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Original Paper

Cry Me A Dirty River: Environmental Ethics, Water Inequity, Politics, and the Poisoning of Our Aquatic Ecosystems

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Abstract

From the outset, we (humans) must never ignore that the pollution of aquatic ecosystems is worse than we can imagine — worldwide — mainly because of greedy, political, and powerful corporate entities. Contrary to say about the obvious: We are not really the masters of our environments, because humans continue to contaminate and take from the earth without giving anything back. Meanwhile, we pollute many respective locations, particularly our oceans, rivers, lakes, and streams without giving it a second thought. Or so it seems. Of course, water is life and humans should not take this reality for granted. Moreover, we must keep in mind that there is also water inequity in minority communities across the planet. Therefore, the backlash toward polluters should be furious, because polluting our waters and aquatic ecosystems on a continuous basis — or year in and year out — will definitely have far-reaching, negative consequences. Unfortunately, efforts to prevent, protect, and/or clean-up our waters through government regulations have been undermined by conservative politicians, who are mostly in alliance with corporate/industrial polluters. It should be finally clear to most humans that we are not wrong to want to protect our aquatic ecosystems, as advocated by environmentalists. In the final analysis, it should be understood that it might not be such a daunting task to clean-up our different environments, particularly since we now recognize some of the pollution problems.

Keywords

pollution, aquatic ecosystems, toxic water, contamination, lead poisoning, forever chemicals, microplastics, PFAS

1. Introduction: Toxic Water and the Harm of Pollution

It is mind blogging that many humans don't fully understand what we are doing to pollute our *pristine* waters across the planet. Of course, recognizing and addressing this serious environmental problem

(which is an environmental apocalypse of sort) can help to repair the damage done by mostly polluting corporations. We must also be *ebullient* and consistent when it comes to discussing what we should do to *alleviate* our water crisis, even in our own *backyards*, so to speak. And although "Life depends on water for virtually every [biological] process" ("water," 2000, p. 1725) (Note 1) — that is, concerning human existence, it is being threatened by the pollution of mankind or negative environmental forces. This point is important to understand, because *water* is "one of the most abundant compounds." Indeed, "water covers about 75% of the earth's surface" ("water," 2000, p. 1725) (Note 2), and to say the least, "Water is so familiar and important it is easy to take it for granted" (Challoner, 2021, p. vii) (Note 3). Equally important, "Fresh clean water is essential to human survival, and the threats to it are multiple." For example, what exactly should we say about "the global warming effect, pollution from pesticides, fertilizers, raw sewage, and industrial wastes," which often "wash into rivers, lakes, and oceans everywhere in the world, contaminating [precious] water needed for human consumption and agriculture and [sadly] killing sea life" (Edwards & Lippucci, 1998, p. 743) (Note 4)? Unfortunately, some humans just don't understand the important role that we should play in protecting our waters. And whether we want to believe it or not, we have an obligation to warn the public about our critical water situation. To say the least, we are at an ecological crossroad; hence, humans must be cognizant of our water problems to ensure that respective governments can provide the necessary regulations and policies to protect our *aquatic ecosystems*. Alternatively, we must keep this water issue in perspective, considering what is essential to all human lives. Of course, this environmental issue should be above politics, but it is not. Broadly speaking, for humans, our self-preservation instincts, worldwide, haven't kicked in — that is, when it comes to protecting and *cleaning-up* our waters.

Additionally, we must also hear the voices of those who are negatively affected or suffer the *hardships* and *worrisome* discomforts of having polluted waters. Back in 1998, for example, it was reported that, "a child dies from a disease transmitted by polluted waters somewhere in the world every two seconds — [or] over 12 million a year, mostly in less developed countries" (Edwards & Lippucci, 1998, p. 743). Ecologically speaking, we still have a dirty water issue in our world today. So, how can humans see the big picture when it comes to our polluted waters? Perhaps many believe that *nothing* is as it appears, as our politicians play lip service when it comes to water pollution, assuming that *water* is just "an *ordinary* liquid. But in fact, it is a liquid like no other liquid — it has a unique set of properties" (Challoner, 2021, p. viii) (Note 5), which shouldn't be taken for granted. Also, we cannot forget or ignore that poisoning our *aquatic ecosystems* can have other unintended, negative consequences, like hurting our general well-being and overall health. More importantly, we have to worry about the odds, particularly when it comes to certain human interventions. To be sure, "Vulnerable populations" in the world today "including people with low income, communities of color, seniors, children, the unhoused [or homeless] and those with preexisting health conditions — face disproportionate exposure to poor [water and] air quality and [other] climate-related hazards" ("Ending EPA's," 2025, p. 7) (Note 6). In addition, humans everywhere must seriously worry about the contamination of our waters, including large lakes, creeks, and rivers.

Furthermore, "Pollutions of the oceans from land-based [polluting] sources… is also occurring" (Mingst & McKibben, 2021, p. 416) (Note 7), which is especially concerning. In this respect, water pollution, no doubt, is causing *ongoing*, irreparable harm to our planet. Additionally, what is happening is also an existential challenge and threat that we are sadly facing, moving into an unknown future.

