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Looking at Water Through the Lens of Integral Ecology

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What do you see when you look at water?



The water molecules in your glass have been circling around the earth for millions of years in the form of clouds, rain, snow, ice, rivers, groundwater, oceans. The depth and intricacy of these interconnections are awe-inspiring. More so, because the availability of fresh water means the difference between life and death for all earth's creatures.

Yet, today, earth's water is being depleted and degraded by human activity: agricultural practices, industrial use of water, deforestation, climate change, over-consumption by some, as well as waste and pollution.

It's the very definition of an ethical imperative: All of Creation cries out for justice—for access to the fresh water which maintains life.

“Water as a commodity, as a human right, as a resource – these conceptions all conjure up the notion of water’s utility for humans. Underlying them is a deep disconnection from water [...] My journey, to unlearn this objectification of water and to experience water as a living relative, continues to be a long one.”

Denise Nadeau

Water and Integral Ecology

Looking at water-concerns through the lens of integral ecology emphasizes the need to care for water as a Creation-relative while also protecting the rights of people. It urges us to pursue social, cultural, political, economic, spiritual and environmental objectives together, rather than separately, so we might move toward wholeness.

The lens of integral ecology is a wide lens (looking at the big picture). It reveals a complex web of water issues which need to be addressed. Here is a list highlighting some critical issues found in the news recently (not exhaustive).

- Oceans: plastics affecting marine life; oil spills; effects of climate change (fish migration, harm to wetlands, coral bleaching, ocean acidification, decreasing levels of oxygen in ocean waters).
- Lakes, rivers, streams, groundwater: invasive species; climate change is warming lakes and affecting water levels; pollution from agriculture, industry and consumer products (dumping sewage, industrial chemicals and pharmaceuticals, microplastics and microbeads).
- Water privatization and industrial use (e.g., The Council of Canadians estimates that Nestlé's water-permit allowed extraction of up to 3.6 million litres a day of groundwater from Aberfoyle ON and another 1.1 litres a day from a nearby well in Erin)
- Oil spills, tailings from mining operations (e.g., In August 2014, the tailings pond at Mount Polley's gold and copper mine in BC failed, releasing over 24 million cubic centimetres of water and mine tailings into surrounding waterways including Lake Quesnel which is an incubator for 25% of B.C.'s wild salmon. The land and water are also important to surrounding First Nations peoples for food, medicine and cultural practices).
- Dams and the destruction of ecosystems/First Nations territories (e.g., Site C Dam on the Peace River is going ahead despite several court challenges from landowners and First Nations who oppose putting valuable fishing and farming and hunting areas under water).
- Drinking Water Advisories on many First Nations reserves (explored in greater detail below).

Any issue has connections with each of the systems in which we live



Most of these issues are primarily **environmental** but root causes are often **economic** (e.g., industries more focused on profit than care of the environment), **political** (e.g., insufficient regulations to govern industries and use of consumer products) and **social** (e.g., insufficient attention to how development is degrading ecosystems).

And underlying all these issues are the **cultural** and **spiritual** attitudes and assumptions that allow these practices to exist (e.g., humans are separate from nature, water is merely a resource for human use).

The lens of integral ecology highlights interconnections, revealing the complexity and multifaceted character of water issues. Complexity doesn't mean it's too hard for us to know what to do. It means there are many things to be done – something for each of us – and we need to make sure we're getting at the root causes of problems when we act. We can identify root causes by exploring how the major systems, which shape our interactions on earth, are impacting water. That is, how are environmental, social, political, economic, cultural and spiritual systems impacting water?

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Focusing on a Particular Issue — While Seeing Interconnections:

More than any other group in Canada, First Nations' communities live at the nexus of water concerns. If we pick just one of these concerns, the issue of **drinking water advisories** on many First Nations reserves, we can look more closely at how the quality of drinking water is impacted by each of the major systems in which we live.

Lalita Bharadwaj, a toxicologist and professor of public health, notes there are many different factors affecting **water quality on reserves** so a singular top-down approach is not helpful. In one area, the issue may be the treatment system, in another it's toxic ground water, or geographic location and remoteness, and so on.

Still, there are critical factors to consider. "*Glass Half Empty*," a report released by the David Suzuki Foundation and the Council of Canadians, with advisers from Human Rights Watch and Amnesty International, gives a helpful overview of the First Nations water crisis:

Environmental elements – Ecosystem degradation

Groundwater tends to be found within a few metres of the surface so it is highly vulnerable to contamination by landfills, leaking septic tanks, chemical runoff on farms, livestock waster, petroleum products and industrial waste.

Fracking, mining and oil sands development have all been identified as industrial activities which damage source water.



