NATIVE TROUT — TIME TESTED

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If one were to scroll back through the tenure of native trout and their ancestors, on a whiplash-inducing rush through deep time, one might begin to appreciate the varieties of geologic episodes that formed, rejumbled, buried and exhumed the landscapes of trout.

What native trout endured, evolved with and adapted to included: encroaching seas, retreating seas, volcanic events, continental drift, crustal deformations, drainage captures, drainage separations, orogenies, folding, faulting, igneous bulges, uplifts, down cuts, multiple glacial events, millions of years of weathering and erosion, plus extremes of fire, flood, ice and drought. The odds of a fish surviving that smorgasbord of natural events seems improbable. But trout did survive, in an exuberance in awe of which we should stand.

Yet, in the last century and often less, a mere blip in geologic time, the effects of the wheel, clear-cuts, mines, dams, climate change and, to a degree, the hook, have made the previous thousands of years of trout existence in Alberta seem benign.

Bull trout, cutthroat trout, Athabasca rainbows, mountain whitefish and Arctic grayling are native to our Eastern Slopes. Many generations ago they came from other geographies, but settled in those streams along the eastern side of the continental divide and onto the western fringes of the grasslands, parkland and boreal forest. From visitors and tourists they became residents with a long, earned tenure. These species are ancient but their future is precarious.

They are creatures limited to a certain condition of life — that is — the watersheds in which they evolved for the past 12,000 years. There is no place to go back to — it doesn't exist anymore. They make their last stand here, in an ecology dramatically altered by us. Some populations, in watersheds both large and small, have been extirpated, a loss of unique genetic inheritance; all remaining populations hang on by a fin. Once these trout would have been counted in the thousands, then it was hundreds, then dozens, then a dozen and for some, finally, none. They are not headed to the final roundup — they are in it.

The combination of climate change, lack of connectivity, competition from non-native trout and habitat loss is particularly devastating for native trout since it attacks them from different but cumulative angles. It's hard to find a good survival strategy that works simultaneously against multiple threats. Nothing in their past experience provides any sort of adaptive solutions to changes that happened in an apparent split-second of their lengthy existence. We also seem unwilling to acknowledge the new normal in their disrupted world and the chances are slim of native trout adjusting to that altered state in any meaningful time.

Of many alterations, one was the imposition of non-native trout species on top of existing native ones. Non-native trout hitched a free ride to the new universe; it took native trout thousands upon thousands of years to sort things out in their new geography. We might start culling some of the weeds that are non-native trout, which have replaced and continue to compete with the rightful owners of the Eastern Slope watersheds. It is an unfolding drama of human meddling, with severe consequences.

As we further change the world of native trout, we forget to mourn a reduced, and diminishing stock. So far, none of the native species in the hierarchy of official protection — not caribou, not white-bark pine, not bull trout, not cutthroat trout, not Athabasca rainbow trout, not Arctic grayling, not grizzly bears — have inspired managers to bring order to a large and increasing land use footprint. Land use plans may help, if they reduce our footprint and restore vital habitats. If we think we have improved the situation with a plan, but no will to implement it, in the end we will discover we have fooled ourselves completely.

We are not protecting native trout from extinction: they are protecting us from an extinction of experience as we engage and begin to understand a world beyond ourselves.

Native trout have been successfully tested by time, but will they stand the test of our time? Native trout can fade from our collective memory, just as their vivid colours dissipate once a trout is removed from the water. It will take some herculean efforts to repaint watersheds with native trout. If we don't try, we leave behind an incomplete piece of art.

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