Freshwater Wildlife

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Losing It

The freshwater wildlife lives in the continental creeks, streams, rivers and lakes of our planet, with completely different lifestyles and issues, compared to the marine life. Since fresh water bodies are generally smaller than seas, with the exception of extremely large lakes, such as the great lakes, freshwater species are more entwined with wildlife that lives on land. Also, land wildlife has to live with the same water impacts that freshwater species have to live in.

In the past 50 years, while global wildlife has declined by 60%, the greatest losses have been with freshwater wildlife. Did you think the terrestrial and marine wildlife was bad? It is. But the freshwater wildlife is even worse. Freshwater fish make up more than half of global fish species, yet fresh water is only about 1% of the total aquatic habitat. Global warming, dropping water levels, pollution and overfishing have reduced freshwater fish by more than 80%,[1] and 25% of freshwater fish species are threatened with extinction.[2] Is that scary or what?

So, how are we managing to destroy so much freshwater wildlife? Well, that's easy. Between sewer and stormwater overflows, water-borne diseases, fertilizers, insecticides and herbicides from non-point agriculture and yards, petroleum-laced road runoff, tire fragments and trash, livestock trashing land and riverbanks with their feces running into the water, as well as logging and deforestation that increases runoff and erosion of silt into the water, and pollution from industries who choose to "cheat" on their toxic effluent discharges, it's an absolute miracle that any life at all can live in our surface waters.

We've made our waterways so nasty that it's even a bad idea to swim in many of them. In 2018, researchers estimated that about 90 million people get sick every year from swimming in contaminated U.S. waterways, and that the actual number is probably higher because many of these don't get reported.[3] If that many people get sick from swimming once in awhile, imagine what it's doing to wildlife that has to live in the water 24/7. So it shouldn't be a surprise that our poisons are killing the freshwater wildlife.

Cyanobacteria and blue-green algae appear annually in Upper Klamath River in Oregon, and when they die, their decomposition consumes the lake's oxygen, suffocating the fish and other organisms. The algae also produce microcystins, neurotoxins and possible carcinogens that can't be boiled or easily filtered out of the water. Swimming in it can cause rashes, and ingesting it can cause kidney failure in humans, and sicken or kill dogs and wildlife.

We've also created barriers and restrictions to natural movement and migration through waterways, most notably with dams. Urbanization threatens biodiversity in streams, because of extensive stream degradation. We've bulldozed rivers, turned them into unnaturally straight aqueducts, paved riversides and built homes next to rivers and lakes. All of this causes pollution in the waterways, and adds noise and light stress to the aquatic ecosystems.

And, naturally, global warming plays a huge role, warming waters to the point that fish can't live in it, sort of like how people in Phoenix can't live in 100+ ºF heat without air conditioning. Except the fish don't have air conditioning, so they simply die of heat stroke unless they can migrate to cooler water. The warm water stresses them and increases disease.

Also, as with every other species on the planet, overfishing is playing a huge role. Steelhead trout, for instance, once numbered 15 million in the Columbia River Basin, and overfishing had dropped it by more than 99%, down to 100,000 by the late 90's. There has been a little recovery since then, up to around 350,000, but that's still only 2.3% of the original population. And, it's unlikely that they'll ever reach anywhere near their original population as long as the water keeps warming.

Pollution Pollution

Despite all the environmental regulations that have been in place for the past 50 years, big corp industries still manage to spew innumerable pollutants into the waterways. In some cases, they actually choose to do this as a business decision, figuring that the cost of paying the fines is less than the cost of eliminating the pollution from their facilities. And, they try to say that they'll have to increase costs to consumers if they are forced to upgrade, which is complete and total bullshit. These big corporations make such obscene amounts of money that they can easily afford to eat the cost, simply by not gouging their customers who, by the way, is all of us, and by cutting the absurdly high salaries of their executives, who have more money than they'll ever need. Seriously.

