# Understanding Health in the Interplay between Social & Ecological Systems: Engaging Planetary Health

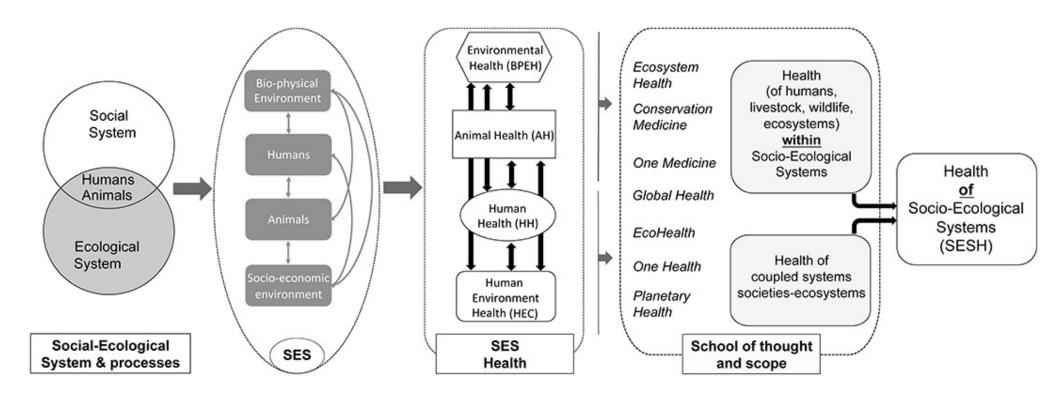




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Territorial Acknowledgment



The interconnectedness between humans and ecosystems highlights the need to protect ecosystems for the well-being of humans and the environment. This has led to the emergence of holistic and interdisciplinary concepts like Planetary Health, One Health, and Ecohealth.

There is a growing interest in the differences and implementation of these concepts, including their founders, fundamental questions answered, focus, global distribution of studies, and alignment.