Ecosystem degradation (think of the wetlands and forests that surround water sources) is putting water sources at high risk of contamination. In a healthy ecosystem these wetlands and forests would act as a complex filter system to provide greater protection to the waterways. Their loss also contributes to increased greenhouse gas emissions.

Political elements – Not Protected by Laws and Regulations

While most Canadians are protected by stringent laws and regulations which hold governments accountable for providing safe water, this is not true for First Nations (primarily because the provincial laws and regulations which apply to municipalities do not apply to First Nations). Legislation in 2013 gave the federal government the authority to develop water and wastewater regulations for First Nations but the government of the time did not develop binding regulations. Currently, the federal government is funding some Indigenous groups to develop water regulations under the Safe Drinking Water for First Nations Act.

Social elements – Communication hurdles

Interviews with First Nations communities revealed that there are often delays in receiving funding approval. At the same time, there is a lack of communication from the government regarding when the money will be disbursed. This makes it difficult for First Nations to do long-term planning, training and hiring processes for their water projects, especially since funding commitments are generally made for only one year at a time.



Looking more widely, the federal government has identified the importance of attaining social license for projects which impact the environment and people. As a society, we need to get better at having difficult conversations about these issues in order to reach solutions that are good for people and the planet.

Economic elements – Need for Adequate Funding

In December 2017, the parliamentary budget officer (PBO) estimated it will cost at least \$3.2 billion in capital investment to bring First Nations water systems up to the standards of comparable non-Indigenous communities in order to eliminate boil-water advisories by 2020, as promised. The PBO's report estimates the cost of updating drinking water systems at \$1.8 billion, with another \$1.4 billion needed for wastewater treatment and annual operating and maintenance costs of \$361 million (\$218 million of which would be for drinking water alone). The PBO says the total spending by the federal government and others since 2011-12, combined with spending measures announced in the 2016 budget, can only cover 70 per cent of the total investment necessary.

Cultural elements – Overcoming Prejudice



There is a strong cultural prejudice in Canada which assumes Drinking Water Advisories are due to incompetence in First Nations communities and these FN communities need non-Indigenous experts to come in and fix their water problems. However, the abject failure of the "non-Indigenous expert" approach should convince us that nothing could be further from the truth. In addition, First Nations communities have the right to create and implement their own laws.

More recently, new Community programs led by First Nations through the **Safe Drinking Water Project** are proving to be successful. These programs put First Nations individuals in leadership positions so they can use their on-the-ground knowledge of what's needed, as well as their recognition of the specific challenges of each community, to resolve water issues. So far, these programs have used their limited funding to train and retain qualified First Nations water operators and staff, as they work toward outcomes that will lead to long-term sustainability instead of temporary solutions.

Spiritual – A Spiritual Relationship with Water

Spirituality illumines our assumptions about relationships between God, earth and people. In the Human Rights Watch 2016 Report, *"Make It Safe,"* interviews with Indigenous persons reveal a web of connection. Water is described as 'living,' 'family,' 'sacred,' 'spiritual,' 'medicine.' Such descriptors emphasize that the negative impacts of contaminated water in First Nations communities are not just about physical health, environmental wellbeing or cultural practices – although all these aspects are crucial. It touches people at the level of meaning. The **United Nations Declaration on the Rights of Indigenous Peoples** recognizes the right to maintain and strengthen their relationship with traditional land and water but this right is significantly undermined when land and water are contaminated.

Creating Systemic Change

An integral ecology approach is aware of the web of interconnection and then goes deep to work for change on four different levels.



Four Different Levels of Structure in Systems

1. Changing Policies:

E.g., Full funding for water infrastructure, management and operations on First Nations reserves.

E.g., Stronger regulations to protect waterways



2. Changing Fundamental Social Institutions (family, religion, education, economy/work, government):

E.g., The **Truth and Reconciliation** process is intended to impact Canadian society at the level of these fundamental institutions, but this will happen only if the process is engaged wholeheartedly.

Likewise, a process of **Reconciliation in the Watershed** has the potential to impact us at the level of our most basic institutions – creating ripples of change throughout our society



3. Changing Narratives:

E.g., In *Laudato Si'*, Pope Francis emphasizes the importance of understanding the Creation stories anew. He emphasizes that we are part of nature and our role is to care for the members of earth community. This re-telling of stories is at the heart of evolving consciousness, whether we're talking about faith stories, cultural stories or popular stories.



4. Changing Worldviews:

E.g., By becoming more aware of the attitudes and assumptions which shape our relationships with land, water and people, we can reflect critically on the impact and adequacy of these views. Would anything change for you if you began to see water as a Creation-relative?



This work for change can happen through prayer, art, conversations, education, political advocacy, caring for the local watershed and much more.