2. Aquatic Ecosystems and Environmental Contamination

There is no question that we need to do something about our *worldwide* water pollution problems, or risk further damage to our *aquatic ecosystems*. By way of a definition, incipient *water pollution* is "when [toxic] substances are released into a body of water, where they become dissolved or suspended in the water or deposited on the bottom, accumulating to the extent that they overwhelm its capacity to absorb, break down, or recycle them, thus interfering with the functioning of aquatic ecosystems" ("Water Pollution," 2000, pp. 1726-1727) (Note 8). In an ecological context, it should be pointed out that dumping *hazardous substances* in our water ecosystems (continuously) is a recipe for environmental disaster. Therefore, we must consider what is important when it comes to *water pollution* and the long-term, negative effects that will have on our wet or *marine environments*. Meaning, *all* humans are at significant risks when they use or drink water that is contaminated with different kinds of *pollutants*. And prolong use of such water can be deadly. Aside from concerns about the poisoning of our *water systems*, we must be *hypervigilant* about what polluting corporations and oil companies, are doing with their businesses to further pollute our fragile waters. Fortunately, "the disposal of hazardous substances is a source of environmental concern in many counties" ("Hazardous Substances," 1994, p. 515) (Note 9), as it should be. But their actions haven't been enough. Indeed, there is no justification for the pollution of our waters by different, dirty, industrial corporations. Accordingly, "In urban centers throughout the world, where most of the world's people now live, concentrations of carbon monoxide, nitrogen, sulfur oxides, ozones, and various [other] toxic chemicals such as *lead* and benzene have risen to dangerous levels" (Edwards & Lippucci, 1998, p. 743) (Note 10), while making lakes, or reservoirs poisoned and unusable.

If we sit back and do *nothing* to sound the alarm about our polluted waters, perhaps more damage to our *aquatic ecosystems* (and environment) is likely to occur. In this respect, we (humans) must try to heal our world of *lead*-toxins, particularly in terms of having safe drinking water to consume. To be sure, we must wake-up to the realities of our (environmental) water pollution, like with *lead poisoning*, which is "A disease acquired by swallowing or inhaling lead, which is deposited in [the] bones" of humans. Also, consuming *lead*, which is a white chemical element, can cause "abdominal colic, anemia, and mental confusion," as well as other health ailments. In addition, there is solid evidence "which suggests that lesser degrees of poisoning (eg from *lead* in the atmosphere, from car exhaust fumes, or in [our] water supplies) impair brain development in children and [result in] lower IQ[s]" ("Lead," 1994, p. 638) (Note 11). In this regard, we must become better informed about what is really going on with the pollution of *lead* in our drinking water systems. Too often, people ignore the deadly consequences of drinking *lead*-

tainted water. According to professor of computer science at the University of Illinois Urbana-Champaign, Sheldon Jacobson (2024):

> Most of the water we consume is obtained from surface or groundwater systems. Surface water includes lakes and rivers, while groundwater is obtained from underground reservoirs…. Yet once water leaves such systems, it passes through a network of pipes that allow people to turn on their faucets. Unfortunately, aging water systems may expose treated water to lead, a known health risks, especially to [minority] children (p. 3) (Note 12).

The common *myth* from conservative *naysayers* is that there is no *real* problems with our aging water infrastructures across the United States. But nothing can be further from the truth. Generally, in mobile home parks throughout America, for example, "the clean water coming in [homes] can become contaminated if it passes through problematic infrastructure[s] before reaching residents' [water] taps." We must ask why? There is a dangerous ecological risk with the water, in such places, because "the EPA doesn't generally require this water to be tested and regulated;" hence, "the [*lead*] problems may go unseen" (Phillis, Loller & Wilderman, 2025, p. 8A) (Note 13), or ignored. Unfortunately, "the *Safe Drinking Water Act*" is being (routinely) violated by our (conservative) federal government, because polluting companies are not being properly *penalized* or punished. So, where exactly is the due diligence and accountability? No doubt, we should also express concerns about the possible, *negative* environmental consequences of polluting our waters — and other aquatic ecosystem *disruptions*. Similar concerns should also be about protecting our *fragile* water systems where lead pipes exist. As journalist Michel Phillis et al. tell us: "In a Michigan [trailer] park, the [water] taps often [run] dry and the water [resemble] tea; in Iowa, it [the water] look[s] like coffee — scaring residents off [from] drinking it and ruining laundry they [can] hardly afford to replace." Finally, "In California, boxes of bottled water crowd [some] family's kitchen over fears of *arsenic* in the [tap] water" (Phillis, Loller & Wilderman, 2025, p. 8A) (Note 14). Discovering the contamination of *lead* is the key. And it seems like predominantly black and other people of color neighborhoods are negatively affected the most.

3. Health and the Consequences of Lead Poisoning

In other words, black communities feel *paralyzed* in many ways because they cannot stop the overwhelming onslaught of polluting businesses, corporations, and conservative state governments. To wit, blacks and other people of color live in some areas where tremendous health and pollution problems exist. Take for example, what happened in Flint, Michigan, when Republican Governor Rick Snyder was in office in 2014. As *Reuters* reported:

> Flint, a [predominantly black] city of some 100,000 people, was under control of a state-appointed emergency manager in 2014 when it switched its source of water from Detroit's municipal system to the Flint River to save money. [This particular] move provoked a national controversy and prompted several lawsuits by parents who [said]

> their children [were] showing dangerously high blood levels of lead ("Michigan: Governor," 2016, p. A7) (Note 15).

