known as the Allagash Wilderness Waterway-are still open.

Among the 23 species of baitfish Maine still permits are the golden shiner, lake chub, fathead minnow and common shiner (which it has determined pose a "moderate" threat to brook trout), smelt, longnose sucker, creek chub (a "high" threat), and white sucker (a "severe" threat-more severe even than yellow perch, brown bullheads and largemouth bass, which it bans).

Only in Maine has the threat of baitfish attracted major media attention. The flap started with two proposed pieces of long overdue and desperately needed legislation almost pathetically modest in their goals-akin to Oliver Twist asking for seconds on gruel.

One was introduced on behalf of the Sportsman's Alliance of Maine (SAM). The bill would ban live baitfish from a few of the "B List" ponds-where brookies are self-sustaining and haven't been stocked in

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at least 25 years. "This is nothing but a continuation of the bill passed in 2005 that protects 'heritage trout' in 305 unstocked ponds-the 'A List,'" declares Gary Corson, the Maine guide who discovered smelt in Big Reed Pond and who serves on SAM's Fishing Initiative Committee. "The state recognizes 284 B List ponds, but at least 36 of these have been stocked with species other than brook trout. SAM wants them off the list; it's unreasonable to ask the department to stop stocking landlocked salmon, for instance. And some of the waters don't qualify as principal brook trout waters; we want those off the list, too. We're not looking for big numbers." As Corson notes, ice fishing isn't allowed on most B List Ponds anyway. After all the subtraction, ice anglers would be prevented from using live bait on only 14 ponds out of over 1,100 available to them. And even on these 14 they would be able to use jigs, worms and dead baitfish (very effective for brook trout and lake trout when fished on the bottom).

The other bill, introduced on behalf of the Dud Dean Angling Society (DDAS), would ban just four of the 23 legal species of baitfish-the ones the scientific literature lists as alien to the state. These are the spottail, blackchin and emerald shiners, and the eastern silvery minnow. Emerald shiners are of special concern because they are primary vectors of Viral Hemorrhagic Septicemia (VHS), a devastating fish disease now established in the Great Lakes and the St. Lawrence River System.

"A few ice fishers and bait dealers have been stirring the pot on the Internet, getting everyone all charged up," says Corson. "These guys don't know what the hell they're talking about, and no one on our side is willing to get into that kind of a fight with them. We haven't heard a peep from open-water bait fishers."

The noise from Maine carried all the way to New York City, and on March 13, 2007 The Wall Street Journal, in typical fashion, spun the baitfish controversy into what it called a "class war" between native, blue-collar ice fishermen and rich, YUPPY flyrodders "mostly 'from away.'"

Whipping ice anglers into a froth of fear, loathing and paranoia has been Maine's property-rights community, which has seized on the proposed legislation as a means of vilifying those who value native ecosystems — i.e., the ubiquitous, liberal "greenies." SAM, it alleges, has been infiltrated by "environmental extremists," "eco-fundamentalists" and "fly fishing elitists." SAM, TU and the "Duds" (DDAS) have conspired to push traditional anglers out of the way "so they can have the resource all to themselves." Sponsors and supporters of the bills who once lived or were educated in other states are "invasive species themselves." The legislation is "incrementalism," "a government jackboot in the door" and "the first salvo" in a meticulously planned offensive to ban all ice fishing. . . .

Among the more prolific of Maine's conspiracy theorists is one Alfred Moore of Milbridge, who spends his days crusading on Internet comment boxes, blogs, forums and chat rooms against what he calls "the Environmental Industry" (always capitalized). According to one of his daily warnings, the "anti-live bait legislation could ban use of live bait forever." He defines brook trout as "the 'new' Atlantic salmon" and proclaims that "Environmental Industry groups are already buying up land to 'protect the natives,'" which he expects will soon be listed under the Endangered Species Act, first in the long list of federal statutes he detests.