### FACING COMPLEXITY & CONVERGING CRISES

Global Transporta





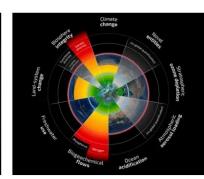
Pich-Poor G

Emerging

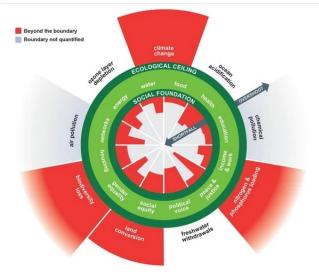
Diseases

**Human Migration** 





Source: Will Steffen, et al. 2015



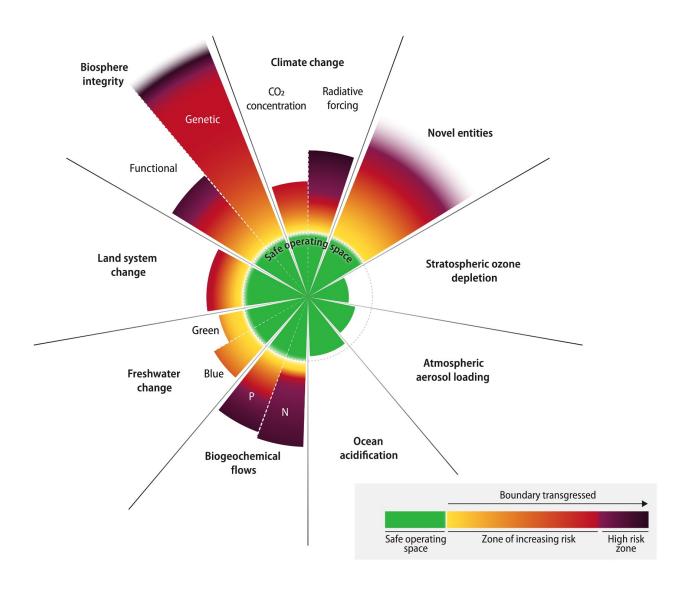
Source: Kate Raworth, 2017

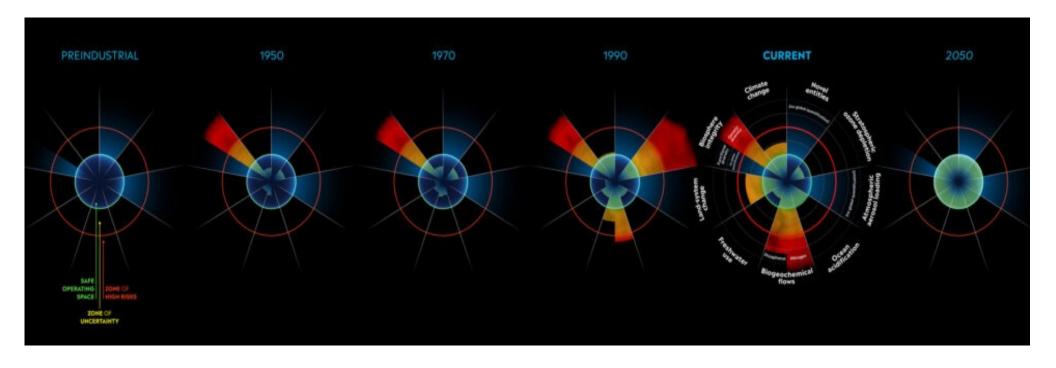
.complexity

### SAFE OPERATING SPACE:

An Earth system state that enables humanity to develop and thrive for generations to come. It encompasses environmental conditions akin to, but not identical to, those of the Holocene epoch, which began around 11,700 years ago.

The Safe Operating Space ensures that crucial Earth system processes remain within boundaries that support global stability, resilience and life-support functions.





### Air Pollution & Increasing Allergens

Asthma, allergies, cardiovascular and respiratory diseases

### **Extreme Heat**

Heat-related illness and death. cardiovascular failure

### Drought

Water supply impacts, dust storms, Valley Fever

### Environmental Degradation

Forced migration, civil conflict, loss of jobs and income

### Wildfires & Wildfire Smoke

Injuries, fatalities, loss of homes, cardiovascular and respiratory diseases Mental Health Impacts

Rising Temperatures



**IMPACTS OF CLIMATE CHANGE** 

More Extreme Weather





### **Degraded Living Conditions** & Social Inequities

Exacerbation of racial and health inequities and vulnerabilities, loss of employment

### Changes In Vector Ecology

Lyme disease, West Nile Virus, hantavirus, malaria, encephalitis

### **Food System Impacts**

Malnutrition, food insecurity, higher food prices, foodborne illness

### Severe Weather & Floods

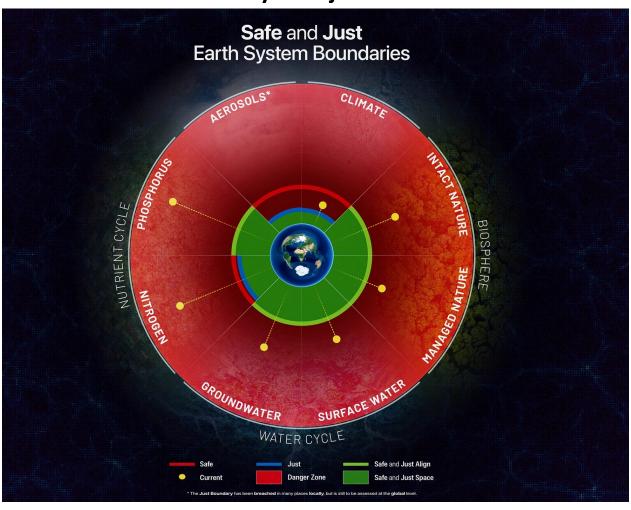
Injuries, fatalities, loss of homes, indoor fungi and mold

### **Water Quality Impacts**

Harmful algal blooms, campylobacteriosis, cryptosporidiosis, leptospirosis

CDPH (Adapted from CDC, J. Patz)

### **Earth system justice:**



Maintain and enhance the stability and resilience of the Earth system over time, thereby safeguarding its functions and ability to support humans and all other living organisms<sup>4</sup>.