The *lead poisoning* that happened to the mostly black children was tragic and unforgivable, all things considered. The fate of the city is/was dramatized in the profound and insightful film, entitled, *Flint*, where Snyder and other government officials initially refused to acknowledge that they were responsible for the *lead poisoning* and contamination of the drinking water of the entire area. In essence, when the new source of water was "pumped though the aging [piping systems] network it exposed the lead tubes beneath, allowing the metal to leach into [the] drinking water" ("Poisoned Water," 2016, p. 23) (Note 16). It was a sad state of affairs; and the grim reality of things, which resulted "in a slew of devastating medical problems" for mostly the minority families living in Flint. Fortunately, the people fought back by banding together "to expose the wrongdoings committed" by the Snyder administration, "whose carelessness [and ignorance] caused irrevocable harm to the lives of Flint's residents" (Beresford, 2017) (Note 17). To be certain, some people of Flint, Michigan, will die (later) because of the *lead* in the water. It is unfortunate, but more people will likely (or eventually) get sicker from consuming the *lead-tainted*, polluted waters of Flint, Michigan. As discussed, "Lead exposure has been linked to [serious health] problems, such as lowered IQ, brain damage, nerve disorders and [much] more" (Halaly, 2025, p. 1B) (Note 18). Unfortunately, "it is hard to say how many children under six have been" affected or poisoned by lead. To be sure, doctors at this time said that approximately "9,000 children… in the area [should] be considered at risk" ("Poisoned Water," 2016, p. 23) (Note 19), or hurt by what happened. According to Pulitzer Prize-winning author Caroline Fraser (2025), "It is pretty well accepted that between 20% and 50% of the rise in crime in the 1980s and 1990s is attributable to lead" (p. 70) (Note 20). Therefore, without the presence of *lead* in our world, particularly in our waters, children worldwide might have fewer behavioral problems — and/or mental health issues. They will definitely perform better academically. But this remains to be seen.

Although many may be *skeptical* about the correlation, or specific cause and effects, *lead* is definitely one of the reasons why the health of humans can be fatally compromised. Meaning, *lead poisoning* and human health are inexplicably linked. Hence, it should be a *cautionary* reminder about our environmental future, especially toward having cleaner *waters* — that is, the precious liquid that descends to the earth as rain, and forms ponds, lakes, rivers, and oceans. But it should be also pointed out that polluted, *aquatic ecosystems* don't particularly recover quickly.

Besides, *lead poisoning*, perhaps our biggest problem with the pollution of our *seas* and other *waters* is the human use of "forever chemicals." In addition, some other "contributions to water pollution include substances drawn from the air (like acid rain), silt from soil erosion, chemical fertilizers and pesticides, [oil spills and plastics, or] runoff from septic tanks, outflow from livestock feedlots, chemical wastes [often toxic] from [polluting] industries, and sewage and other urban wastes from cities and towns" ("Water Pollution," 2000, pp. 1726-1727) (Note 21). Additionally, we cannot forget that other "outside [polluting] sources, such as airports, military bases and [polluting] manufacturers" (Fast & Calderon,

2025, p. 3A) (Note 22), as well as industrial businesses cause serious water pollution. Inevitably, people across the world need to know the negative result of polluting our waters. Unfortunately, today, *toxins* and other chemical concoctions are being deliberately introduced into our waters almost everywhere, particularly in our oceans. This is important to note, because according to professor Jacobson (2024), "In some parts of the world, where water is exceedingly difficult to find the cost of water exceeds the cost of gasoline" (p. 3) (Note 23), which is ridiculous. Take for example the nation of *Iran*, where water is scarce; and there is *inequity* when it comes to who can get clean water in (some parts of) the country. Kaveh Madani, the director of the United Nations University Institute for Water, Environment and Health concludes that: "Wealthier urban residents can afford water storage, tanker deliveries or other [water] solutions, while the poor [minorities] will bear the brunt of the suffering" (Fassihi, Mahoozi & Nikounazar, 2025, p. 10) (Note 24). Madani's sentiment is the classic *adage* or definition of *politics* — that is, "*Who Gets What, When, and How*; and especially if we consider the need for *sustainability* of our water and/or water shortages. In either case, humans will definitely be in *jeopardy* if our water is undrinkable or not *potable* because of human activity. Undeniably, many humans do their best to avoid the absolute truth about our dirty waters and polluted environments. Therefore, because of a lack of water in some countries, like in *Iran*, we must ensure that *everyone* has access to this necessary liquid resource, even in *woebegone* countries in Africa. Furthermore, poisoning our waters with dangerous chemicals — that are long-lasting — is a recipe for ultimate disaster. According to science writer Austin Fast (2025), "Water pouring from the faucets of at least 42 million Americans is contaminated with unacceptable levels of forever chemicals…" (p. 5) (Note 25). Or put another way, it has been "estimated [that] 158 million Americans drink water contaminated with forever chemicals, based on [specific] state and federal test results that extend beyond the EPA data…" (Fast & Calderon, 2025, p. 3A) (Note 26). The *irreversible* nature of long-lasting, toxic chemicals are cancer-causing in humans; and boiling and disinfecting drinking water that has been contaminated with oil toxins or forever chemicals will not solve the problems of pollution, or make water fit or safer to drink. Sadly, the current EPA scraping of 'forever chemical' limits is not the answer either, because it shifts "the burden to the [larger] public instead of strengthening clean water laws or holding polluters accountable" (Fast & Calderon, 2025, p. 3A) (Note 27) for their hurtful and *repugnant* actions. Indeed, polluting corporations like *Chevron* and *ExxonMobil* should be held "accountable for the damage they're doing to people and our planet" (Goldman, 2025, p. 2). Nevertheless, polluting industrial groups "representing water utilities have [even] sued the EPA, claiming the agency did not follow proper procedures… laid out in the *Safe Drinking Water Act*" (Fast, 2025, p. 5A), complicating things even more. But punishing certain polluting industries might prove ultimately and unequivocally that polluting corporations don't particularly care about the spread of 'everlasting chemicals,' like *polyfluoroalkyl* substances or PFAS. More importantly, against this backdrop, these polluting companies and others threaten our *wetlands* and waters across the world — as well as the very existence of humans on the planet. As journalist Mariah Blake (2025) writes: "In recent years,

