

# Entangled

## Enhancing Salmon Kinship Networks





## Release Form

Master's of Landscape Architecture  
*School of Architecture and Landscape Architecture*  
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## Entangled: Enhancing Salmon Kinship Networks

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## Entangled

*To cause to become twisted together or caught in a snarl or entwining mass.*

*“What matters is the potency of a belief, the manner in which a conviction plays out in the day-to-day lives of a people, for in a very real sense this determines the ecological footprint of a culture, the impact that any society has on its environment. A child raised to believe that a mountain is an abode of a protective spirit will be a profoundly different human being from a youth brought up to believe that a mountain is an inert mass of rock ready to be mined.”*

*Wade Davis*

## Abstract

Our beliefs and stories about our place within the natural world have potent, profound and direct implications for the ways we individually and collectively impact the planet. Dominant cultural norms tell us that nature is subordinate to human and created explicitly for us. Human superiority goes largely unquestioned, allowing us to treat non-humans as “its,” mere resources to be exploited. As professor and botanist Robin Kimmerer writes, “land is not a machine but a community of respected non-human persons to whom we humans have a responsibility.”

Part One of this thesis is in essay format and argues Kimmerer’s point that we have a responsibility to our places and our non-human kin upon whom we depend. It seeks to challenge the separation between human – animal and nature – culture through discussion on kinship, agency, animacy and other ways of knowing. I conclude with a discussion on the discipline of landscape architecture and its role as disseminator of Imperial agendas and ask how we can instead be advocates for place-centered social, ecological, and cultural justice.

Part Two contains the narrative and accompanying illustrations of my design proposal *Entangled: Enhancing Salmon Kinship Networks*. *Entangled* explores ways of designing for interspecies co-authorship that fosters respect for and connection to our non-human kin through the relational networks of Pacific Salmon. Salmon are the iconic being that ties seascapes to landscapes and whose bodies serve as a foundation for the evolution of our temperate rainforests. Salmon impact many kin through their decaying bodies which rest in streams and forests along the coast. *Entangled* is a process by which human action is deployed as vector, offering Salmon’s carcass to the forests and streams in order to nourish tangled connections of kin.



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# Gratitude

## For Salmon

Thanks to [Kees Lockman](#) for all the encouragement and enthusiastically guiding me towards an unconventional project. And for all your patience and support when I was lost in so much research.

Thank you [Nyn Tomkins + Marcus Reyner-son](#) for generously offering your support, encouragement, excitement and reflections throughout the whole process.

Gratitude to [Mark Kang-O'Higgins](#), [Ellen Haas](#), and [David Moskowitz](#) for your keen editing eyes and thoughtful questions regarding my research essay.

Thanks to [Celia Winters](#) for your epic collage skills, hilarity and encouragement, and to [Scott Archer](#) for your willingness to support, especially with data and GIS wrangling.

## Intent + Position

Decolonization is a frame for applying a critical lens to the systems of power set in place through colonization. While it has become a buzz word and thus is often watered-down, there are still meaningful and active ways we can engage in this process. I believe we all have a responsibility to engage with this in our own individual and collective ways.

Part of this is examining and making visible our own positionality and power. In an ongoing effort to do so I have included, as the author, a section about my own positionality and identity. Additionally, I have included some guiding questions and inquiries that I've engaged with over several years and throughout this thesis.

I am a sixth generation Canadian of European ancestry. I was born and raised on Anishinabek and Haudenosaunee traditional territory in

what is now called Ontario. Both my maternal and paternal lines are largely from Ireland and England with some French and German as well. I identify as a cis-gender caucasian woman.

In choosing to train as a landscape architect it is vital to challenge dominate narratives and constructions of power. This is especially true, given how much of British Columbia is situated on stolen or unceded lands. I believe it is irresponsible for me to begin a career designing landscapes without engaging in the ongoing process of becoming more aware of this history, its impacts and its legacy in our lives today.

I am committed to the ongoing process of decolonization and that means embracing discomfort and not having all the answers. Checking in with my motivations on a continual basis and being engaged in a self-reflective and self-critical process

### Decolonization

to release from a status of colony. The active resistance to the forces of colonialism.

### Colonization

the formal and informal methods that maintain the subjugation and/or exploitation of Indigenous peoples and lands.

is necessary in order to become aware of internal colonial oppressive structures that are operating unconsciously. I make no claim to be an expert in this process nor to have even accomplished much more than scratching the surface.

Some questions that I think are valuable to reflect on in this process:

1. How can I use this new information in my everyday life?
2. What steps can I personally take to amplify marginalized voices that are too often silenced?
3. What privileges do I have and how can they be leveraged?
4. How can I use my position and privileges to listen, shift power dynamics, and take steps towards taking action? <sup>1</sup>



PART ONE



## Field of Inquiry

### Agency

The ability to make choices and act upon them.

### Western

Of or relating to the western part of the world, in particular Europe and North America

### Imperialism

The principle of policy of empires; the advocacy of holding political dominion or control over dependent territories

### Indigenous

belonging to a particular place and having a historical existence and identity prior to and separate from any colonial occupation

### Ontology

the science of study of being; the branch of metaphysics concerned with the nature or essence of being or existence

In March of 2017, Aotearoa's (New Zealand) Whanganui River was granted human status in the courts after centuries of Maori efforts to have their relationship with the river acknowledged.<sup>2</sup> The first of its kind in the world, this legal precedent has led many to question the way we define 'human', and the ways we grant agency to the natural world. Since then, several countries have followed suit; with India declaring the Ganges and Yamuna rivers as legal 'living entities,' and Columbia doing something similar for the Rio Atrato.<sup>3</sup> Aotearoa has since extended this legal protection to Mount Taranaki as well, diversifying the types of landscape features deemed worthy of such protection.

Chris Finlayson, New Zealand's Treaty Negotiations Minister, acknowledged that many people might find it "pretty strange to give a natural resource a legal personality,"<sup>4</sup> yet this same attribution of 'legal personality' has been unquestioned

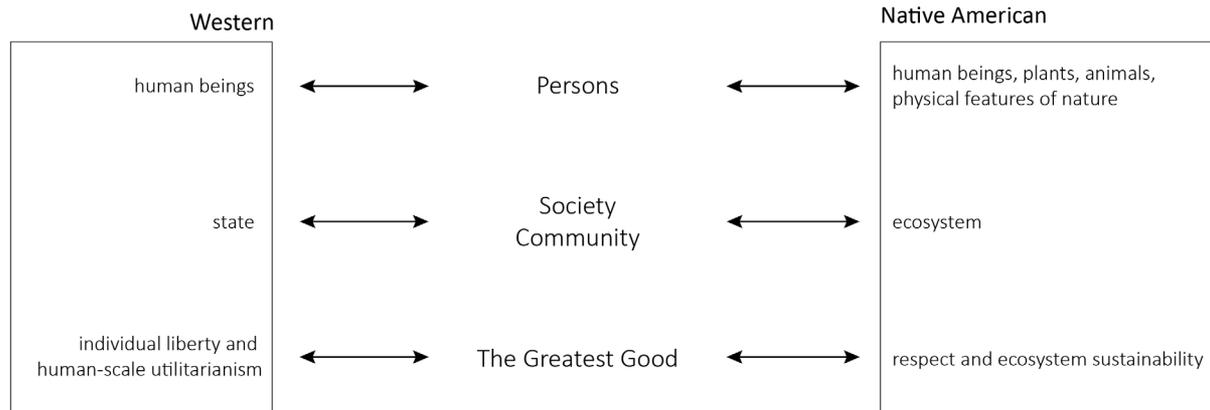
in its application to family trusts, companies and incorporated societies for decades. These debates highlight the vast ontological divide that exists between Western Imperial and Indigenous notions of agency. How a society defines and assigns agency is fundamental to their ontological positioning and impacts how these beings can exist within the social, ecological or spiritual domains of that society.<sup>5</sup> We are at a crossroads, where the superiority and universality of the Western Imperial cultural mythologies are being questioned and dismantled. We have not just an opportunity, but I believe, a responsibility as human beings to bring about an ontological shift in how we relate to the natural world and our place within it.

Leading the way are Indigenous communities across the globe who have witnessed their cosmologies, lands, and lifeways devalued, stolen, and/or destroyed and who have been resisting and subverting Western Imperial dominance for centuries. While care must be taken not to generalize across cultures and nations, similar themes appear again and again across the globe within cultures that are deeply connected to place. As stated by Rojas from his perspective on place-based cultures:

...the land, understood as a living and powerful being, is inhabited also by a community that is formed by a plethora of living beings, of which humans are just one part, while at the same time, the land has continuities in the human body; the conviction that all living beings

are relatives and the extent to which life is to be realized and reproduced depends on the recognition and reverence of this 'family' of relationships. Finally, the principle of generalized reciprocity... and the required balance of the relationships among humans, other living creatures, and the land as a whole permeate all aspects of daily life.<sup>6</sup>

The bulk of this thesis humbly attempts to expand on these global themes and propose them as a framework to begin to shift the practice of landscape architecture. We cannot shift the trajectory of global crises from within the same ontology that got us here to being with. Technological innovation and solutions can only help us if they are generated from a place where nature and culture, human and non-human are an intertwined, ever changing organism of which we are just one small part.



Comparison of Western + Native American Politics + Ethics  
adapted from Deloria 2001

## Modern Western Inheritance

The separation between nature - culture and human - animal have been central to the successful spread of Western Imperial power systems across the globe. Pinning these as opposites, has enabled us to live in a worldview where we need not consider the moral or ethical implications of our actions towards the natural world. The global crisis today has more to do with how we view the world and our place within it than in our failure to find technological solutions to rising atmospheric carbon, mass starvation, myriad health crises, extinctions and toxic overload to name just a few.

Cartesian dualism is widely cited as a main influence for many Western philosophies, most notably the reign of rationalism which states that reason, through deduction and the intellect, is the ultimate source of knowledge. This is in direct opposition to empiricism which centers experience and the senses as the means to attain knowledge.

Western Imperialism is founded in reductionism that supports the Cartesian notion that mind and body are distinct from one another. This has given rise to an epidemic of belief that one's perception (which is thought to occur solely in the mind) is distinct from the world itself and the physical body that contains it.<sup>7</sup> This dualistic worldview, combined with imperial colonialism has resulted in the dominance and objectification of the natural world and an "...assumed divide between nature and society—and the accompanying focus on deanimate, disembodied, undisputed reason—has led directly into the current ecological crisis."<sup>8</sup> There are of course, other epistemologies that stand in stark contrast to the overculture. As Daniel Wildcat, renowned scholar, professor and member of the Muscogee Nation puts it:

The dualisms or dichotomies between the spiritual and material, culture and nature, subjective and objective, sacred and profane that operate so deeply in the Western worldview appear largely absent from the American Indian and Alaska Native worldviews of which I am familiar. Indigenous traditions recognize the sacred in a world simultaneously spiritual and physical.<sup>9</sup>

Indigenous architect Chris Cornelius sums this up as Western minds think nature is *mine* whereas Indigenous minds think nature is *me*.<sup>10</sup>

### Colonialism

The policy or practice of a nation to maintain or extend its control over other countries, especially in establishing settlements of exploiting resources

### Epistemology

the theory of knowledge and understanding

The roots of modern western thinking are themselves more nuanced than simple Cartesian dichotomies. In Aristotle's time, distinctions were made between various qualities of place. The term topos first coined by Aristotle, describes a place as an inert container that has no influence on the objects or creatures within its sphere. Chora, by contrast, a Platonic term, sees place as the mother of all things that resonate with the human experience, a choreographer for all of life.<sup>11</sup> The modern western psyche is predominantly one trapped in the world of topos - a world full of objects that one moves around in, but to which one never fully belongs.

Within the dominant systems of Western academia, we find various disciplines that have attempted to offer alternative approaches. Zoe Todd, Metis scholar and professor of anthropology, acknowledges that much work has been done in anthropology on human-animal relations and Indigenous epistemologies and scholarship that "challenge the accepted anthropocentrism of contemporary Euro-Western political discourses and offer an alternate view of humans and animals engaged in relationships that transcend dualistic notions of nature/culture and human/animal."<sup>12</sup>

Absolutes are of course rarely true and pinning 'Western vs Indigenous' is yet another dualism that is best used carefully and thoughtfully. What is meant by Western? This term becomes even more problematic when we acknowledge that Western merely denotes a relative place on the globe that contains and supports diverse rooted cultures that

have been and continue to resist Imperial and colonial domination.<sup>13</sup> The term leaves a lot to be desired and while I've continued to use it throughout this essay, I'm holding questions around its efficacy and looking for suitable replacements that offer more specific and nuanced definitions.

Over the course of this essay I will refer to the complex system created by Western Imperial Colonialism and Capitalism as the overculture, not because it is superior to other cultures but because of its dominating and homogenizing tendency to spread around the globe. Alternative worldviews are of course, everywhere, and speak to the cultural diversity that is beautifully etched across the globe. I refer to these cultures as Indigenous or as rooted cultures, because they are of their places and are therefore by necessity smaller in spatial scale and do not seek to replicate themselves across the world. A full history of the overculture and how we got here is beyond the scope of this thesis, yet some brief context is important.

#### Anthropocentrism

the belief that humans are more important than anything or anyone else

#### Overculture

the dominant culture in a society, whose mores, traditions and customs are those normally followed in public

#### Rooted culture

a cultural group whose sense of place is central to their way of being, ideas, beliefs, practices and who respect the natural world and maintain a sense of spiritual reverence and connectivity with all of Creation

## Kinship + Relationality

Who or what is considered kin is a question with huge implications. The overculture defines kin as those of the same blood family or race. Yet many of the world's 6000 or more human cultures have expanded notions of who they consider related and within their family networks, extending them across species divides and abiotic systems. The boundaries we draw around who is included or excluded in our kinship circle has drastic impacts on how we interact with and imagine the world and our place within it.

Expanded kinship notions necessitate a keen awareness of the aliveness of the world around us and our place of belonging within a vast web of life in which we are all dependent.<sup>14</sup> From a Nuuchah-nulth perspective, Richard Atleo speaks of family being applied across species boundaries, to all beings who have families. This includes salmon, deer, bear, and eagle and ultimately all the world is

made up of family relationships.<sup>15</sup> This extension of kinship to all life acknowledges our similarity with and dependence upon and across species divides. It allows us to live in a world where nature includes human culture as well as the familial cultures of our other-than-human\_kin.

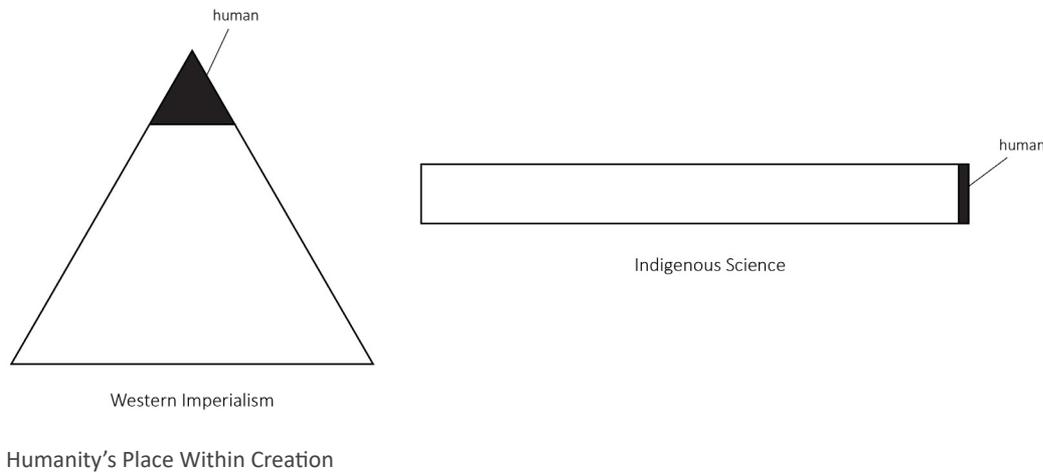
The fish-human relations in Paulatuug, Northwest Territories are embodiments of these truths of relationality forged into networks of reliance with kin over time. Fish are treated at once pragmatically but also with great respect. They are not separate from community but woven into all aspects of the lives of the people and afforded agency of their own. There is a dependence on kin for survival in the very real sense of the word but alongside this, and inseparable from it, is an acknowledgement and reverence for the fish as part of our circle of kin.<sup>16</sup> Seeing a fish merely as a source of food denies the pluralities that Todd describes as critical for the people in Paulatuug;

not only do fish ensure human survival as a plentiful food source, they do so because human-fish relationships represent a whole host of social, cultural, and legal-governance principles that underpin life in Paulatuug. Humans and fish, together, share complex and nuanced political and social landscapes that shape life in the community.<sup>17</sup>

Kin  
a group of persons descended from a common ancestor

Kinship  
the systems of relationships traditionally accepted in a culture and the right and obligations which they involve

### *Kinship Relations*



Embodying kinship as a worldview means that other-than-humans are relatives too; intrinsically valued and respected as members of an extended family that have multiple important ways they engage in the world, many of which do not directly involve humans.