Here we have Elon Musk, the richest man on earth, whining about environmental regulations, and spending billions of dollars to con the American public in electing minion Trump, because he promised to reduce or eliminate the environmental regulations. And if those morons actually do that, at the end of their tortuous 4-year term, they will succeed in getting rid of pretty much all the wildlife, and our planet will be past the point of no return. Now is probably a great time to thank the fucking morons in America who allowed themselves to be conned by lies and propaganda that they wanted to hear that convinced them to actually vote for a fascist who is guaranteed to put the last nails in the coffin that was our planet.

An example is mine waste that flows downriver from Canadian coal mines into Montana and Idaho that contains selenium.[4] Selenium slowly builds up in the ovaries and eggs of the fish, impacting reproduction, so that young fish die before they can reproduce. Selenium also causes problems in terrestrial wildlife that drinks the water. And this is but one example of the nasty chemicals that are killing our wildlife.

The industrial agriculture waste that has created the dead zone in the Gulf of Mexico is carried into the gulf by rivers from the midwestern and southern U.S. megafarms. The dead zone itself is more than 6,000 square miles, so you know a lot of nutrients and toxins are being carried in those rivers. And you know those rivers are too toxic for any wildlife, so that takes care of wildlife in pretty much a third of the U.S. And each and every one of us can help this by only buying organic food. And recovering the extra cost of the organic food by not wasting any of it. How hard can it be?

Pollution is always worse in fascist regimes, which is why I'm so freaked out that we elected a fascist at a time when we need actual proactive leadership to save our planet. Take Russia. They actually intentionally poisoned the Seym River with chemical waste containing ammonia, magnesium and other poisons in an act of ecocide, polluting hundreds of miles of the Desna River downstream in Ukraine. This obviously killed all the aquatic life in the river, and likely all the land wildlife that has to drink it. It's Europe's first completely dead river, with not a single living organism in it.[5] Obviously, this was a strategy to cripple Ukrainian people, since it supplies a drinking water reservoir for millions of Ukrainians. But look at all the wildlife that was lost. So it goes. Thanks a lot, Putin. All so you can beat your pathetic little chest.

The Cleaners

Freshwater mussels are some of the most endangered species on the planet, which is a problem, because they are natural water filters. This should be really scary, because all life, including us, need clean water to survive. A single freshwater mussel can clean up to 15 gallons of water a day, keeping waterways healthy for all wildlife that depend on them. Freshwater mussels have been pushed to the edge of extinction from water pollution and habitat fragmentation.[6]

Mussels are actually being put to work to reduce contaminants in the Potomac River by restoring the river's mussel population.

We Have Rights

A potentially exciting development in the past few years has been the idea of rewarding rights to rivers, similar to the rights of people. If it sticks, this could be a bold move in the right direction that could recover some freshwater populations by giving them back their space.

The Magpie River in Quebec was awarded legal rights known as rights of nature, making it the first waterway in Canada to receive this protection.[7] Giving the river rights acknowledges its unique natural existence rather than its value as a resource to be pummeled at the whims of man.

Rights of the Magpie River

1. Live
2. Exist and Flow
3. Be preserved and protected
4. Evolve naturally
5. Be free of pollution
6. Maintain biodiversity
7. Maintain integrity
8. Perform essential functions within its ecosystem
9. Regenerate and be restored

River rights are part of a global indigenous-led campaign aligned with the Rights of Nature movement, which aims to provide solid protections for the natural landscape. Other rivers have

been granted rights, including the Whanganui River in New Zealand and the Klamath River in the United States.

Rights of nature have also been granted in Colombia, Ecuador and India, with varying levels of success. In the U.S., non-Native communities in Ohio passed a law granting Lake Erie personhood rights, though the law is already being challenged and it would be shocking to see it survive the Trump administration. In Colorado, attempts in 2017 to give the Colorado River rights of personhood collapsed after the state threatened possible sanctions against the lawyer behind the case.[8]

> "From New Zealand to Colombia, the powerful idea that nature has rights is taking root in legal systems. We must no longer view the natural world as a mere warehouse of commodities for humans to exploit, but rather a remarkable community to which we belong and to whom we owe responsibilities." David Boyd, U.N. special rapporteur on human rights and the environment.