forever chemicals have been increasingly recognized as one of the most significant environmental threats of our time" (p. 8), particularly across vast stretches of land and our oceans.

4. Consequence of a Polluted Environment/World

Of greater concern in the long-term is: there are other deadly chemicals that can cause health issues and lingering, eventual death — and such *toxins* can increase the risk of all types of cancer, including *ovarian* and prostate complications.

Take for example a study commissioned by Polk County officials, which determined that "Iowa's rivers, lakes and streams are plagued with [serious] pollutants that include nationally high *nitrate* levels, farm chemicals and harmful bacteria" ("Iowa, Polk," 2025, p. 4B). In this regard, we can point the finger at *selective herbicides*, which are used in farming and *agriculture*, because such chemicals "target the troublesome weeds and have other weeds and the growing crops [are] unharmed" ("Herbicide," 1994, p. 523). However, it creates toxic land and *water pollution* from run-off, as mentioned. It is also unfortunate, but corporate/industrial polluters don't especially like being exposed — that is, when we find out that they are contributing to the almost *ever-lasting* pollution of our waters, wherever it might be in our world. And it seems like we are in a *quandary* as to how to respond to those who knowingly dirty our waters. What is problematic about this issue is: polluting industries are the *all-powerful* villains that seem to care less about the safety of humanity, because they sometimes allow for the *indiscriminate* dumping of industrial waste in our waters, while relying on the consistent availability of water. We (humans) should be angry or incensed about the many dirty, polluting industries; but many of us hardly think of such matters. However, there are supporters who believe that "concerns about pollution are outweighed by the [polluting] industry's economic benefits" (Williams & Bryan, 2025, p. 6) (Note 28). Yet, without clean, *potable* water for human consumption, major cities around the planet might become empty, or ghost towns. So, is this our future reality? Professor Jacobson (2024) says it best when he writes that, the "Availability of potable water is a crisis waiting to happen" (p. 3). Hence, we shouldn't close our minds to such a possibility. Without a doubt, *Environmentalists* know that we are not doing enough to preserve our pristine waters in the United States and around the world.

And when it comes to our polluted environment and *waters*, we must understand that there shouldn't be a sort of "*black hole*," where not enough is being done to clean-up the mess that we have made to the planet. We must also consider protecting drinkable water, not based on race, or a particular minority neighborhood. In this respect, we should continue to sound the alarm about what is still going on in Jackson, Mississippi in the United States, where the predominantly black community "have been receiving boil-water notices" for over two years because of pollution in the city (Draper, 2025, p. 22). Unfortunately, black people in the state of Mississippi are likely to suffer adverse health consequences if they continue to consume this tainted water. Another environmental concern, as it relates to polluted water, is to mention the *microplastics* in our lakes and oceans. This is to say that fish and "birds have ingested so much plastic that they make a crunching sound." What? Birds, for example, "on a remote

Australian island [Lord Howe Island]… have been plucking bits of plastic out of the ocean and feeding it to their chicks." After "Pumping the stomachs of live birds revealed that some contained more than 2 ounces of plastic, nearly a fifth of their body weight" ("Seabirds packed," 2025, p. 21). The result of this *oil-by-product* or *oil-based* pollution is the fear that, "these microplastics will move through the food chain, affecting the health of not only fish but eventually humans as well" (Mingst & McKibben, 2021, p. 416) (Note 29). So, are we living on this planet surrounded by oceans and waters of plastic waste? Of course, having *microplastics* in our environment and oceans are extremely troubling. Indeed, "recent reports of plastic microparticles found in carotid arteries [of humans] have raised concerns on the health impact of plastics in general, and their use for distributing water in particular" (Jacobson, 2024, p. 3) (Note 30). Although *water sustainability* is also necessary and important, we (humans) cannot fool ourselves into believing that the problem of microplastics (in our oceans) will not negatively affect us — now and in the future.

