Leading with Indigenous Principles: Ecological Watershed Governance in British Columbia, Canada

by

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We acknowledge and respect the lək̓ʷəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and W̱SÁNEĆ peoples whose historical relationships with the land continue to this day.

Supervisory Committee

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Abstract

Both Indigenous and state governments grapple with drivers of ecological decline in colonial states. Ecological drivers such as resource extraction and climate warming meet in the realm of shared land and water governance. Shared governance at the watershed scale must face the challenge of bridging the governance approaches of nation states and Indigenous peoples with distinct legal and governance traditions. I approach that challenge with a case study of the Cowichan Watershed in British Columbia, Canada. I draw on 12 years of shared Indigenous and regional (state) governance experience at the watershed scale. I ask what the Cowichan experience reveals about how a Provincial level state government can enable the full expression of Indigenous governance principles in ecological watershed governance. I adopt a research framework of watershed governance functions and Hul'qumi'num governance principles to investigate how governance works in practice, the influence of Indigenous governance principles, and the roles of government in enabling and impeding those principles. I find that Hul'qumi'num principles are the key driver of success in setting aspirational targets for ecological conditions of the Watershed, in improving decision-making affecting watershed ecology, and in aligning responsibility with authority. The governance of river flow improved greatly over the study period, but the governance of forestry, where there was no opportunity to apply Hul'qumi'num principles, did not. The well-being of salmon improved greatly over the study period, but the well-being of the forest, as measured by old growth retention and recruitment, did not. The contrasts bear witness to the influence of Hul'qumi'num governance principles and to the essential role of Cowichan Tribes leadership. Cowichan Tribes led ecological governance initiatives by applying the principles in accordance with the Hul'qumi'num legal tradition, and by teaching others how to apply the principles. The implications for the Province of British Columbia are that it must change its legislation respecting land and water management, particularly with respect to forestry on large private land holdings, and it must co-create and fund watershed-scale governance entities with Indigenous peoples to enable the application and reap the benefits of Indigenous governance principles.

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Dedication

I would like to dedicate this research to those in my family who have come before and those who will follow afterward. We strive to leave the world just a little bit better place than we find it.

List of Acronyms

CBWMP	Cowichan Basin Water Management Plan
CVRD	Cowichan Valley Regional District
CWB	Cowichan Watershed Board
DFO	Department of Fisheries and Oceans
DRIPA	*Declaration on the Rights of Indigenous Peoples Act*
FFWG	Fish and Flow Working Group
FLNRORD	Ministry of Forests, Lands, Natural Resources, Operations, Rural Development
IE	Institutional Ethnography
IWRM	Integrated Water Resource Management
LWRS	Ministry of Land, Water and Resource Stewardship
PMFL	Private Managed Forest Land
PMFLA	*Private Managed Forest Land Act*
TAC	Technical Advisory Committee
WGE	Watershed Governance Entity
WSA	*Water Sustainability Act*
WUP	Water Use Plan

Chapter 1: Introduction

1. The Challenge

Around the globe we govern ourselves poorly, measured by degradation of the ecological systems that underpin life on earth. State governments negotiate international agreements and legislate environmental limits, but people continue to release too many chemical pollutants, fill too many wetlands, and clear too many forests.[1] We diminish the planet's ecological resilience, altering hydrological systems and putting freshwater supplies at risk.[2] For twenty-five years environmental professionals and scholars have lamented these environmental inadequacies and advocated for alternative forms of governance focused on the environment and bounded by geography.[3] The idea of watershed governance now finds expression in theoretical approaches to environmental governance,[4] drives community-led initiatives,[5] and inspires state legislation like the 2014 *Water Sustainability Act* of the province of British Columbia (the Province).[6] It's an emergent field facing many challenges, particularly in colonial states where the twin imperatives of ecological sustainability and colonial/Indigenous reconciliation converge in governance at a watershed scale.

Governance, in its broadest sense, is about how societies organize themselves and make decisions together. Societies around the world display great diversity in governance traditions that emerge and evolve over time through the creation (and re-creation) of

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[1] See the work of the Stockholm Resilience Center at https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html. See also Mesfin M. Mekonnen and Arjen Y. Hoekstra, 'Four Billion People Facing Severe Water Scarcity', *Science Advances* 2, no. 2 (2016): e1500323.

[2] David W Schindler, 'The Cumulative Effects of Climate Warming and Other Human Stresses on Canadian Freshwaters in the New Millennium', *Canadian Journal of Fisheries and Aquatic Sciences* 58, no. 1 (2001): 18–29; Mekonnen and Hoekstra, 'Four Billion People Facing Severe Water Scarcity'.

[3] Robert H. Nelson, 'Government as Theater: Toward a New Paradigm for the Public Lands', *University of Colorado Law Review* 65 (1994): 335–68.

[4] Theoretical approaches to environmental governance include *adaptive governance*, *collaborative governance*, and *ecological governance*. See Dave Huitema et al., 'Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining a Research Agenda', *Ecology and Society* 14, no. 1 (2009); Mark T. Imperial and Timothy Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability' (Twenty-First Annual Research Conference of the Association for Public Policy Analysis and Management, Citeseer, 1999), 4–6; Oliver M Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada* (Polis Project on Ecological Governance, University of Victoria, 2005).

[5] For example, see the Fraser Basin Council in British Columbia, Canada: David Marshall, 'Watershed Management in British Columbia: The Fraser Basin Experience', *Environments* 25, no. 2/3 (1998): 64.

[6] Province of British Columbia, Water Sustainability Act, SBC 2014, c 15, https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html.

socially accepted methods for addressing community challenges and conflicts.[7] Such traditions are cultural in nature, aligned in part with language and in part with interactions of place.[8] In the age of globalization, perhaps the greatest diversity of such traditions may be found in Indigenous societies.[9] My concern is how state governments can embrace the influence and intellectual wealth of Indigenous governance traditions, to enable their application in the place-based governance initiatives that are beginning to take shape in colonial states using watershed boundaries.

Watershed governance is a regional level of governance delimited by hydrological boundaries.[10] In that sense, it is a form of place-based governance that values the condition of a particular landscape and its inhabitants over wider interests or ideologies.[11] One of the greatest challenges that it faces is the political reality of overlapping jurisdictions that affect governance of all bounded geographies.[12] In colonial states, watershed governance must navigate the jurisdictional conflicts[13] between Indigenous

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[7] Anishinabe/Ojibway scholar John Borrows describes legal and governance traditions as cultural phenomena that correspond to the ways in which people find meaning and purpose in their lives. As positive forces, they "exist as living, contemporary systems that are revised as we learn more about how we should live with one another"; at page 8, John Borrows, *Canada's Indigenous Constitution* (University of Toronto Press, 2010). See also, at page 293, John Borrows, 'Tracking Trajectories: Aboriginal Governance as an Aboriginal Right"', *UBCL Rev.* 38 (2005): 285.

[8] Borrows gives an example of how the verb-based Anishnabemowin language shapes the cultural conception of land as a living entity with agency. At page 245 of Borrows, *Canada's Indigenous Constitution*. Webber suggests that a legal/governance tradition as a whole may be conceived as a language, containing nuanced connotations not easily translated to other traditions. See Jeremy Webber, 'Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities'.

[9] Within Canada alone, the cultural diversity of Indigenous societies is apparent in their use of more than 50 distinct languages. See page 301 in Borrows, *Canada's Indigenous Constitution*. Pasternak at page 107 uses the example of differences in Cree and Anishinaabe customary law regarding jurisdiction in hunting areas as an example of diversity in Indigenous legal traditions; Pasternak, *Grounded Authority: The Algonquins of Barriere Lake against the State*.

[10] Oliver Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*, 2005.

[11] Lant (2003) and Castleden et al. (2017) speak to watershed governance being "place-based". Schlager and Blomquist (2008, xi, 187) observe that "the… state of affairs in each place [watershed] emerges from the interactions of… social and ecological systems." See also: Christopher Lant, 'Watershed Governance in the United States: The Challenges Ahead', *Water Resources Update* 126 (2003): 21–28; Heather Castleden et al., 'Reconciliation and Relationality in Water Research and Management in Canada: Implementing Indigenous Ontologies, Epistemologies, and Methodologies', in *Water Policy and Governance in Canada* (Springer, 2017), 69–95; Edella Schlager and William Andrew Blomquist, *Embracing Watershed Politics* (University Press of Colorado Boulder, 2008). Michele-Lee Moore, 'Perspectives of Complexity in Water Governance: Local Experiences of Global Trends', *Water Alternatives* 6, no. 3 (2013). Colleen George and Maureen G. Reed, 'Operationalising Just Sustainability: Towards a Model for Place-Based Governance', *Local Environment* 22, no. 9 (2017): 1105–23.

[12] Graham Marshall, 'Nesting, Subsidiarity, and Community-Based Environmental Governance beyond the Local Scale', *International Journal of the Commons* 2, no. 1 (2008): 75–97.

[13] Alice Cohen, 'Rescaling Environmental Governance: Watersheds as Boundary Objects at the Intersection of Science, Neoliberalism, and Participation', *Environment and Planning A* 44, no. 9 (2012): 2207–24.

societies, that have governed watersheds for millennia, and tiered levels of nation-state governments.[14]

1.1 Watershed Governance in Colonial States

Indigenous societies in the Americas developed rich traditions for governing themselves and their territories before the colonial period, marked by the arrival of European settlers and European diseases.[15] Despite the subsequent decimation of Indigenous populations, and the systematic repression by successive colonial governance regimes,[16] Indigenous peoples continue to assert their longstanding governance traditions.[17] In the age of globalization, however, Western ideological concepts of governance have come to dominate "land" and "resource" governance in many colonial states, like Canada.[18]

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[14] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*, 2005; Oliver Brandes et al., *Illumination: Insights and Perspectives for Building Effective Watershed Governance in BC* (POLIS Project on Ecological Governance, 2016); Phare, Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water: Towards Watershed Co-Governance' (Victoria, BC: University of Victoria, September 2017).

[15] Ronald Wright, *Stolen Continents: Five Hundred Years of Conquest and Resistance in the Americas* (New York: Houghton Mifflin Harcourt, 2005); James W. Daschuk, *Clearing the Plains: Disease, Politics of Starvation, and the Loss of Aboriginal Life*, *Canadian Plains Studies*, 65 (Regina, Saskatchewan, Canada: U of R Press, 2013).

[16] The colonial policy of repressing Indigenous cultural practices in Canada is well documented. The Truth and Reconciliation Commission describe the practice of involuntary enrollment of Indigenous children in Christian residential schools as a form of cultural genocide in Truth and Reconciliation Commission of Canada, *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada*, 2015. See also Nancy Hudson-Rodd, 'Nineteenth Century Canada: Indigenous Place of Dis-Ease', *Health & Place* 4, no. 1 (1998): 55–66; Katherine Pettipas, *Severing the Ties That Bind: Government Repression of Indigenous Religious Ceremonies on the Prairies*, vol. 7 (University of Manitoba Press, 1994). Indigenous governance and legal systems persist despite such efforts, as noted, at page 11, by Borrows, *Canada's Indigenous Constitution*. Borrows describes eight examples of Indigenous legal traditions in Canada, including Mi'kmaq, Haudenosaunee, Anishinabek, Cree, Métis, Carrier, Nisgaà, and Inuit in Borrows. The Indigenous Law Research Unit at the University of Victoria supports Indigenous law revitalization projects with many others. See, for examples, https://www.uvic.ca/law/about/indigenous/indigenouslawresearchunit/index.php.
See also, Taiaiake Alfred, *Peace, Power, Righteousness: An Indigenous Manifesto*, Second, vol. 171 (Oxford University Press Toronto, 2009); Glen Sean Coulthard, *Red Skins, White Masks* (Minneapolis: University of Minnesota Press, 2014); Arthur Manuel and Ronald Derrrickson, *The Reconciliation Manifesto: Recovering the Land Rebuilding the Economy* (Toronto: James Lorimer and Company Ltd., 2017); Pasternak, *Grounded Authority: The Algonquins of Barriere Lake against the State*.

[17] For examples of continued Indigenous investment in traditional forms of governance, see Manuel, *The Reconciliation Manifesto: Recovering the Land Rebuilding the Economy*; Pasternak, *Grounded Authority: The Algonquins of Barriere Lake against the State*.; Tony Penikett, 'Six Definitions of Aboriginal Self-Government and the Unique Haida Model' (Conference Paper, Ottawa: Action Canada Northern Conference, 2012); UBCIC, 'Union of British Columbia Indian Chiefs Water Act Modernization Initiative Submission to: The Ministry of Environment, Water Stewardship Division Government of British Columbia' (Union of British Columbia Indian Chiefs, 30 April 2010).

[18] I highlight the terms "land" and "resource" as they are Western terms that may not have relevance in Indigenous governance traditions. See Simone Bignall, Steve Hemming, and Daryle Rigney, 'Three

Indigenous peoples challenge this domination by engaging in nation-to-nation discourse; by holding colonial states to account in colonial courts;[19] by working to fulfill their traditional legal responsibilities in direct challenge to colonial law;[20] and by strategically engaging with state governance initiatives in ways that allow the expression of Indigenous governance traditions.[21]

As settler courts work to clarify interpretations of Indigenous constitutional rights respecting land and resources in Canada, federal and provincial governments, as well as Indigenous peoples, are struggling with the political reality, noted by former Chief Justice Antonio Lamer of the Supreme Court of Canada, that "we are all here to stay".[22] Indigenous peoples and state governments seek ways of governing "the land" that both respect Indigenous forms of governance and account for the colonial context in which we live.[23] By endorsing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the Province of British Columbia and the federation of Canada signal a willingness to face that challenge.[24] Watershed governance in the colonial context is, among other things, a reconciliation project tasked with bridging distinct governance traditions with diverse cultural underpinnings.[25] Bradford and associates, in writing about

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Ecosophies for the Anthropocene: Environmental Governance, Continental Posthumanism and Indigenous Expressivism', *Deleuze Studies* 10, no. 4 (2016): 455–78.

[19]Beatrice Rose Simms, '"All of the Water That Is in Our Reserves and That Is in Our Territory Is Ours": Colonial and Indigenous Water Governance in Unceded Indigenous Territories in British Columbia' (University of British Columbia, 2014); John Borrows, *Freedom and Indigenous Constitutionalism* (University of Toronto Press, 2016). See, for example Tsilhqot'in Nation v. British Columbia at https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/14246/index.do.

[20] Examples abound in British Columbia, and across the Americas, of Indigenous people standing up to imposed developments that threaten the land and non-human beings for whom they bear responsibility. See, for example, Nicholas Blomley, '" Shut the Province Down": First Nations Blockades in British Columbia, 1984-1995', *BC Studies: The British Columbian Quarterly*, no. 111 (1996): 5–35; Rima Wilkes, Catherine Corrigall-Brown, and Danielle Ricard, 'Nationalism and Media Coverage of Indigenous People's Collective Action in Canada', *American Indian Culture and Research Journal* 34, no. 4 (2010): 41–59.

[21] Nicole J. Wilson and Jody Inkster, 'Respecting Water: Indigenous Water Governance, Ontologies, and the Politics of Kinship on the Ground', *Environment and Planning E: Nature and Space* 1, no. 4 (2018): 516–38; Audra Simpson, *Mohawk Interruptus: Political Life across the Borders of Settler States* (Duke University Press, 2014).