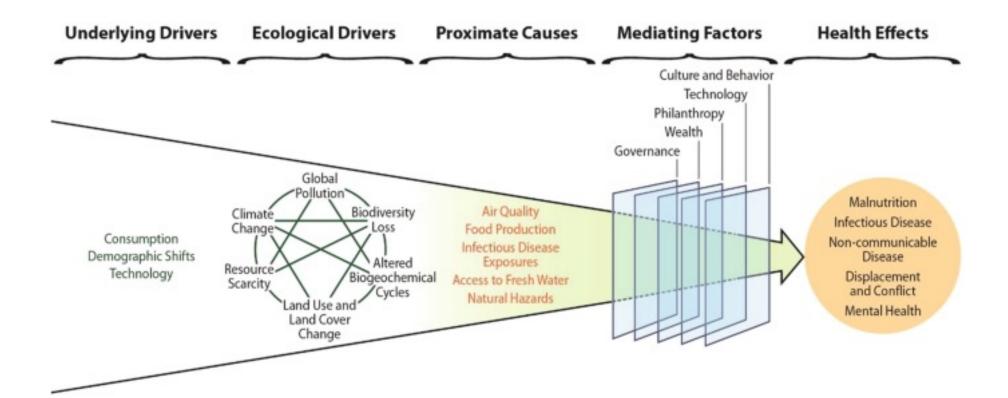
Three criteria to assess whether adhering to the safe ESBs could protect people from significant harm:

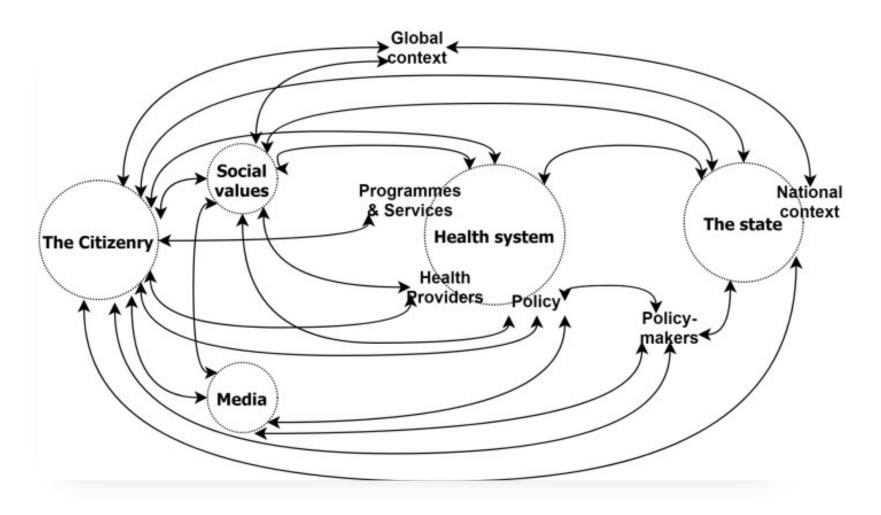
**'interspecies justice** and Earth system stability'

'intergenerational justice'- between past and present generations (present and future generations

'intragenerational justice' between countries, communities and individuals through an intersectional lens

These criteria sit within a wider Earth system justice framework that goes beyond planetary and issue-related justice to take a multi-level transformative justice approach focusing on ends (boundaries and access levels) and means.





We cannot solve complex problems from the same worldview that created them in the first place, as it will continue to perpetuate a disconnect between us and the planet as 'relatives.' Nicole Redvers (2021)1

### PLANETARY HEALTH:

The state of the Earth system in terms of its ability to maintain stability, resilience, and lifesupport functions.

It reflects how well the planet sustains the conditions necessary for human and ecological well-being.

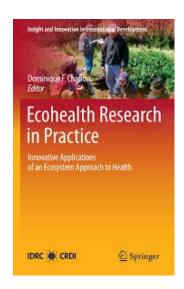
The concept of Planetary Health is central to understanding and maintaining the Safe Operating Space.