Chris Cornelius, architect and citizen of the Oneida Nation, believes that if we begin to engage with the natural world as if it were full of familial relationships it will fundamentally change the way we are in the world as human beings. We would have no need for sustainability because everything we do would be from a place that honours the fact that we are related to all of Creation.<sup>18</sup> In order to truly elevate other-than-human-beings to kin we must discuss the concept of agency and how we, as a culture, define who has it and who doesn't.

Other-than-human  
the vast community of beings that exist who are not human. This includes animals, fish, birds as well as those deemed to be objects such as rocks

## Agency

Agency is defined within social science as the capacity of individuals to act independently and to make their own free choices. All societies assign agency, and this has significant implications. Agency within the overculture has largely been reserved solely for humans and at various times in history, not even extended to include all humans. This anthropocentric view elevates the human species above all others and separates us from the relational networks within which we are evolutionarily entwined. It relegates the rest of Creation to mere automatons that function on instinct alone. Thankfully, numerous theories and epistemologies within multiple dominant scientific disciplines have offered alternatives.

### *Actor-Network Theory*

One of the most widely known theories around agency within the field of anthropology and social sciences is Actor-Network Theory (ANT). Created by anthropologist and philosopher Bruno La-

tour, ANT is a theoretical framework that attempts to tie everything that exists into a web of relationships. These webs consist of both tangible and conceptual actors. They are themselves constantly being made and remade, as relationships are seen to be akin to performances. This theory seeks to de-centralize our anthropocentric assumptions by highlighting the ability of non-human agents to act and participate in the network i.e. by giving them agency. This has been and continues to be a controversial way of approaching the world.

Academically, there are those who are uncomfortable with the notion of attributing agency to non-human beings and thus debates over the definition and location of agency itself have become commonplace. Some will only accept that animals and 'things' have agency if we distinguish that from *intentionality* or *will* which are qualities reserved only for humans. Others go so far as to separate agency from consciousness itself and place it solely within the relations between two individuals.<sup>19</sup> Vanessa Watts, Mohawk/Anishinaabe and professor of Sociology, offers a critique of these debates: "we can see how Euro-Western thought is beginning to embrace the contributions of the non-human world; however, the controversial element of agency is often redesigned when applied to non-humans, thereby keeping this epistemological-ontological divide intact."<sup>20</sup> Even though ANT emphasizes a plane of action that is equalized amongst all elements, agency itself is redefined so that one maintains some 'special' attribute that only humans possess. This framing allows us to con-

Actor-Network Theory  
a theoretical and methodological approach to social theory that treats everything in the social and natural worlds as a continuously generated effect of the webs of relations

tinue to relate to other-than-human kin as 'its' and maintain some sense of superiority.

*Homo sapiens*

What then does it mean to be human? Overculture science has sought to find a criterion with which we can forever elevate ourselves above the animal world. This obsession with *specialness* has led to the redefinition of concepts such as agency and points to our discomfort in considering ourselves as just another animal on planet earth. Whether it is through language, an ability to use tools, the ability to recognize one's self in a mirror etc we have continued to come up with new ways of separating ourselves from mere beasts. But there are also scientists who show again and again that these special human qualities are in fact shared with many other animals, whether it be that Raven uses tools, or Orca has a sophisticated language system, we continue to be confronted by the humanness of our animal kin.<sup>21</sup>

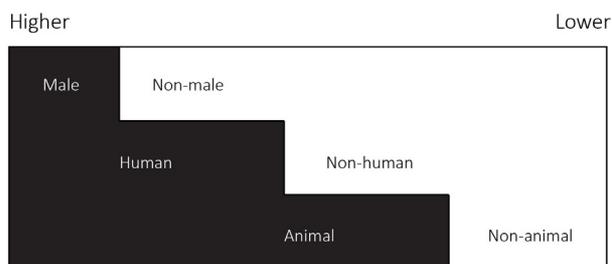
Creation stories around the world speak of a time when humans first arrived on earth after it had already been created. Some interpretations of

the Abrahamic religions see this late arrival as evidence for the fact that it was created *for us* and therefore, we have dominion and right over it. Another possibility that Watts writes about from her cultural perspective, is that we humans arrived 'in a state of dependence on an already-functioning society with particular values, ethics, etc.'<sup>22</sup> She goes on to say that it was only through the help and the agreements we made with our non-human kin that we were able to survive on earth.

The relationship between fish and humans in the northern community of Paulatuq is one in which their agency and autonomy is recognized. A fish can discern whether a fisherperson is being respectful and can decide for itself if it will allow itself to be caught. "To be a successful fisherman in Paulatuq, one must understand the behaviour and agency of fish, and must be cognizant of their ability to "know" when someone acts with or without respect."<sup>23</sup>

*The Agency of Fish*

The diversity of beings that inhabit the world have their own abilities to make decisions, agreements, and collaborative efforts in ways that are unique to who they are. They are each different in ways that reflect the 'is-ness' of the species as well as the individual. These agreements can be made with other non-humans of course but also with human beings. We are directly influenced and impacted by these other-than-human kin, whom Watts refers to as 'societies.' Habitats and ecosystems, from and Indigenous perspective are societies that have ethical structures, inter-species trea-



The Hierarchy of Animacy  
adapted from Schapper 2010

ties and agreements and can interpret, understand and implement on their own accord. These societies directly influence how we as humans interact with and organize ourselves within that society.<sup>24</sup> Watts attributes agency itself to the spirit and intentionality to the land:

...if we think of agency as being tied to spirit, and spirit exists in all things, then all things possess agency...Our ability to have sophisticated governance systems is directly related to not only the animals' ability to communicate with us, but their *willingness* to communicate with us... Spirit is contained within all elements of nature and therefore, we, as humans, know our actions are intrinsically and inseparably tied to land's intentionality – quite a counter position from notions of diluted formulations of agency.<sup>25</sup>

The concept of agency is important to consider as we begin to think about how we can decentralize notions of human superiority and begin to respect the world in which we live. The human-made division that sets us apart from the animal world is thinning and rightfully so, it seems we are being called to recognize the vast similarities and connections we share with our non-human kin.



## Animism

To be animate is to possess or be characterized by life. Yet animism is something more: it recognizes the inherent life within beings in the natural world and the phenomena of nature. Western science sorts *things* as either ‘alive’ or ‘dead’ and so has divided the natural world into stark categories that deny most of the living world its life force. Beyond just agency’s notion of free will, to be animate is not only to possess life but also consciousness and soul. Animism is thought to be the oldest and most widespread belief-system, central to many Indigenous cosmologies worldwide. It posits that all the material world has agency and is without stark distinctions between spiritual and physical reality. It attributes spirit or sentience to animals, plants, rocks, and landscape features like mountains and rivers.<sup>26</sup>Handcock

*Nature-culture  
Nexus*

I assert that our very survival depends on us acknowledging and living from what Ingold

terms as dwelling within the world, the notion that we are both products of and producers in the world in which we live.<sup>27</sup> The modern mind, argues Sheridan and Longboat, is the product of a culture long gutted of its mythological ethos that connects the human mind and spirit to landscape.<sup>28</sup> Wildcat describes these connections as the nature-culture nexus: “... a symbiotic relationship that recognizes the fundamental connectedness and relatedness of human communities and societies to the natural environment and the other-than-human relatives they interact with daily.” This is not a New Age notion or a romantic ideal, it is, according to Wildcat, “existential fact – the closest thing we can call objective fact.”<sup>29</sup> This symbiotic relationship is entwined in myriad rooted cultures around the world.

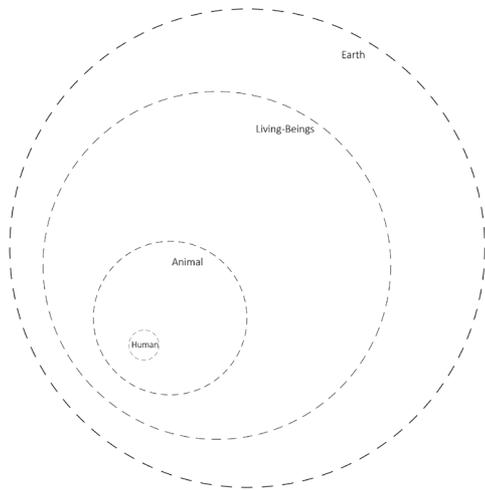
Seeing the land as alive and sentient was once commonplace and is embedded in the cosmological roots of the overculture, such as from notions mentioned earlier like *chora* and *genius loci*. There are incredibly diverse ways of imagining the world, that grants life and agency to what is now so often seen as lifeless and inert. Examples abound around the globe and are as diverse as the landscapes they inhabit. To the Barasana of the Amazon, the landscape is alive and humans are part of this web of aliveness:

*Land as  
Alive*

Human beings, plants, and animals share the same cosmic origins, and in a profound sense are seen as essentially identical, responsive to the same principles, obligated by the same

Animate  
endowed with life, living, alive

Animism  
the belief that all natural beings and things such as plants, animals, rocks and thunder are alive, have a soul, and move with intent



The Nature - Culture Nexus

duties, responsible for the collective well-being of creation. There is no separation between nature and culture...Thus the norms that drive social behavior also define the manner in which human beings interact with the wild, the plants and animals, the multiple phenomena of the natural world, lighting and thunder, the sun and the moon, the scent of a blossom, the sour odour of death. Everything is related, everything is connected, a single integrated whole. Mythology infuses land and life with meaning, encoding expectations and behaviours essential to survival in the forest, anchoring each community, every maloca, to a profound spirit of place.<sup>30</sup>

Joe Sheridan and Dan Longboat, write about Haudenosaunee cosmology as ‘a planet where everything is alive and sentient.’<sup>31</sup> They assert that in an animate world, we are in a life-long conversation in which we belong not to ourselves but to all of Creation. Reciprocity becomes a responsibility and ‘relationships to landscape and culture become ongoing, self-supporting processes.’<sup>32</sup>

Western scientific disciplines have begun to recognize the aliveness and spirit within creation. Deep ecologists believe in the intrinsic value of all living beings regardless of how useful they are to humans. It attempts to separate itself from what is deemed to be anthropocentric environmentalism that focuses on conservation of lands that have some value to humans. This branch of ecology values holistic and non-reductive approaches to the earth in which it is seen to function as a whole and humans as just one part. There has been a critique of some deep ecologists who have demonized humanity and branded us all parasites that would do the earth and all of life a favor by dying out. This of course, is an oversimplification of the issue and fails to recognize the myriad instances in which rooted cultures have thrived materially, culturally, spiritually and ecologically by living well in place. Humans are capable of being life-enhancers who, like the beaver, build structures that provide habitat and strengthen ecosystems in ways that benefit many species.

*Deep Ecology*

## Place-Thought + Dwelling

### *Dwelling*

Anthropologist Tim Ingold's term *dwelling* embeds humans within a network of relations that reframes our actions as being of the world and thus inseparable from its continual unfolding:

The world itself takes on the character of an organism, and the movements of animals- including those of us human beings- are parts or aspects of its life-process. This means that in dwelling in the world, we do not act upon it, or do things to it; rather we move along with it. Our actions do not transform the world, they are part and parcel of the world's transforming itself.<sup>33</sup>

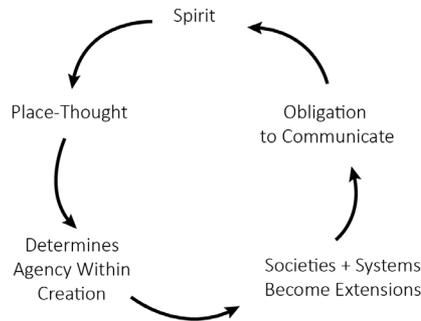
Landscape is a social construction in part because the social-cultural dimensions of our lives cannot be separated from the place in which they occur. The overculture so often fails to acknowl-

edge the agency in which nature and land operate. Place is not a *tabula rasa* that people simply project myths and memory onto, but it is a living ecosystem of entities, able to co-create place-worlds along-side human and other-than-human kin.<sup>34</sup> Human culture is not a tool to control, mediate and reengineer nature to fit our limited human notions of what life on earth should be but rather as one of many possible expressions of how humans 'integrate their lives into the landscapes and ecosystems of the Earth's biosphere.'<sup>35</sup>

Watts takes the notion of animacy even further by suggesting that places themselves are intimately linked to the very thoughts that we think and therefore are co-creators in what we believe to be our autonomy and agency as human beings. "Place-Thought is the non-distinctive space where place and thought were never separated because they never could or can be separated. Place-Thought is based upon the premise that land is alive and thinking and that humans and non-humans derive agency through the extensions of these thoughts."<sup>36</sup> Through place-thought the boundaries between nature and culture cannot be maintained and the objective perspective of a scientist becomes impossible. If the very places we dwell influence and impact our thoughts and minds, then Cartesian dualism which asserts that mind and thought are separate from the body and the environment, becomes a fallacy. Human culture becomes a direct extension of the place in which it forms, and the agency of the human mind comes into question.

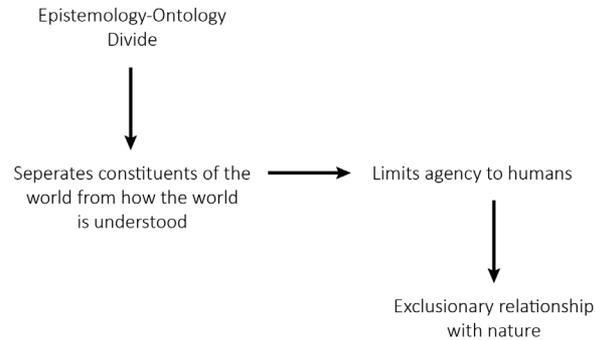
### *Place-Thought*

Literal  
Animate  
Theory + Praxis Interwoven



Epistemological + Ontological Comparison  
from Watts 2013

Abstract  
Divisive  
Epistemological/Theoretical vs. Ontological/Praxis



*Technologies of Entanglement*

The ability to communicate with place is a foreign concept to many people within the overculture. The very technologies that rooted cultures have developed over time have been devalued and dismissed by the overculture as superstitious, primitive, and unscientific. Richard Atleo, Nuu-chah-nulth hereditary chief, speaks about the vision quest (one of these technologies) as a time when one is in a four-day ceremony and where nature and her creatures speak directly to you. This type of communication, says Atleo, is usual and is in fact empirically verified through paying attention to signs and events that unfold to corroborate the communications that took place. This extends not only to one's living relatives, but into the deep past through a long line of ancestral knowledge holders. In this way, speaking to the other-than-human world isn't just verified, it is normalized and valued as an im-

portant and reliable way of uncovering truths about the world.<sup>37</sup> With such a singular focus on a narrow way of knowing, the overculture misses the multiple dimensions and truths about what it means to be human and dwelling in the world.

Indigenous cultures around the world have complex mythologies and stories that speak to the agency and spirit of place and the sacred connections between all life. The tendency within the overculture is to categorize these as mere metaphor and symbology, which essentially dismisses them as fable and maintains the superiority of the overculture as sole truth holder. Their literal interpretation is critical to social justice, self-determination, and the dismantling of destructive and hegemonic worldviews.<sup>38</sup>

Colonization has disrupted the agency and ability of Indigenous peoples to communicate with their homelands and to honour the critical responsibilities they have upheld since time immemorial. As extensions of the land, Watts asserts that they have an obligation to maintain communications. Direct human to non-human reciprocal networks are damaged or lost in their entirety when communication fails and thus they lose who they are as a people,<sup>39</sup> and I would argue, the place itself and the non-human kin also suffer huge loss.



### *Grounded Normativity*

The implications of living within a world full of relatives are stark. How we treat animals and plants within the overculture would have to drastically change. Within Anishinaabe ontology, all beings are considered part of a social order that is interacted with through moral frameworks that treat humans and non-humans alike. "... elders acknowledged that power may be differentially distributed among beings. They pointed out that this does not create an ethical hierarchy that privileges one set of beings, e.g., humans, over another. None can be denied the right to exist or to be treated casually."<sup>40</sup> Indeed, one is held accountable for one's actions as elders experience their boreal home not just as landscape but also a social space where lapses in behavior will have negative consequences.