[22]. Delgamuukw *v*. British Columbia, 3 S.C.R. 1010 (1997]), para. 186. See https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/1569/index.do.

[23] See Borrows' chapter *Earth-Bound: Indigenous Resurgence and Environmental Reconciliation* for an argument on the potential to advance reconciliation through shared land governance, in Michael Asch, John Borrows, and James Tully, *Resurgence and Reconciliation: Indigenous-Settler Relations and Earth Teachings* (University of Toronto Press, 2018). By "governing the land", I mean governing human activities that impact land directly as well as the human and non-human beings that live upon the land within defined boundaries of a particular place. In the remainder of this paper, I use the term *watershed governance* in this context.

[24] UNDRIP, 'United Nations Declaration on The Rights of Indigenous Peoples' (United Nations Permanent Forum on Indigenous Issues, 2007), https://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.

[25] Anishinabe/Ojibway scholar John Borrows describes legal and governance traditions as cultural phenomena that correspond to the ways in which people find meaning and purpose in their lives. As

water governance in Canada, suggest that such work must begin with a focus on principles.[26]

1.2. Indigenous Principles in Reconciled Watershed Governance

Indeed, there is evidence in the literature that Indigenous governance principles, applied in state watershed management regimes, can advance reconciliation of land and water use when the state invests in their application, as experienced in New Zealand.[27] In contrast, land and water co-management regimes in northern Canada, structured through legal agreements and state legislation without embedding Indigenous governance principles, stumble on the hurdle of reconciliation.[28] Canadian co-management arrangements do not embrace or apply any elements of Indigenous governance beyond trying to tack traditional knowledge onto state governance processes. Nadasdy criticizes such arrangements for succumbing to state agendas and administrative processes by default, overlooking and undermining Indigenous governance traditions.[29] Indigenous scholar Leanne Simpson notes the Canadian state's general reliance on asymmetric power to ensure it always controls such governance processes.[30] The literature on collaborative consent highlights the cost of such defaults compared to the benefits of embracing Indigenous governance.[31] Together, such studies indicate that successful co-management requires shared governance that gives full rein to Indigenous governing traditions. It suggests that the application of Indigenous principles in watershed-scale governance may provide a means to balance state hegemony and to advance reconciliation.

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positive forces, they "exist as living, contemporary systems that are revised as we learn more about how we should live with one another"; at page 8, Borrows, *Canada's Indigenous Constitution*. See also, at page 293, Borrows, 'Tracking Trajectories: Aboriginal Governance as an Aboriginal Right"'.

[26] Lori EA Bradford, Nicholas Ovsenek, and Lalita A. Bharadwaj, 'Indigenizing Water Governance in Canada', in *Water Policy and Governance in Canada* (Springer, 2017), 269–98.

[27] In New Zealand, for example, the incorporation of Indigenous governance principles into law, in combination with a state investment in Indigenous participation in regional-level authorities, created space for a cultural shift in management practices and structures. See Linda Te Aho, 'Te Mana o Te Wai: An Indigenous Perspective on Rivers and River Management', *River Research and Applications*, n.d.; Pooja Kanwar, Stephanie Kaza, and William B Bowden, 'An Evaluation of Māori Values in Multiscalar Environmental Policies Governing Kaipara Harbour in New Zealand', *International Journal of Water Resources Development* 32, no. 1 (2016): 26–42; Garth Harmsworth, Shaun Awatere, and Mahuru Robb, 'Indigenous Māori Values and Perspectives to Inform Freshwater Management in Aotearoa-New Zealand', *Ecology and Society* 21, no. 4 (2016).

[28] Paul Nadasdy, 'Reevaluating the Co-Management Success Story', *Arctic* 56 no. 4(2003): 367–80.

[29] Paul Nadasdy, *Sovereignty's Entailments: First Nation State Formation in the Yukon* (University of Toronto Press, 2017).

[30] Leanne Betasamosake Simpson, *As We Have Always Done: Indigenous Freedom through Radical Resistance* (U of Minnesota Press, 2017), 45.

[31] The idea of collaborative consent is based on consensual negotiation where neither Indigenous communities nor states cede their claim to jurisdiction. See Phare, Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water: Towards Watershed Co-Governance'.

1.3 Principles in Ecological Watershed Governance

Watershed governance literature draws from many disciplines and schools of thought within Western academic traditions. I review the historical origins and trajectories of these varied perspectives in detail in Chapter 2 but foreshadow that journey here by briefly contrasting three prominent watershed governance paradigms. Perhaps the most enduring is that of instrumental watershed management, adopted with enthusiasm in eighteenth-century Europe.[32]

Instrumental watershed management values water, and watersheds, primarily as tools for industry. It is a view that aligns closely with the second prominent paradigm in watershed governance – the New Governance[33] mantra of de-centralization and stakeholder engagement associated with neoliberal globalization.[34] The central idea of New Governance is that sharing decision-making power with private interests will overcome perceived inefficiencies and ineffectiveness in state-administered governance. It's an approach that aligns with neoliberal economic theory and the assumed supremacy and wisdom of market forces.[35]

The third prominent paradigm views watershed governance from the perspective of the environment. It draws on studies in the fields of ecology and resilience theory, championing adaptability and deliberative collaboration.[36] One of the branches of environmental watershed governance theory is the field of ecological watershed governance, characterized largely by the works of Brandes and associates.[37]

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[32] François Molle, 'River-Basin Planning and Management: The Social Life of a Concept', *Geoforum* 40, no. 3 (2009): 484–94; Alice Cohen and Seanna Davidson, 'The Watershed Approach: Challenges, Antecedents, and the Transition from Technical Tool to Governance Unit', *Water Alternatives* 4, no. 1 (2011): 1.

[33] Hania describes New Governance as a shift away from state controlled decision-making toward decentralized decision-making that shares decision-making power with private sector stakeholders. Patricia Hania, 'Uncharted Waters: Applying the Lens of New Governance Theory to the Practice of Water Source Protection in Ontario', *Journal of Environmental Law and Practice* 24, no. 2 (2013): 177.

[34] Leila M Harris and María Cecilia Roa-García, 'Recent Waves of Water Governance: Constitutional Reform and Resistance to Neoliberalization in Latin America (1990–2012)', *Geoforum* 50 (2013): 20–30; Edward P. Weber, 'A New Vanguard for the Environment: Grass-Roots Ecosystem Management as a New Environmental Movement', *Society & Natural Resources* 13, no. 3 (2000): 237–59; Mark Imperial and Timothy Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability', Twenty-First Annual Research Conference of the Association for Public Policy Analysis and Management (Citeseer: 1999); Robert Nelson, 'Government as Theater: Toward a New Paradigm for the Public Lands', *University of Colorado Law Review* 65 (1994): 335-368.

[35] Michael Lockwood et al., 'Governance Principles for Natural Resource Management', *Society and Natural Resources* 23, no. 10 (2010): 986–1001.

[36] Carl Folke et al., 'Adaptive Governance of Social-Ecological Systems', *Annual Review of Environment and Resources* 30 (2005): 441–73; Michael M'Gonigle, 'Ecological Economics and Political Ecology: Towards a Necessary Synthesis', *Ecological Economics* 28, no. 1 (1999): 11–26.

[37] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*.

The field of ecological watershed governance combines lessons learned across the watershed governance spectrum with the literature on ecological governance.[38] Ecological governance is outcome-oriented, tasked with delivering ecological health through place-based and deliberative decision-making.[39] It's an approach to governance focused on ecological conditions, with potential to mitigate the environmental excesses of instrumentalism and market supremacy.[40] A key theoretical element of ecological watershed governance is a reliance on principles, preferably embedded in state law, selected to ensure that governance remains constructive and accountable to ecological outcomes.

The focus of ecological watershed governance on place, outcomes, and principles distinguishes it from other Western theoretical approaches to watershed governance. It is a focus that resonates with the literature, cited above, on reconciling Indigenous and state approaches to watershed governance. It is not clear from the ecological watershed governance literature alone, however, how the field connects to Indigenous governance traditions and Indigenous governance principles.

1.4 Principles in Indigenous Watershed Governance Literature

> "Indigenous governance…must be rooted in a traditional values system, operate according to principles derived from that system, and seek to achieve goals that can be justified within that system."[41]

In watershed governance literature, there is a limited body of work on Indigenous engagement that focuses on the use of Indigenous traditional knowledge,[42] Indigenous cultural relations,[43] and Indigenous participation in state-led collaborative processes.[44] These works do not address how to overcome state hegemony and generally succumb by default to state administrative processes. They do not address how to achieve the full

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[38] *Ibid.,* Chapter 2.

[39] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*; Brandes et al., *Illumination: Insights and Perspectives for Building Effective Watershed Governance in BC*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia* (POLIS Project on Ecological Governance, 2014).

[40] Olivia Woolley, *Ecological Governance* (Cambridge University Press, 2014); Bruce Jennings, *Ecological Governance: Toward a New Social Contract with the Earth* (West Virginia University Press, 2016); Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*.

[41] Alfred *Peace, power, righteousness*, 48.

[42] Suzanne von der Porten, Rob C de Loë, and Deb McGregor, 'Incorporating Indigenous Knowledge Systems into Collaborative Governance for Water: Challenges and Opportunities', *Journal of Canadian Studies* 50, no. 1 (2016): 214–43.

[43] Nicole J. Wilson, 'Indigenous Water Governance: Insights from the Hydrosocial Relations of the Koyukon Athabascan Village of Ruby, Alaska', *Geoforum* 57 (2014): 1–11; Patti LaBoucane-Benson et al., 'Are We Seeking Pimatisiwin or Creating Pomewin? Implications for Water Policy', *International Indigenous Policy Journal* 3, no. 3 (2012).

[44] Suzanne von der Porten and Robert C de Loë, 'Collaborative Approaches to Governance for Water and Indigenous Peoples: A Case Study from British Columbia, Canada', *Geoforum* 50 (2013): 149–60.

expression of Indigenous principles. In the remainder of this part, I identify fields of enquiry in Indigenous governance literatures relevant to multi-jurisdictional watershed governance.

I begin with three areas of Indigenous governance literature that do not directly address watershed governance but are pertinent to it. The first is a series of studies on how to shoehorn Indigenous governance into Western theoretical frameworks – either within a neo-liberal capitalist framework,[45] or within a rights-based framework.[46] These literatures attempt to impose non-Indigenous legal frameworks onto Indigenous governance. They do not consider how to apply Indigenous principles or governance approaches.

The second area of Indigenous governance literature covers a range of Indigenous-centered approaches for revitalizing Indigenous governance traditions, including de-colonization literature,[47] self-determination literature,[48] and cultural resurgence literature.[49] These literatures are about strengthening independent Indigenous governance. They do not focus on applying Indigenous principles at a watershed scale in a multi-jurisdictional and reconciliation context.

The third area of Indigenous literature relevant to watershed governance is the re-vitalization work on Indigenous legal traditions.[50] Such work helps to illuminate Indigenous legal and governance principles that are part of Indigenous legal traditions.[51] Indigenous legal scholar Val Napoleon defines Indigenous law, much like non-Indigenous law, as "something that people actually do. Indigenous peoples apply Indigenous law to manage all aspects of political, economic, and social life including harvesting fish and game, accessing and distributing resources, managing lands and

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[45] Miriam Jorgensen, *Rebuilding Native Nations: Strategies for Governance and Development* (University of Arizona Press, 2007); Webber, 'Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities', unpublished draft (n.d.).

[46] Webber, 'Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities'; Jeff Corntassel, 'Toward Sustainable Self-Determination: Rethinking the Contemporary Indigenous-Rights Discourse', *Alternatives* 33, no. 1 (2008): 105–32.

[47] Leanne Betasamosake Simpson, *As We Have Always Done: Indigenous Freedom Through Radical Resistance* (Minneapolis, Minnesota: University of Minnesota Press, n.d.).

[48] Manuel, *The Reconciliation Manifesto: Recovering the Land Rebuilding the Economy*.

[49] LaBoucane-Benson et al., 'Are We Seeking Pimatisiwin or Creating Pomewin? Implications for Water Policy'.

[50] Val Napoleon, 'Thinking about Indigenous Legal Orders', in *Dialogues on Human Rights and Legal Pluralism* (Springer, 2013), 15.

[51] Val Napoleon, 'What Is Indigenous Law? A Small Discussion' *McGill Lawn Journal* 4, no. 61 (2016): 725-754.

waters."[52] Indigenous law draws heavily on values, processes, and principles embedded in tradition.[53]

Legal scholar Jeremy Webber emphasizes the intimate connection between legal and governance traditions, writing that "[t]here is no sharp distinction between 'legal' traditions and traditions of governance generally, especially in the non-state societies of Indigenous peoples."[54] Accordingly, I refer to "Indigenous legal and governance traditions" and cite "Indigenous legal and governance principles" throughout this dissertation. I also refer to Indigenous legal and governance principles as merely "governance" principles when they are put forward in a governance context.[55] Always, I strive to connect the principles to their Indigenous legal/governance tradition. As Napoleon says,

> "Indigenous legal orders and law should be understood as a necessary part of governance… It is… about drawing on the strengths and principles of the past to deal with modern-day problems and situations. A deeper and more critical understanding of Indigenous legal traditions can strengthen today's governance structures and functions."[56]

The re-vitalization literature is about applying long-standing legal and governance traditions in contemporary contexts. It is about recognizing the continuity of those traditions, and their applicability in all circumstances. Watershed governance in a multi-jurisdictional context would be no exception.

Beyond the studies about watershed governance, Westernizing Indigenous governance, asserting Indigenous governance, and revitalizing Indigenous governance, are a handful of studies in the field of Indigenous environmental governance.[57] A study by Indigenous scholar Dr. Kyle Whyte, for example, reviews Indigenous engagement in environmental movements around the globe, drawing conclusions about the purpose and function of environmental movements from Indigenous perspectives.[58] This work emphasizes the

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[52] *Ibid.*, 2.

[53] See *The Inside Story: Indigenous Legal Pedagogies* by Napoleon and Friedland (unpublished). See also Alfred (2009, 48): "Indigenous governance…must be rooted in a traditional values system, operate according to principles derived from that system, and seek to achieve goals that can be justified within that system."

[54] Jeremy Webber*, Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities*, unpublished.

[55] An example is the application and adaptation of the Hul'qumi'num principle of nuts'umat to a shared watershed governance context for the Cowichan Watershed Board, as described in Chapter 3.

[56] Val Napoleon, *Dialogues on Human Rights and Legal Pluralism* (Springer, 2013), 15.

[57] Kyle Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions', *The Oxford Handbook of Environmental Political Theory*, eds. Teena Gabrielson et al. (Oxford, 2016): 563–80; Kyle Whyte, 'Critical Investigations of Resilience: A Brief Introduction to Indigenous Environmental Studies & Sciences', *Daedalus* 147, no. 2 (2018): 136–47.

[58] *Ibid.*

importance of Indigenous principles in Indigenous environmental governance as I describe more fully in Chapter 3.

There is an important gap in the watershed, environmental, and Indigenous governance literatures, and in governance practice, which is to consider how colonial state governments can enable watershed-scale governance that truly manifests Indigenous principles drawn from Indigenous legal and governance traditions.[59] I address this question with a case study of the Cowichan Watershed (the Watershed) in British Columbia's Vancouver Island.