Similar rhetoric issues from bait dealers, particularly their chief spokesman-John Whalen, a former state game warden and Maine's only propagator of alien emerald shiners. "Ethically, the fly fishermen don't like ice fishing," he told The Wall Street Journal. "They view it as consumptive, removing 'resource' from the environment." Whalen defines advocates of the baitfish legislation as "ring-tailed barstards [sic]" out to "eliminate ice fishing and general law fishing opportunities and to just screw with traditional Maine

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fishers."

A mantra from Moore, Whalen and the rest of the Maine anti-bait-reg lobby is that there's no proof that spottail, blackchin and emerald shiners and the Eastern silvery minnow are non-natives. That's true, but also irrelevant because a baitfish doesn't have to be alien to ruin a state's fishery — it only has to be alien to the body of water in which it is unleashed. Witness, for example, the fate of the brookies and bluebacks that used to abound in Big Reed Pond. Moreover, the burden of proof that these baitfish are alien should not be on those who seek to protect wild trout. The burden of proof that these baitfish are native (and none exists) should be on those who want to risk seeding them throughout the state.

In the last decade or so the Maine Department of Inland Fisheries and Wildlife has done a much better job of managing the national treasure it has been entrusted with. Its brook trout specialist, Forrest Bonney, reports a significant increase in the percentages of older and bigger fish. Draconian bag limits-down to one fish on some ponds-have done wonders.

Thanks to scientists like Bonney and fisheries chief Boland, Maine also has some excellent management policies in place. It's just that, with so much political heat from special-interest groups like bait dealers, those policies don't always get implemented. Considering all the department's talk about the dangers of alien fish, you'd think it would want to prohibit use of at least the four baitfish it believes are alien to the state. But it testified against the DDAS bill, and, on the department's advice, a legislative committee recommended that only the blackchin shiner be banned. "Why?" I asked Boland.

Boland is a very good biologist, but his answer made no sense to me. He explained that the 23 species of legal baitfish are "extremely difficult to identify," that "we don't have reliable records for their distribution," and that "it wouldn't make a lot of sense to saddle the wardens with this kind of enforcement." I can't think of three better reasons to restrict the use of all live baitfish in and near wild trout water until biologists figure out what lives where.

At this writing the department doesn't have an official position on SAM's bill, but Boland doesn't like it. Two years ago, at the legislature's direction, the department convened a working group to determine what additional wild trout ponds needed protection from baitfish. "Right in the middle of this comes this bill from SAM," says Boland. "In a way I look at it as undermining the group's efforts." But the department waited 10 months to call a meeting and SAM got impatient.

Natural Resources Committee chair Rep. Theodore Koffman (D-Bar Harbor), who introduced SAM's legislation, offers this: "Mr. Boland probably won't come in with a better bill; that's troubling. The folks I've been working with — former department staff, anglers and guides — feel that the department has fallen way short and is hobbled by pressures. I can't confront it head on; so this is the way I'm trying to do it."

There's a small minority of ice anglers and bait dealers vindictive and/or selfish enough to intentionally disperse baitfish as well as alien game fish that they happen to favor, particularly pike. Draw maps of Maine's major baitfish dealerships, its major ice angling activity, its major rudd infestation, its major emerald shiner infestation, its major pike infestation, and you pretty much have a single map.

On February 6, 2007, a hearing was held on the DDAS bill in Monmouth. One of the participants, TU and DDAS member Jeff Levesque (who until recently served on both the state's brook trout working group and SAM's Fishing Initiative Committee) told me this: "As we were all leaving, one of the leaders of this

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whole [anti-bait-reg] crew came up to me and said: 'If you fly-fishermen keep pushing to ban these invasives, they're just going to get spread around.' That's the mentality of these guys. It doesn't surprise me that they're applauding the pike introductions."

Meanwhile, in Maine and across the nation, bait anglers and bait dealers continue to purposefully and accidentally festoon aquatic habitat with alien baitfish and whatever other aliens are mixed in with them. And education, enforcement and legislative reform move at the pace of continental drift.

Native fish, especially wild salmonids, don't have that kind of time.