It is enormously unsettling that we can't get a firm handle on this particular *water pollution* issue. After all, it's been reported that there are "alarmingly high levels of microplastics in human brains," which are even "higher than in the liver or kidney, and higher than previous reports for [human] placentas and testes" (Haederie, 2025, p. 1) (Note 31). Accordingly, as journalist Elizabeth Weise (2025) writes:

> Evidence is also accumulating that the microplastic bits [are] now found everywhere in our [watery] environment[s] — from Antarctica to the Amazon — [and] are invading our bodies and have been implicated in everything from heart disease to infertility. In addition, the chemicals used in plastic can leach out into food, potentially increasing risks for obesity, heart disease and other ailments. [However,] the plastic industry rejects this research, saying [that] it's not conclusive (p. 1A).

5. The Nature of the Aquatic Ecosystem Problem

No doubt, our polluted waters may impact our future in profoundly *negative* ways. And all the factors presented in this paper should tell us that *water* will always be "a valuable public natural resource that may not always be available" (Jacobson, 2024, p. 3), because of polluting corporations and other *dirty* industries. Question: Do polluters care about the people who will be *negatively* affected by their devious, unrelenting polluting (business?) actions, like denying minority communities clean water, or polluting the areas where they reside. So, why do we allow these *unscrupulous* companies to exist at all, while they continue to contaminate our precious *waters* across the planet? Where is the accountability? "Sensing the growing desire for cleaner water among the [masses], some within industry" believe that "more stringent regulations [are] inevitable and even desirable" (Ross & Amter, 2010, p. 105). But we must ask: Are they really sincere? Indeed, this sentiment remains to be seen. To be certain, environmental solutions are absolutely necessary. Moreover, clean water policies by our Congress or government are a must, given our polluting practices across the world. This is to say that our politicians in Congress must face up to their responsibility to enforce regulations that will protect humankind, while fighting back

against environmental *degradation*. After all, polluting our waters should never be acceptable. Hence, we must publicly confront corporate polluters, no matter what, like the state of New Jersey did in suing DuPont, Chemours, and Corteva.

Accordingly, the aforementioned "companies [must] pay the state of New Jersey up to $2 billion to settle environmental claims stemming from PFAS, commonly referred to as forever chemicals" ("DuPont to," 2025, p. 5B) (Note 32). Apparently, water pollution is disturbingly common when it comes to PFAS. Keep in mind that these "forever chemicals are a group of chemicals," as already discussed, "that have been around for decades and have now spread in the nation's air, water and soil" ("DuPont to," 2025, p. 5B) (Note 33). Unfortunately, this environmental issue might become *insurmountable* — that is, if we don't stop the inexcusable dumping of *toxins* and PFAS chemicals in our water systems and lands. But we also have other serious environmental challenges when it comes to the pollution of our *waters* — worldwide. For example, and for the record, it has been explained that, "the U.S. nuclear industry isn't at risk of losing access to uranium, " even as it (the industry) wants to move forward and mine for the toxic substance (uranium) in Utah at the Pinyon Plain mine; but such a plan by the federal government seems to forget that, ultimately, specific groups are in danger of being contaminated, particularly their waters (Gruver & Schoenbaum, 2025, p. B5) (Note 34), which will eventually harm humans near the (cursed) mine. And we cannot *camouflage* the radioactive waste produced by *uranium*. Furthermore, despite our self-destructive proclivities to pollute our waters and environment, we also have "High levels of naturally occurring *uranium* [which has] been detected in water samples at the under-construction Chimney Hollow Reservoir Southwest of Loveland, Colorado." Unfortunately, Northern Water utilities have started "filling the reservoir that will provide water to a dozen [surrounding] cities and water districts" ("Loveland, Colorado," 2025, p. 7B). What? Should we worry about the odds — that is, that such a reservoir might be a dangerous proposition — in the long term — that is, if humans consume this (uranium-tainted) water? Or what might be the *unintended consequences*? Another challenge that should be recognized in terms of *water* and *land* pollution is to recognize that "the desert of southern New Mexico," where our government, during the nuclear age, "detonated the first atomic bomb" is polluted. To say the least, it has been "an ongoing nightmare for the people who call the area home" (Guillen, 2025, p. 3). As scientist and writer Feleecia Guillen (2025) tells us:

> That [nuclear bomb] test, known as Trinity, blanketed rural communities in radioactive fallout. No one was warned. No one was evacuated. Families drank radioactive rainwater, breathed in ash and were left to carry the [pollution] burden in silence (p. 3).

Question: How exactly can we reverse the damage to our environment by our government and polluting corporations? Or what precautions and protective measures should we take to mitigate the risks to our lakes, rivers, *potable water systems*, and oceans? According to author, U.N. Global Compact Special Adviser for Ocean and co-chair of the G20 Ocean group, Sturla Henriksen (2025): "Now is the time for bold, responsible action," particularly about protecting our *seas*, which "will shape the future of life on land." Henriksen goes on to predict and write: "Without a clean, healthy, and productive ocean, our

collective future is in jeopardy." (p. 43) (Note 35). As any *full-fledged* environmentalist will tell us, we have the *Herculean task* of protesting our waters from dangerous pollution almost *everywhere*, created by massive industries.