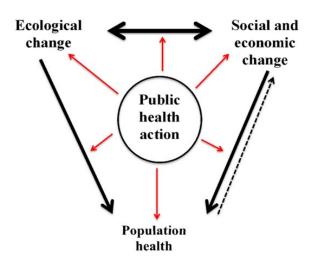
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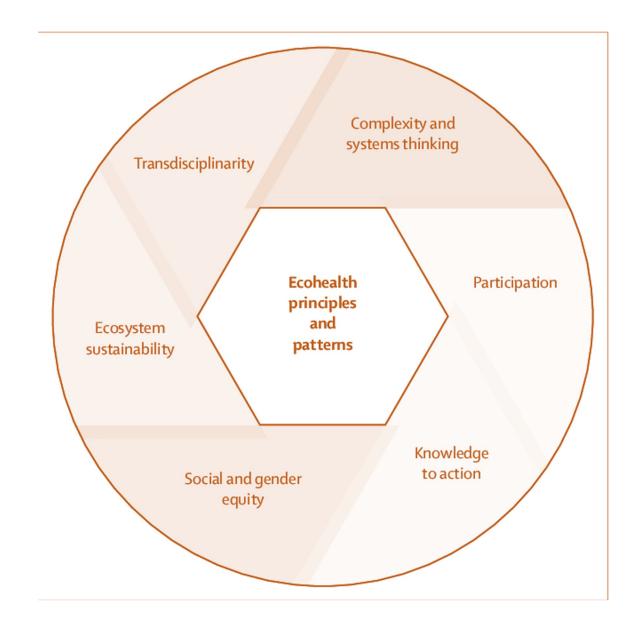


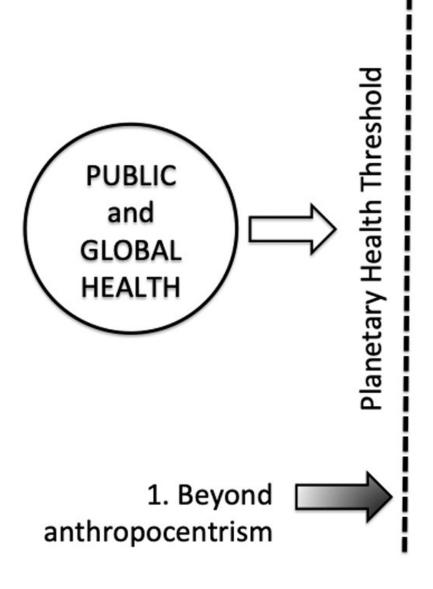
The "One Health" concept, introduced in early 2000, refers to a notion that has been understood for more than a century: human health an animal health are interdependent and linked to the ecosystems where they coexist.

One Health is defined as "the collaborative efforts of multiple disciplines"—medical, veterinary and research professionals, etc.—"working locally, nationally and globally, to attain optimal health for people, animals and our environment."









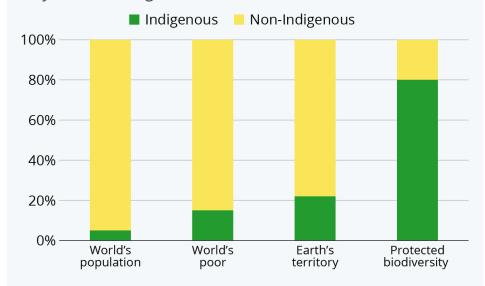
2. Political determinants of planetary health



- 3. Who will guard the guardians?
- 4. Beyond Planet Earth: Moon, Mars and others