While the rights of the Klamath are awesome and way overdue, the tribes are getting harassed by nasty redneck white assholes who have no clue. Here we have indigenous people trying their best to clean up a river that's been trashed by whites, and do so peacefully, so that fish can actually live there again, going through proper legal channels to do so, and they're constantly under fire by the marching MAGA morons. You'd think if there was one thing we could all agree on, it would be the importance of saving the last remnants of the wild world, and helping it to recover if possible. And yet these creeps are filling Facebook with anti-indigenous posts that link the basin's problems to wild conspiracy theories regarding government takeover. "Make our fish go away, and then maybe the tribes will go away."[9]

So let me get this straight, we invaded their land, filled it full of too many people to feed and too many farms sucking from the river, killing all the wildlife, and now we're so disgustingly entitled that we wish they would go away and we can finish the job of trashing the environment. These people are truly disgusting examples of how ugly our species can be when their real colors come out, aren't they? Talk about backwards and anti-progress. And think about this. This is what the beginning of violence looks like when too many people are competing for too few resources.

<u>Going Both Ways</u>

Salmon are an interesting and unique species for a number of reasons. For one thing, they live in both fresh and salt water, and there aren't too many species that do that. They actually spawn in freshwater rivers, then they swim downstream to the ocean, and live there for their entire lives. When they are ready to die, they swim back into the river that they were born in, and swim upstream to their birthplace, where they lay their eggs for the next generation and then die, giving their bodies to the ecosystem, by way of whoever wishes to consume them. Nobody completely understands how they find their way home after years of ocean life; it's yet another example of the many things we don't know.

What we do know is that we've screwed up their balanced existence royally by building endless dams in their rivers for hydropower, and now they can't navigate back to their birthplace. Fish ladders have been installed in an attempt to mitigate this, but the salmon are rarely successful at getting through them, and as a result the salmon population has plummeted by 90% of its

historic numbers. In addition, we have overfished them with our sheer demands, and we're destroying their habitat which is clean, cool water, with global warming, diseases, silt and pollution. The diseases are coming from a well-intentioned but misguided effort to mitigate the loss of Pacific salmon by farming Atlantic salmon, which carry diseases the Pacific salmon aren't used to, so when Atlantic salmon escape the farms and mix with the Pacific salmon, the Pacific salmon get sick and die.

The salmon are truly a keystone species, a special species that is central to the success of entire ecosystems. All kinds ocean and land wildlife, and humans, depend on salmon for food, or at least they did, until we overfished them and built the dams. The Yurok tribe, which has historically relied on salmon for subsistence, are now allocated 650 salmon per year. Whales are starving because there's not enough salmon. Sea Lions eat salmon, but it was only part of their diets until we built the dams, and then they started eating salmon that were stuck at the bottoms of dams in unnaturally high numbers, decimating the population even more. Now they're actually culling Sea Lions to reduce this decimation. Like it's the sea lions' fault. You have to be fucking kidding me. Think about how absurd that is. We ruin the ecosystem with our dams, so the salmon can't get up the rivers, then we shoot the sea lions that eat the salmon. After we drive the sea lions to extinction, what are we going to do then? Shoot all the bears for eating salmon? And the last of the whales? And then start on the penguins? The otters? People? Are we ever going to learn? Seriously?

Time and time again, when we mess with ecosystems there are unintended and unforeseen consequences, usually at the expense of yet more species. Ultimately if we don't get a clue the species we impact will be us. Actually it already is, but collectively we're too clueless to see it as it creeps up on us like a frog thrown into cold water, then heat to boil, the frog doesn't notice the gradual increase in heat until it's too late, and then it's dead.