6. Conclusions

Our cowardice, or ineffective track record about cleaning up our environment, especially our *waters*, should be deeply alarming — that is, to *all* humans. Perhaps even more damning are *climate-change* deniers, *naysayers*, and conservative politicians who continue to *pooh-poo* government policies that might actually help with our ecological, water devastation problems, as many make false arguments or so-called *counter-arguments* to mislead the public about the damage that corporate polluters have wrought, as if such effort is some kind of political *boondoggle*. Nevertheless, we must not let polluters off the hook for what they have done in the past and today to our environment, *aquatic ecosystems*, and the contaminated water that some of us drink. To be sure, do we have the will to punish polluting industries? Probably not. However, we must face the future in a healthier, more rational way — that is, without exposing humans to harmful, oil-based products, like plastics, radioactive waste, and other PFAS chemicals and *toxins*. More importantly, all humans should be concerned about the safety and *well-being* of our planet in terms of keeping our environment and water ecosystems clean.

Even if the arguments presented in this work leave the reader unpersuaded, we *cannot* close our eyes and pretend that all is well with the world and our environment, when this isn't true. For some, even "the term *environment* [itself] is… a contested concept." That is, that "the environment is a space 'out there' to be preserved" (Mingst & McKibben, 2021, p. 421) (Note 36). Therefore, we must be concerned with the *environment* from "an ecosystem [water] perspective" (Mingst & McKibben, 2021, p. 421) (Note 37) worldwide, not just within respective communities and countries when it comes to *water pollution*. To wit, we need to set basic protections when it comes to our waters, like having a stronger *Clean Water Act*, which should be a foundational pillar for a cleaner environment — worldwide. In this respect, we must make *water pollution* a violation of International Law, if possible. After all, humans (or *all* people) deserve quality, clean, *potable* water, as mentioned, where no one will suffer from *water inequity*, because of who they are, particularly when there are safety and health considerations involved. We also desperately need more forward-thinking individuals and advocacy groups to help environmentalists to fight the good fight against powerful, corporate forces of *evil* that would pollute our world without giving it a second thought. Meanwhile, environmentalists must continue to articulate or pontificate intelligently — to make their voices heard for *anyone* who will listen.

When it is all said and done, we (environmental advocates) need to create an environmental "report card," on an international level, where we (humans) can learn about "the forever chemical PFAS in agricultural fields," which are "fertilized with sewage sludge" ("Oregon, Salem," 2025, p. 7B) (Note 38), like in Salem, Oregon. Moreover, we need to take note that, "more than 3.5 million New Yorkers are served by water systems" that contain *forever chemicals*. No doubt, we cannot ignore this "environmental and

human health risks." Indeed, "Newly reported water test results" in the state of New York "show [that] the highest health risks linked to [PFAS] chemicals [unfortunately] were in some communities on Long Island and parts of the Hudson Valley" ("New York, Albany," 2025, p. 4B). In this regard, a "roll call" of specific environmental problems should exist in the United States (and elsewhere) that needs fixing, like "the amount of human waste tainting waterways along Florida's east coast." We must also be cognizant that:

> There are other [serious] causes as well [as many water pollution] problems, [like] fecal by-products — sometimes seeping from septic tanks, or from sludge labeled biosolids and poured onto farm fields — [which] have gained growing attention as a pollution source along the 310-mile St. Johns River and the Indian River Lagoon ("Florida, Jacksonville," 2025, p. 7B).

We must also keep our eyes on the *lead pollution* that is being introduced in different water systems and in respective minority communities across America and the planet. For example, school district officials in Memphis, Tennessee tell us that, "Certain drinking water sources at two dozen Memphis-Shelby County Schools [have] showed elevated levels of lead" ("Tennessee, Memphis," 2025, p. 3B), which can be ultimately deadly for the humans (children and adults) living in these particular areas. Hence, our governments must eradiate this water pollution of *lead* by any means necessary; or at all cost. Additionally, nations across out world must rid themselves of *lead pollution* and other dirty pollution that negatively affect our clean waters.

Finally, as discussed, cleaning up our polluted world will require *immediate action* — that is, if we wish to save our planet *wetlands* or *aquatic ecosystems* for the future. But it won't be an easy task to clean-up our waters. Of course, *timing* and *execution* are essential to protecting what we have as humans. Further, some might even argue that *cleaning-up* our polluted *waters* is more difficult than we might think or imagine. So, is it an impossible, intractable task? Unfortunately, people (or humans) across the planet are playing *Russian Roulette,* so to speak, with drinking contaminated water. And inevitably, we will pay a terrible price for polluting our *aquatic ecosystems* and environment.

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Notes

Note 1. It should be noted that, "Life is believed to have originated in the world's oceans, and living originated in the world's oceans, and living organisms use aqueous solutions (including blood and digestive juices) as mediums for carrying out [aforementioned] biological process." See the same reference and page number.

Note 2. Unfortunately, some of waters or aquatic ecosystems are not only polluted; but even the water that we drink (in some places) is full of certain chemicals and deadly toxins. Therefore, trying to protect our world is not some kind of leftist propaganda.