It is no wonder that so many rooted cultures have developed intricate and sophisticated protocols and traditions that help to ensure re-

spectful and reciprocal relationship is maintained between kin. Sharing is deemed a natural law that helps all of creation co-exist and requires effort towards mutual understanding, recognition, consent and respect.<sup>41</sup> Glen Coulthard's term *grounded normativity* describes these as 'land-connected practices' that are rooted in deep spatial experience with place and are the backbone for moral engagement with the living world and our kin.<sup>42</sup>

The Kwakwaka'wakw, a First Nation whose traditional territory is located on the northern end of Vancouver Island and adjacent mainland, have a specific word *qwaqwala'owkw*, which translates as 'keeping it living'. The term describes "... purposive behaviours in multiple arenas in order to achieve the biological, social and spiritual conditions required for enduring, respectful and mutualistic relationships between human communities and particular biota or landscapes."<sup>43</sup> Clam gardens, deliberately constructed intertidal rock-walled terraces, are monumental landscape features that can stretch for kilometers along the coast. Their specific design in the landscape serves to enhance and multiply ideal habitat for edible clam species. Protocols for maintenance, land tenure and harvest were followed to the benefit of both human and clam. Productivity of these human-made gardens are 150-300 percent higher than naturally occurring clam beds and lose vigour and begin to decline when humans are not maintaining and harvesting from them over time. The continued health of the relationship between human and clam is dependent upon these protocols of *qwaqwala'owkw* specific to clams and

*Kwakwaka'  
wakw  
Clam  
Gardens*

people being respected and enacted through time, each gaining benefit and mutual prosperity from relationship with the other.<sup>44</sup>

Our Cartesian inheritance of seeing the world as objects and groups of objects acting and reacting together, conveniently removes us from needing to even consider the ethical and moral implications of our impact on place and other-than-human kin. The colonial imposition of a destructive overculture has damaged ancestral connections and made it difficult, if not impossible, for Indigenous people to maintain sovereignty over their lands, preventing them from maintaining aspects of these ancestral obligations to place.

Ecological diversity is interwoven with human cultural diversity, as the sacred knowledge held by the 6000 human cultures around the world, is embedded in their own unique *place-thought*. Being in right relationship with place and becoming familiar with its personality and rhythms is central to learning to dwell within our places and live sustainably. Knowledge of these right relationships and rhythms, says Wildcat, is known best by the people who have lived well in these places since time immemorial.<sup>45</sup>

## On Stolen Land

*Terra  
Nullius*

Frantz Fanon, an Algerian psychologist and well-known writer on decolonization spoke of the mind as ‘the most potent weapon in the hands of the oppressor.’ Forms of internalized colonialism have embedded themselves into what has become normalized in the overculture and within our own psyches. Working towards uprooting these internalizations helps us ensure we are not perpetuating colonialism. This is a challenging and ultimately never-ending process, and, I would argue, it is the task of our times. While much can be said about the individual’s process to decolonize, it also must include, “epistemological decolonization; that is, decolonizing the ways that disciplines operate and the ways in which these disciplines condition how practitioners think.”<sup>46</sup>

We must acknowledge that the discipline of design has been a pivotal player in the advance-

ment of colonization and the subjugation of both Indigenous people and their homelands. And it continues to do so today; landscape architecture is no exception. Its history is deeply rooted within colonial Euro-centric Imperial values, ideologies and epistemologies that have been, and continue to be, exported across the world. Landscape architect, Julian Raxworthy, conducted a survey of landscape architectural history books and found it evident that they emphasized projects with architectural elements that endured through time. The agency of other-than-human kin are ignored, focusing more on form than process, and thereby rendering invisible the many processes critical to landscape practices. This bias was evident in the past as well with the convenient inability and outright refusal of colonial-settler nations to recognize Indigenous landscape-based practices. This fed the myth of terra nullius that legitimized the theft of lands around the globe.<sup>47</sup> Many of the practices that are widely used in landscape management and design today have their origins within Indigenous technologies, a history that remains largely unacknowledged.<sup>48</sup>

Indigenous contemporaries know the separation of modern from traditional all too well as they are often spoken of as if they were from a stagnant culture from the past. The conceptualization of time is deployed, in this instance, as a colonial strategy in what anthropologist Johanne Fabian coined the ‘*denial of coeval*.’ Coeval is when one views one’s contemporaries as having

*Denial of  
Coeval*

### Terra Nullius

a Latin term meaning nobody’s land or empty land. Used in international law to justify illegal acquisition of land

### Coeval

of the same generation or age

the same freedoms to evolve, adapt and change over time as one would attribute to oneself. The denial of coeval occurs when we use language to place contemporary Indigenous people in the past while referring to ourselves in the present.<sup>49</sup> We see this in statements that deny the use of modern technology during traditional practices of harvesting animals. Or in the more subtle use of past tense language when referring to cultures and people who are still very much alive today. The overculture is unable to conceive of the ability of an Indigenous culture being modern and innovative, these are words used only to describe the project of progress and modernity itself.

*Relegated  
to the Past*

The *denial of coeval* is alive and present within landscape architecture. If Indigenous practices are acknowledged at all, they are framed as a method from the past, a prehistory at the very beginning of the timeline of landscape architectural history.<sup>50</sup> It often fails to recognize contemporary Indigenous peoples as present and their cultures as vibrant and ongoing. This further emphasizes the division between nature/culture and traditional/modern.

When we do speak of Indigenous practices it is often to speak about their subtle and indirect landscape design practices that, as Raxworthy terms it, “indirectly fosters conditions rather than creating forms.” Indirect interventions are characterized as relatively small or requiring little effort. This renders Indigenous people as ‘accidental’ de-

signers that saw a simple cause and effect relationship and iterated it over time. It ignores the myriad examples around the world of rooted cultures deliberately creating monumental forms over vast spatial and temporal scales. As mentioned above, on the Pacific coast of North America kilometers of clam garden terraces and shell midden accumulations are used to create ecological niches, coastal spit formations, housing terraces, and burial mounds.<sup>51</sup> Analogous, equally sophisticated examples of design from other indigenous cultures can be found around the globe.

While observation of place and iterative learning certainly occurred, it’s not the only means by which these landscape practices were developed. If there is no divide between nature and culture, and communication is possible between a people and the living world, then couldn’t those communications contain practices that would benefit them and the landscape as a whole? Further, if as Watts suggests, *place* is itself also *thought*, then the very landscape itself is able to reach out and influence a human to engage in practices to its benefit and to the benefit of the non-humans as well. Could not the whale then communicate with the Nuu-chan-nulth whaler? Or the clam to the Kwakwaka’wakw clam harvester?

Laura Forlano, professor of design, cautions our engagement as designers with projects that center non-humans on the grounds that this can decenter what is arguably more important,

*Human vs  
Non-human*

the inclusion of communities of people of color, LGBTQ2S, migrants and Indigenous peoples within design.<sup>52</sup> While I would certainly agree that it is imperative for design to be more inclusive of the human diversity within our communities, this does not negate the importance of considering non-human societies. In fact, once again it seems this argument strengthens the nature/culture divide, assuming that the inclusion of diverse non-human communities would necessitate a poorer design for marginalized human communities. If we are serious about working towards creating a just and regenerative future we can no longer afford to separate these responsibilities. The survival of Indigenous cultures is directly linked to the survival of non-human kin and I would argue the survival of all of humanity depends bridging the separation between human and nature and respecting the natural world as an animate system.



## Conclusion

I believe we have a responsibility to begin to see land, as Coulthard suggests, as a system of reciprocal relations and obligations, and to honour the knowledge and science of the land's original inhabitants. Indigenous scholars like Wildcat, Todd, Atleo and Watts are working to have their technologies and ways of knowing recognized not as metaphor or myth, but as literal ways of knowing and being in the world. If that is to happen, we can't just apply this piecemeal to whatever aspects of specific Indigenous ontologies suit the narrow frame of our overculture. The use of Indigenous Knowledge is too often divorced from its cultural-spiritual, and in many cases, ecological context in service to maintaining Imperial systems of power.

As a profession dealing directly with the design of place and the social constructs and stories about what constitutes nature, we as landscape architects have a responsibility to the landscapes

where we work and to the people who are their original human kin. We need to ask ourselves:

- How can the work we do as landscape architects and citizens of an animate world, contribute to the deconstruction of colonial knowledge systems?
- How can we help reinstate agency and self-determination for the rooted cultures who have responsibilities to place?
- How can designs serve to embed people in the uniqueness of a place and its biorhythms?
- How can we consider *place-thought* in design?

- How can we acknowledge and respect the ways in which place is alive and thinking and calling us towards honouring the systems of reciprocal relations we are embedded within?

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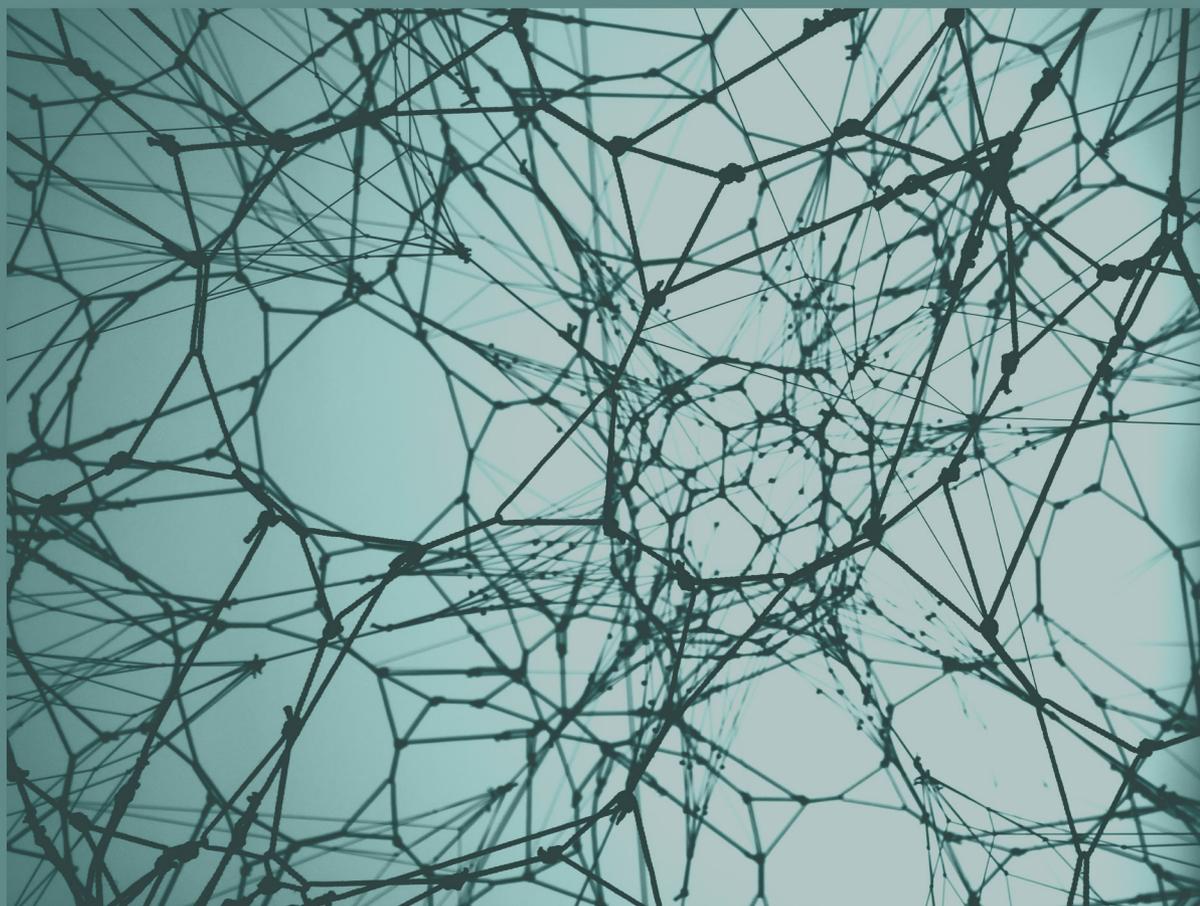
PART TWO

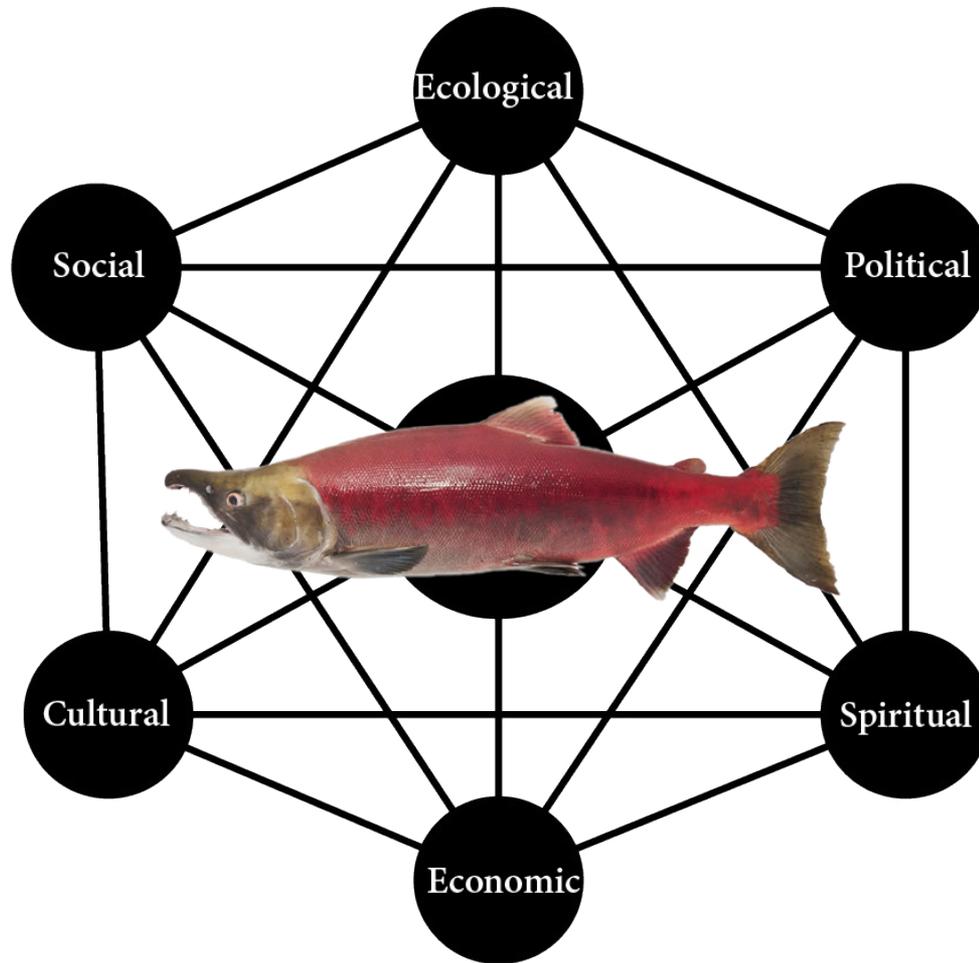




# Entangled

Enhancing Salmon Kinship Networks





#### Entanglements

→ On the Pacific coast, Salmon are at the center of a complex, interconnected web of entanglements

The objectives I set out for my proposal were to:

- design a collaborative, interspecies process that decentralizes Human superiority
- design a process that strengthens Salmon kinship networks
- re-connect Humans with an ethic of care for place and kin

The ultimate aim is to evoke in Humans...

- connection
- empathy + understanding
- respect + awe

... for our non-human Kin

In exploring points of entry for this complex task, it became clear that Pacific Salmon uniquely embody webs of connection. *Entangled* explores ways of disrupting often unquestioned Human superiority by designing for interspecies co-authorship that fosters respect for and connection to our non-human kin through the relational networks of Pacific Salmon.