What's really insane is that these dams, which were installed to produce hydropower, aren't even being used any more. They just sit there fucking up the rivers and the salmon. According to the National Inventory of Dams, maintained by the Army Corps of Engineers, there are 92,468 dams in the U.S., and only 3% of these dams produce electricity.

And, what's even more ludicrous is that most of us who use electricity waste a good portion of it without even using it. Think about that. Look around. I have seen people who claim to care about the environment leave the lights on in their house when they leave, as one example. Leaving phantom energy plugged in because they can't be bothered to unplug every time. My favorite – the all-night outside light that also stays on all day if they forget to turn it off. Whatever. When I say everything we do matters. This is what I mean. It does. When we piss away electricity that we don't even need, we are a part of problems that we can't see, and just because we can't see them doesn't mean they're not real.

It seems that in recent years some government administrations are getting some level of common sense and a few dams have been breached. The Biden administration is actually working with states and tribes in the Pacific Northwest to remove dams from the Snake River to help restore the salmon population. Although now that we've elected a fascist monster to lead the country that will probably come to a screeching halt. It turns out that removing dams are very effective at increasing salmon populations, as has been demonstrated in the recent removal of Klamath River

dams. The return of salmon was expected, but it's happening much faster than anticipated, proof that if we get out of the way, the salmon will bounce back, and this is likely true of many other wildlife species as well. They'll eventually also return to an ecological balance with all the other life that depends on them. And then, maybe in a decade or so, I can actually enjoy some salmon and feel good about it. That is, if the Trump administration doesn't lay waste to the recovery efforts.

Another unique fish that can live in both fresh and seawater is the Pacific Lamprey, a bizarre eel-like sucker fish that has existed for 350 million years. They have survived 5 mass extinctions, and now they've dropped by 65% in the past few decades. Even the lamprey may not survive our mass destruction.

Tribal Knowledge

The indigenous people in the U.S. have proven with their mere existence over thousands of years that they are much better than the rest of us at maintaining balance with their environment and its bounty. They are also exceptionally resourceful in these times, as they are demonstrating in the Lower Snake River. The Nez Perce in Idaho are working to replace the generating capacity of the river with solar power as dams are breached, to help the salmon, which are at about 2% of their original population, recover.

The Amazon is losing wildlife and freshwater species just like everywhere else, as it gets habitat destroyed for agriculture, and overpopulation leading to overfishing. Global warming is taking its toll in a big way, with record high temperatures of 102 ºF in the Amazonia lake killing record numbers of the much-loved pink river dolphins, 157 dolphins croaked in just a few days, amounting to about 10% of the lake's population.[10] At that rate, in addition to the overfishing and poisoned water, it doesn't sound like river dolphins are long for it.

And, if you think about it, these water temperatures should be really scary for the 47 million people who live there, because eventually nothing much will be able to live in the water, so there goes their protein. Some awesome local activists are trying to mitigate the situation. National Geographic explorers Frias, Trujillo and Valderrama have become prominent advocates for the dolphin's protection.[11] They lead education and conservation projects in South America communities that are frequently in contact with the animals. They're also promote safe wildlife-watching, reforestation of riverbanks, and doing their best to fostering empathy for the dolphins among fishermen, while collaborating with native communities. I have to applaud these efforts to get people to at least care.

The Amazon is also home to the largest fresh water fish on earth, the enormous arapaima, an air-breathing fish that evolved millions of years ago. The indigenous population has depended on this fish for sustenance for thousands of years, but then the fish got discovered and became popular in the cities. Naturally, commercial fishing all but decimated them to satisfy the demands of the overpopulated cities. In this case, the locals started working with a government-supported non-profit in 1999, to work out rules to restore balance, and these rules are still enforced.[12] They basically excluded outside fishing boats, and they had to build floating guardhouses that they occupy in shifts, armed with shot guns, to prevent poaching. They even imposed strict limitations

on their own fishing. This is a great example of serious and focused effort that works. Now, 20 years later, the population of arapaima has surpassed 300,000 in 35 protected areas.

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