The research objectives are:

Objective 1: to develop a framework for assessing watershed governance practice;

Objective 2: to map how governance works in practice and to what extent, and in what ways, Indigenous principles influence governance at the watershed scale;

Objective 3: to identify obstacles to fully expressing Indigenous governance principles in watershed governance;

Objective 4: to assess the potential for the Province of British Columbia to address the obstacles identified in Objective 3, particularly with respect to the *Water Sustainability Act*.

2. Case Study Approach

This research turns the table on colonialism, asking not how Indigenous governance approaches can fit colonial watershed governance structures, but rather how state governments can support ecological watershed governance in a way that fully expresses Indigenous governance principles. I choose to address this question with a single case study to learn from the experience of the Cowichan Watershed Board (CWB, the Board), a watershed governance entity formed in 2010 as a partnership between a regional-scale state government,[60] the Cowichan Valley Regional District (CVRD), and an Indigenous government, Cowichan Tribes.

The study draws on 12 years of experience by the CWB on how to apply Indigenous principles in shared Indigenous/state governance at the watershed scale. It assesses how, and to what extent, governance of contentious issues, such as river flow and forestry management, aligns with Hul'qumi'num Indigenous governance principles,[61] how

[59] I take the idea of "enabling" watershed-level governance from Brandes and associates who write, at page ix that watershed governance entities "should be enabled – not required". Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*.
[60] I define the concept of "watershed governance entity" in part 4.3.1.
[61] I use the term "Hul'qumi'num governance principles" to refer to principles rooted in the Hul'qumi'num legal and governance tradition, that is the legal and governance tradition of the Coast Salish

governance changes over time, and how the Province impedes or enables the application of Indigenous governance principles.

I conduct the study in three steps corresponding to the research objectives noted above (and detailed in Chapter 3). First, I create a framework for assessing the application of Indigenous governance principles in the watershed governance context. The framework juxtaposes a selected set of Hul'qumi'num governance principles with a selected set of watershed governance functions. Second, I use the framework to map how Hul'qumi'num principles affect governance functions over time, noting the influence of state laws, policy objectives, and administrative structures, most particularly at the Provincial level. Third, I analyze how the Province impedes and enables the full manifestation of Hul'qumi'num governance principles and I draw inferences regarding future Provincial government actions.

My study offers important insights into the reconciliation of colonial and Indigenous land and water management, into the theory of ecological watershed governance, and more generally into how to better govern human activities to live within the ecological limits of our planet. In the next part of this introductory chapter, I outline the contents of the dissertation in more detail by providing an overview of each of the remaining chapters.

3. Structure of Dissertation

In Chapter 2, I take a deep dive into the literature on watershed governance. I trace the origins and evolution of three watershed governance paradigms that shape the theory of watershed governance in the first decades of the 21st century. I explore what the literature reveals about the successes and failures of each approach, as assessed from the perspective of watershed ecology.[62] I trace the idea of purpose in watershed-scale governance and situate the field of ecological watershed governance in the broader realms of environmental governance and watershed governance literatures. This work provides a foundation for the selection, detailed in Chapter 3, of watershed governance functions used in the research framework.

I also develop a theoretical basis for the selection of Indigenous principles for the research framework with a review of the role of principles in literatures on watershed governance and Indigenous legal and governance traditions. Finally, I query the literature

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Hul'qumi'num-speaking people who governed, and continue to govern, parts of Vancouver Island, the Gulf Islands, and the Lower Mainland of British Columbia. For a primer on the Hul'qumi'num legal and governance tradition, see Sarah Noël Morales, 'Snuw'uyulh: Fostering an Understanding of the Hul'qumi'num Legal Tradition' (2014).

[62] I use the term "watershed ecology" to refer to the health of living things, and the ecosystems, ecological cycles, and ecological functions that support life in the watershed. My understanding of the term includes people as part of the environment, and I don't distinguish between "ecological" and "socio-ecological" except where indicated.

about the theoretical roles of state governments in multi-jurisdictional ecological watershed governance in a colonial context.

Chapter 3 outlines the methodological theory and research methods applied in the research. The Chapter begins with a reflection on my positionality as a researcher, describing my worldview and key experiences that shape my research outlook. I then outline a theoretical research framework, providing a rationale for the governance functions and Hul'qumi'num principles selected for investigation. I introduce two theoretical governance functions from ecological governance literature, and one from Indigenous environmental governance literature, that provide the focus of my study. I then introduce the two Hul'qumi'num governance principles that complete the research framework.

In the third section of Chapter 3, I introduce institutional ethnography (IE), a research methodology offering useful tools for mapping how governance truly works in practice. In section 4, I move from theory to application and describe my actual research journey. I outline the ethical complications of conducting research potentially affecting Indigenous people, of conducting interviews during the COVID-19 lockdown, and a few unexpected turns along the way.

Chapter 4 is a description of the governance setting of the Cowichan Watershed. Here I introduce the Watershed's physical and ecological characteristics along with historical drivers of ecological change. I also introduce the overlapping jurisdictions and governmental authorities shaping governance of the Watershed and outline Indigenous and state laws applying to two contentious areas of governance – river flow management and forestry management. To complete the description, I review the history and legacy of state-sponsored watershed-scale planning; and I survey organizations that actively influence watershed governance, the governance actors.[63]

In Chapter 5, I present the research findings. I reveal a map of how governance functions work in practice. I sketch the influence of Indigenous governance principles and factors affecting the application of Indigenous principles. I trace the ways that the Province impedes and enables the application of Indigenous governance principles. I present this Chapter in three sections, corresponding to the three environmental governance functions of the research framework, and share a summary of findings in section 5. I find that Hul'qumi'num governance principles significantly influence Watershed governance over the study period, advancing environmental governance functions and improving the ecological well-being of the Watershed with limited support from state governments.

[63] I define "watershed governance actors" as the decision-makers who influence governance at the watershed scale. This includes governmental actors (Indigenous, state, regional, and local governments and watershed governance entities) and non-governmental actors (Indigenous and non-Indigenous communities, environmental non-governmental organizations, and industry).

I analyze the research findings in Chapter 6, drawing out implications for the Provincial Government. I highlight the important role of Indigenous leadership in the successful application of Indigenous governance principles and the potential contribution of Indigenous governance approaches to ecological watershed governance theory. I describe significant obstacles in Provincial legislative and administrative structures to the application of Indigenous principles in watershed-scale governance. Finally, I recommend a few legislative changes that the Province could make to help address these obstacles.

In Chapter 7, I revisit the research question in relation to my findings and analysis. I also share a few tangential observations perhaps of value to future researchers. I conclude with a few thoughts on potential contributions of this research.

To assist the reader in following the historical aspects of the research, I include a timeline of watershed governance milestones in the Appendix.

Chapter 2: Literature Review

1. Introduction

In this Chapter, I review the literature on watershed governance, drawing out its theoretical nature and purpose. I review theoretical roles for watershed governance principles and for state governments in colonial settings where Indigenous and state legal jurisdictions overlap. I draw on works by Indigenous scholars where possible, recognizing the limited availability of academic literature written specifically on the theory of watershed governance from Indigenous perspectives.

I cast a wide net in the literature, beginning in section 2 with an examination of the nature of watershed governance in the twenty-first century. I chart its intellectual evolution, using a historical review to identify convergent worldviews, inescapable elements, and academic disciplines currently invested in watershed governance. I build on the historical review, in section 3, to examine, and advance assumptions about the theoretical purposes of watershed governance. In section 4, I explore the role of principles in watershed governance from three perspectives related to its purposes (Indigenous, ecological, and "good" governance). In section 5, continuing to build on my understanding of the purposes of watershed governance, I review related challenges of jurisdiction and authority. The background on nature, purpose, principles, and authority informs the examination, in section 6, of the theoretical roles of watershed governance entities (WGE) and colonial states in watershed governance.

2. Western Ideas of Watershed Governance

I note, in Chapter 1, the limited number of studies about watershed governance in academic literature written from Indigenous perspectives. I therefore begin my review of the literature on watershed governance with a brief historical review of the non-Indigenous ideas and movements that largely shape current academic thinking. I identify three distinct ways of looking at watershed governance associated with historical movements that I refer to as Western watershed governance paradigms. I begin the historical review with Molle's study of watersheds as administrative boundaries for water management in 1800s Europe, a period that embraced water and watersheds as instruments of industry. I then describe the evolution of the integrated water resource management (IWRM) movement in the late 1900s, and its gradual shift in focus from management to governance. Finally, I describe the more recent environmental governance initiatives that embrace watersheds as boundaries. Having established the points of view underlying much academic thinking about watershed governance, I then highlight what I describe as its inescapable elements: place, conflict, and politics. I conclude section 2 with a summary description of the nature of watershed governance at the beginning of the 21st century.

2.1 Historical State Approaches to Watershed Management

The concept of watersheds as boundaries for managing the use of water has deep roots in human history.[64] Molle cites the use of watershed maps by the ancient Chinese more than two thousand years ago. In 1800s Europe, the intellectual thrust of the enlightenment found a focus in watersheds with the notion of advancement through science.[65] Watersheds were promoted as administrative units to pursue utopian visions of industrial and economic development of river systems. The concept was that watershed-scale decision-making would enable the instrumental management of water and watersheds, allowing technical expertise to over-rule local or national political considerations. Water could be treated as an instrument of development, independent of any considerations beyond the technical, and decisions about water could be de-politicized by the simplicity of a technical perspective. Watershed-scale administration could then facilitate development of superior river navigation, hydropower and agricultural irrigation systems.[66] The vision of watersheds as administrative units for utopian development gained global application in the latter 1800s, exported across the world along with colonialism.[67]

A more pragmatic conception of watershed administration took root in Europe a generation later, in the early 1900s.[68] Several states, including Germany, England, France, and Spain, experimented with watershed-scale management administrations, with varying degrees of authority, tasked with resolving conflicts over pollution, drainage and water allocation.[69] With the advent of "high modernism" in the early 1900s, however, both the concept of watersheds as utopian administrative units supporting industrialization and the concept of watersheds as administrative units for water protection and allocation gave way to the promotion of river-basin-scale development through large-scale engineering projects generally managed at the state level.[70] The rush to capture water with huge dams for irrigation and power production swept across the

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[64] Francois Molle, 'River-Basin Planning and Management: The Social Life of a Concept', *Geoforum*, vol. 4, no. 3 (2009): 484-494.

[65] *Supra* note 1 at p.485: "The western conceptualization of a river basin as a natural spatial unit only developed in the second half of the 18th century. Industrialization paralleled by scientific and technological development would subsequently project the river basin as the locus of human conquest of nature."

[66] Edella Schlager and William Andrew Blomquist, *Embracing Watershed Politics* (University Press of Colorado Boulder, 2008); Molle, 'River-Basin Planning and Management: The Social Life of a Concept'.

[67] *Supra* note 1 at p.486, "Subduing nature and marshalling water became part of the mission of western countries, inebriated both by their colonial adventures and by the scientism of the time."

[68] *Supra* note 1 at p.488: "Evidence from Europe thus shows that central issues of drainage, pollution and hydropower generation (together with irrigation in Spain) all elicited institutional changes that took the river basin as a management unit. These changes signaled realignments of the power structure between the local, the regional and the national levels."

[69] *Ibid.*

[70] *Supra* note 1 at p.492. Molle, 'River-Basin Planning and Management: The Social Life of a Concept'.

globe, and watershed-scale planning for engineering works dominated thinking about watershed management.

As successful as such projects were, from an instrumentalist point of view, they did not come without social and environmental costs. In America, by the 1950s, the social and ecological disruption of large-scale river engineering projects had become problematic.[71] In an attempt to cope with these "external" costs,[72] governments and developers[73] expanded the scope of project planning to include impacts on a somewhat wider range of human land and water uses.[74] State-driven watershed planning and management initiatives emerged in response to growing public concern about adverse effects of river engineering projects. Watersheds became popular both as planning units, and as management units, used to address the "external" effects of river engineering projects that were otherwise unregulated by state governments. The idea of integrating impact mitigation with large water project development spawned the concept of Integrated Water Resource Management (IWRM).[75]

2.1.1 Integrated Water Resource Management

The central purpose of IWRM is to integrate the interests of all water users, and in later thinking the interests of those affected by water use, at a management level.[76] It is an approach applied in basin-level planning, development, and watershed management. One of the major criticisms of IWRM is its reliance on a stakeholder approach that empowers established interests.[77] In this way, IWRM perpetuates the prioritization of instrumental water use first championed by watershed utopianism.[78]

Stakeholder-based management used in IWRM challenges people and organizations with different interests to find a way to integrate everyone's interests in decision-making. Watershed management studies, such as Kallis's study of California's CALFED Water

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[71] See Edward Goldsmith and Nicholas Hildyard, *The Social and Environmental Effects of Large Dams. Volume 1: Overview* (Wadebridge Ecological Centre, 1984).

[72] Social and ecological disruption were considered "externalities" in a financial sense in that they did not fit within the market-based modelling used in project planning.

[73] I use the term "developers" to refer to people who design, finance, promote and profit from river engineering projects.

[74] Cohen and Davidson (2011) cite White (1957) in identifying the IWRM origins in 1950s America.

[75] Asit K Biswas, 'Integrated Water Resources Management: Is It Working?', *International Journal of Water Resources Development* 24, no. 1 (2008): 5–22; Muhammad Mizanur Rahaman and Olli Varis, 'Integrated Water Resources Management: Evolution, Prospects and Future Challenges', *Sustainability: Science, Practice and Policy* 1, no. 1 (2005): 15–21.

[76] Cohen and Davidson, 'The Watershed Approach: Challenges, Antecedents, and the Transition from Technical Tool to Governance Unit'.

[77] Giorgos Kallis, Michael Kiparsky, and Richard Norgaard, 'Collaborative Governance and Adaptive Management: Lessons from California's CALFED Water Program', *Environmental Science & Policy* 12, no. 6 (2009): 631–43.

[78] Schlager and Blomquist, *Embracing Watershed Politics*.

Program, however, reveal that such decision-making often succumbs to collective paralysis when vested interests effectively veto actions unfavorable to their own interests.

Despite state experiments in integrated watershed management in the USA, watershed-scale administration began to fall out of favour through the 1970s and 1980s. [79] Watershed administrative entities had limited resources and limited authority. Promoters and developers of river engineering projects recognized the political and economic limitations of such watershed-scale administration while also becoming wary of bearing the costs of unintended social, financial and environmental impacts.

Watersheds also fell out of favour as administrative units for pollution management in the 1960s.[80] States began to directly regulate a suite of environmental issues including pollution, biodiversity loss, and development impacts, through other administrative approaches. Unregulated conflicts of land and water use, however, did not go away, and neither did the field of IWRM.

The idea of IWRM resurged in popularity in the 1990s, embraced by a global sustainable development movement.[81] The paradigm broadened in scope in an attempt to address the full range of social, ecological, and development impacts associated with sustainable development.[82] The additional scope, however, did not dislodge the instrumental paradigm embedded in the origins of IWRM, sometimes referred to as its "hydraulic mission".[83]

2.1.2 Experiments in Environmental Watershed Management

A period of intellectual ferment in the western natural and social sciences in the 1970s stretched the study of ecology beyond its origins in reductionism.[84] Concepts such as diversity and resilience began to highlight the complexity of human-nature interactions. The social sciences began to question instrumentalist assumptions embedded in state-driven, top-down management approaches, like IWRM, that fail to fully account for the

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[79] Molle, 'River-Basin Planning and Management: The Social Life of a Concept', 489.