Note 3. But most importantly, we cannot close our eyes to unprecedented environmental disasters and our water crisis, which will negatively affect us all. Take for example how jet fuel "spilled from a Pearl Harber [Hawaii] storage facility before it later seeped into drinking water and sickened 6,000 people… in 2021." See Two accused of causing false fuel leak information. (2025, September 2). *Las Vegas Review-Journal* (p. 6A).

Note 4. In this regard, environmentalists have repeatedly told us that we must fiercely fight hard to save our aquatic ecosystems and our planet. We must also take significant actions when it comes to preserving our water throughout the world.

Note 5. According to Hrishikesh Chandanpurkar, a research scientist with Arizona State University, "Fresh water is finite, and we're losing it…." Indeed, "Much of the water ends up in the salty oceans, contributing more to sea-level rise than the melting of ice in Antarctica or Greenland." See Gongloff, M. (2025, August 12). Earth is drying out; we must act urgently. *Las Vegas Sun* (p. 3).

Note 6. Bear in mind that a dirty *aquatic ecosystem* and polluted environment raise the specter of a dying world because of the terrible activities of humankind.

Note 7. How exactly can we or should we allocate water resources for a future that might leave us in the dust? Or will we require more intense regulations and spending on cleaning waters polluted by awful, thoughtless, and disgusting corporations?

Note 8. Governments across the planet are already under pressure to clean-up their own backyards. However, many nations believe that it would be cost prohibited to do *anything* about our polluted environments.

Note 9. Countries need to implement or put in place more regulations to stem the tide of corporate pollution. The question is: Do they have the will to do *anything*? There is, of course, no measurable downside of being an advocate for a clean environment and world.

Note 10. It is unfortunate, but polluting industries continue to wave off criticism over whether their unscrupulous businesses are hurting people and the environment, like with oil companies and other corporations that poison our waters and contribute to global warming and deforestation.

Note 11. We should bear in mind that *lead* has a considerable toxic effect, as *lead* is slowly oxidized in the presence of air and water. See the same reference and page number. Forging ahead, it is hard to envision our world where we only have toxic waters to drink and deal with. According to columnist David Wallace-Wells, "Plastic is now threaded through the flesh of fish, where it is interfering with reproduction, and the stalks of plants, where it is interfering with *photosynthesis*, and much else we place on our dinner plates and set about eating." See Wallace-Wells, D. (2025, August 10). The World Is Now Unavoidably Toxic. *The New York Times* (p. 6).

Note 12. Jacobson goes on to tell us that: "Every month, the list of water main breaks around the country grows. All such events are symptomatic of an aging water infrastructure that demands attention, yet often gets pushed aside in favor of more urgent public needs." See the same reference and page number.

Note 13. Clearly, we must understand our environmental priorities. Indeed, we must think pragmatically about how to save every ecosystem and the human population, in general.

Note 14. We cannot bush off our water crisis and other environmental woes, particularly if there are significant, or potential harmful consequences. In other words, the complexities of our many environmental issues shouldn't be taken lightly, or for granted.

Note 15. It should be pointed out that, "The Republican governor Rick Snyder came under fire for the health crisis in Flint due to unsafe drinking water and for the financial crisis at DPA [Detroit Public Schools] under emergency managers he appointed." See the same reference and page number.

Note 16. It should be noted that the EPA or "the Environmental Protection Agency" under a conservative administration, has indicated that "it will defend the Biden administration aggressive rule for reducing lead in drinking water against a court challenge." See EPA says it will defend Biden-era head pipe rule. (2025, August 6). *Las Vegas Review-Journal* (p. 4A).

Note 17. We must seek to educate ourselves about the horrible consequences of *lead poisoning* in our water systems. This environmental issue is symptomatic of our polluted *aquatic ecosystems* everywhere.

Note 18. Keep in mind that the "Residents of Flint complained immediately after the switch to river water that the stuff coming out of their [water] taps had a brownish color and a strange smell." But, "their worries were dismissed." See Poisoned Water: That Flinty Taste. (2016, January 23). *Economist* (p. 23).

Note 19. Note that "after checking hundreds of samples from Flint's toddlers… the lead levels in their blood had doubled or even tripled" — that is, after "the switch from [the dirty] Lake Huron water." And wrongly, "state regulators insisted [that] the water was safe." See the same reference and page number.

Note 20. Question: Is there a clear association between the withdrawal of leaded gas and the drop-off of crime, or criminal behavior? Perhaps. See the same reference and page number. According to columnist David Wallace-Wells, "half of Americans alive today" have been "exposed to dangerous levels of lead as children, and half of children in the developing world have lead poisoning; one estimate suggests lead was responsible for more than five million cardiovascular disease deaths in a given year, in addition to impeding neurological development and in ways that have been linked to increased criminal behavior." See Wallace-Wells, D. (2025, August 10). The World Is Now Unavoidably Toxic. *The New York Times* (p. 6).

Note 21. Moving forward, and without further damage to our environment, humans must not cast the fate of humankind to the wind, so to speak, without pondering the logistics and *tragedy of our actions*. Although it might be counter-intuitive, we need more pollution abatement, while giving the planet time to repair itself with our help in cleaning up plastics and other toxins/pollution.

Note 22. It is as if humans are sleep-walking — that is, if they don't have a clue about who is actually causing the pollution in every environmental ecosystem: It is primarily corporations. Hence, we must try harder to make these environmental issues go away.

