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WHO NEEDS GRAYLING?

A special fish struggles to hang on in the Lower 48

By Ted Williams

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Fluvial grayling are abundant in Alaska and Canada, but in the Lower 48, they are nearly wiped out.

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On a fine summer morning in 1991 my son and I were wet-wading up the Gibbon River in Yellowstone National Park, exercising brown trout on puffy dry flies. We were about to turn back when I hooked and landed a fish of a lifetime.

It was a grayling--all of nine inches in length. Its flanks glowed with the silver and pink of a Montana pre-dawn. Its enormous dorsal fin was trimmed with orange and splashed with spots and streaks of red, white, green, turquoise and neon blue. Clearly God had made it last, after he'd practiced on all the other fishes.

In the Lower 48 states Arctic grayling are a Pleistocene relict, left in northern Michigan and the upper Missouri River system by glacial meltwater. Most were river-dwelling (fluvial), but there was a rare, lake-dwelling, river-spawning (adfluvial) form. Ironically, adfluvial grayling are easily transplanted outside their natural range; and, after years of stocking, are now far more common in high-mountain lakes than they were originally.

Fluvial grayling, on the other hand, are very different beasts that can't be replaced with the adfluvial form. Introduce grayling from a lake into a river and they'll die out. Fluvial grayling were extirpated from Michigan about 75 years ago; and they've been extirpated from 96 percent of their range in the West. Once super-abundant in the main stems and tributaries of the Smith, Sun, Madison, Gallatin and Jefferson rivers, they're now barely making it only in the upper Big Hole River. Limiting factors to their survival include dewatering by stockmen, habitat damage by cattle, introduction of non-native competitors and predators, such as brown and rainbow trout, and dam construction.

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Grayling require clean, free-flowing, medium-gradient streams with sand or gravel beds. They hold in schools in open water and take flies with an abandon that makes cutthroats look selective--not because they're "stupid" but because they evolved in sterile water where they couldn't afford to pass up any possible food item.

For 16 years I delighted in the belief that I had encountered one of the West's last fluvial grayling outside the Big Hole. But what for me was the equivalent of seeing an Eastern cougar turned out to have been an illusion. Amber Steed, a graduate student at Montana State University, will shortly publish data revealing that the grayling occasionally seen in the Gibbon are adfluvial fish that drop down from Grebe and Wolf lakes, stocked in 1920.

As a species fluvial grayling are anything but endangered. In Alaska I have caught them until I cut the hook off my fly and just watched the seductive, tail-wagging rise forms. Throughout most of the continent, down to a latitude of about 250 miles north of Montana, they're a common fish, often the dominant fish. There are people who believe that if fluvial grayling are doing well in Alaska and Canada, it's OK to let them expire in the Lower 48. But the Endangered Species act makes it illegal for federal agencies to stand by and watch such "distinct population segments" flicker out.

On October 9, 1991--two months after I caught what, until this past June, I'd fancied was my best and most important fish of my life--Montana fishing guide George Wuerthner and the Center for Biological Diversity petitioned the Fish and Wildlife Service to list the state's fluvial grayling as endangered throughout their historic range. This was at the behest of Montana Fish, Wildlife and Parks biologists.

The service spent three years reviewing the fishes' status, then determined (as it had done in 1982) that they indeed constituted a distinct population segment. It went on to state that listing was "warranted but precluded," meaning basically: "Good idea but we're too busy." The agency reviewed the status of Montana's fluvial grayling twice more, both times concluding that they constituted a distinct population segment.

No sane, sober, honest researcher could possibly have concluded otherwise. After all, these fluvial grayling comprise the only population found in the Mississippi drainage. All others abide in "arctic" or "near arctic" rivers collected by Hudson Bay, the Arctic Ocean and the North Pacific. What's more, the Montana fish have been seen to be genetically distinct.

So the Fish and Wildlife Service made them a "candidate" for the Endangered Species Act, a category that affords considerable protection in that it frightens private landowners and state bureaucrats into action. Still, in 2003 the Center for Biological Diversity and the Western Watersheds Project sued the service for its refusal to list grayling. Thus chastened, the agency upgraded the threat under candidate status to "high magnitude and imminent."

Then in 2005 the litigants reached a settlement whereby the service agreed to make a final determination on listing by April 16, 2007. Eight days after the deadline the service proclaimed that it had been wrong all along, that the population segment wasn't distinct after all and that adfluvial and fluvial forms were basically the same.