[80] The United States of America introduced the National Environmental Protection Act in 1969, and other countries soon followed with state-wide environmental regulations.

[81] Brian R. Keeble, 'The Brundtland Report: "Our Common Future"', *Medicine and War* 4, no. 1 (1988): 17–25.

[82] Helen Ingram, 'Beyond Universal Remedies for Good Water Governance', *Water for Food in a Changing World*, (2011): 241; Molle, 'River-Basin Planning and Management: The Social Life of a Concept'.

[83] Moore, 'Perspectives of Complexity in Water Governance: Local Experiences of Global Trends', 491: "Water has long been considered a resource to be developed. Historically in OECD countries, and currently in developing nations, water management has been largely conducted by engineers with an emphasis on a supply-side approach and technical solutions to challenges (Barraqué et al., 2008; White, 1998). Consequently, policies, funds, research and practices have long been driven towards building infrastructure for water services for irrigation, industrial and domestic use. This mentality has been dubbed the 'hydraulic mission' (Allan, 2006; Swatuk, 2008)".

[84] Crawford Holling, 'Resilience and Stability of Ecological Systems', *Annual Review of Ecology and Systematics* 4, no. 1 (1973): 1–23.

health of social-ecological systems.[85] The new thinking, in conjunction with increasing environmental consciousness, drove a period of experimentation in environmental management theory and practice. Scholars observed the emergence of new approaches to watershed management driven by an environmental ethos, including the approaches of adaptive management,[86] ecosystem-based management[87] and collaborative management.[88]

Watersheds provided the incubation space for new ways of thinking about land and water management based on emergent environmental management theories. In practice, however, none of these management approaches seemed to deliver on socio-ecological priorities,[89] and watershed management critics began to call for a switch from watershed management to watershed governance.[90]

2.2 From Watershed Management to Governance

A number of factors led to the shift away from state-administered watershed management towards watershed governance. I describe the shortcomings IWRM above, its tendency to perpetuate instrumental water use over other watershed interests, its reliance on a stakeholder approach that further embeds vested interests. I also describe, above, the disenchantment of river engineering developers frustrated with the lack of resources and authority invested state management administration. Similar frustrations emerged in the

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[85] Fikret Berkes, 'Implementing Ecosystem-based Management: Evolution or Revolution?', *Fish and Fisheries* 13, no. 4 (2012): 465–76.; Imperial and Hennesse, Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability'..

[86] Adaptive management incorporates the ability to monitor environmental change and to respond to such changes by shifting management priorities. It arose in response to frustration with a reliance on environmental modeling that often failed to account for environmental complexity. Lucy Rist, Bruce M. Campbell, and Peter Frost, 'Adaptive Management: Where Are We Now?', *Environmental Conservation* 40, no. 1 (2013): 5–18.

[87] Ecosystem-based management is defined as management that accounts for the complexity and relationships of ecological systems: Gonzalo Delacámara et al., 'Ecosystem-Based Management: Moving from Concept to Practice', in *Ecosystem-Based Management, Ecosystem Services and Aquatic Biodiversity: Theory, Tools and Applications* (Springer International Publishing Cham, 2020), 39–60.

[88] Collaborative management brings together "stakeholders" affected by decisions at a management level to seek consensus on how attain shared goals. Tomas M. Koontz and Jens Newig, 'From Planning to Implementation: Top-down and Bottom-up Approaches for Collaborative Watershed Management', *Policy Studies Journal* 42, no. 3 (2014): 416–42.

[89] Cohen and Davidson, 'The Watershed Approach: Challenges, Antecedents, and the Transition from Technical Tool to Governance Unit').

[90] For examples of the management-to-governance shift, see Nelson, 'Government as Theater' regarding public land management; Kallis, Kiparsky, and Norgaard 'Collaborative governance and adaptive management' regarding IWRM; and Julie Wondolleck and Steven Yaffee, *Marine Ecosystem-Based Management in Practice: Different Pathways, Common Lessons* (Island Press, 2017) regarding ecosystem-based management.

experimental environmental management approaches that often tried on New Governance tools to introduce alternative thinking in state administrative regimes.[91]

A common frustration with state-administered watershed management, noted by river engineering developers as well as academic critics, was that managers lacked sufficient resources and authority to make meaningful decisions. [92] Managers were unable to produce new knowledge, respond to changing circumstances, or fully learn from their mistakes. Those who tried to bring in additional management resources through collaborative and stakeholder participation foundered on the shoals of vested interests.[93]

Theorists responded by looking for governance remedies, leading to the academic fields of adaptive governance, ecological governance, and collaborative governance. Various state governments applied these approaches using watershed boundaries, embracing watersheds for their ability to cut across political boundaries in the creation of more "natural" administrative areas.[94] Watersheds became the framework of choice for emerging forms of environmental governance aligned with what Bignall et al. refer to as a post-humanist ethic.[95]

International development agencies, already invested in IWRM, also embraced the idea of watershed governance, promoting the New Governance tools of decentralized, stakeholder-based governance that aligned with IWRM and the instrumental view of water and watersheds.[96]

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[91] Cohen and Davidson, 'The Watershed Approach: Challenges, Antecedents, and the Transition from Technical Tool to Governance Unit'.

[92]See Jan Kooiman and Maarten Bavinck (2005) regarding environmental governance; Woolley (2014) and Jennings (2016) regarding ecological governance; Imperial (2005) and Ansell and Gash (2008) regarding collaborative governance, and Folke, Hahn, Olsson, and Norberg (2005) regarding adaptive governance..

[93] Imperial and Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability'; Kallis, Kiparsky, and Norgaard, 'Collaborative Governance and Adaptive Management: Lessons from California's CALFED Water Program'.

[94] For a discussion of environmental governance using watershed boundaries, see Cohen and Bakker (2014); for collaborative governance using watershed boundaries, see Imperial (2005); for ecological governance using watershed boundaries, see Brandes, Ferguson, M'Gonigle, and Sandborn (2005); for adaptive governance using watershed boundaries, see Pahl-Wostl, Lebel, Knieper, and Nikitina (2012) and Gunderson, Cosens, and Garmestani (2016).

[95] Schlager and Blomquist (2008) describe the popularity of watershed boundaries for emerging governance forms as a largely unexamined convergence of conflicting interests, where the nebulous nature of "watershed governance" allows different interests to project conflicting expectations. Molle (2009) suggests that watersheds have become arenas for sorting out contesting visions and values. Cohen and Davidson (2011) cite the appeal of watersheds as "natural" boundaries, more commensurate with ecological processes than political administrative boundaries, despite the failure of watershed boundaries to align with anything other than surface water hydrology. See Bignall, Hemming, and Rigney (2016) for a description of the post-humanist ethic.

[96] Cohen and Davidson, 'The Watershed Approach: Challenges, Antecedents, and the Transition from Technical Tool to Governance Unit'.

The idea of watershed governance also gained currency in academia beyond the fields of water governance and environmental governance. Disciplines addressing watershed governance over the past two decades include, among others, cumulative effects assessment,[97] ecology,[98]resilience theory,[99] public health,[100] public policy,[101] psychology,[102] state law,[103] and de-colonization literature[104]. Watersheds continue to be spaces for trying out new ideas. The de-colonization literature, in this pattern, calls on water and watershed governance to make space for Indigenous cultural values and worldviews that have been largely excluded from state governance regimes.[105]

We begin to see a pattern of watersheds, with their hydrological boundaries and regional scale,[106] serving as vessels for incubating emergent governance trends: water governance based on an instrumentalist paradigm; watershed governance based on an integrated management paradigm; environmental governance based on a social-ecological paradigm; and de-colonizing governance embracing Indigenous worldviews. Watershed governance, at its 21st century inception, has diverse theoretical underpinnings brought together by the idea of governing at the scale, and within the footprint, of river basins. I will return to the theme of governance paradigms and worldviews in the section on

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[97] Poornima Sheelanere, Bram Noble, and Robert Patrick 'Institutional requirements for watershed cumulative effects assessment and management: Lessons from a Canadian trans-boundary watershed', *Land Use Policy* 1, no. 30 (2013): 67-75.

[98] Foster et al. 'The importance of land-use legacies to ecology and conservation', *AIBS Bulletin*, no. 1, (2003): 77-88.

[99] Huitema et al. 'Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining a Research Agenda'; Pahl-Wostl et al. 'Intellectual history and current status of Integrated Water Resources Management: A global perspective' in *Adaptive and Integrated Water Management: Coping with Complexity and Uncertainty* (Berlin: Springer, 2012).

[100] Parkes et al., 'Towards integrated governance for water, health and social–ecological systems: The watershed governance prism', *Global Environment Change* 20, no. 4 (2010): 693-704.

[101] Nancy Rabalais, EugeneTurner, and Donald Scavia, 'Beyond Science into Policy: Gulf of Mexico Hypoxia and the Mississippi River: Nutrient policy development for the Mississippi River watershed reflects the accumulated scientific evidence that the increase in nitrogen loading is the primary factor in the worsening of hypoxia in the northern Gulf of Mexico', *AIBS Bulletin,* no. 2 (2002): 129-142.

[102] Paul Story and Donelson Forsyth, 'Watershed conservation and preservation: Environmental engagement as helping behavior', *Journal of Environmental Psychology* 28, no. 4 (2008): 305-317.

[103] Ruhl et al., 'Proposal for a model state watershed management act', *Environmental Law* (2003): 929-947.

[104] Rachel Arsenault et al. 'Shifting the Framework of Canadian Water Governance through Indigenous Research Methods: Acknowledging the Past with an Eye on the Future', *Water*, vol. 10, no. 1 (2018).

[105] LaBoucane-Benson et al. (2012); Littlechild et al., 'Transformation and re-formation: First Nations and water in Canada' (Victoria, BC: University of Victoria, 2014); Suzannevon der Porten and Robert de Loë, ' How Collaborative Approaches to Environmental Problem Solving View Indigenous Peoples: A Systematic Review', *Society & Natural Resources* 27, no. 10 (2014): 1040-1056; Nicole Wilson, 'Indigenous water governance: Insights from the hydrosocial relations of the Koyukon Athabascan village of Ruby, Alaska', *Geoforum* 57 (2014): 1-11.

[106] Cohen, 'Rescaling environmental governance'.

conflict in watershed governance below (part 2.4), but first I want to explore the implications of governing within the setting of watershed boundaries.

2.3 Place-Based Governance

An inescapable element of watershed governance is that it is framed by location. It is a form of place-based governance challenged by the myriad ecological and social processes, relationships and interactions that occur within its borders.[107] It is also challenged by socio-ecological processes that extend beyond watershed boundaries,[108] with distant ecological and social drivers affecting conditions in the watershed.[109] An example of an ecological function extending beyond watershed boundaries in coastal British Columbia is the life cycle of salmon, keystone species that spend parts of their lives in the watershed, and part in the open sea. The return of sea-going salmon to the rivers is important not only to the cultural and economic dynamics of the people living in the watershed,[110] but also to the health and resilience of the forest ecosystem.[111] Therefore, despite its place-based nature, or perhaps because of it, watershed governance must account for complexities of ecological scales extending beyond watershed boundaries. The ecological setting of watershed governance is not contained by watershed boundaries.

The dynamic network of human decision-makers, and decision-making processes, that together influence what happens in the watershed, are part of the complex social systems interacting in a watershed and constitute its institutional setting.[112] Decision-makers affecting watershed conditions include watershed residents, governments, businesses, and NGOs operating at many scales.[113] Decisions made in municipal, regional, state, Indigenous, and international levels of government affect what happens in the

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[107]Lant (2003) and Castleden et al. (2017) speak to watershed governance being "place-based". Schlager and Blomquist (2008, xi, 187) observe that "the… state of affairs in each place [watershed] emerges from the interactions of… social and ecological systems.""

[108] Barbara A Cosens and Craig A Stow, 'Resilience and Water Governance: Addressing Fragmentation and Uncertainty in Water Allocation and Water Quality Law', in *Social-Ecological Resilience and Law,* ed. Ahjond S. Garmestani and Craig R. Allen (New York: Columbia University Press, 2014).

[109] The "natural" boundaries of watersheds may correspond with surface water hydrology, but they do not necessarily correspond to groundwater hydrology, airsheds, biomes, migration corridors or other kinds of ecological spaces. See Cohen (2012), Cohen and Bakker (2014). At a social level, political decisions occurring outside the watershed my profoundly affect ecological conditions within the watershed.Schlager and Blomquist, *Embracing Watershed Politics*.

[110] Ann Garibaldi and Nancy Turner, ' Cultural keystone species: implications for ecological conservation and restoration', *Ecology and Society* 9, no. 3 (2004).

[111] James Helfield and Robert Naiman, 'Keystone interactions: salmon and bear in riparian forests of Alaska', *Ecosystems* 9, no. 2 (2006): 167-180.

[112] Supra note 10 at p.187: "…the set of institutional arrangements in place… is complex"

[113] Timothy Moss and Jens Newig, 'Multilevel water governance and problems of scale: Setting the stage for a broader debate' 46 (2010): 1-6; Joyeeta Gupta and Claudia Pahl-Wostl, 'Global water governance in the context of global and multilevel governance: its need, form, and challenges' *Ecology and Society* 18, no. 4 (2013); Sheelanere et al., 'Institutional requirements for watershed cumulative effects assessment and management: Lessons from a Canadian trans-boundary watershed'.

watershed;[114] decisions made by non-profit organizations from the local to international levels may affect what happens in the watershed;[115] decisions made by individuals,[116] local businesses, corporations, and international finance also affect what happens in the watershed.[117] Decision-making affecting watersheds is dispersed across institutions and scales. Schlager and Blomquist (2008, 187) suggest that all watershed governance is, therefore, polycentric. There is an unavoidable complexity of institutional arrangements "with multiple public and private organizations working on different dimensions of watershed problems at different scales, with varying degrees of specialization, coordination, integration, success, and failure."

Watershed governance cannot be separated from the watershed setting: a physical space shaped by complex social-ecological interactions. The setting is where the ultimate effects of ecological and social processes and institutional structures find expression.[118] Watershed governance, however, as a form of place-based governance, must deal with ecological complexity that crosses boundaries. It also must navigate a polycentric decision-making environment that crosses boundaries. Watershed-scale governance is concerned with decisions taken both inside and outside the watershed that affect social-ecological conditions within the watershed.[119]

2.4 Conflict in Watershed Governance

A second inescapable element of watershed governance is conflict.[120] I describe, above, a mix of paradigms and worldviews that together provide a foundation for 21st century watershed governance (instrumentalist, post-humanist social-ecological, and Indigenous worldviews). Each worldview carries an internally cohesive set of cultural ethics and

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[114] Schlager and Blomquist (2008, viii) "Most watersheds… are… governed and managed through complex, polycentric mixes of private and public bodies, of general-purpose and special district governments, of jurisdictions that lie within the watershed and jurisdictions that spill beyond it."