# Salmon Home Range

Land Range    Temperate Rainforest

Ocean Migrations  
 British Columbia    US Mainland    Alaska    Asia



CHINOOK - KING



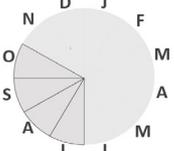
CHUM - DOG



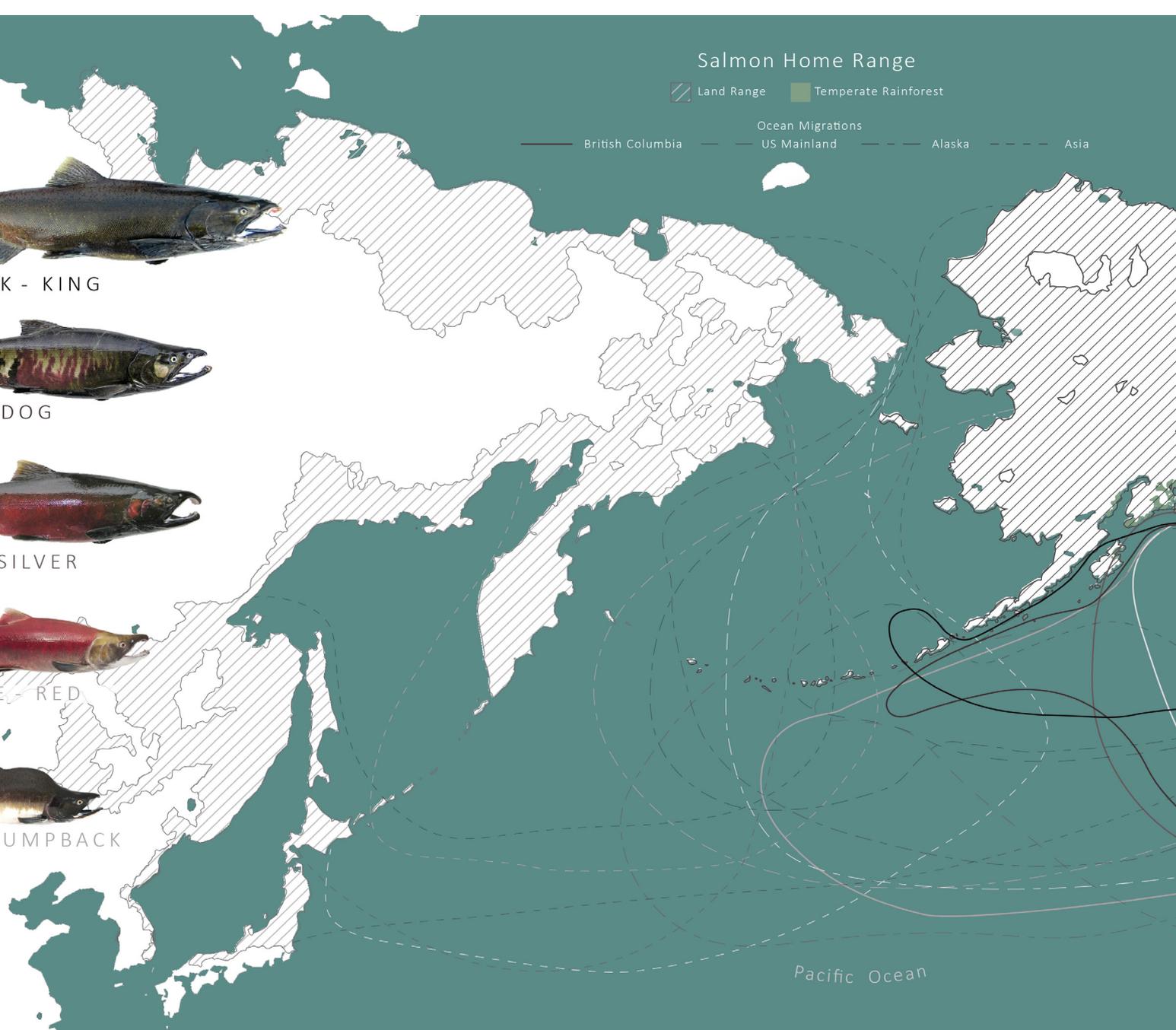
COHO - SILVER



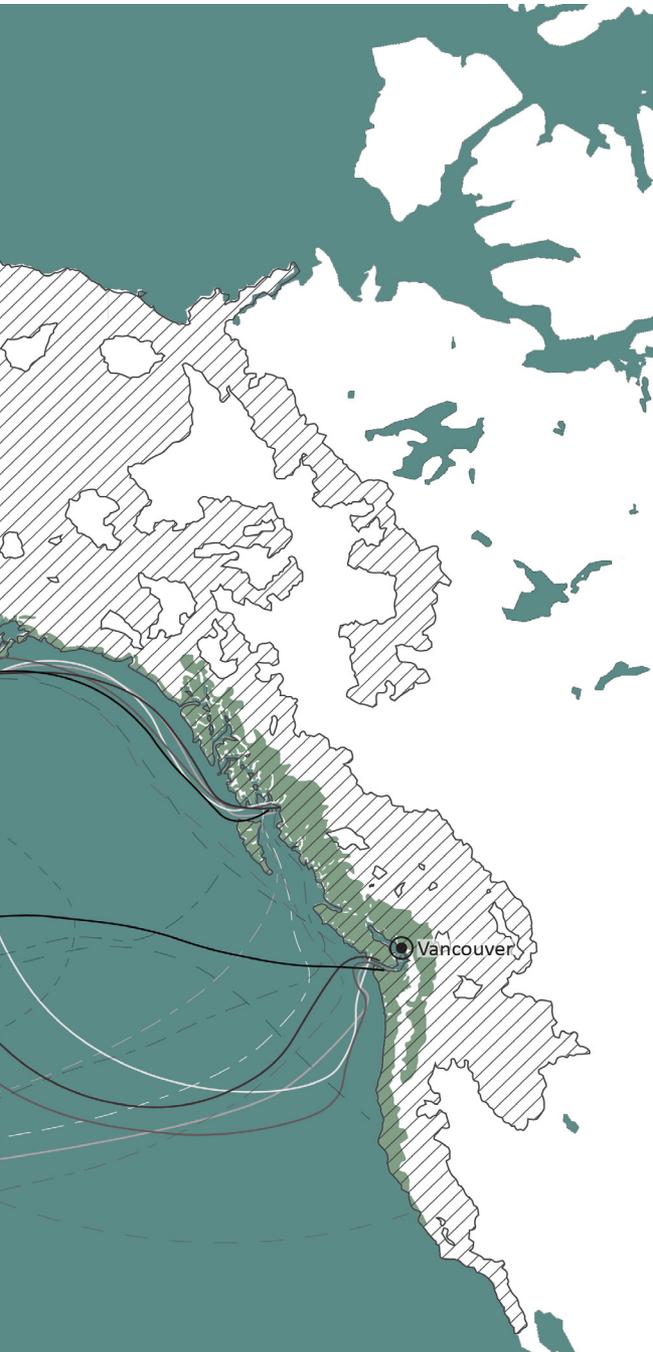
SOCKEYE - RED



PINK - HUMPBACK



Pacific Ocean



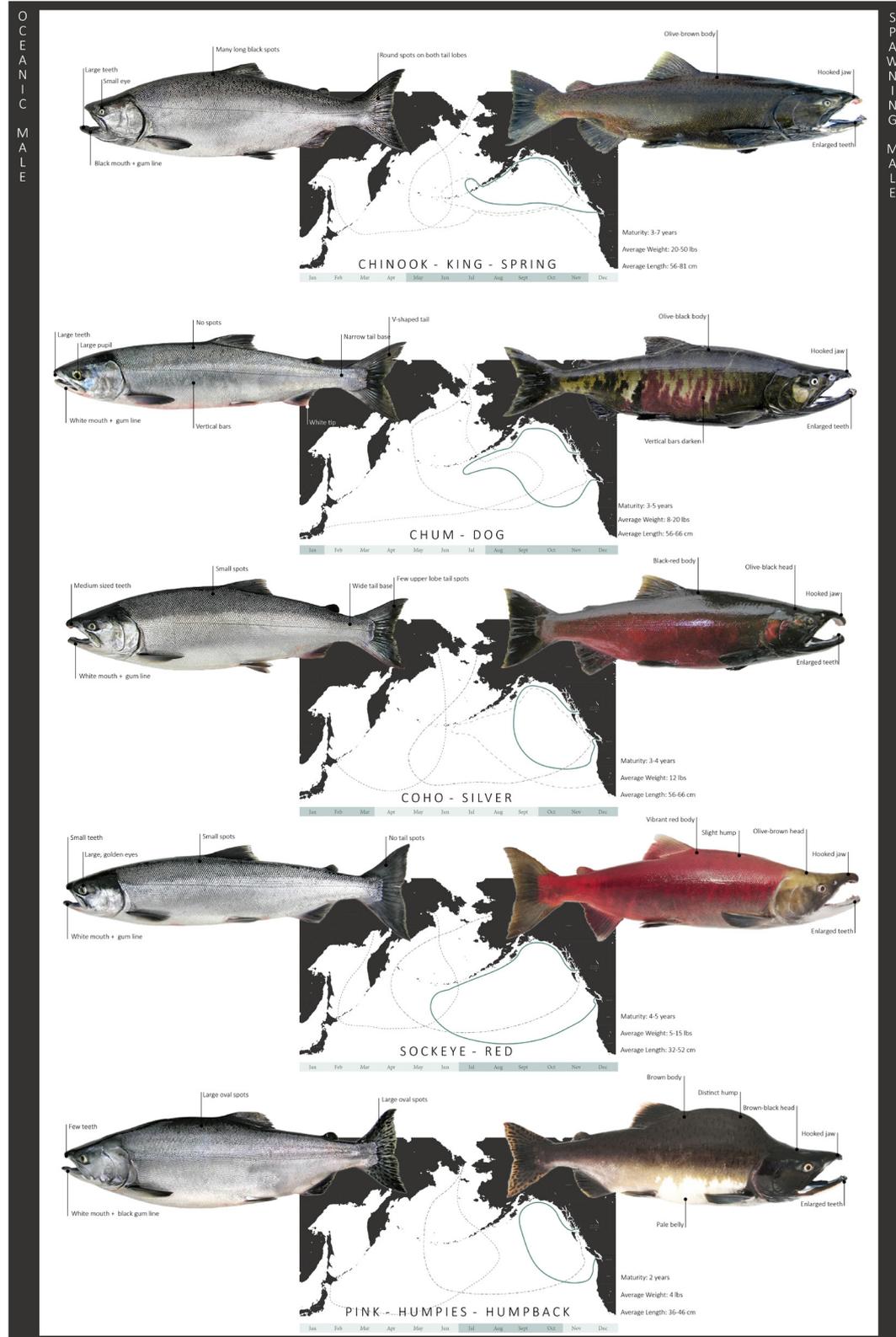
## Who are Salmon?

In the North Pacific, we share our watersheds with 5 main species of Salmon that also inhabit the coastlines of Russia and Asia. They go by many names. They are commonly referred to as Chinook; Chum; Coho; Sockeye and Pink. They share a general life cycle, but each species varies in behaviour, time and location of spawning, migration patterns, size, and diet.

The focus of this project is on the western coast of North America and the Eastern Pacific Ocean. With over 80,000 kilometers of coastline, the unique land and seascapes of this coast have evolved in large part thanks to the abundance of Salmon over millennia.

### Salmon Home Range

← Range map + photograph of male spawning phase for each of the five species of Pacific Salmon. Spawning times calendars are estimates for the Fraser River.



### Who's Who?

→ Key identification features + seasonal spawning routes + times (estimates for Fraser River)

Mechanoreception



Hearing



Touch + pressure

Chemoreception



Smell



Taste



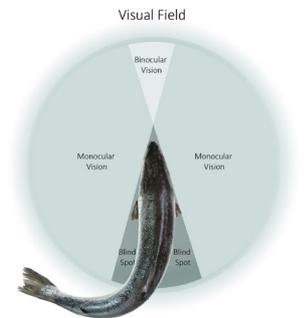
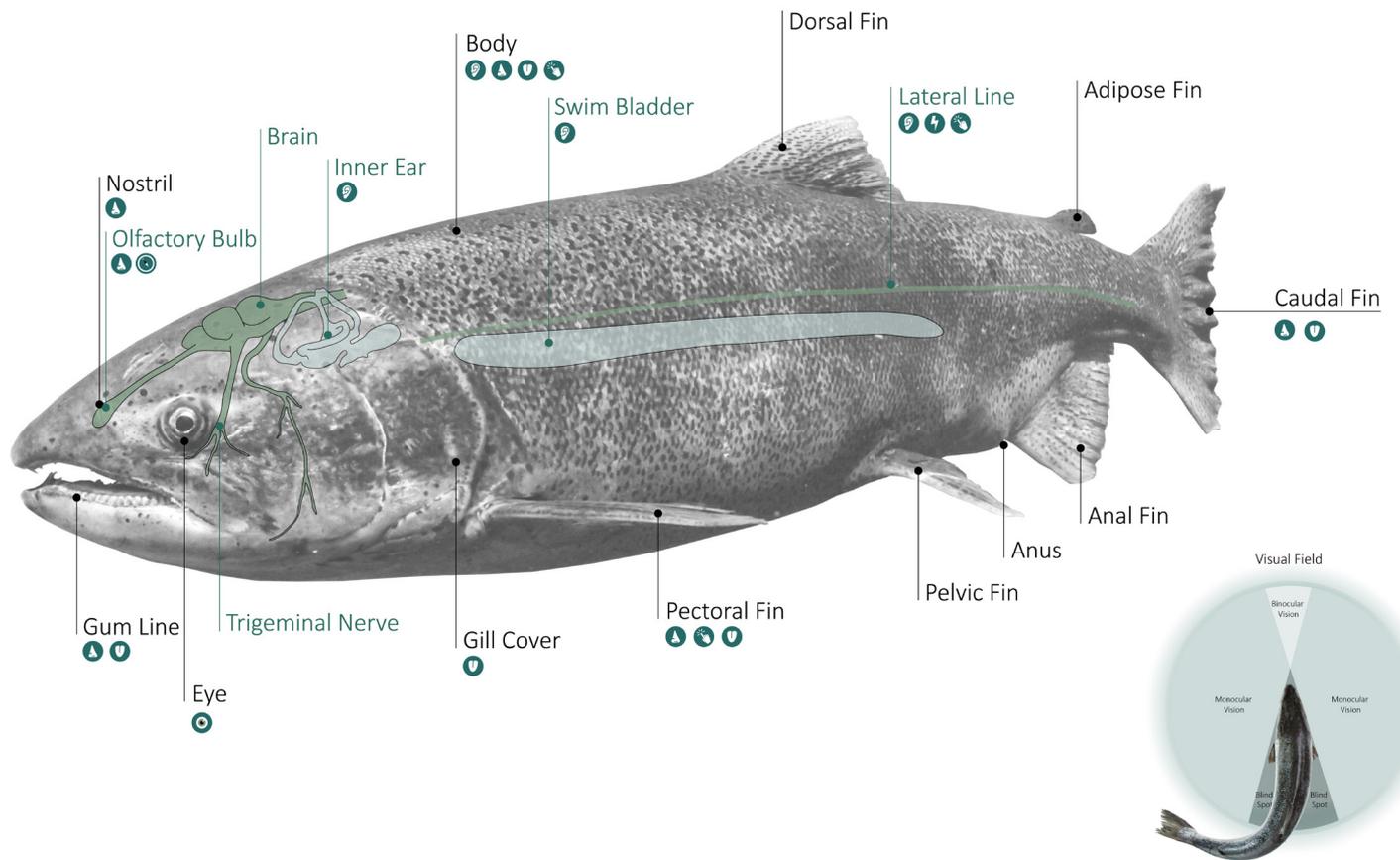
Electroreception