In support of these bizarre conclusions it offered reams of tortured, contradictory mumbo-jumbo. For example, it stated that "there are clearly some heritable differences in juvenile swimming behavior among fluvial arctic grayling and the native adfluvial populations in terms of rheotactic response to

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flowing water." It cited a study by Montana State University fisheries professor Cal Kaya in which he placed young-of-the-year adfluvials and fluvials in a stream above fish traps. His hypothesis was that the fluvials would maintain themselves in the current and the adfluvials would drop down to the lake; and that's exactly what happened. The Fish and Wildlife Service even went so far as to acknowledge that adfluvials can't establish themselves in running water. After all that, the Fish and Wildlife Service concluded that "fluvial arctic grayling in the Missouri River drainage do not differ markedly in genetic characteristics from adfluvial populations." Huh?

The determination goes on to assert that, in direct and brazen violation of federal law, it's permissible to allow fluvial grayling to die out in the Lower 48 because there are lots in Canada and Alaska. This is a favorite tactic of the Bush administration when it comes to ESA listings: Recall its outlandish and patently illegal determination that it's OK to wipe out wild Pacific salmon because there are lots in hatcheries.

What possibly could have possessed the professional biologists of the Fish and Wildlife Service to do an about face, deep-sixing a quarter century of peer-reviewed science and four expensive, painstaking status reviews? Her name was Julie MacDonald, a civil engineer who had been appointed as deputy assistant secretary of the interior for fish, wildlife and parks, not because of her training in natural sciences or interest in fish and wildlife (both nonexistent) but strictly because of her political views. Sources within the Interior Department have informed me that MacDonald directly inserted herself into the last status review, that every Fish and Wildlife Service biologist involved with grayling strongly advocated listing, and that their determination was reversed when it got to the Washington, DC office.

Contrasted with other Bush appointees, the only thing aberrant about this science vandal was that she didn't excel at covering her tracks. For example, MacDonald attracted the attention of The New York Times, which reported that she had "peppered the biologists' draft [on the status of the greater sage grouse, which her agency declined to list] with barbed commentary and made wholesale changes," and the Washington Post, which revealed that she "altered scientific reports to minimize protections for imperiled species and disclosed confidential information to private groups seeking to affect policy decisions." After MacDonald presided over the delisting of the Sacramento splittail, a threatened fish once common in California's Central Valley, the Contra Costa Times reported that she "earns as much as \$1 million per year from her ownership of the 80-acre active farm in Dixon, California, that lies within splittail habitat."

A tip from a Fish and Wildlife Service employee initiated an investigation by the Office of Inspector General, which confirmed "that MacDonald has been heavily involved with editing, commenting on, and reshaping the Endangered Species Program's scientific reports," that she "disclosed nonpublic information to private sector sources" which were inconvenienced by and adamantly opposed to the Endangered Species Act, that in her manipulation of bull trout data she had "forced a reduction in critical habitat miles in the Klamath River basin from 296 to 42 miles," and that the Portland, Oregon, assistant regional solicitor had described her sabotage of the greater sage grouse status review as "the most brazen case of political meddling" he had seen in his entire career.

On April 30, 2007 MacDonald resigned in disgrace, but the damage to fluvial grayling had been done. The determination will be contested in court by George Wuerthner, the Center for Biological Diversity, the Western Watersheds Project and Dr. Pat Munday, president of the Grayling Restoration Alliance. Munday, who finds the determination "appalling" and "riddled with contradictions and speculation" that twist "fisheries science and management policy into a pretzel," offers this: "While this. . . is a tragedy

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for grayling, it is also a tragedy for science, the Endangered Species Act, and the agency itself. When politics overrides science, it diminishes public faith in science and in the many good biologists who work at agencies such as the Fish and Wildlife Service. Furthermore, it engenders lawsuits that waste everyone's time and money--the Interior Department's Nero (Julie MacDonald) fiddles away while yet another rare species is consigned to the flames of oblivion."

By removing candidate status from fluvial grayling the Bush administration has damaged an important and effective tool of the Endangered Species Act called Candidate Conservation Agreement Assurances (CCAA). Basically it's a habitat conservation plan that happens before listing. In exchange for habitat restoration--plugging water diversions, fencing out cows, planting willows, digging stockwater wells, installing fish ladders and screens--landowners get a legally binding pledge that they won't be charged with a "taking" if grayling get listed. "I think there will be fewer people signing up to cooperate," remarks Noah Greenwald of the Center for Biological Diversity. "And what people are willing to do might be less, if it's something that impacts their bottom line--like leaving more water in the river. There's no hammer anymore."