[115] For examples, see Shaw (2003) regarding the influence of ENGOs in changing forestry governance in British Columbia, Canada, and Bevir (2012) regarding the influence of environmental NGOs in the European Union. Margulis, McKeon, and Borras Jr (2013, 3) cite Kiinnemann & Monsalve Suarez (2013) and McKoen (2013) regarding global governance instruments aimed at defending those who live off the land.

[116] The cumulative effect of many small and large decisions taken at a variety of scales can result in ecological change in a watershed. See Schindler (2001); Theobald, Miller, and Hobbs (1997); and Woolley (2014, 114).

[117] See Gunnoe (2016) regarding influence of corporations and finance. See Ball, Noble, and Dubé (2013) regarding watershed cumulative impacts from individual decision-making and business development.

[118] *Supra* note 14 at p.492. In her study of complexity in water governance, Moore writes of "the need to better understand the social, political and institutional dimensions to decisions about water".

[119] Imperial and Hennessey (1999, 1): "By definition, every watershed is "managed" by a wide range of governmental and nongovernmental actors, whose decisions influence the health and integrity of ecological systems. The challenge for a watershed governance program is to get this portfolio of actors and programs to work together more effectively."

[120] See Imperial and Kauneckis (2003); Moore (2013); Schlager and Blomquist (2008).

values, often at odds with alternative views.[121] Below, I explore ethical and political aspects of conflict related to these views and their cultural expressions.

Culture is closely correlated with worldviews and establishes the ethical norms by which people function. Because they establish norms, cultural ethics are a foundational component of governance.[122] Culture is particularly relevant to place-based forms of governance that are necessarily concerned with localized social-ecological conditions.[123] Borrows (2018), for example, cites the role of culture in creating standards of judgement that protect the environment in an Indigenous context.[124] Morales cites the role of culture in resolving conflict.[125] Conflict in colonial states, between "western" instrumental capitalist ethics on one hand, versus "post-humanist" environmental ethics and Indigenous cultural ethics on the other, is a major hurdle in watershed governance.[126]

An example of ethical conflict in watershed governance is the struggle between the resilience of local social-ecological systems and "the consumptive demands of distant powers".[127] It is a struggle over who benefits from, and who has responsibility for, the ecological resources and ecological health of a watershed. The literature characterizes such conflicts as both ethical and political in nature,[128] and it is of particular relevance to

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[121] While it is important to avoid the temptation of pan-Indigenous generalizations and to recognize the cultural distinctiveness of Indigenous peoples, Bignall et al. (2016) distinguish philosophical elements hypothesized as Indigenous in essence and that differ from other philosophical traditions. Ladner (2003) outlines distinctive philosophical elements of governance in the Blackfoot worldview.

[122] See Kooiman and Bavinck (2005, 16), and Licht, Goldschmidt, and Schwartz (2007).

[123] See Coulthard (2014, 53) for a description of the centrality of culture in Indigenous place-based governance, and O'Flaherty, Davidson-Hunt, and Manseau (2008) for a description of the centrality of culture in Indigenous planning for forest sustainability.

[124] Borrows in Asch et al. (2018, 60): "when Indigenous language, culture, history, and traditional knowledge are respected, standards for judgement are created that protect indigenous environments." This observation is supported by Bowie (2013), who highlights the central role of culture in his examination of Indigenous-led initiatives in British Columbia and Ontario to shift forest management practices from an extractive paradigm to an ecosystem-based-management paradigm. In New Zealand, Kanwar, Kaza, and Bowden (2016) cite Durette & Barcham (2009) in writing that one of the greatest challenges to successful resource management is the incorporation of Ma¯ori values in multi-scalar planning, policy development and implementation.

[125] Sarah Morales, 'Stl'ul Nup: Legal Landscapes of the Hul'qumi'num Mustimuhw', *Windsor Yearbook of Access to Justice* 1 (2016): 105-115.

[126] Angela Cameron, Sari Graben, and Val Napoleon, *Creating Indigenous Property: Power, Rights, and Relationships* (Toronto, University of Toronto Press, 2020). Ahjond Garmestani and Craig Allen, *Social-ecological resilience and law* (Columbia University Press, 2014), 2: "rigid legal standards that protect property rights and advance economic considerations are largely incompatible with our current understanding of the dynamics of social-ecological systems."

[127] Michael M'Gonigle, 'Somewhere between Center and Territory: Exploring a Nodal Site in the Struggle against Vertical Authority and Horizontal Flows', *A political space: Reading the global through Clayoquot Sound* (2003): 130. See also George and Reed, 'Operationalising just sustainability'.

[128] To Moore (2013, 492), such conflicts are part of the "moral and ethical dilemma" inherent in complex social-ecological systems. To Bignall et al. (2016), it is a contest between the ethics of neoliberal capitalist ideology that prioritizes accumulation (enabled by the instrumentalist worldview) on one hand, and a

Indigenous peoples in colonial states.[129] To Pasternak, the conflict is the meeting ground of politics and ethics - a contest of jurisdiction that ultimately privileges one set of ethics over another.[130] Pasternak provides the example of the Quebec government's entrenchment of the instrumentalist ethic and the simultaneous disregard of the Algonquian "ethic of care" in land management at Barriere Lake in Canada. Cohen and Bakker provide a similar example of state entrenchment of capitalist instrumentalist ethics in watershed governance structures in Alberta, Canada.[131] The success of colonial states in entrenching instrumentalist ethics in land management and watershed governance speaks to the exercise of state hegemony and the political nature of cultural ethics conflicts in place-based governance.[132]

Not all conflict in watershed governance is related to worldviews and clashes of cultural ethics.[133] At a more pragmatic level, Schlager and Blomquist describe conflicting watershed values tied to functional goals: flood protection, water conservation, reliability of water supply, drought protection, water for local economies, water quality protection, water-based recreation, ecological in-stream flows, habitat protection, and river restoration.[134] Such conflicts may be stark in times of crisis, like the periods of extreme drought in the Murray-Darling basin of Australia, where agriculture, community water supplies and ecological river flows are simultaneously under severe stress.[135] The shape of conflicts may also change over time in response to shifts in ecological and social

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post-humanism ethics that prioritizes the health of the planet on the other. To Schlager and Blomquist (2008), it is a political conflict about what is in the public interest. To Margulis et al. (2013), it is a political conflict over control of both resources and governance.

[129] Stefanelli et al. (2017, 8) cites White et al. (2012) regarding disproportionate burden of water related issues experienced by Indigenous population. See also Castleden et al. (2017) at p.74 "Indigenous peoples' emotional, relational, gendered, and spiritual ties to water are typically neglected in… management practices". Bowie (2013, 100): "the ability to shape the pace and character of development and conservation, and thus to balance industrial development with traditional economies, is central to Indigenous resource management priorities (Slowey, 2009)."See also MacDonald (2011) regarding Indigenous approaches to neoliberal economics in Canada.

[130] See "ethics of reciprocal care" in Pasternak (2017, 95). At p.81: "Under Algonquin governing authority, land management is not governed by an instrumentalist attitude but is a reflection of the ways in which the bush is a sacred place." Schlager and Blomquist (2008) discuss entrenchment as the embeddedness of established privilege in watershed governance arrangements. See also Kallis et al. (2009); Nadasdy (2003) and (2017); Bowie (2013, 97, 100); and Woolley (2014, 154). Molle (2009, 487) cites the Tennessee Valley Authority in the USA as an example of an independent (regional) jurisdiction being used to thwart "capitalist excess". A further example of jurisdiction used to thwart entrenched interests resulted from the Bolt decision recognizing Indigenous (tribal) fishing rights in Washington state, USA. See Biota (2011), Chapter 3.

[131] Cohen and Bakker (2014).

[132] Yates, Harris, and Wilson (2017, 800). Littlechild (2014) similarly describes how the systematic limitation of Indigenous participation in water governance facilitates the state's achievement of neoliberal goals.

[133] *Supra* note 14.

[134] *Supra* note 10.

[135] van Dijk et al. (2013).

conditions and values.[136] Conflict is an unavoidable element of watershed governance, present in its foundational worldviews, in the diversity of cultures that overlap in one place, and in the diversity of ethics and values that compete to shape watershed goals. Watershed governance must accept the burden of the continual need for conflict resolution.[137]

2.5 The Political Nature of Watershed Governance

A third inescapable element of watershed governance is its political nature. As Schlager and Blomquist put it:

> "For people to govern watersheds well requires that they make collective choices. People, organizations, interest groups, and governments, all of whom represent different interests, values, dreams, and aspirations, must collectively decide how to govern the shared resources and uses of watersheds. Collective choices are ultimately political choices."[138]

I describe, above, the historical effort to de-politicize watershed administration and management in the era of watershed utopianism. The idea was extended to IWRM, initially through the embrasure of technical expertise in decision-making, then through the application of New Governance approaches like collaborative environmental governance.[139] The failure of these approaches to engage at a political level limited their effectiveness in challenging entrenched interests and power relations.[140] Woolley notes a similar failure in land use planning when it is conducted as a "neutral" process not accounting for the political element;[141] and King a similar failure in knowledge production.[142] De-politicization may serve to skirt ethical quandaries, but at the cost of entrenching one value system over another without examining the (social and ecological) consequences.

In their analysis of watershed governance in the USA, Schlager and Blomquist describe a persistence of polycentric institutional arrangements, despite many attempts to create integrated, science-based governance structures. They suggest, based on a political-

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[136] *Supra* note 10 at p.63.
[137] *Supra* note 10 at p.492.
[138] *Supra* note 10 in preface at p.x.
[139] Neil Gunningham, 'The new collaborative environmental governance: The localization of regulation', *Journal of Law and Society* 36, no. 1 (2009): 145-166; Molle, 'River-basin planning and management: The social life of a concept'.
[140] See Imperial and Hennessey, 'Environmental governance in watersheds: collaboration, public value, and accountability'; Kallis et al., 'Collaborative governance and adaptive management'; Moore, 'Perspectives of Complexity in Water Governance: Local Experiences of Global Trends' (2013), 492; Cohen and Bakker, 'The eco-scalar fix'.
[141] Woolley, *Ecological Governance*.
[142] Bignall et al., 'Three Ecosophies for the Anthropocene', 466. See also King (2004) for an example of the political sidelining of Indigenous knowledge and corresponding governance approaches.

economic analysis of human capacity, that polycentricity is an inherently political response to the complex physical and institutional settings of watersheds. They propose that multiple, overlapping organizations, focused on different values, may be the institutional structure that best accommodates the unavoidably political nature of watershed governance.[143] Loorbach indirectly acknowledges the political nature of watershed governance in arguing that setting a (politically) strategic vision is essential if watershed governance is to create space for innovation and develop long term sustainability.[144]

In considering the political nature of watershed governance, it is worth noting some of the higher-level political winds affecting the scene. I highlight three of them here, closely aligned with the paradigms and worldviews identified above as currently shaping the literature on watershed governance (instrumentalist, post-humanist, and Indigenous). The instrumentalist view, entrenched in many institutional arrangements affecting watersheds, prioritizes opportunities for wealth creation in the form of development and resource extraction.[145] The instrumentalist view is closely aligned with the political jet-stream of neoliberal economics, shaped by the Chicago School of Economics and adopted as an on-going political project by corporate financial institutions.[146] The second upper-level political wind is the green movement, embodied by environmental NGOs, green political parties, and a public concern over environmental degradations such as climate change.[147] A third upper-level political wind is the project of cultural resurgence, de-colonization and self-determination of Indigenous peoples in colonial states. Regaining a degree of influence over land management is a political project of Indigenous peoples that is gaining momentum; in Canada, with implications for water and watershed governance.[148] Political energies at a global scale affect the governance of watersheds.

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[143] Supra note 10.

[144] Loorbach, ''Transition Management for Sustainable Development: A Prescriptive, Complexity-based Governance Framework', *Governance* 23, no. 1 (2010): 161-183.

[145] See also Pinkerton (2017), Pinkerton (2015).

[146] See Mayer (2017) for an example of corporate political promotion of neoliberalism, and Gunnoe (2016) for an example of corporate application of neoliberal economics affecting watersheds. Forgive my observation, respecting the neoliberal "jet stream", that the Chicago School of Economics is located in the "windy city".

[147] The essence of the green movement is captured by M'Gonigle (1999) at p.24: "...the "constitution" of the modern state needs to be reinvented if territorial values are to be realized in the necessary reformation of centrist institutions... [and] the challenge is far less a technical, policy one than it is one of developing a broad process of social transition. This is a profoundly political and social task."

[148] See Takeda and Røpke (2010) for a description of the political nature of the Haidas' initiatives to regain influence over forestry management in Haida Gwaii, Canada. Also Low and Shaw (2011) and Curran (2017) for a similar description of Indigenous political engagement in shifting forestry practices in the Great Bear Rainforest, Canada. Bowie (2013, 116) notes the political influence of Indigenous peoples reshaping resource management processes. The political drive by Indigenous people is also felt in court challenges and the emergent clarifications of Indigenous title, (Borrows, 2015), and related shifts in water law in Canada. See also (Brandes & Curran, 2017 as well as Simms et al. (2016). Christensen and Grant (2007)

The political realm is at play in watershed governance at a localized scale: in decision-making processes affecting local social-ecological conditions; in value contestation; planning; knowledge production; and the creation of institutional architecture. It is also at play in global-scale philosophical conflicts that ultimately manifest within watershed boundaries. Attempts to by-pass the political challenges of watershed governance generally fail to address underlying philosophical and ethical conflicts and result in unexamined but institutionally entrenched values.

2.6 Summary of the Nature of Watershed Governance

Watersheds are physical settings where complex social-ecological and institutional interactions play out. They are also settings of the imagination, providing purchase for emergent concepts in management and governance. Historically, watershed boundaries provided space, both physical and administrative, to enable the expression of new ideas about how states manage and govern human-nature interactions: utopian development and "progress" based on instrumental water use in the 1850s; experiments in regional control of pollution and water allocation in Britain at the turn of the 20th century; the planning and construction of large-scale river engineering projects like dams and canals across the globe in the early 1900s; integrated watershed administration in 1950s USA; and sustainable development beginning in the 1990s. In the first decades of the 21st century, watersheds have become the preferred venue for experimental approaches in environmental governance. Largely missing in this historical arc is the potential contribution of Indigenous governance approaches long repressed by colonial states.

In colonial states, such emergent watershed governance must articulate with resurgent Indigenous cultural practices. One can see the contemporary idea of watershed governance, as reflected in academic literature, anchored in the convergence of three paradigms or worldviews: the ethics of instrumentalist capitalism in the form of neoliberal economics; the post-humanist ethic in the form of the green movement; and Indigenous cultural ethics expressed in part, as we will see below, in the form of revitalized Indigenous legal orders.

Because it is about coordinating decision-making among a disparate range of actors and institutions operating at many scales, watershed governance has an inescapably political nature. It is tasked with sorting out ethical conflicts, navigating polycentric institutional structures and entrenched interests, and developing strategies to reach beyond watershed boundaries in response to social-ecological issues manifested within watershed boundaries.

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describe the political drive behind the inclusion of Indigenous knowledge in the institutional structures of the MacKenzie Valley Resource Management Act, and Norman and Bakker (2016) describe a shift in transboundary water governance resulting from Indigenous political organization on the Yukon River.