Magnetoreception

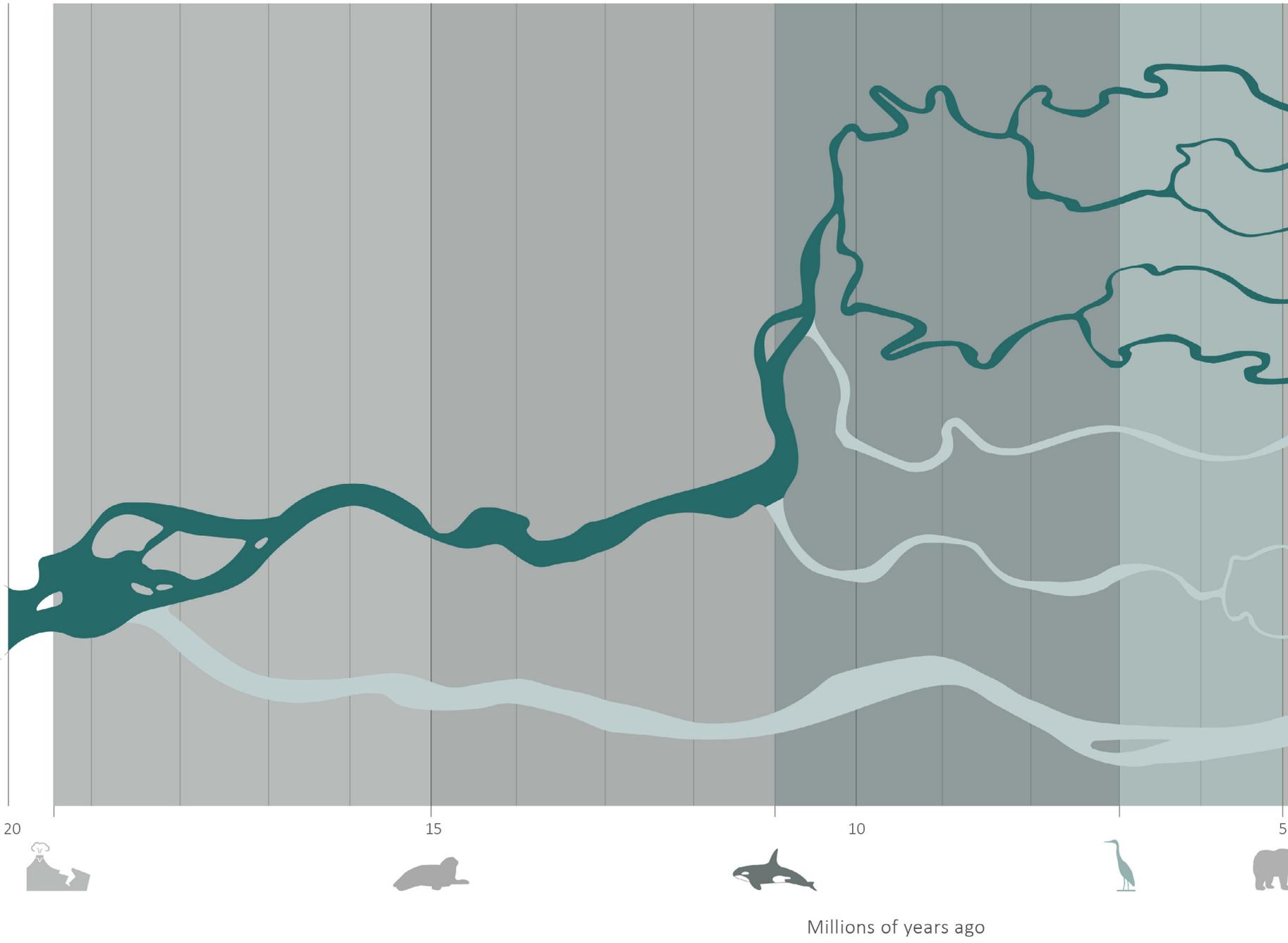


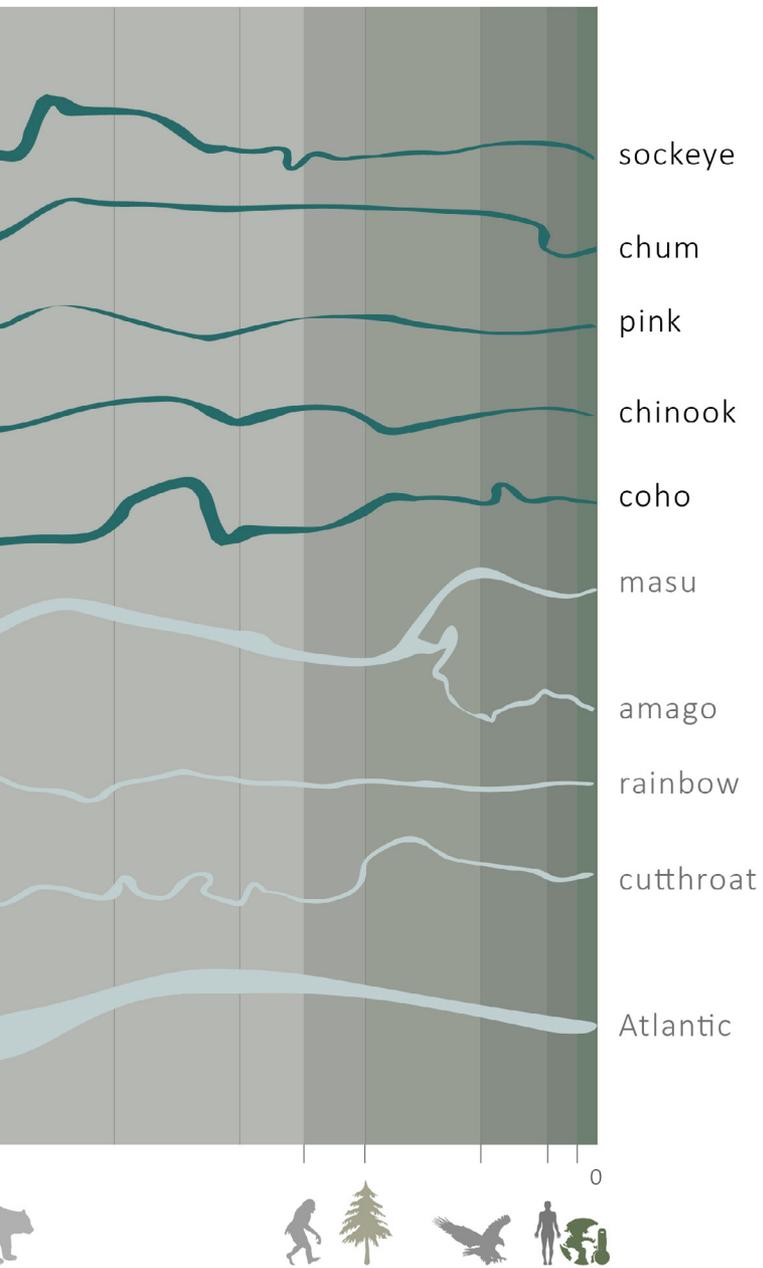
Vision



### Salmon Anatomy and Perception

↑ Salmons unique perceptual abilities allows them to navigate their home waters with expertise





## Before Time...

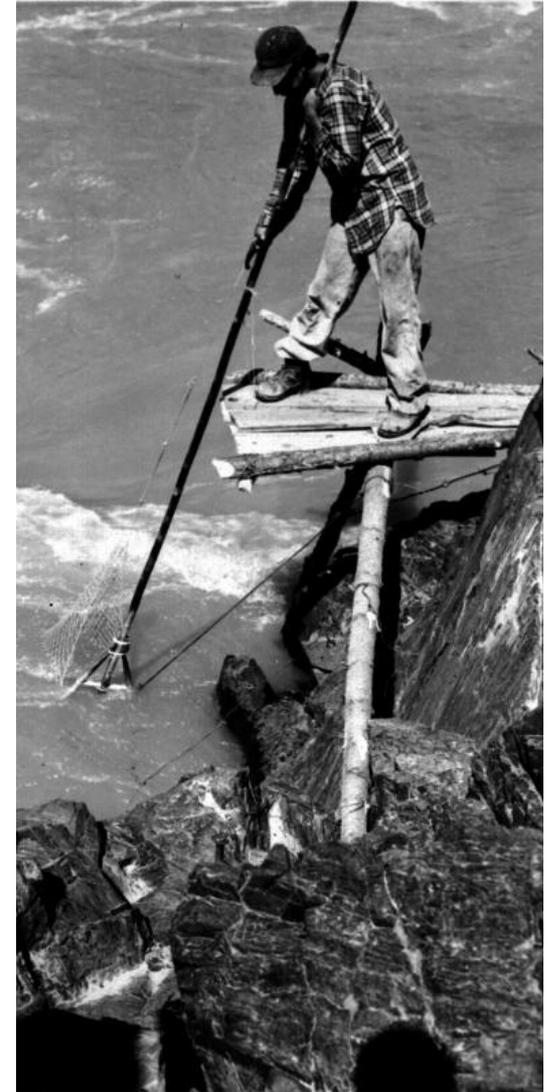
Before there was temperate rainforest here, there were Salmon. Before the mountains were as they stand today, there were Salmon. Before there was Bear, or any of our earliest Human ancestors, there were Salmon. The evolution of Human, forest and Bear on the Pacific Coast have always been entangled with and dependent on Salmon. They've survived glaciation, atmospheric shifts, volcanoes, earthquakes, floods, and fluctuating ocean chemistry to name just a few.

### Before Time ...

← Phylogenetic tree of salmonid species with approximate age of modern ancestors for key kin species

This is reflected in the histories of many of the Indigenous Nations who have lived here for millennia. The gift of Salmon's body is one that is given freely to feed the people and has been just as central to Human evolution as it has been for Bear or Cedar. For at least the last 7,000 years [and probably for far longer] Humans on this coast have relied upon Salmon intensively, creating agreements and protocols to ensure reciprocity, respect and care is taken in their harvest. This connection has been and continues to be disrupted by systems of settler-colonial power. Where settlers saw a mere species to be classified and exploited, Indigenous cultures along the coast saw a relative giving the gift of their flesh to sustain them (and their many other kin).

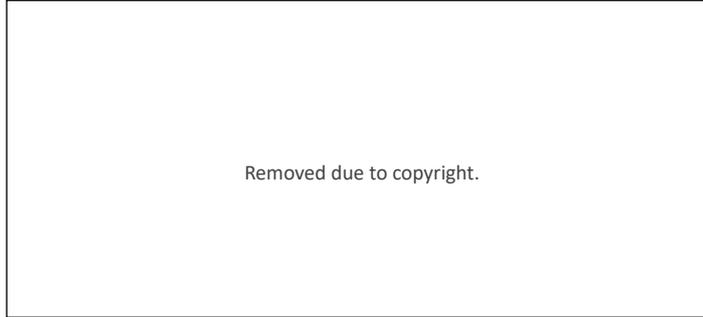
After millions of years of thriving despite many challenges, Salmon numbers have been reduced by up to 90% in just a few short centuries. The full breadth and depth of this is complex and beyond the scope of this thesis but is none the less critical to acknowledge.