While the biologists claim the determination hasn't hurt CCAA signup, Munday asserts that it has reduced funding. "So long as we had an imminent listing there was money through ear-marked appropriations or other kinds of routes," he says. "That appears to have rapidly diminished and may dry up entirely."

Montana Trout Unlimited director Bruce Farling weighs in as follows: "The recent Fish and Wildlife Service decision indicates that the administration's hatred of the Endangered Species Act is so extreme that it is willing to throw out promising examples of how the law can work for everyone--landowners, wildlife enthusiasts and agencies. . . . The question I've been asking is: If the fluvial grayling isn't a candidate anymore, how can a CCAA apply? The agencies say it does, but they haven't been able to explain to me why."

Still, Farling thinks the hammer may not have entirely disappeared. "I thought all the ranchers would bail," he says. "But I was at a meeting with them the other night, and they're saying, 'Yeah there's a decision not to list, but we don't think it's going to last.' They know it was a BS finding and that it will come back and bite them. We're working with these guys. I still think this CCAA thing can work."

He may be right. At least before grayling lost their candidate status the ranchers were doing more for them than the Bush administration (judging from performances with other species) would have done if they'd been listed. Thirty-one landowners had signed up 151,000 acres. "This thing has just taken off," says Montana Fish, Wildlife and Parks grayling biologist Jim Magee. "The focus now is not just on the supply of water but on the condition of the stream. The number of projects is huge. We've even got a brood willow stock. We take clippings along the Big Hole, then raise them in the state nursery."

In addition, Magee and his colleagues have implemented an aggressive grayling transplant program. Now that they've gone to instream egg incubation they're getting good young-of-the-year survival in the Ruby River. There may even be some natural reproduction, but Magee won't know until he pulls the incubators--probably after one more year. And he reports good survival (as well as evidence of limited natural reproduction) on the north fork of the Sun River.

As ranchers go, CCAA participants along the Big Hole are superstars. But good ranching in semi desert is an oxymoron. For one thing, most watershed landowners have gone to a water-profligate method of hay

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production whereby they basically dump the river on their fields for the whole growing season, rendering the earth so soggy it no longer produces grass but sedge, an inferior forage. Fifteen years ago they would put up their hay, then quit irrigating in early to mid-July. Moreover, like all Western ranchers, they're working under an archaic water law based on "first in time, first in right" and enacted when no one cared about native fish. If you don't use the water you're allotted, you lose it. So if a rancher needs 6 cubic feet per second (cfs) and his water right entitles him to 10, he's apt to dump the extra 4 on his fields just to keep it from "going to waste."

Despite all the great work that's going on along the Big Hole, everyone involved needs someone like Jon Marvel, director of the Western Watersheds Project, to get in their faces with a reality check. He says this: "Water is a finite resource in the Big Hole valley, especially in August. I'm skeptical of these projects that take money from everybody else in America to try to save the private irrigation of hay. The public needs to consider the nature of livestock production as the proximate cause of the decline of ecosystems everywhere in the West because it dominates the landscape in such a way that wildlife and fisheries will suffer. Livestock production is the culture of death and extinction in the arid West. It is incompatible with the survival of species like the grayling."

And Pat Munday adds: "According to fisheries biologists, the upper wetted perimeter at Wisdom is 160 cfs. At 160 cfs, grayling recruitment and survival is rated at 100. . . . At 20 cfs, grayling recruitment and survival will be rated at -100. At this level, some grayling will be able to move to cold water refugia, but many will perish due to lack of cover, exposure to predators (such as pelicans), and high water temperatures."

As I write this--only four days into the summer of 2007--the flow at Wisdom is 19 cfs, and the river is in free fall. Last autumn Montana Fish, Wildlife and Parks survey crews could find only 40 adult fish in an 80-mile section of river. This means it may already be too late for the Big Hole grayling.

But no one outside Washington, DC is giving up. Virtually all fish conservationists and fish managers believe that this distinct population segment is worth saving, that it is important not because fluvial arctic grayling are great gamefish (they aren't), not because they're good eating (they're barely OK), not because they're beautiful (although they are), not because they're anything--only because they are.

As Aldo Leopold put it in his foreword to A Sand County Almanac, "There are some people who can live without wild things, and some who cannot." It strikes me that members of the former group are the fortunate ones. Instead of agonizing over the steady erosion of earth's biodiversity they can, for instance, play golf. I envy them. We're running out of creatures like Montana's fluvial grayling, but we're making more golf balls all the time.