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Trout fishing in America is really about trout fishing  
By Curtis Seltzer

BLUE GRASS, Va.—Every so often a large tanker truck backs up to the South Branch of the Potomac River just below Blue Grass and disgorges hundreds of rainbow trout. Delivery schedules are posted on the website of the Virginia Department of Game and Inland Fisheries.

The cost of raising these put-and-take fish comes from the license fees paid by the folks who are casting baited hooks into their midst. Hatchery rainbows are easy to catch and put up a fight. They taste pretty good.

So what's wrong with this?

Anders Halverson, author of *An Entirely Synthetic Fish: How Rainbow Trout Beguiled America and Overran the World* (Yale University Press, 2010), would prefer, I think, that rainbows had been left in their native Pacific Rim waters and not spread throughout the United States and more than 40 countries. He would prefer, I think, the end of both demand for and supply of hatchery-raised rainbows.

So why are these fish bad?

Halverson answers, well, it's not that they're all bad. The rainbow industry provides recreation, supports rural business and creates public-sector jobs in the raising and stocking of about 100 million fish annually, about 25 million pounds.

The U.S. Fish and Wildlife Service argued in 2005 that every dollar spent raising and stocking rainbows generated \$32 in economic activity, such as bait sales, meals, lodging, travel, equipment purchases and so on. Halverson acknowledges these facts and lets them into his discussion as arbitrators allow hearsay testimony into their hearings—"for what it's worth."

Halverson sides with those who believe that the measurable economic and recreational benefits of hatchery rainbows are outweighed by their environmental costs.

Rainbow genetics have been selected over the years for certain traits—fast growth, disease resistance, feistiness and even "angling susceptibility." The seed-stock rainbows taken from California's McCloud River in the late 1800s have been sliced and diced like subprime mortgage securities, which is why Halverson titled his book, *An Entirely Synthetic Fish*.

Hatchery rainbows are now concentrated into a few genetic packages. And the less genetic diversity in their population, the more susceptible they are to disease and wholesale crashes.

Some research has even been done on bulking them up with creatine -- the muscle builder Mark McGwire used -- so that they will have more endurance at the end of a line.

One environmental problem with hatchery rainbows is that they're more aggressive than both native fish (trout and non-trout) and wild rainbows (those born outside a hatchery). Halverson likens them to a school bus full of teenage boys at an all-you-can-eat buffet who, naturally, leave very little for the other diners.

In some cases, synthetic rainbows have carried on with other trout species like western cutthroat creating hybrids that threaten the natives.

Halverson cites research that found these hybrids grew more slowly and were less fit than the native species. This is "outbreeding depression," the opposite of hybrid vigor.

The long-term threat of hatchery rainbow genes is that they will eventually homogenize trout across much of the world into one contrived species that's not as good as the originals it replaced.

A portion of Halverson's discomfort with hatchery rainbows, which he acknowledges, comes from a class-and-culture division among fisherpersons. Those who use fly rods, fish for native trout and practice catch-and-release are often scornful of those who use bait, spinners and fish for food. The first group tends to feel that the second degrades the fishing, the sport and the habitat. The second group tends to feel that the first are stuck-up snobs.

Public agencies favored hatcheries and stocking for much of the last century. Then Montana, Michigan and Wisconsin started reserving some waters for wild trout under pressure from Trout Unlimited, an anti-stocking conservation group. As things stand, the constituency for wild trout and native trout is gaining influence, but advocates for stocked catchable rainbows remain strong.

Today, public wildlife agencies are of the "both-and" mindset when it comes to choosing between hatchery rainbows or wild and native trout. The hatchery side still outweighs the anti-stocking side, but the antis tend to shape much of the argument.

Halverson does not ask whether the rainbow story has some broader meaning for environmental conservation or how the wild and native "resource" might

be fished sustainably.

Since I don't have a hook in these waters, I don't share the passions of either the pro-rainbows or the anti. To his credit, Halverson, though an anti, sets forth his complaints with some humility. He writes: "People have been a part of this world for a long time. There's no going back to the way it was, even if it were possible to define it."

All of the food we eat has been genetically jiggered by people seeking to produce a "better" product. This has gone on for centuries, though current jiggering techniques are far more effective than their predecessors.

All domesticated animals were once wild, their genes the product of their evolutionary history. What we've done to hatchery rainbows is basically no different than the trait selection we did to make Black Angus cattle.

Halverson worries that genetically manipulated rainbows will eventually replace all wild trout just as domesticated cattle supplanted the massive, lyre-horned wild aurochs that our ancestors painted on their cave walls.

In sum, he worries about the rainbows we've created, the other trout they threaten and the degrading effect rainbows have on the environment where they're stocked.

Yet, it's fair to ask how native trout and their environment would have fared had stocked rainbows not taken most of the fishing pressure over the past 130 years? As worrisome as they are, might they not be serving as a sacrifice that protects the more vulnerable native trout?

And so I finished [An Entirely Synthetic Fish](#) on a familiar rocky bottom: Human beings mess up the environment, and we are the only agents available to stop that process and do something a little better.

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