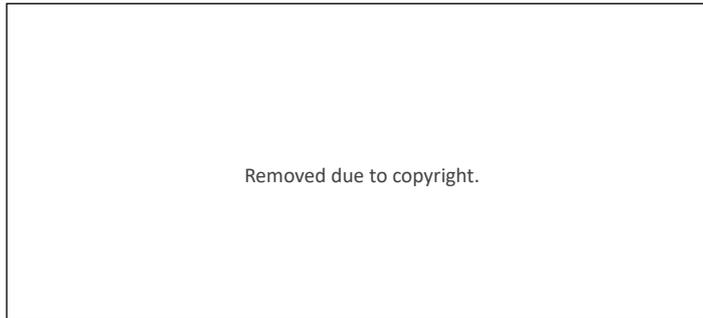
Dip-net fishing



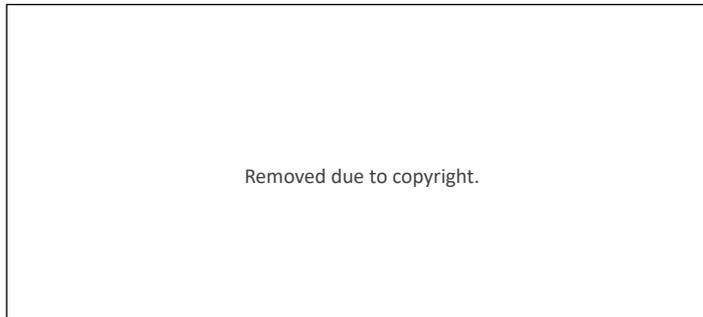
Fence weir



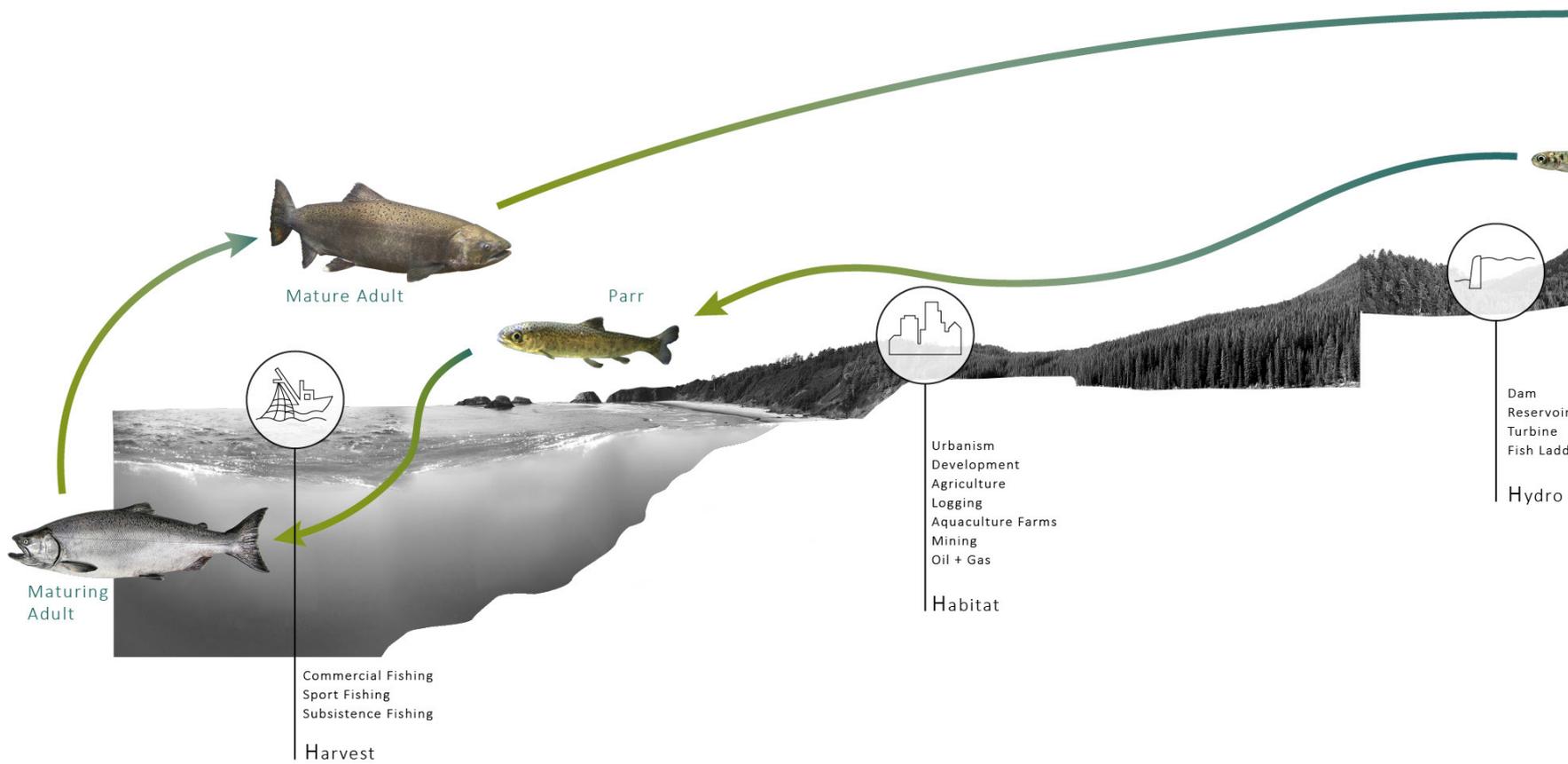
Salmon ceremony- Swinomish



Stone traps- Squamish



Gill netting- Lheidli T'enneh

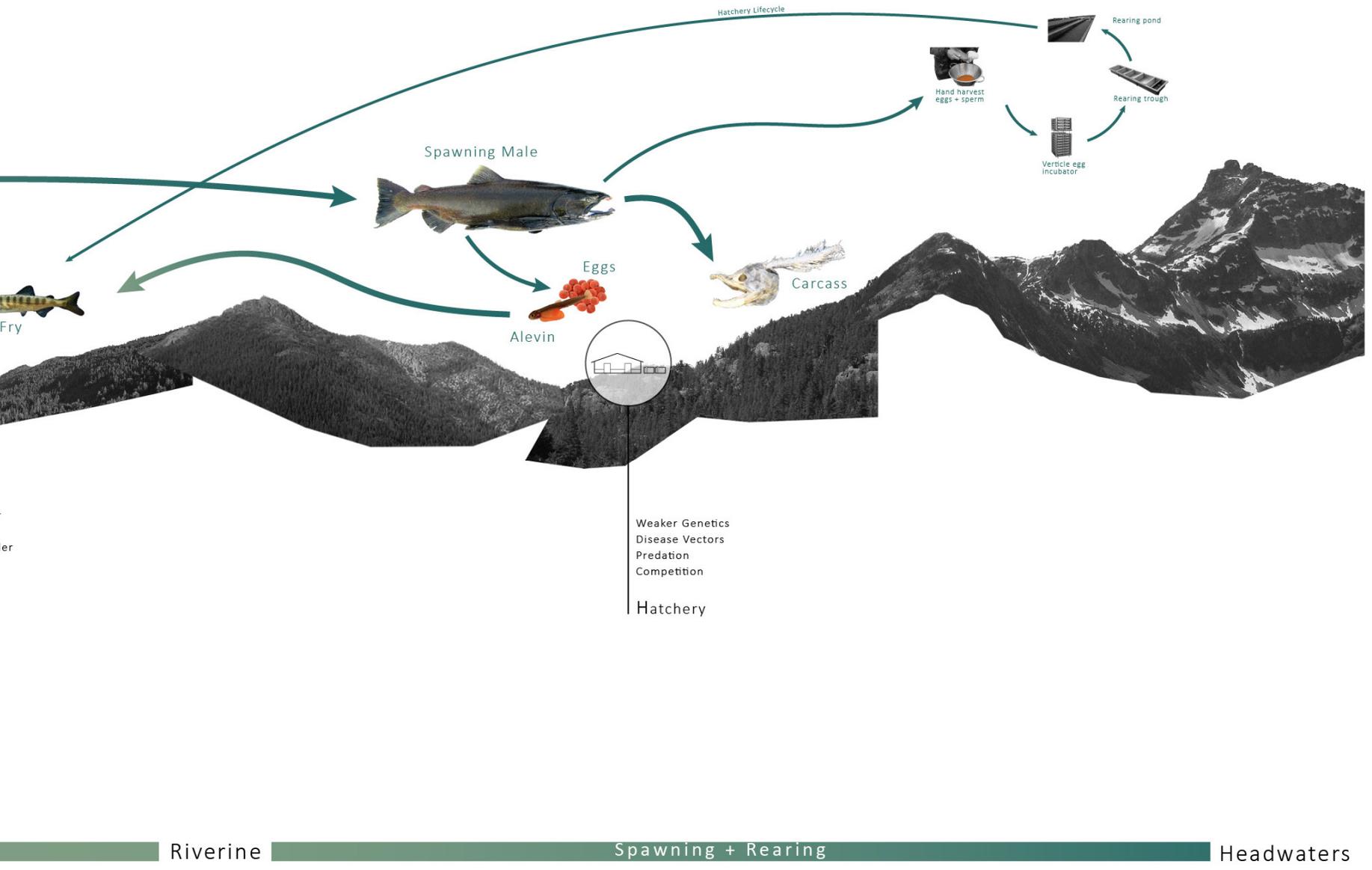


Oceanic

Maturing

Estuarine

Rearing + Smolting



All Salmon begin their life as an egg that is deposited in the gravel bottom of a stream by a mother they will never meet and who won't live much past the laying of her eggs. Once hatched, they become alevin who stay within the confines of their gravel home and live off the remainder of the yolk sack. Once the yolk sac has been consumed, they venture out into the river as fry and need to defend and feed themselves. Some species (like Pinks) head straight to the ocean at this young stage while others (like Sockeye) spend a year or more in freshwater. At the mouth of their home rivers, estuaries and tidal habitats play an important role in the mixing of brackish and freshwater, allowing them to gradually undergo physical changes as they adapt to life in saltwater. Depending on their species, they spend one to four years in the ocean growing to full size and travelling thousands of kilometers, before migrating back to their home streams. As they enter their home river systems, they stop eating and their bodies once again undergo physical changes to re-adapt to freshwater. They must then swim upstream against strong currents, leaping obstacles and avoiding predators in time to

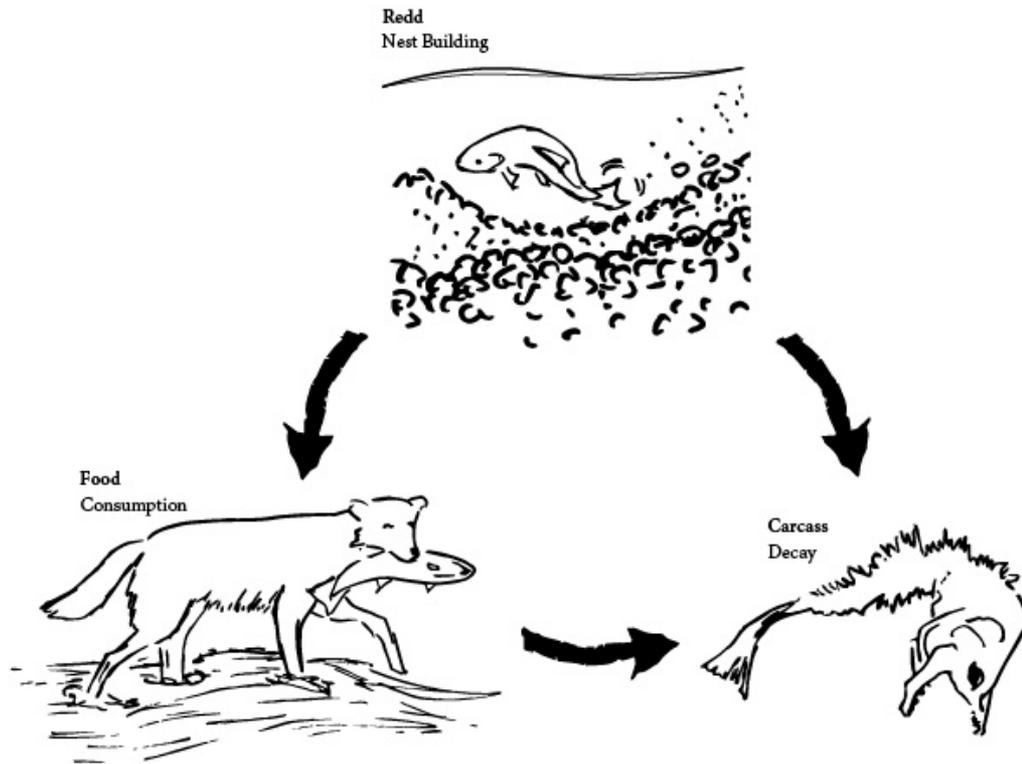
spawn before their bodies, already having begun to decay, cease to function.

These four circular icons represent the 4 main ways that humans have come to hinder Salmon's life cycle. These are often referred to as the 4Hs - harvest – such as with commercial fishing; habitat destruction – from things like development + logging; hydro electric infrastructure and hatchery impacts related to poor genetics + rearing infrastructure. Each one of these is complex and important to understand, but are not the focus of this thesis.

The three main habitats associated with salmon are seen along the bottom bar; oceanic, estuarine and riverine. Though they are separated into these three human-made habitat types for ease of understanding, they are ultimately inseparable and interdependent.

### Salmon's Journey

← Salmon's lifecycle transect + habitat types. Circular icons illustrate the 4Hs, ways that humans hinder Salmon's lifecycle.



The Agency of Salmon  
 ← The three main ways that Salmon act to influence their homes

Salmon, with their sheer tenacity and numbers are powerful agents for change in landscapes and seascapes. Their agency [as far as we know] occurs in three main ways. Through the building of their nests, called Redds in which they move sed-iments to lay their eggs; through their bodies be-ing caught and eaten by predators; and through their carcasses, left to decay in streams and forests across the coast. What for an individual Salmon is a small-scale action in both time and space, becomes

monumental when repeated millions of times a year for millennia. The reliable annual pulse of Salmon spawn has ensured these small creatures leave a big legacy.

## Riverine Entanglements

We begin at their birth place - the coastal river ecosystem

Embedded in each of the following ecosystem illustrations are layers of ecological processes [dotted and chalked lines], basic food webs [solid lines] and anthropological influences related to the 4Hs mentioned previously [black lines]. With so much information contained in these relational drawings, and with the little time I have, I will focus on a couple key connections that pertain most directly to my design proposal.

Salmon fry newly emerged from the gravel will find their home streams more abundant with insect prey when these prey have had an opportunity to feed on the carcasses of Salmon's dead parents. These carcasses also provide nutrients to the trees which grow faster and larger than they would in these nutrient poor soils. More trees and

vegetation mean riparian vegetation stays plentiful, shading streams, lowering the water temperature and providing more habitat and food for insect prey. These large trees eventually fall and may lodge in the stream, creating pools and side channels where fry can rest and seek shelter from predators.

Essentially, Salmon grow forests and the forests grow Salmon.

These processes are disrupted from developments that alter or remove vegetation like logging and shoreline hardening. Climate change is altering water temperatures and the dynamics of glacial melt water, critical for stream flow.

### Riverine Entanglements

→ A few of the known relational kinship connections between Salmon + their freshwater homes





glaciers retreat  
↓ spring freshet  
↑ drought  
↓ snow pack

logging destroys salmon streams  
Salmon alters woody debris inputs  
↑ water temperature  
↓ riparian vegetation  
↓ prey habitat

carries salmon inland

gulls

shorelines armored  
rivers channelised  
dams + reservoirs block access  
+ alter sediment dynamics

runoff + sedimentation + pollution

logs + boulders  
slow river flow  
+ create side channels

Varied thrush  
↑ BIRD DENSITY  
↑ fecation  
fertilizes

tree dies  
trees grow faster + larger

Beaver  
Fast flow brings food

woody debris creates salmon habitat + retains carcasses

American dipper

human  
sunlight

bar provides spawning habitat

litter fall

terrestrial insects

Raccoon

Salmon carcass

resting females suspend fine sediments

river otter

phytoplankton

microbes  
zooplankton

detritus

Juvenile Salmon

crayfish

uptake by plant roots

Suspended sediments flush downstream

carcasses swept downstream

Spawning Salmon

aquatic insects  
microbes

dissolved nutrients

bull trout

Deep slow water provides refuge



Predating destroys habitat annually 2 million tons

tanker traffic

fish farming

releases petroleum hydrocarbons (PHCs)

toxic bioaccumulates

underwater acoustic pollution

sinks + contaminates sediments

↑ H<sub>2</sub>O temperature

70% of Fraser river estuaries have been diked, drained, filled

loss of foreshore

kingfisher

gull

fresh water

salt water

tidal ebb + flow

release chemicals, antibiotics + herbicides

concentrates pests + diseases

escapes interbreed + compete

farmed Atlantic salmon



harbour seal



duck

herring

phytoplankton

zooplankton

detritus

goby

juvenile salmon

dissolved nutrients from river feeds eelgrass vegetation

dissolved nutrients

microbes

salmon carcass

bivalves

↑ BIVALVE DENSITY

waste accumulates + ↓ oxygen, creating dead zones

juvenile salmon

mature salmon

salmon carcass

crab

bull trout



## Estuarine Entanglements

From here, some of these carcasses and their nutrients are swept downstream into estuaries and tidal wetlands. Providing nutrients for the growth of critical plant species that form underwater forests to shelter baby Salmon from the intense ocean tides and currents as well as supporting the growth of critical prey species like zooplankton. Recent studies suggest that the microbial creatures who live on these underwater forests inoculate juvenile Salmon, aiding them in their adaptation to saltwater.

Over 70% of the Fraser river's estuaries and tidal habitats have been destroyed by coastal developments, dredging and fish farms to name a few. Downstream impacts from industry and urban centers drastically alter water chemistry through pollution, nutrient blooms and turbidity.

### Estuarine Entanglements

← A few of the known relational kinship connections between Salmon + their brackish water homes

## Oceanic Entanglements

Once large enough to venture into the ocean, Salmon feed in the rich marine environment and grow much faster than if they remained in freshwater systems. As they feed, their bodies become made up of what scientists call 'marine derived nutrients,' which are abundant in the ocean but hard to find on land.

Warming and acidifying oceans alter current and nutrient dynamics, creating massive impacts all the way up the food chain. Commercial fishing mismanagement of both Salmon and their prey species allows for catches that far exceed so called sustainable limits.

### Oceanic Entanglements

→ A few of the known relational kinship connections between Salmon + their saltwater homes







logging destroys salmon streams  
↑ temperatures  
↑ woody debris inputs  
↑ water temperature  
↓ riparian vegetation  
↓ prey habitat

shoreslines armored  
rivers channelized  
dams + reservoirs block access  
+ alter sediment dynamics

↑ BIRD DENSITY  
degradation  
+ nestlings

gulls

eagle

Varied thrush

← carries salmon inland

↑ runoff + sedimentation + pollution

logs + boulders slow river flow + create side channels

tree dies trees grow faster larger

↑ function + defecation brings salmon nutrients to forest

woody debris creates habitat + retains carcasses

American dipper

human

gravel bar removal + spawning habitat

↑ tree fall

terrestrial insects

Bear

Fast flow brings food

microcanser

phytoplankton

microbes

zooplankton

crayfish

Juvenile Salmon

aquatic insects

dissolved nutrients

microbes

bull trout

nesting females suspend fine sediments

river otter

Spawning Salmon

carcasses swept downstream

Deep slow water provides refuge

Suspended sediments flush downstream

Gravel provides spawning substrate



Despite all these challenges, once fully grown, Salmon head back to their home streams navigating back through these habitats by a mixture of scent, magnetic fields and memory. They carry with them the rare nutrients accumulated from years in the ocean.

If Salmon are lucky enough to make it upstream to suitable spawning grounds, this will be their last act. Many before them will be pulled out of the rivers by Bear and other kin who play a critical role in spreading the nutrients of Salmon's decaying bodies widely across the forest floor. After Bear has eaten her fill [often just the brains and eggs], what's left of Salmons' body will stay on the forest floor where she will be feed on by hundreds of other kin. In a good Salmon year there will be on average 2.3 carcasses per meter. The sheer number of Flies alone [somewhere between 4,000-29,000 larvae per carcass] are vital in feeding the large flocks of migrating songbirds that fill the northern forests each spring. Hundreds of different insects and microbial species proliferate on and around a single carcass, creating islands of unique, ephemeral micro-ecosystems that have a vital role in releasing nutrients for plants and trees. In areas where Bear is now absent, these critical forest processes of decay and nutrient cycling are severely diminished.

#### Riverine Entanglements

← A few of the known relational kinship connections between Salmon + their freshwater homes

This ancient and entangled exchange between life and death has been devastated. Contemporary fisheries catch between 50-90% of returning Salmon before they reach their spawning grounds. With the majority of returning Salmon taken for Human consumption, little consideration is given to the needs of our non-human kin, often whose very survival is dependent on the reliability of the nutrient dense seasonal pulse of Salmon.

After we fillet our prized Salmon, most of what isn't eaten is considered waste. A portion may be made into fish meal, fish oil or pet food, but most is merely sent to landfills or dumped into the ocean or municipal sewers. This 'waste' occurs at multiple scales from individuals purchasing a single fish at a market and thereby discarding a head and spine, to commercial canneries grinding and dumping vast quantities of off cuts.

What if we no longer saw Salmon carcasses as waste? What if Humans became more connected to this process of life and death? What if Humans became agents invested in strengthening and care taking our forests and streams?

Removed due to copyright.

Fish waste- cannery

Removed due to copyright.

Effluent discharge- fish farm waste

Removed due to copyright.

'Fish frames"- Industrial processor

We could share this task with Bear who stills pulls what Salmon she can find from her home streams, catalysing the critical cycles of nutrients and decay. We too can pull Salmon from our waste streams and help enhance and nourish the living systems forged through deep-time.

#### **Bear + Salmon**

→ Relational networks of kinship connection between Bear + Salmon



Entangled is a process designed to facilitate Human interception of Salmon's carcasses deemed as 'waste'. As powerful collaborators with the non-human world, Human vectors divert Salmon carcasses from a system that designates them merely as waste and brings them back to the streams and forests where they can once again support the growth and continued health of thousands of creatures, including next year's baby Salmon.

This of course is not a new idea. This is a very old idea. Not only has Bear been doing this since before Humans existed, but Indigenous practices all along the coast contain diverse protocols and technologies to actively care for and help to perpetuate Salmon.

While collaboration is not possible in such a short thesis timeline, it's hoped that First Nations communities would be involved who wish to see it unfold in their traditional territory as one of the many ways their governments work towards sovereignty and Salmon recovery. The specific cultural protocols, technologies and goals of the host Nation would direct the elements within the design and the ways in which it is implemented on the landscape.