# **Indigenous Communities Protect 80% Of All Biodiversity**

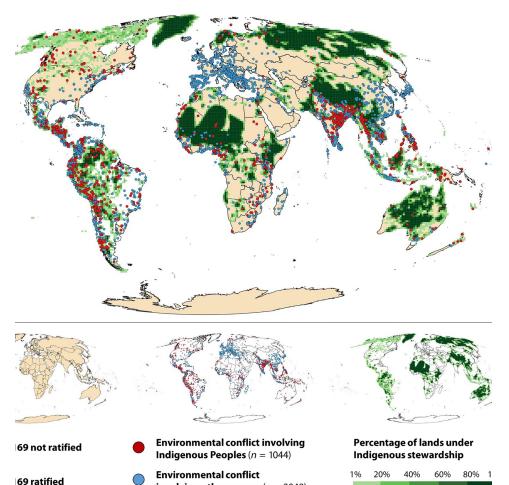
Share of indigenous and non-indigenous communities by various categories



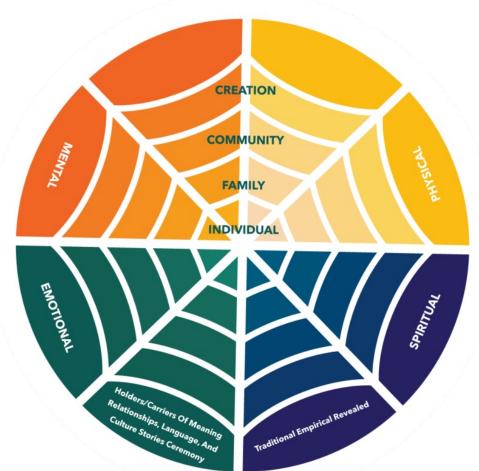
Source: World Bank via Australia: State of the Environment 2021







involving other groups (n = 2049)

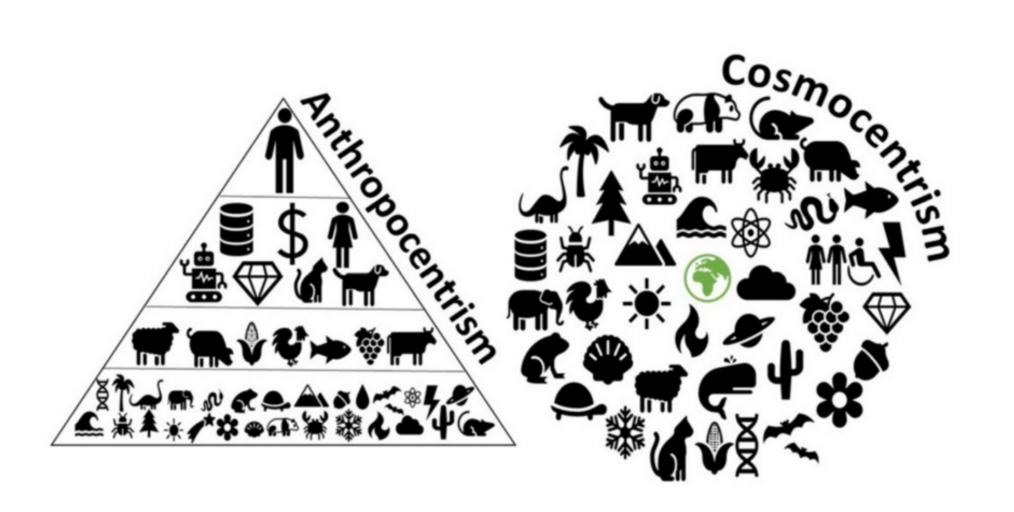


The Indigenous Health Model (IHM) includes an ecological systems framework that considers the many personal and environmental factors that impact a person's health.

The IHM blends this framework with the five principles of Indigenous knowledge and worldviews by connecting to the place of the people, and the gifts and values that contribute to changes at the individual, family, and community level.

Indigenous people conceptualize holistic health (physical, spiritual, emotional, and mental) based on ancestral teachings, which includes the natural environment and creation.

The model is reflective of how to be a good relative and the connection to all life forces: creation, people, plants, and animals. These foundational teachings are the facilitators for illustrating how success can be measured based on community driven indicators that include cultural teachings, roles, and protocols.