3. Purpose in Watershed Governance

I describe, above, a convergence of three paradigms (instrumental, post-humanist and Indigenous,), and three inescapable elements (place, conflict and politics), that mark the landscape of watershed governance. It is a complex landscape subject, in colonial states like Canada, to overlapping Indigenous, federal, provincial, regional, and municipal government jurisdictions. One must consider the challenges of introducing an additional layer of governance in such a complex environment and ask why it is necessary. What is the purpose of watershed governance? In this section I look at theoretical purpose in watershed governance in two fields of literature: Indigenous water governance and ecological watershed governance. I begin by sharing two assumptions that bracket my inquiry.

The first assumption is that the drive to create space for an instrumental approach to water and watershed management, initiated nearly two hundred years ago with watershed utopianism, largely succeeded. The idea of water as a resource, independent from nature, is no longer an emergent concept, but is culturally and institutionally entrenched in the resource management policies of western nation-states.[149] The implication of this assumption is that the contemporary drive for watershed governance is about unseating instrumentalism to some degree. Twenty-first century watershed governance is primarily concerned with making space for alternative ethical frameworks characterized by the posthumanism of the green movement and the Indigenous resurgence movement.[150] I therefore focus the review of the purpose of watershed governance mainly on the literatures of environmental governance and Indigenous governance.

The second assumption that shapes the scope of this review is that within the emergent branches of environmental governance (adaptive, ecological, and collaborative) the first two speak to purpose and the third merely to process; and of the two that speak to purpose, adaptive and ecological, the ethics of ecological governance are most closely aligned to watershed governance.[151] A post-humanist ethic underlies both adaptive and

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[149] Molle, 'River-Basin Planning and Management; Cohen and Bakker, 'Water governance in Canada: Innovation and fragmentation'. Schlager and Blomquist (2008, 194-195) write, "The attraction of ideas such as grassroots environmental management and collaborative environmental management has a lot to do with overcoming past exclusion and bringing new interests and values into policy making on a more nearly equal footing with established ones."

[150] These two concepts are explored in the previous section.

[151] Adaptive governance has its roots in adaptive management, where, according to Holling, all management decisions are, ultimately, experiments, because we lack the analytical power and conceptual understanding needed to effectively predict outcomes in ecological systems, which are non-linear, complex, chaotic, and prone to shifting states. Unfortunately, as noted by Woolley, we have no tools to measure functional resilience, or to discern when natural systems are likely to switch to alternate states. It is, therefore, necessary to develop governance capabilities that can facilitate adaptation, even to alternate ecological states. Holling, 'Resilience and Stability of Ecological Systems'; Woolley, *Ecological Governance*; Jennings, *Ecological Governance*. For an introduction to watershed governance as ecological

ecological governance, each striving in its own way to reshape governance and to strengthen resilience, defined as the ability of an ecosystem, or social-ecological system, to continue to function in the face of change without switching to an alternate ecological state or regime.[152] Adaptive governance focuses on the ability of a social-ecological system to respond to change, even if the change involves a regime shift. An example of a regime shift is the loss of cod, off the East coast of Canada, due to overfishing, and the emergence of a new pelagic regime dominated by shrimp.[153] The shrimp regime sustains an alternative economy and ecology, but the loss of cod has a significant social cost.[154] The aim of adaptive governance is to facilitate adaptation to such an ecosystem change, even if it includes regime shift. The very willingness to accept regime shifts, however, is the basis of Cosens' criticism of adaptive governance from a watershed governance perspective. Clearly, for a social-ecological system, some ecological regimes, such as ones having cod, are preferable to others, such as ones not having cod.[155] Ecological governance, in contrast to adaptive governance, carries the vision of a *preferred* ecological regime, along with the capacity to make hard decisions to avoid undesirable regime shifts.[156] I assume that watershed governance, to be useful, must value resilience without regime shifts and strive to enable preferred ecological regimes and conditions. I therefore focus my review of purpose in environmental governance primarily on the literature of ecological governance.

In looking at the literature on the purposes of watershed governance, I not only focus on Indigenous and ecological watershed governance literatures, but also draw on the wider range of adaptive and place-based governance literatures. In the following section, I outline theories in the selected literatures regarding the purpose of watershed governance.

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governance see Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*. The third environmental governance approach identified above, collaborative governance, is a governing *process* that may or may not be used effectively within adaptive and ecological governance structures. See Imperial and Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability'.

[152] Woolley (2014, 27) draws on the works of Holling, Gunderson, and Folke et al., to define resilience as "the adaptive capacity of ecosystems… that allows them to retain their structure and functionality in the face of challenges". Resilience, in this view, is the ability of an ecosystem to withstand disturbance without shifting into an alternate regime. Holling, 'Resilience and Stability of Ecological Systems'; Gunderson, 'Ecological Resilience'; Folke et al., 'Regime Shifts, Resilience, and Biodiversity in Ecosystem Management', *Annual Review of Ecology, Evolution, and Systematics* 35 (2004): 557-581.

[153] Savenkoff et al., 'Changes in the Northern Gulf of St. Lawrence Ecosystem Estimated by Inverse Modelling: Evidence of a Fishery-Induced Regime Shift?' *Estuarine, Coastal, and Shelf Science* 73, No 3-4 (2007): 711-724.

[154] Hamilton, Brown, and Rasmussen, 'West Greenland's Cod-to-Shrimp Transition: Local Dimensions of Climatic Change', *Arctic* (2003): 271-282.

[155] Cosens, Gunderson, and Chaffin, 'The Adaptive Water Governance Project: Assessing Law, Resilience and Governance in Regional Socio-Ecological Water Systems Facing a Changing Climate', *Idaho Law Review* 51, no. 1 (2016).

[156] Woolley, *Ecological Governance*.

3.1 Ecological Purposes in Watershed Governance

Ecological governance literature promotes governance at a regional-scale though not necessarily using watershed boundaries.[157] Ecological governance theory largely addresses structures, processes, and outcomes. To address the idea of purpose in this context, I draw on two themes in Nelson's proposal for regional land governance in 1990s USA – decentralization and transformation.

Expressing his frustration with "insuperable institutional inertia" in top-down federal land management, and a corresponding failure to meet ecological objectives, Nelson proposed the creation of regional *ecological governance entities.*[158] The entities would use watershed boundaries and exercise authority delegated by the federal United States government. Nelson's focus is on providing regional governance structures and experimental processes to deliver outcomes based on values. The purpose of ecological watershed governance, in Nelson's proposal, is to implement "decentralization to meet the demands of a world of growing value pluralism [and to] rely on experimentation by local communities" to transform living environments to better reflect local values.[159]

M'Gonigle, at about the same time, developed a similar conception of ecological governance using regional governance structures with constituted state authority and exercising democratic processes to facilitate the expression of "territorial values" as outcomes.[160] M'Gonigle also speaks to a larger purpose for ecological governance, which is to escape the constraints of centralized state government and lead a social and political transformation to an ecological political economy. There are two themes in these early ideas about the purpose of ecological watershed governance, warranting further exploration: de-centralization and transformation. I pick up on the transformation aspect below, but first I want to consider what the literature says about the purported benefits and consequences of decentralization.

Decentralization, from a neoliberal perspective, supports the ideological objective of weakening state governance capacity and structure, making way for market-based decision-making.[161] Decentralization was a global political project in the 1980s and 1990s in international (water) development initiatives that continue embrace the neoliberal drive to downsize and privatize state governments.[162] It was also supported by early ecological governance thinkers (including M'Gonigle and Nelson) advocating New Governance approaches to increase local participation and authority. They hoped to

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[157] Woolley, *Ecological Governance*.
[158] Nelson, 'Government as Theater', 360-361.
[159] *Ibid.,* 362, 363.
[160] M'Gonigle, 'Ecological Economics and Political Ecology: Towards a Necessary Synthesis', 24; M'Gonigle, 'Somewhere between Center and Territory: Exploring a Nodal Site in the Struggle against Vertical Authority and Horizontal Flows'. In the 2000s, Brandes (2005, iii), in association with M'Gonigle and others, described the purpose of ecological watershed governance as ensuring that "natural ecosystem processes are carefully considered in all levels of decision-making… in our government, our industry and our civil society".
[161] Cohen and Bakker, 'The Eco-Scalar Fix'.
[162] Cohen and Davidson, 'The Watershed Approach'.

overcome state perpetuation of rigid and ineffective environmental management policies.[163] Decentralization results in a greater diversity of decision-making authorities, including non-state actors like industry, and a correspondingly greater challenge for coordinating decisions affecting the environment.[164] Decentralization in practice, however, doesn't necessarily result in greater empowerment of local- or regional-scale governance initiatives.[165] Decentralization may help to make space for watershed governance by reducing state influence, but it doesn't necessarily advance the ecological governance objectives of elevating local and ecological values in decision-making affecting the watershed. There is no indication that decentralization, on its own, is a purpose of ecological watershed governance.

In a recent theoretical work, Woolley reinforces M'Gonigle's view that ecological governance is a project of societal transformation.[166] Woolley argues that governments must both embed ecological values as principles in state law, and transform relationships among governance actors by practicing collaboration and recognizing greater authority at regional and local levels.[167] The purpose of ecological governance, in Woolley's view, is "to divert society away from its ecologically destructive course towards pathways which may allow for synergy between the functioning of socioeconomic and natural systems".[168] This is very much a political ambition that switches the emphasis of ecological watershed governance from structures and processes to *outcomes*. The problem with emphasizing outcomes, however, is the risk to governance legitimacy by temptations such as "the end justify the means".[169] Lautz argues that watershed governance must focus only on the means – on process, and not outcomes – if it is to provide "good" governance respecting democratic norms.[170] Jennings, acknowledging the

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[163] Nelson, 'Government as Theater: Toward a New Paradigm for the Public Lands'; M'Gonigle, 'Ecological Economics and Political Ecology: Towards a Necessary Synthesis'; M'Gonigle, 'Somewhere between Center and Territory: Exploring a Nodal Site in the Struggle against Vertical Authority and Horizontal Flows'.

[164] Harris and Roa-García, 'Recent Waves of Water Governance: Constitutional Reform and Resistance to Neoliberalization in Latin America (1990–2012)'; Ingram, 'Beyond Universal Remedies for Good Water Governance'.

[165] Anne Larson and Fernanda Soto, 'Decentralization of Natural Resource Governance Regimes', *Annual review of environment and resources* vol. 60 (2008): 213-239; Cohen and Bakker, 'The Eco-Scalar Fix'; Neef, 'Transforming Rural Water Governance: Towards Deliberative and Polycentric Models?', *Water Alternatives* 2, no. 1 (2009): 53; Maureen Reed and Shannon Bruyneel, 'Rescaling Environmental Governance, Rethinking the State: A Three-Dimensional Review', *Progress in Human Geography* 34, no. 5 (2010): 646-653; Chukwumerije Okereke, *Global Justice and Neoliberal Environmental Governance: Ethics, Sustainable Development and International Co-Operation* (Routledge, 2007).

[166] A view that is also supported in the political ecology literature. See Schlager and Blomquist, *Embracing Watershed Politics*; Ingram, 'Beyond Universal Remedies for Good Water Governance'.

[167] Woolley, *Ecological Governance*.

[168] Wooley, *Ecological Governance,* 104.

[169] Jennings (2016) provides a thoughtful analysis of this conundrum in ecological governance.

[170] Good governance in the ecological and water governance literatures is governance that respects democratic norms such as legitimacy, accountability, transparency, participation and equitability. See section 1.3.3 below for a discussion of these principles. Lautze et al., 'Putting the Cart before the Horse:

conflict between process versus outcome, argues that ecological governance must provide both good governance, in the form of discursive democracy (democracy based on reasoned consensus rather than on negotiation), *and* "good" ecological outcomes. This may be achieved, in the long run by a transformative change in the social contract (i.e. the norms of society), and in the medium term by a combination of ecological constitutionalism (the entrenchment of ecological values and principles within a government's constitution) with local empowerment in the form of discursive democracy.[171] Jennings gives ecological governance a clear political purpose - to transform societal norms, as well as governance structures and processes, in order to provide good governance and resilient social-ecological systems.

The purpose of ecological watershed governance, conceived by Nelson, was to provide structure and process to enable decision-making based on local values. The purpose proposed by M'Gonigle, and embraced by later theorists Woolley and Jennings, is both to enable discourse about ecological values in all levels of decision-making affecting watershed conditions (including public, government and non-government actors), and to enable a shift in societal values. The greater theoretical purpose of ecological watershed governance is to transform the norms of society - to "kick the habit of seeking material affluence rather than plenitude, and the habit of favouring competition, mastery, and extractive power over membership, care, and ruling and being ruled in turn".[172] Bignall et al. speculate that such a purpose may be harmonious with many Indigenous philosophies.[173]

3.2 Indigenous Purposes in Watershed Governance

There are a great many Indigenous cultures, each with its own worldview and philosophical outlook. Most, however, have oral rather than written traditions and limited material is, therefore, publicly available regarding Indigenous governance theories specific to the purpose of watershed governance. Looking beyond academic publications, Simms notes that in Canada, the national *Assembly of First Nations*, the provincial *Union of BC Indian Chiefs*, and several Indigenous communities across the country endorse Indigenous engagement in watershed-based water management and governance, but say

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Water Governance and IWRM', in *Natural Resources Forum* (Wiley Online Library, 2011), 1-8. Brandes and Curran describe a consensus in water governance literature that "good" water governance adheres to principles of participation, legitimacy, transparency, and accountability". See Oliver Brandes and Deborah Curran, 'Changing Currents: A Case study on the evolution of water law in Western Canada', in *Water policy and governance in Canada* (Springer, 2017), 45-67. See also section 1.2.5 of this paper for further exploration of "good" watershed governance.

[171] Jennings, *Ecological Governance'.* The idea of a social contract, first elaborated by Hobbes, is about establishing limits and compromises applicable to individual behavior and upheld by social expectations enforced by the state in support of community well-being.

[172] As Jennings (2016, 196) notes, "The political is the counter-vision, the enabling act of mind, that will kick the habit of seeking material affluence rather than plenitude, and the habit of favouring competition, mastery, and extractive power over membership, care, and ruling and being ruled in turn."

[173] Bignall, Hemming, and Rigney, 'Three Ecosophies for the Anthropocene'.

little about its purpose.[174] Within the academic realm, there appears to be no grand study on the purpose of watershed governance from Indigenous perspectives, but there are bodies of literature on Indigenous water governance, including de-colonizing water governance, and resurgent Indigenous governance.[175] In this section, I review concepts in Indigenous water governance literature that may shed a light on the purpose of watershed governance.

In her review of Indigenous water governance literature, Von der Porten highlights the centrality of Indigenous self-determination. Self determination is essential for Indigenous people to be able to choose how they relate to water and to "place"; to maintain their cultural "hydrosocial relations".[176] Closely associated with the drive toward self-determination is a debate on strategy.[177] One strategy, argued by Turner, is that "Indigenous peoples must engage in the state's legal and political discourses in order to shape a relationship that respects Indigenous world views".[178] An example of this

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[174] See the Assembly of First Nations' Draft National Watershed Protection Strategy and the Collaborative Watershed Governance Accord for BC (Fraser Basin Council 2012) cited in: Simms, '"All of the Water That Is in Our Reserves and That Is in Our Territory Is Ours": Colonial and Indigenous Water Governance in Unceded Indigenous Territories in British Columbia'. Writing in 2014, Simms identifies the Yukon Intertribal Watershed Council and the Xeni Gwet'in Chilko Roundtable Watershed Plan as examples of Indigenous community recognition of watersheds as water governance frames. Other examples include Cowichan Tribes, co-founders of the Cowichan Watershed Board, and the Lower Similkameen Indian Band – Smelqmix – currently engaging with the province of British Columbia to conduct planning under the Water Sustainability Act.