#### Vectors

→ Potential relational networks of kinship connection between Human + Salmon

carries salmon into trees

Squirrel feeds on carcass



feeds trees



Raven feeds on carcass

Decay insects disperse + feed on some parts



feeds moss

microbes + decay insects release nutrients

vector brings carcass from stream



Bear eats brains + eggs



carries salmon away

Eagle feeds on carcass







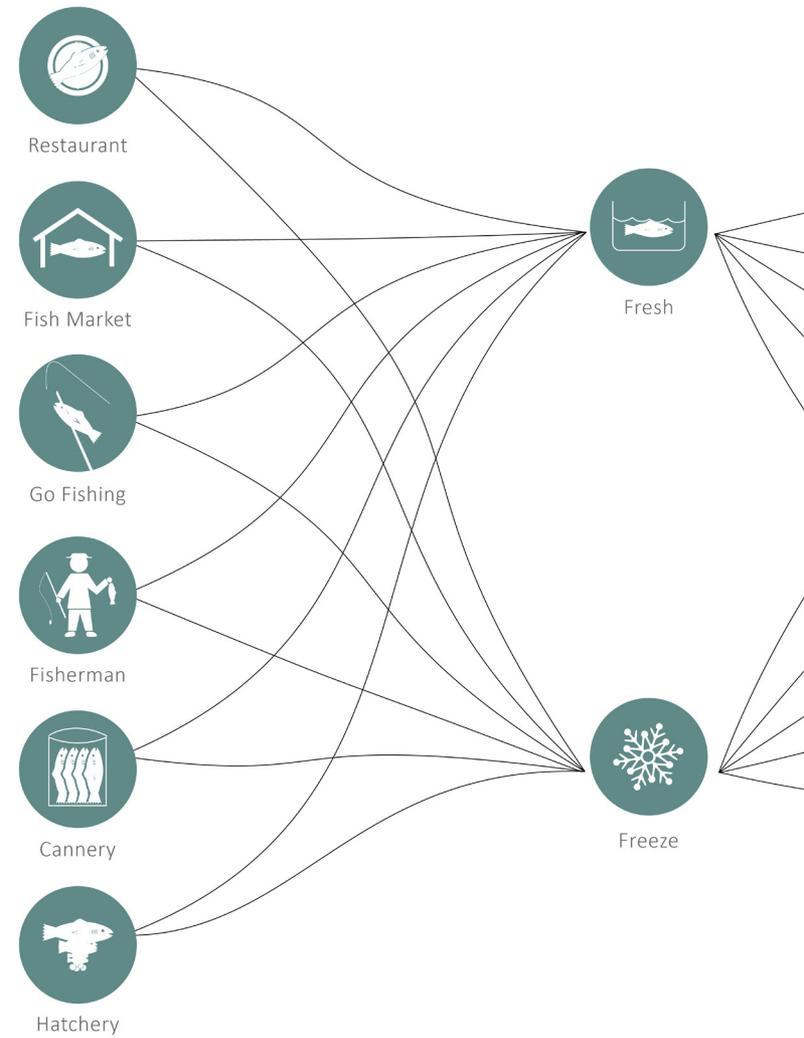
Vancouver boasts the greenest city in the world and is a highly sought-after place to live and visit due to easy access to greenspaces and hiking trails. With over 21.6 million visitors in 2019 many come to BC for a “west coast experience” which often includes hiking forest trails, spending time on coastlines, and eating Salmon. By connecting hikers with carcasses and utilizing BC’s already extensive trail network, this program could be deployed across much of the province and beyond.

#### Lower Mainland Waterways + Parks

← With vast networks of park trails + streams, the region offers potential for *Entanglement*

This diagram shows a series of possible decisions made by a Human vector [aka hikers or recreationists] in the process from intercepting Salmon's carcass to making the offering of the body during a hike.

Intercepting → Storing



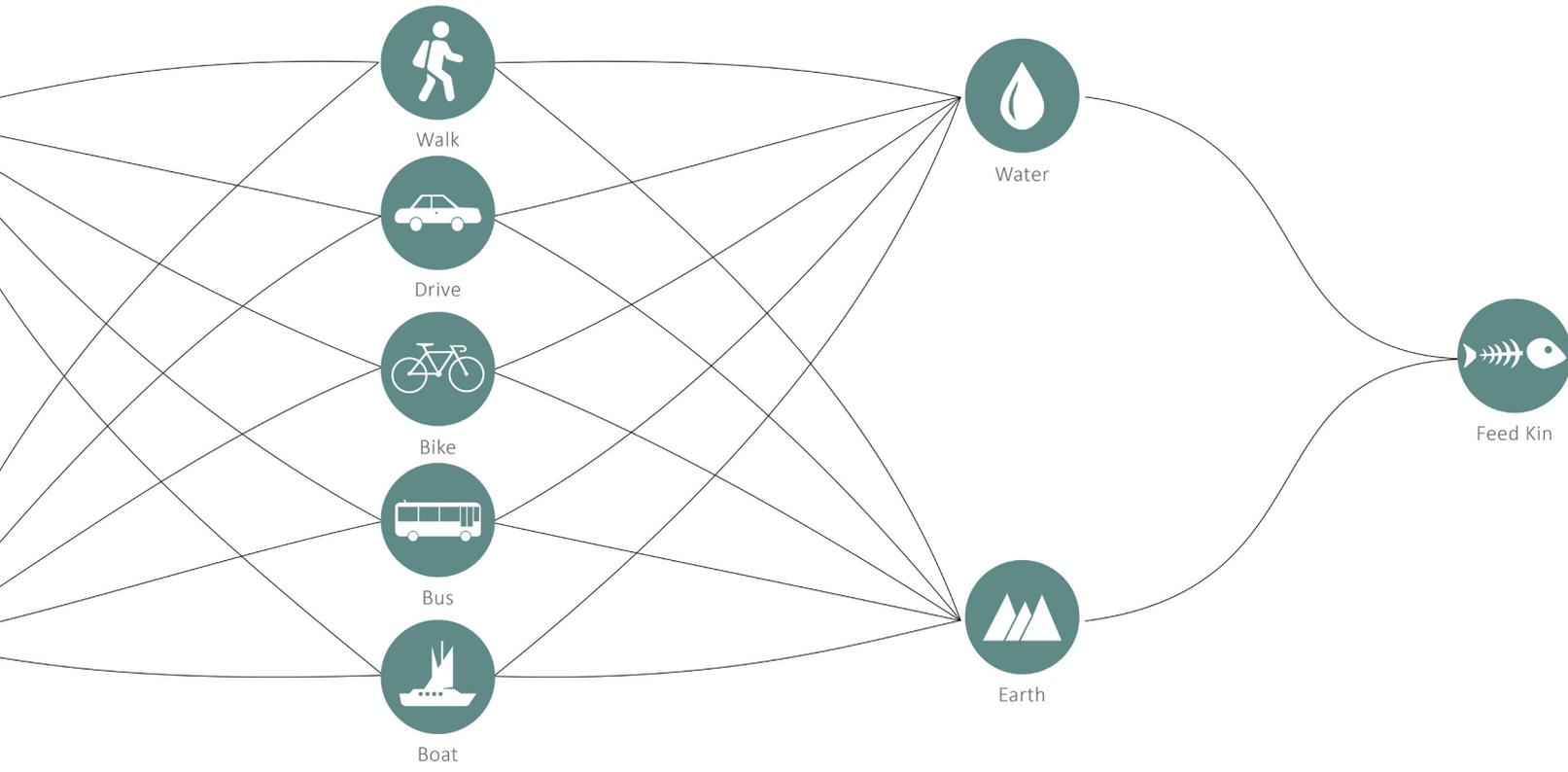
### Carcass Connections

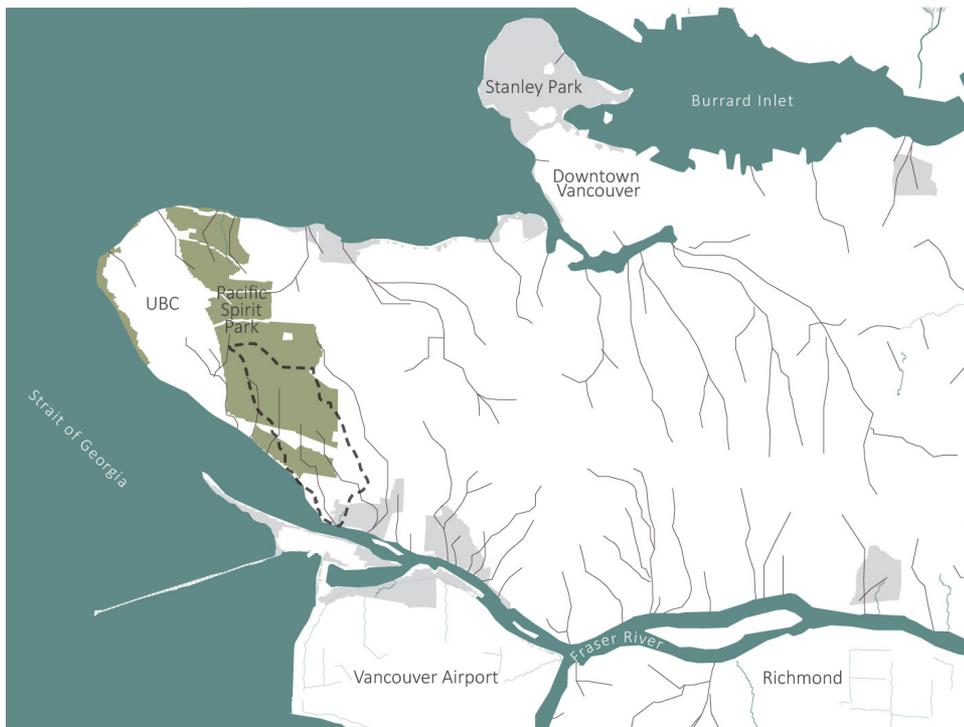
→ Decision-making flow diagram for Human vectors during *Entanglement*

Transporting

Offering

Impact





#### Location Key

- ↑ Location of Pacific Spirit Park
- + Musqueam creek watershed

This process could unfold at any site with Salmon's home range and Human vectors are encouraged to determine where to make their offering. I've used Musqueam Creek, one of Vancouver's last Salmon bearing streams, as an example of how the process of *Entanglement* could unfold.

Musqueam Creek's headwaters are located at the south end of Pacific Spirit Park, a protected area that spans the length of the peninsula on the way to UBC. It travels south through Musqueam Reservation where it discharges into the Fraser River.

Through the following three micro-narratives, we can start to imagine possible ways we can engage with *Entanglement* within Musqueam Creek Watershed.



**Musqueam Creek Watershed**  
 ← Musqueam creek watershed trails and context



Trailside Offering

↑ From restaurant to trail

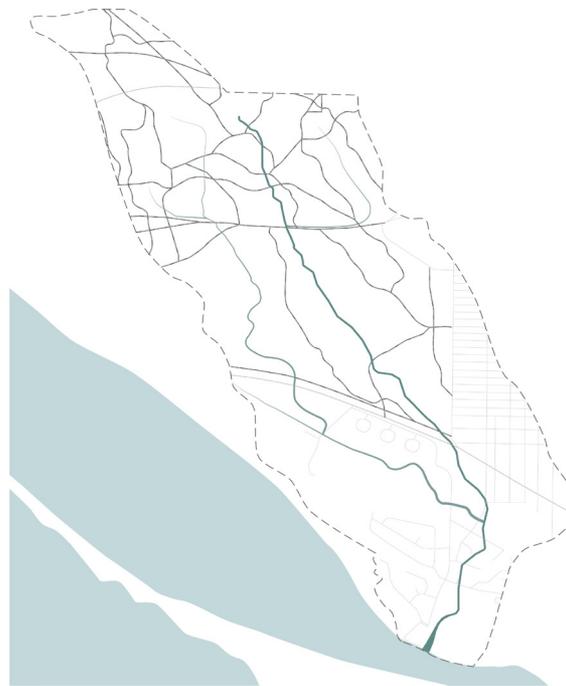
## Narrative One

### *Trailside Offering*

During a meal out you notice that the restaurant has chosen to enroll in the *Entanglement* program. Their menu insert provides some information on the process and a website where you can find out more. You've ordered a Salmon dish and ask your server to box up some of the remains from the fillet processed earlier that day. You spend some time during your dinner planning a hike with your friend for the following weekend. You put the carcass in your freezer when you get home.

After exploring Pacific Spirit for several hours, you're drawn to an old cedar tree. You and your friend sit at its base and spend a few moments laying out Salmon's carcass and engaging in a small ceremony.

Once you leave, Mink smells the carcass and drags Salmon farther off trail, he helps himself to a meal.



Existing trail network

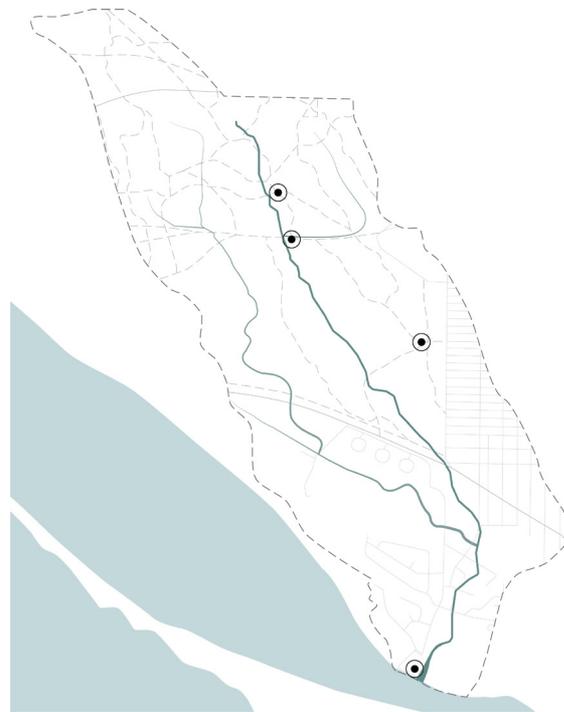
## Narrative Two

### *Designated Offering*

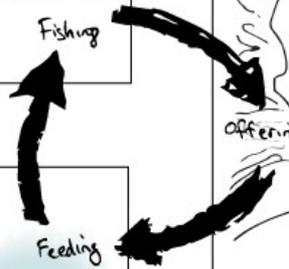
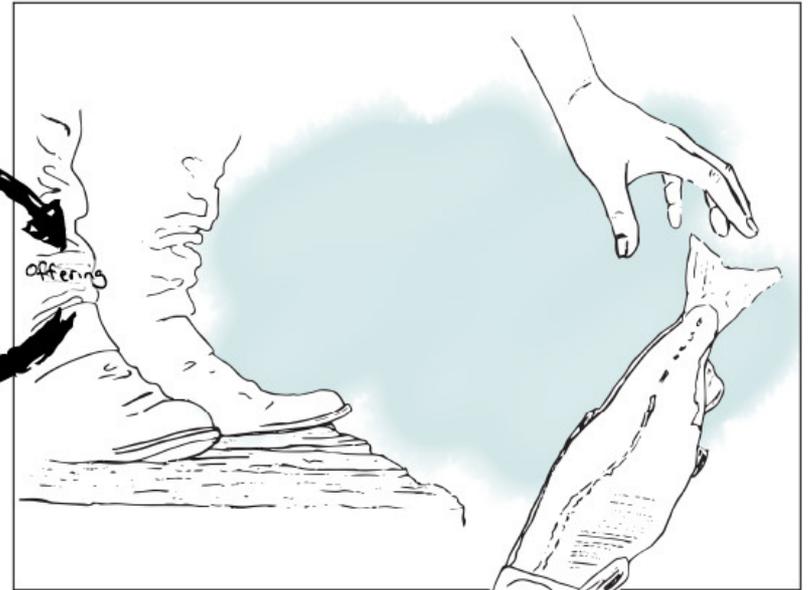
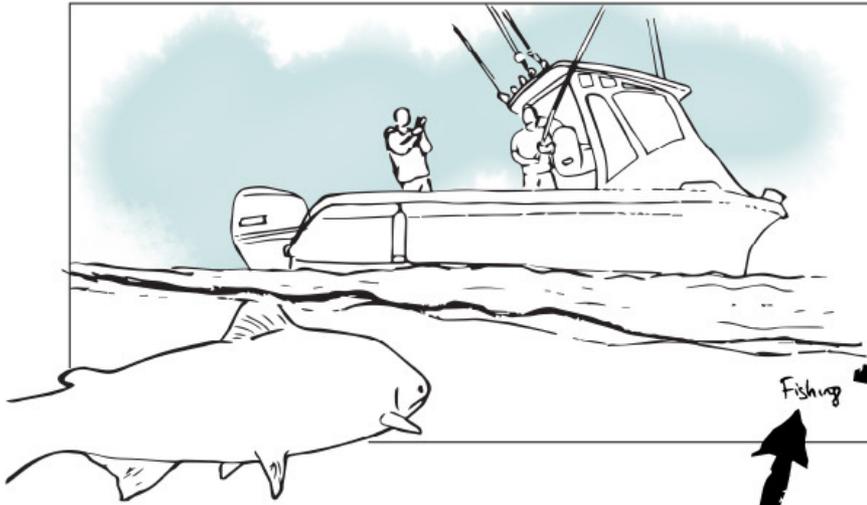
You're visiting Vancouver for a week and have signed up for a Salmon fishing experience with a local fishing tour company. You don't know much about fishing but want a more intense west coast experience. With the help of your guide you learn a lot about Salmon and catch your first fish. Your guide guts and fillets it for you and tells you about the *Entanglement* program, offering you a brochure with a website you plan to visit later. Along with your fresh fillets, you decide to take the head and spine so that you can offer it on one of the many hikes you've planned during your visit to the region. You put the carcass box in the fridge when you get back to your hotel.