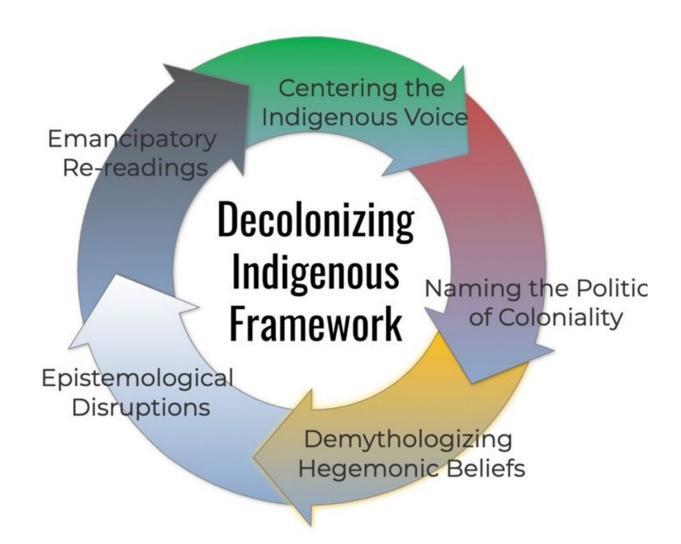
# Relationality, Kincentricity & Reciprocity

**Kincentricity** reinforces the notion that all beings are part of one extended ecological family, reciprocity guides how humans should interact with and give back to their kin or 'family'.

Reciprocity, in its broadest sense, refers to the practice of mutual exchange, cooperation, and a balanced relationship between two parties.

Implicitly built into the notion of reciprocity is the basic formula for every human society, otherwise known as the golden rule: what you give, you receive in return.

- Address the harms of colonialism and global inequities, and to improve health equity and justice.
- Acknowledge Indigenous wisdom and the practices of Indigenous communities, who have sustained their cultures and ecosystems for thousands of years
- Focus on the health of the planet and the natural systems that support humanity, rather than just humans alone
- Promote intercultural thinking
- Embrace anti-colonial and anti-racist approaches to climate change and global health inequities
- Identify and overcoming culturally Eurocentric conceptions and hierarchies



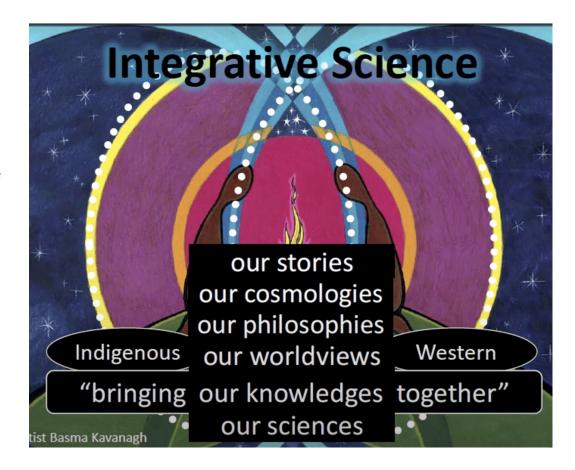


Two-Eyed Seeing, or **Etuaptmumk** in Mi'kmaw means to braid the two ways of knowing, Indigenous and Western knowleges. The goal is to create a new way of seeing the world that respects the differences between the two perspectives. This approach is often described as "interweaving" or a "dance" between knowledges.

Elder Albert often discusses Two-Eyed Seeing in relation to **Netukulimk**, a Mi'kmaw understanding that humans are interdependent with the natural world. Netukulimk emphasizes co-existence, interrelativeness, interconnectiveness, and community spirit.

Creating an **ethical space** allows multiple ways of knowing to coexist.

**Elders** are considered holders of Indigenous knowledge and can help ensure traditional protocols are followed.



### **Dual Process for Change**

## Personal Transformation

The ongoing work of understanding our own biases, power, and positionality.

Leaning into revolutionary love and committing to ongoing personal transformation.

# **Collective Transformation**

Commitment to creating impact within one's own sphere of influence and working collaboratively towards social transformation.