[175] Norman and Bakker describe a resurgence of Indigenous participation in water governance in North America focused on rights and Indigenous and international law. See Emma Norman and Karen Bakker, 'Transcending Borders through Postcolonial Water Governance? Indigenous Water Governance across the Canada-US Border', in *Water policy and governance in Canada*, eds. Steven Renzetti and Diane Dupont, (Spring International Publishing, 2017), 144. Scholars of resurgent Indigenous governance include Alfred, Cornell, Manuel, Tulley, Ladner, and Atleo. Taiaiake Alfred and Jeff Corntassel, 'Being Indigenous: Resurgences against Contemporary Colonialism', *Government and opposition* 40, no. 4 (2005): 597-614; Manuel, *The Reconciliation Manifesto*; Kiera Ladner, 'Governing within an Ecological Context: Creating an Alternative Understanding of Blackfoot Governance', *Studies in Political Economy* 70, no. 1 (2003): 125-152; Eugene Atleo, *Principles of Tsawalk: An Indigenous Approach to Global Crisis* (Vancouver: UBC Press, 2011); Stephen Cornell, '"Wolves Have A Constitution:" Continuities in Indigenous Self-Government', *The International Indigenous Policy Journal* 6, no. 1 (2015): 8; James Tully, *Strange Multiplicity: Constitutionalism in an Age of Diversity*, (Cambridge University Press, 1995). Wilson (2014, 2)describes the scope of Indigenous governance literature as "a vast field of study related to Indigenous peoples and decision making that is generally considered to include Indigenous identity, sovereignty, self-determination, values, ways of knowing, and race, as well as historical and ongoing colonialism and the resulting consequences of marginalization". Scholars writing on de-colonization of water governance include Arsenault et al., 'Shifting the Framework of Canadian Water Governance through Indigenous Research Methods: Acknowledging the Past with an Eye on the Future'.

[176] Hydrosocial relations refer to "the existence of both the material and the socially constructed dimensions of water, and the interactions between the two"; Wilson, 'Indigenous Water Governance: Insights from the Hydrosocial Relations of the Koyukon Athabascan Village of Ruby, Alaska', 2. I use the term "place" here in the sense of Aldo Leopold's "land ethic", to refer to the social-ecological interactions in a geographic space.

[177] Von Der Porten, 'Canadian Indigenous Governance Literature'.

[178] *Ibid*; Quoted by von der Porten at page 10 from Dale Antony Turner, *This is not a peace pipe: Towards a critical indigenous philosophy* (University of Toronto Press, 2006).

approach is the Nicola First Nations agreement with the province of British Columbia to co-lead a watershed planning process under the *Water Sustainability Act*.[179] Other strategies include litigation, and the active application of Indigenous governance practices outside of state institutional structures, like the initiative of the Yukon Intertribal Watershed Council to coordinate watershed governance across the Canada/USA border using an Indigenous governance framework.[180] These examples reveal two political purposes for watershed governance from Indigenous perspectives: 1) to facilitate the exercise of Indigenous cultural, social, and ecological relations with "place"; and 2) to shape relations between Indigenous peoples and colonial states so that Indigenous cultural, social, and ecological relationships are taken into account.[181] Many Indigenous peoples in colonial states share such ambitions in the context of water governance.[182]

Though I characterize making space to both express cultural relations and improve state relations as a political purpose, it is important to recognize implications beyond the political realm. Indigenous relations-to-place include governance and legal traditions that ultimately shape decisions affecting the environment.[183] I explore these connections in greater detail in section 4.1.2 below. Many Indigenous communities share the high-level purpose of realizing Indigenous ways of relating and governing within colonial states, but we can expect that the finer purposes of watershed governance, from Indigenous perspectives, will be as diverse and nuanced as the cultures themselves.[184]

4. Principles in Watershed Governance

Lockwood makes the case that watershed governance needs clear principles to guide decision-making affecting the watershed.[185] Clear principles support good governance. Principles also reflect underlying values, and in the 21st century, must support the

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[179] See British Columbia government press release, accessed online 11 February, 2019 at: https://news.gov.bc.ca/releases/2018ENV0012-000484.

[180] See Wilson, 'Indigenous Water Governance'; Von Der Porten, 'Canadian Indigenous Governance Literature'; Natasha Overduin et al., 'Summary Report & Next Steps BC First Nations Water Governance Roundtable', *Polis Project on Ecological Governance* (University of Victoria, 2017); Norman and Bakker, 'Transcending Borders through Postcolonial Water Governance?'.

[181] Wilson, 'Indigenous Water Governance', 7: "employing a variety of strategies to transform water governance in a manner that acknowledges their hydrosocial relations and historical power inequalities". See also Stevenson (2018, 108): "…where a decolonial approach to water politics requires a resituated relationship to ecology, an interrogation of settler hydrosocial relations, and a re-centering of Indigenous forms of education and knowledge…". Norman and Bakker (2017, 152): "knowing the place – in body, mind and spirit – is integral to the practice of water governance".

[182] See, for example, 'Indigenous Peoples Kyoto Water Declaration' (2003); Assembly of First Nations, 'Assembly of First Nations National Water Declaration' (2014).

[183] John Borrows, 'Living between Water and Rocks: First Nations, Environmental Planning and Democracy', *University of Toronto Law Journal* 47, no. 4 (1997): 417-468; Asch, Borrows, and Tully, *Resurgence and Reconciliation: Indigenous-Settler Relations and Earth Teachings*; Hanna, 'Making the Round: Aboriginal Title in the Common Law from a Tsilhqot'in Legal Perspective', *Ottawa Legal Review* 45, (2013): 356. The idea of cultural relations includes social, ecological, economic, and spiritual relations.

[184] Alfred and Corntassel, 'Being Indigenous'; Linda Smith, *Decolonizing Methodologies: Research and Indigenous Peoples*, (Zed Books, 2013).

[185] See at page 987: Lockwood et al., 'Governance Principles for Natural Resource Management'.

purposes of watershed governance noted above (strengthening social-ecological resilience through societal transformation, and making space for Indigenous cultural relations). In this section, I examine a theory for selecting watershed governance principles, the fit of watershed governance principles to its purposes, and how to ensure the principles are effective in practice. I draw on the ecological, water, watershed, and Indigenous governance literatures, noting that there does not appear to be a previous study that combines these approaches nor any peer-reviewed material dealing directly with Indigenous *watershed* governance principles. I begin with concepts from the literature on Indigenous water governance principles, including examples of general Indigenous governance principles applied in resource management contexts.

4.1 Indigenous Principles in Watershed Governance

Indigenous scholars working in the field of de-colonization warn against misconstrued attempts to develop general theories and principles applicable across Indigenous societies.[186] Indigenous scholars working on the resurgence and revitalization of Indigenous traditions, nonetheless, recognize broad differences between Western philosophical traditions and a great number of Indigenous philosophical traditions.[187] Many scholars observe, for example, that de-centralized Indigenous governance traditions tend to place greater emphasis on relationships and responsibilities than do colonial forms of governance centered on authority and enforcement.[188] Others, in a second example, observe a more holistic view of people and the environment in many Indigenous governance traditions, versus a segmented or siloed view of people and the environment in state governance.[189] A third example is that Indigenous societies often rely on oral traditions, in contrast to the written traditions of nation states. The combination of centralized versus de-centralized, of wholistic versus segmented, and of oral versus written traditions marks a series of interpretive challenges to non-Indigenous researchers wishing to access Indigenous governance principles.[190] Mills points out that, though Indigenous scholars may identify widely applicable principles applicable across decentralized Indigenous traditions, such as relationality, reciprocity, and responsibility, one must understand the underlying cosmology, ontology and epistemology of a legal

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[186] Smith, *Decolonizing Methodologies*; Aimee Craft, *Anishinaabe Nibi Inaakonigewin Report: Reflecting the Water Laws Research Gathering Conducted with Anishinaabe Elders June 20-23, 2013 at Roseau River, Manitoba* (University of Manitoba Centre for Human Rights Research, 2014). Borrows, *Canada's Indigenous Constitution*.

[187] Alfred, *Peace, Power, Righteousness*; Borrows, *Canada's Indigenous Constitution*.

[188] Borrows, *Canada's Indigenous Constitution*; Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory' (Thesis, University of Victoria, 2009). Webber, 'Indigenous Legal Traditions and Indigenous Governance'; Borrows, *Canada's Indigenous Constitution*; Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'; Bignall, Hemming, and Rigney, 'Three Ecosophies for the Anthropocene'.

[189] Alfred, *Peace, Power, Righteousness*; Borrows, 'Living between Water and Rocks'; Ladner, 'Governing within an Ecological Context'.

[190] Simpson, *As We Have Always Done*.

tradition to be able to apply it across cultures with integrity.[191] In this section I pay heed to these common differences, while taking Mills' advice.[192] I explore the literature on accessing principles within, rather than across, distinct Indigenous societies, and review examples of Indigenous principles put forward by Indigenous peoples for use in state governance.

I scope the range of literature on Indigenous governance in part 4.1.1, looking mainly at publications by Indigenous scholars working in North America, to identify approaches that explore, from an internal Indigenous perspective, governance principles applicable to multi-jurisdictional, place-based governance. Finding little literature with direct relevance to watershed governance, I extend the scope of inquiry, in part 4.1.5, to include the literature on revitalizing Indigenous legal traditions. I review theoretical roles of principles in Indigenous law as well as tools for accessing such principles in revitalization work. In part 4.1.3 I review literature on the use of Indigenous principles in state environmental governance initiatives.

4.1.1 Indigenous Governance Literature

There is a great deal of literature about Indigenous societies and their traditions in the fields of anthropology and ethnography, but these fields offer little consideration of the theoretical elements and principles of governance.[193] The scholarship on Indigenous governance *per se*, is concentrated, within the academy, in a handful of disconnected bodies of literature. I briefly consider the potential of each of these areas to provide theory on Indigenous governance from an Indigenous perspective. The first, typified by the Harvard Project on Indian Economic Development, springs from the field of international development.[194] Working within a neoliberal paradigm, it aims to reorient Indigenous communities toward centralized government and capitalist economics without regard for Indigenous traditions. The second body of literature is within the scholarship on legal rights.[195] It considers how to enable Indigenous agency through the application, and lens, of rights in state and international law.[196] It does not work from an internal

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[191] Aaron Mills, 'The Lifeworlds of Law: On Revitalizing Indigenous Legal Orders Today', *McGill Law Journal* 61, no. 4 (2016): 854.

[192] Mills is not alone in this cautionary advice. See also Arsenault et al., 'Shifting the Framework of Canadian Water Governance through Indigenous Research Methods'. John Borrows, *Drawing out Law: A Spirit's Guide* (University of Toronto Press, 2010); John Borrows, 'Outsider Education: Indigenous Law and Land-Based Learning', *Windsor Yearbook of Access to Justice*, 33 (2016).

[193] Webber, 'Indigenous Legal Traditions and Indigenous Governance'. See, for example, the general works of Nancy Turner, or the Ignaces' work on Sepwepemc law and governance: Ignace and Ignace, *Yiri7 Re Stsq'ey'-Skucw-Secwepemc People, Land and Laws* (Montreal: McGill-Queens University Press, 2017).

[194] Webber (n.d.) characterizes the developmental approach, typified by the Harvard Project on Indian Economic Development, as a *practical* inquiry about Indigenous governance. For an example of this approach, see Jorgensen, *Rebuilding Native Nations: Strategies for Governance and Development*.

[195] Webber, 'Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities'.

[196] For a critique of the rights-based approach to indigenous governance, see Corntassel, 'Toward Sustainable Self-Determination'.

Indigenous perspective. These first two disciplines address Indigenous governance traditions in an overly general way from non-Indigenous viewpoints and do not account for the nuanced traditions of distinct Indigenous societies.[197]

A third body of literature, that I characterize as cultural resurgence critique, analyzes colonial constraints on, and options for reinvigorating, Indigenous cultural traditions.[198] It is mainly focused on self-determination and de-colonization, casting light on just how Indigenous cultural traditions are thwarted by the machinations of colonial governance. An example of this approach is Laboucane and associates' critique of state water policies from the perspective of a Cree worldview.[199] This approach succeeds in working from an internal Indigenous perspective but is not oriented to the study of theoretical principles or elements of governance.[200]

A fourth body of literature, Indigenous environmental resurgence literature, produces studies on Indigenous engagement in environmental movements and environmental governance institutions. It includes work both by non-Indigenous environmental governance theorists and by Indigenous scholars working from a resurgence perspective.[201] This literature helps to clarify Indigenous relationships with the environment, and Indigenous interests in environmental governance, but does not directly address theoretical principles or elements of Indigenous governance traditions.

None of the bodies of literature described above, dealing with Indigenous governance, address the challenge of making the principles of traditional governance accessible and intelligible to those unfamiliar with the cultures or applicable in multi-jurisdictional watershed governance. To address this gap, I widen the literature search, moving from the literature on Indigenous governance to the literature on revitalizing Indigenous legal traditions.

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[197] Webber, 'Indigenous Legal Traditions and Indigenous Governance'.

[198] Simpson (2017) distinguishes between political and cultural resurgence movements. Political resurgence is concerned with recreating economic and political circumstances to support a re-engagement with Indigenous traditions, such as through self governance and renewed access to land. Manuel (2017) likewise notes, cultural resurgence is not directly concerned with land dispossession.

[199] LaBoucane-Benson et al., 'Are We Seeking Pimatisiwin or Creating Pomewin? Implications for Water Policy'. For an example of a resurgence critique of the discipline of geography, see Sarah De Leeuw and Saraha Hunt, 'Unsettling Decolonizing Geographies', *Geography Compass*, 12, no. 7 (2018).

[200] One exception is Alfred's (2009, 51) proposal of six theoretical principles meant to have general application for Indigenous governance. The principles address participation, power, and situated circumstance; embrace decentralization and diversity; and shun coercion.

[201] Examples of works in this area by non-Indigenous scholars include Premauer and Berkes, 'A Pluralistic Approach to Protected Area Governance: Indigenous Peoples and Makuira National Park, Colombia'; Wilson, 'Indigenous Water Governance'. Indigenous scholars include Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'.

4.1.2 Principles in Indigenous Law Revitalization

Legal traditions draw on principles to provide structure and direction in state and Indigenous law, particularly when dealing with novel or complex situations, and Indigenous legal traditions are no exception.[202] There is a growing body of literature on Indigenous legal traditions and the revitalization of Indigenous law in colonial states.[203] In Canada, where Indigenous legal and governance traditions have been systematically repressed for generations and partially supplanted and disrupted by colonial governance structures, Indigenous legal scholars lead the revitalization process in an academic context.[204] I tap that literature here to explore what it reveals about accessing legal and governance principles.