Note 23. Jacobson also tells us that unfortunately, "one gallon of water costs more than one gallon of gas in oil-rich Saudi Arabia." See the same reference and page number.

Note 24. Unfortunately, there are "periodic water shortage (in *Iran*) over the past few years in Khuzestan, Isfahan, and Sistan and Baluchistan provinces [which] prompted protests that quickly turned political, with some farmers clashing with security forces." See the same reference and page number.

Note 25. According to a *USA Today* analysis of EPA records, "774 [water] systems don't meet the limits for forever chemicals." And, "Those utilities probably will need to install advanced filtration systems or find other sources of drinking water by 2031." See the same reference and page number.

Note 26. Note that high toxic substances and forever chemicals will always adversely affect the health of humans. In this regard, corporate polluters must find safer energy alternatives; or it will be to our detriment.

Note 27. What exactly might be the result of eliminating regulations to protect our oceans and other *aquatic ecosystems*? Perhaps the following: According to the *USA Today* in "An annual report by the Surfrider Foundation found that two beaches [in Honolulu] in the state are among the most polluted in the nation, and that 13 more have unsafe bacteria levels…." See Hawaii, Honolulu. (2025, June 9). *USA Today, News from across the USA* (p. 3B).

Note 28. We must point out that, "In 2024, a study at the [Lybrook Elementary School] found levels of pollutants — including benzene, a cancer-causing byproduct of natural gas production that is particularly harmful to children — were spiking during school hours, to nearly double the levels known to cause chronic acute health effects." See the same reference and page number.

Note 29. It should be noted that "Scientists began taking note of plastic in the ocean in the 1960s and '70s, around the same time the E.P.A. was established to fight dozens of other forms of environmental contamination, often more visible." See Wallace-Wells, D. (2025, August 10). The World Is Now Unavoidably Toxic. *The New York Times* (p. 6).

Note 30. Unfortunately, "Plastic pollution is damaging ecosystems, polluting our oceans and rivers, threatening biodiversity, harming human health and unfairly impacting the most vulnerable," and in an inequitable way. See McDermont, J. (2025, August 6). A plastic pollution solution? *Las Vegas Review-Journal* (p. 8A). Note: A new report by international (environmental) experts warned that, "Plastic in the environment is causing disease at every stage of the plastics life cycle and at every stage of human life." It should also be pointed out that, "8 billion tons of waste clog landfills and create massive floating islands in the ocean, while microplastics permeate the air, the water, and even the blood-streams of all living things." See Can we curb plastic use before it's too late? (2025, August 22). *The Week Magazine* (p. 21).

Note 31. According to journalist Jennifer McDermont, "Between 19 million and 23 million tons of plastic waste leak into aquatic ecosystem annually, which could jump 50 percent by 2040 without urgent action, according to the U.N. See McDermont, J. (2025, August 6). A plastic pollution solution? *Las Vegas Review-Journal* (p. 8A).

Note 32. It has been reported that the polluting companies in Jew Jersey "will split the costs" of the settlement after [the] court approval of $875 million over 25 years and create a remediation fund of up $1.2 billion. See the same reference and page number.

Note 33. Keep in mind that "the disposal of [PFAS] waste from domestic, industrial, and agricultural sources," of course, is "a major environmental concern." Unfortunately, and this is the point: "Methods

commonly used include burial in landfill sites and at sea…," which is polluting our watery environments. Therefore, in no uncertain terms, "Care is needed to ensure that polluting of water, air, and lands is avoided." See Waste Disposal. (1994). In *The Cambridge Encyclopedia* (2nd ed., p. 1175). London: Cambridge University Press.

Note 34. As historian Indur M. Goklany writes: "Globally, two of the most serious environmental problems are inadequate sanitation and insufficient availability of safe water for drinking, washing food, and personal hygiene." See Goklany, I. M. (2007). *The Improving State of the World: Why We're Living Longer, Healthier, More Comfortable Lives on a Cleaner Planet*. Washington, DC: CATO Institute). p. 151.

Note 35. As Henriksen tells us, "a clean, healthy, and productive ocean is at the heart of tackling climate change." Equally important, "it must be central to creating a better world," with an abundance of clean water. See the same reference and page number.

Note 36. If our environmental problems are not addressed, we will have serious water problems moving forward into the future. Therefore, it is way past time that humans stop ignoring that we have poisoned our various watery ecosystems.

Note 37. It is unfortunate, but some world governments are providing "false solutions" that are being promoted by polluting corporations and "wealthy countries," which hasn't solved many of our environmental issues. To be sure, corporate polluters must be subjected to much scrutiny — that is, if we are to get a handle on fixing our polluted world. See Petrequin, S., & Wilson, J. (2025, July). Europe continue sizzling heat wave. *Las Vegas Review-Journal* (p. 8A).

Note 38. It should be noted here that *Eutrophication*, which is "a process that occurs when excess fertilizer and nutrients get into the water, [which] can create algal [polluted] blooms that result in low levels of oxygen in the water." See Yancey-Bragg, N. (2025, August 27). East coast enduring the sting of jellyfish. *USA Today* (p. 2A).

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