The next day you decide to visit Pacific Spirit Park. You see online that there are several designated offering platforms installed in the park as a central and easy to access place for carcass offerings. Once you arrive you drop Salmon off the edge of the platform into the soft forest duff.

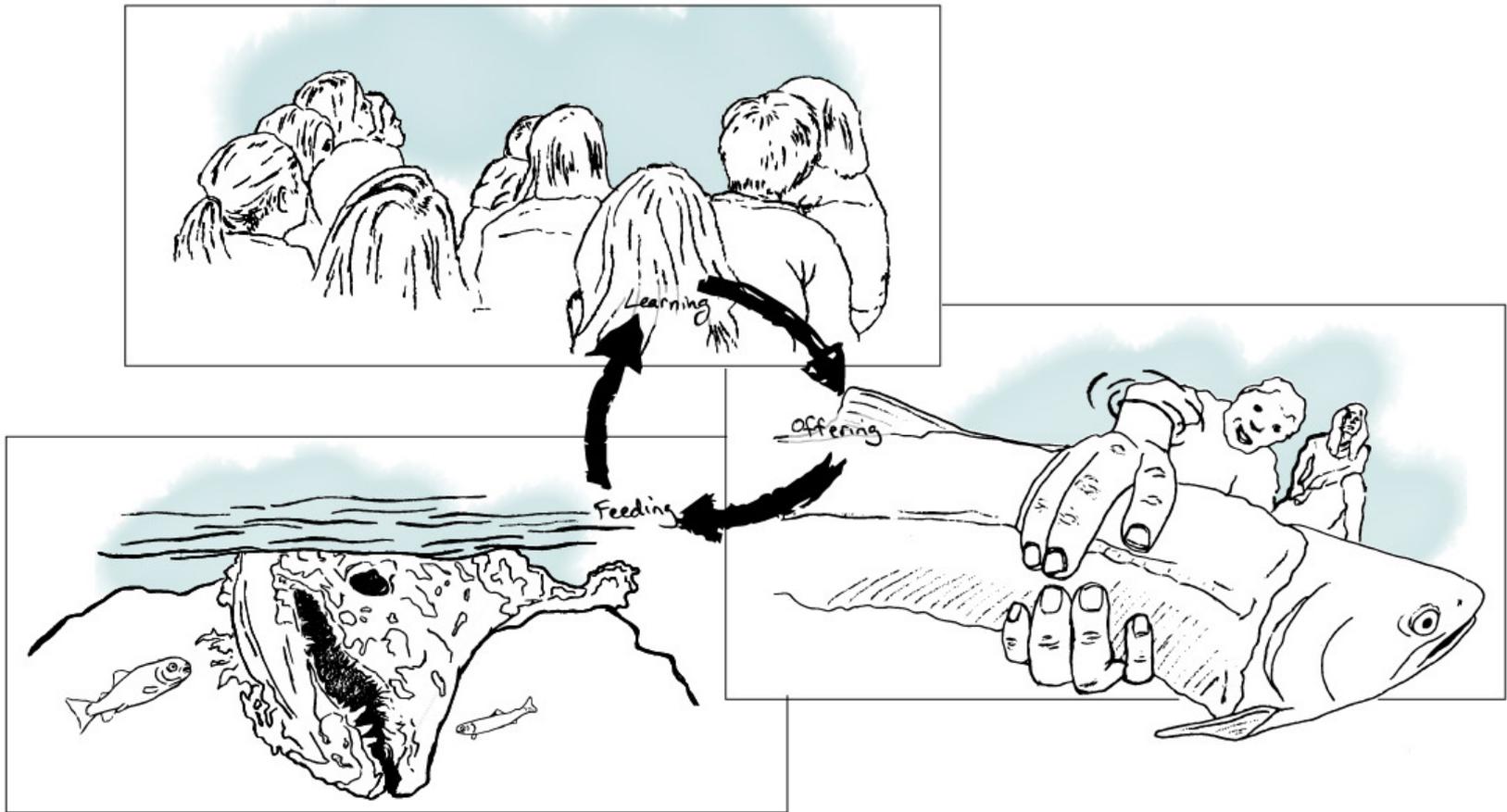
Winter Wren has been watching you and even before you've walked away he has flown down to check out Salmon. He eats Salmon's flesh and catches the insects attracted to the carcass.



Potential offering platform areas



Designated Offering  
↑ From fishing to forest platform



Streamside Offering

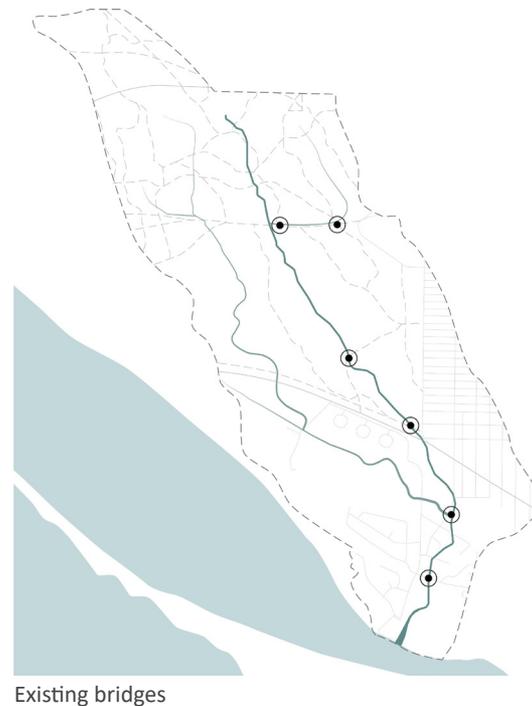
↑ From classroom to stream

## Narrative Three

### *Streamside Offering*

You're an 11-year-old child in a local Vancouver public school classroom. Last year you learned all about Salmon and got to take care of them in an aquarium. When spring came, you and your classmates went on a field trip to Musqueam Reservation and you got to release them into Musqueam Creek.

Now that you're in the next grade, you're learning more about spawning adult Salmon and how their carcasses feed the baby Salmon. The following week your class goes on a field trip back to Musqueam Creek where you released your little Salmon friends the year before. You've been given a Salmon carcass from the local hatchery and you gently place your Salmon offering into the stream. It will help feed the Salmon babies that will be released by this year's younger class. You realize that the Salmon babies you released last year were helped along by the carcass offerings placed there by the children who were in the grade above you.



## Existing Infrastructure

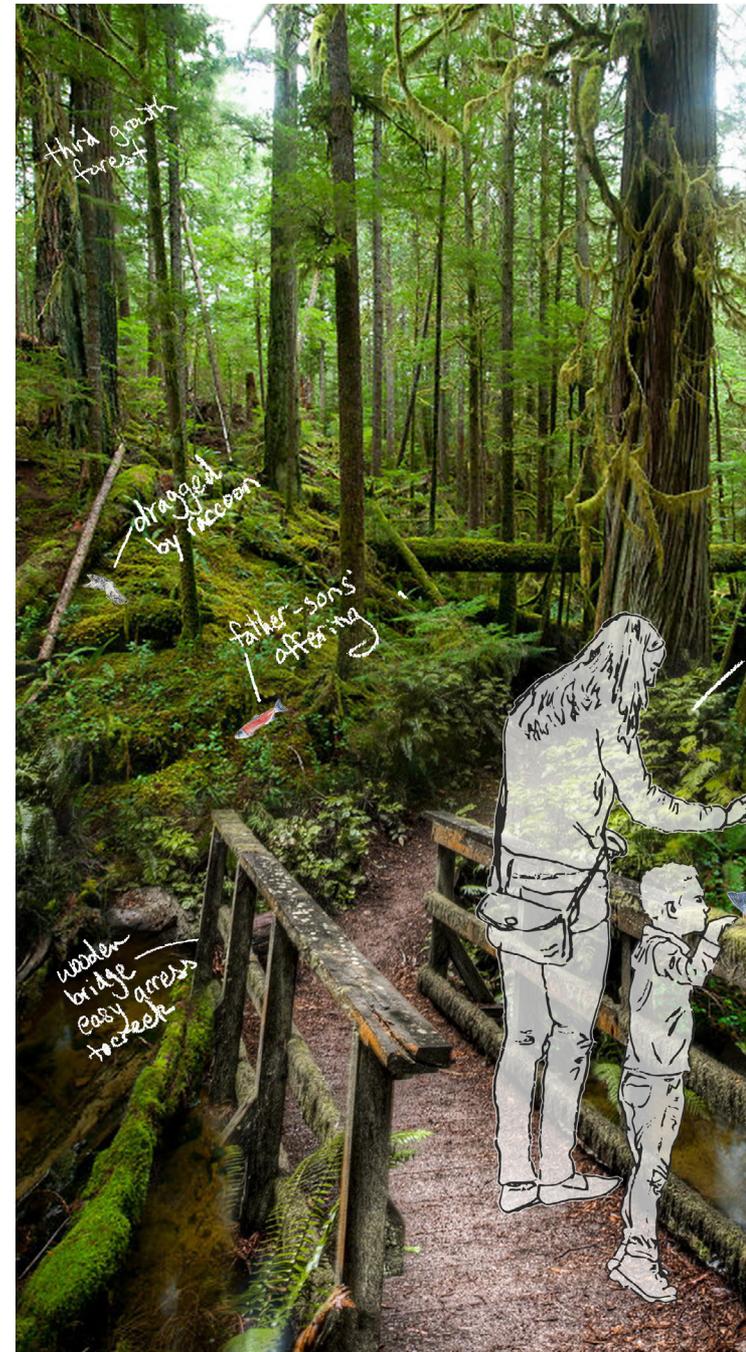
These narratives unfolding in Pacific Spirit Park and around Musqueam Creek, could have taken place in many areas in BC. *Entangled* leverages the already extensive trails system and infrastructure available through provincial and regional park systems. In this way, Human vectors can visit places they already frequent and love and deepen their connection and ethic of care for these landscapes and their creatures.

Some with mobility aids or a lack of time might choose to offer Salmon at one of the many designated offering areas across the parks system, or over an easy to access bridge. Others may hike for many hours to more remote areas before offering Salmon to a small stream or a large Cedar.

Some may choose to make the offering unceremoniously, literally throwing Salmon into the bushes or a stream, while others might do so ceremonially, constructing cedar wreaths and adorning Salmon with flowers. Kin connection is paramount and is not precluded by any particular mindset or spiritual belief, everyone is welcome to participate regardless of their approach to the process.

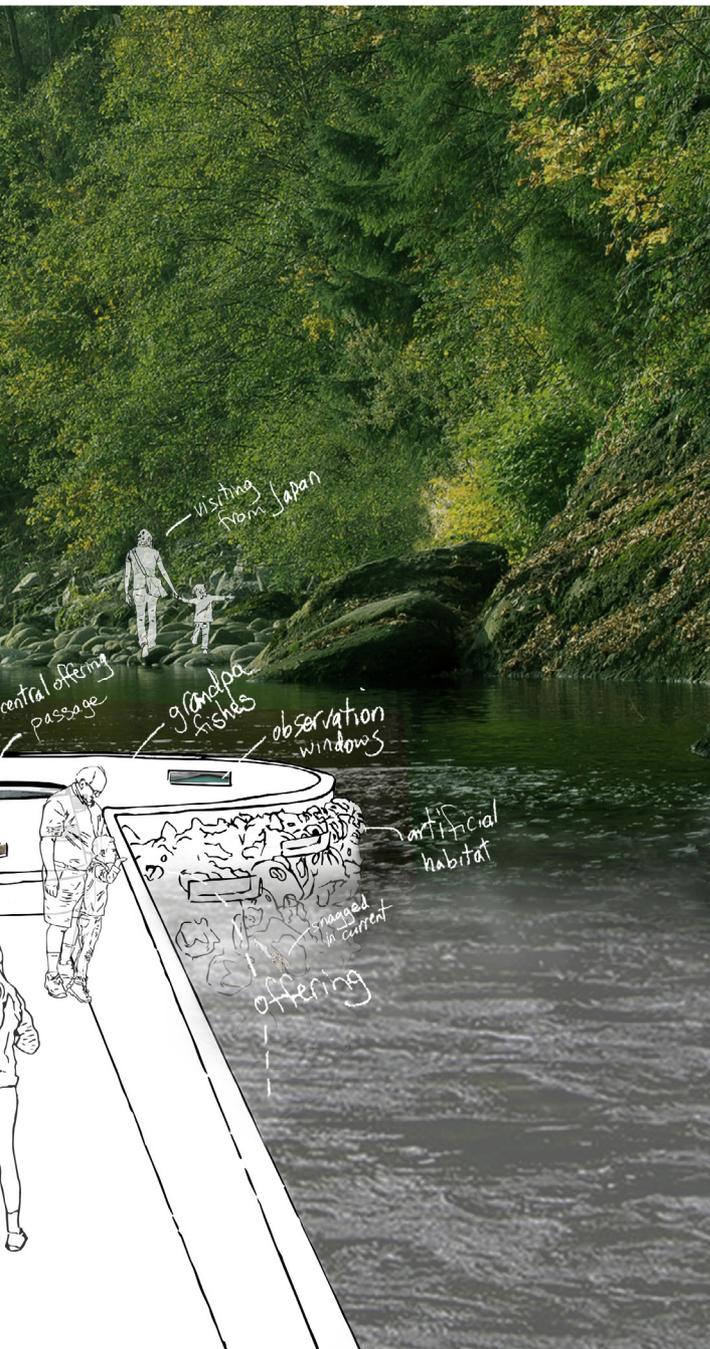
### Existing Infrastructure

→ *Entanglement* leverages existing extensive park system infrastructure









## Infrastructure Potential

Possible new infrastructure typologies could be deployed in areas where streams + rivers have already been impacted and where educational opportunities are already happening, like here, at Capilano Hatchery in North Vancouver.

Here we see an observation pool built into the river. Glass panels provide Humans a visible connection to Salmon's underwater world while also increasing light penetration into the river. The walls immersed in the river are covered in artificial habitat structures specially designed to shelter juvenile Salmon.

This habitat dock extends partially into the river, allowing people to sit immersed in Salmon's home waters. The wooden slats allow some light penetration as the underside is lined with tree roots that are a favoured habitat for juvenile Salmon. These roots also provide habitat for terrestrial kin as the water levels drop seasonally.

### Potential Infrastructure

← New infrastructure seeks to connect human to Salmon + enhance Salmon's home

## Unfolding Entanglements

Once offered by a Human vector, the process has just begun. Collaborative kin such as Otter, Eagle, Coyote and Raccoon drag Salmon's body from trail side, deeper into the forests and streams where insects and microbes consume it and in turn, feed more Kin. Like the Salmon themselves, the small action of one single Human vector may seem minute, but when thousands of Humans disperse across the landscape with thousands of carcasses, over many years, the impacts are immense.

Relational design can help facilitate and encourage a radical ethic of care for the landscapes and seascapes that we and our non-human kin call home. It can encourage us to "think-with" other beings, to work on attunement so that we can help to enlarge the capacities of all the actors involved through supporting and strengthening relationships between Kin.

In a time when dominant anthropogenic influences are primarily destructive and consumptive, Entangled offers one way for people to start to embody a different story. One in which our actions enhance and strengthen the tangled ancient connections beyond our own species and the tiny speck of time that we've existed here on Earth.

### Unfolding Entanglements

→ GIF illustrating the potential unfolding kinship enhancements over time, catalysed by one Human vector





Unfolding Entanglements Stills

→ GIF stills







## Return

At the turn of the tide  
when the great heron hunts  
and the sea is diluted by tears,  
we will turn and upstream swim  
to the altar of clear waters.

The silver thieveries of the sleepless rain  
return  
in prawn shell and herring scale  
seized in black-lipped bony mouths  
brought home the only way we know- as flesh

Offered up to the ravenous trees,  
our part of the ancient pact;  
the lives we will not live to see  
will be cherished by a forest grown  
on salmon flesh and salmon bone.

K.A. Wood

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