Revitalization theory highlights a very close alignment between Indigenous governance traditions and Indigenous legal traditions.[205] Legal scholar Jeremy Webber, in fact, suggests that "[t]here is no sharp distinction between 'legal' traditions and traditions of governance generally, especially in the non-state societies of Indigenous peoples."[206] As

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[202] As Borrows (2005, 182) notes, underlying principles temper the interpretation and application of the Canadian constitution. They are similarly central to the kin relationships that are the backbone of the Gitxsan legal tradition. Napoleon identifies three theoretical types of principles for analyzing Indigenous legal traditions: general principles that have to do with the overall structure of Indigenous law; normative principles that have to do with human/non-human relationships; and general working principles that have to do with the application of law. Napoleon (2009, 175) gives an example of normative principles, "Throughout their evidence, Gitksan witnesses provided examples of their extensive relationships with non-human life forms. The principles that guide these relationships form the underpinning for the Gitksan laws with which Gitksan people govern their use of land and resources." Overstall provides a similar example of the centrality of human-to-human relations in the form of kinship principles in the Gitksan legal tradition, as per Richard Overstall, 'Encountering the Spirit in the Land:'Property'in a Kinship-Based Legal Order', *Despotic Dominion: Property rights in British Settler societies* (2005): 45.

[203] See, for example, Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'; Ignace and Ignace, *Yiri7 Re Stsq'ey'-Skucw-Secwepemc People, Land and Laws*; Morales, 'Snuw'uyulh: Fostering an Understanding of the Hul'qumi'num Legal Tradition'.

[204] Vowel, *Indigenous Writes: A Guide to First Nations, Métis, and Inuit Issues in Canada*; Borrows, 'Indigenous Legal Traditions in Canada', (Portage & Main Press, 2016); Napoleon and Friedland, 'Indigenous Legal Traditions: Roots to Renaissance'. Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'; Hadley Friedland, 'The Wetiko (Windigo) Legal Principles: Responding to Harmful People in Cree, Anishnabek and Saulteaux Societies--Past, Present and Future Uses, with a Focus on Contemporary Violence and Child Victimization Concerns', (Thesis, University of Alberta, 2009); Hadley Friedland and Val Napoleon, 'Gathering the Threads: Developing a Methodology for Researching and Rebuilding Indigenous Legal Traditions', *Lakehead Law Journal* 1, no. 1 (2015): 16-44.

[205] Mohawk scholar Taiaiake Alfred (2009) describes political traditions as part of Indigenous governance traditions. Saulteau scholar Valerie Napoleon (2009) describes legal traditions as part of governance traditions.

[206] Webber, 'Indigenous Legal Traditions and Indigenous Governance: Challenges and Opportunities', 5. Napoleon (2016, 2) writes similarly that "[L]aw is one of the ways we govern ourselves… At its most basic level, law is collaborative problem-solving and decision-making through public institutions with legal processes of reason and deliberation." Also, at page 296, "The structure and functioning of the Gitksan legal order reflects the non-state, decentralized governance system in Gitksan society wherein authority is dispersed through a closely interwoven, reciprocal and matrilineal kinship network of Houses and clans."

Napoleon puts it, "Indigenous legal orders and Indigenous law should be understood as a necessary part of governance … drawing on the strengths and principles of the past to deal with modern-day problems and situations".[207]

In developing theory for Indigenous law revitalization, Napoleon identified three theoretical types of principles.[208] The first type, general principles, concerns the overall scope and structure of the tradition, such as the types of law within the tradition. The second type, normative principles, is concerned with expectations about relations among humans and non-humans, such as kinship relations, legitimacy of authority, and accountability. The third type, general working principles, is concerned with expectations regarding the application of Indigenous law, such as prioritizing compensation over determining guilt and ensuring due processes like public witnessing.

Friedland adopted a different theoretical framework to analyze legal principles in her study of *wetiko* law in Cree and Anishinaabe legal traditions.[209] Using a common law case-study framework, Friedland identified general principles, such as *reciprocity* and *efficacy*, that provide overall guidance, regardless of circumstance, and that offer direction to a second tier of applied principles dealing with legal processes, legal rights, and legal responsibilities.

Though their frameworks are quite different, both Napoleon and Friedland identify broad, underlying principles with general application (normative principles), and more narrowly-focused principles for application in specific areas of Indigenous law (working principles). Reflecting on the differences between Napoleon's and Friedland's approaches, one might conclude that it is not the framework that is important – principles may be organized into whatever framework one brings to the table – but the fit of the principle to the application at hand. In that sense, it is the normative principles that would seem to apply most readily to governance, as they lend themselves to ready application to new challenges. Because normative principles in Indigenous traditions are integral to the "lifeworld" ways of knowing described by Mills, and to the relational connections to the land, or "grounded normativity" as described by Coulthard, we can expect them to vary among the diversity of Indigenous societies.[210] The work of revitalizing Indigenous legal

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[207] Napoleon (2013, 15) presents, "I have proposed here that Indigenous legal orders and law should be understood as a necessary part of governance, including the safety and protection of those who are marginalized within Indigenous societies. It is not about trying to go back in time, but about drawing on the strengths and principles of the past to deal with modem-day problems and situations."

[208] For a reference to general, normative, and working principles, see Napoleon 'Ayook: Gitksan Legal Order, Law, and Legal Theory', 179.

[209] Friedland, 'The Wetiko (Windigo) Legal Principles', 56.

[210] Mills, 'The Lifeworlds of Law'; Glen Coulthard, *Red Skins, White Masks*, (Minneapolis: University of Minnesota Press, 2014). Legal principles in Indigenous traditions often have deep roots in the cosmology underlying Indigenous worldviews. See also Morris notes, "To come into the Indigenous world, one must first enter their cosmology, otherwise the knowing of Peoples is purely superficial. This is because a People's cosmological creation story and events define principles, ideals, values and philosophies, which

traditions in the colonial context, nonetheless, often begins with making the normative principles of legal/governance traditions explicitly accessible.[211]

One of the tools used to revitalize Indigenous law is to examine the sources of law in Indigenous legal traditions – a process that can help to identify normative legal and governance principles. According to Friedland and Napoleon,[212] cultural representations, such as stories, ceremonies, drawings, dreams, and dances, harbour underlying principles and processes central to Indigenous legal traditions.[213] At a theoretical level, Borrows distinguishes sources of Indigenous law by their origins: deliberative, positivistic, customary, spiritual and natural.[214] The first four of these are easily recognizable within Western legal traditions. Deliberative law, "formed through processes of persuasion, deliberation, council, and discussion", is produced and legitimized through the application of reason.[215] Positivistic law is the law of rules – prescriptions for doing the right thing – legitimized only through the exercise of authority.[216] Customary law is upheld and legitimized through cultural practice. [217] Sacred laws either originate through spiritual insight or earn their legitimacy through spiritual connections and tend to carry a high level of legitimacy in many Indigenous legal traditions.[218]

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in turn inform the legal regime." Morris, 'A Dialogical Encounter with an Indigenous Jurisprudence', *Griffith University Socio-Legal Research Centre* (Griffith University, 2007).

[211] Napoleon and Friedman distinguish normative principles of Indigenous governance and legal traditions as principles with wide application across governance and legal processes. See Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'; Friedland, 'The Wetiko (Windigo) Legal Principles'. For the Cowichan watershed, normative Indigenous governance traditions will be sourced from published works on Coast-Salish governance and legal traditions, focusing primarily on the Hul`qumi`num.

[212] See Friedland and Napoleon, 'Gathering the Threads'; Napoleon and Friedland, 'Indigenous Legal Traditions: Roots to Renaissance'.

[213] Friedland, 'The Wetiko (Windigo) Legal Principles', 16. Respecting drawings as sources of law, see Borrows, *Drawing out Law: A Spirit's Guide*. Respecting ceremony as a source of Cree law, see Darcy Lindberg, 'Brain Tanning and Shut Eye Dancing: Recognizing Legal Resources within Cree Ceremonies', *Law 502* (2016).

[214] Borrows, *Canada's Indigenous Constitution*.

[215] Deliberation draws on the principles and processes of the legal tradition within which it is exercised, and ultimately delivers an interpretation or formulation of law deemed legitimate by "what counts as persuasive to the group involved in the debate". Borrows, *Canada's Indigenous Constitution*, 35.

[216] Both Borrows and Napoleon warn of the limitations of positivistic law with its potential pitfall of rewarding self-interest over community interest. Napoleon, 'Thinking about Indigenous Legal Orders', 2013; Borrows, *Canada's Indigenous Constitution*.

[217] Customary law is defined by Borrows as "practices developed through repetitive patterns of social interaction that are accepted as binding on those who participate in them". Borrows, *Canada's Indigenous Constitution*, 51.

[218] Examples of laws with spiritual legitimacy include the Canadian constitution with its embedded reference to God, or the Cree recognition of Treaty Six as a spiritual commitment. Napoleon is careful to point out that, regardless of its level of esteem as a source of law, sacred law is subject to interpretation, reasoning, and application by human beings. Napoleon, 'Thinking about Indigenous Legal Orders', 6; Borrows, *Canada's Indigenous Constitution*; Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'.

The fifth source of Indigenous law identified by Borrows, and perhaps the most distinguishing from a watershed governance perspective, is natural law.[219] Natural law, inspired by the keen observation of nature, is described by Borrows as law "literally being written on the earth".[220] An example is Morales description of the essential role of nature, or the "land", as a source of law in the Hul'qumi'num legal tradition.[221] The intimate connection of Indigenous law with nature and the land goes beyond the questions of source and legitimacy. Nature also provides the background on which Indigenous law is "written" and transmitted. In oral traditions it is the familiar characteristics of the land and of its inhabitants that provide the subtext for nuanced stories reflecting Indigenous laws.[222] The place-names of biota and topography, expressed in Indigenous languages, are archives of oral legal and governance traditions, in the way that libraries are for written traditions.[223] Indigenous language is an essential tool for accessing and sharing not only this resource but Indigenous legal and governance principles in any context.[224]

4.1.3 Applying Indigenous Principles in State Environmental Governance

In Canada, working from a range of secondary sources in Indigenous literature, including Cree, Metis, Inuit and Anishinaabe material, Bradford et al. theorize that governance principles are the entry point for challenging established water governance regimes, regimes they criticize for relying too heavily on the paradigm of prediction and control.[225] The authors' concept is to "inoculate" state water governance by introducing Indigenous governance principles through place-based planning.[226] Communities will use tools of good governance (i.e. accountable, participatory, collaborative and transparent processes) to establish a combination of Indigenous and Western water governance principles for their location. The principles will then form the basis for a new, place-based, water

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[219] Borrows is careful to distinguish ideas of natural law in Indigenous traditions from ideas of natural law in Western philosophy and jurisprudence. The Western concept discounts the agency of "nature" that is accepted in many Indigenous traditions. Borrows, *Canada's Indigenous Constitution*.

[220] Borrows, *Canada's Indigenous Constitution*, 29.

[221] For example, see Morales, 'Stl'ul Nup: Legal Landscapes of the Hul'qumi'num Mustimuhw'.

[222] See Borrows, 'Living between Water and Rocks'; Borrows, *Drawing out Law: A Spirit's Guide*; Morales, 'Stl'ul Nup: Legal Landscapes of the Hul'qumi'num Mustimuhw'; Ignace and Ignace, *Yiri7 Re Stsq'ey'-Skucw-Secwepemc People, Land and Laws*.

[223] Napoleon (2013) gives the example of the role of place-names in archiving the law of the Tlicho Nation in northern Canada. See also Morales, 'Stl'ul Nup: Legal Landscapes of the Hul'qumi'num Mustimuhw'.

[224] Borrows, 'Outsider Education'.

[225] Bradford, Ovsenek, and Bharadwaj, 'Indigenizing Water Governance in Canada', 293. At p. 293: "We seek to point out inequities and challenge the 'Power Over' rhetoric inherent to rationalized principles driving water governance. We seek to inoculate water governance with a spiritually-guided, pride-inducing and stewardship-focused approach that emphasizes the health and wellbeing of both people and the environment."

[226] Woolley fully develops this criticism, pointing out that "western" approaches to environmental management, relying on the ability to predict environmental effects and ecological limits, fail to account for the complexity of nature, or the always insufficient capacity to measure, assess, and ensure compliance. Woolley, *Ecological Governance*.

governance structure.[227] This approach provides the opportunity to combine Indigenous and Western philosophical approaches without framing them as a dichotomy, which Norman and Bakker suggest may risk counterproductive entrenchment and essentialization.[228] It has potential to address the Indigenous, ecological, and good governance purposes of watershed governance identified above.

In the case of Haida Gwaii, also in Canada, the Council of the Haida Nation brought forward values and principles in the *Haida Land Use Vision*, later shared in a strategic land use planning process co-chaired by the Haida and the province of British Columbia.[229] Chief among the Haida principles is the concept of yah'guudang, described as respect for all living things.[230] This principle was instrumental in shaping the Haida vision statement and, through the planning process, embedding eco-system-based management in the Haida Gwaii Strategic Land Use Agreement.[231] The central role of principles in the planning process looks very similar to the water governance approach put forward by Bradford et al., and arguably delivers on the purposes of 21st century watershed governance.

In the Haida example, key Indigenous governance principles shaped the outcomes of an Indigenous-state, co-chaired planning process without being embedded in state law. The literature also reveals a few examples where Indigenous governance principles were incorporated in state law. Ecuador and Bolivia incorporated the Quechua and Aymara Indigenous governance principle of Sumak Kawsay into their respective constitutions in 2008 and 2009.[232] The principle is translated as, "humans living in harmony with each other and the environment".[233] Bolivia also incorporated the Indigenous concept of Pachamama, meaning the well-being of nature, where nature includes humans and human communities.[234] Indigenous governance principles went from rallying cries of resistance

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[227] Bradford et al. give the example of a new Tribal Park established near Tofino, in British Columbia, Canada, that uses governing principles of the Tla-o-qui-aht First Nation. Bradford, Ovsenek, and Bharadwaj, 'Indigenizing Water Governance in Canada'.

[228] Norman and Bakker, 'Transcending Borders through Postcolfonial Water Governance?'. For further discussion of essentialization see section 2.1 below.

[229] Council of the Haida Nation, 'Haida Land Use Vision' (2005); Louise Takeda and Inge Røpke, 'Power and Contestation in Collaborative Ecosystem-Based Management: The Case of Haida Gwaii', *ecological Economics* 70, no. 2 (2010): 178-188.

[230] "Yah'guudang is about respect and responsibility, about knowing our place in the web of life, and how the fate of our culture runs parallel with the fate of the ocean, sky and forest people." Council of the Haida Nation, 'Haida Land Use Vision', 4.

[231] Takeda and Røpke, 'Power and Contestation in Collaborative Ecosystem-Based Management'. Ecosystem-based management is described in section 1.1.1 above.

[232] Rickard Lalander, 'Rights of Nature and the Indigenous Peoples in Bolivia and Ecuador: A Straitjacket for Progressive Development Politics?', *Iberoamerican journal of Development Studies* 3, no. 2 (2015): 148-172.

[233] *Ibid.*

[234] Karl Zimmerer, 'Environmental Governance through "Speaking Like an Indigenous State" and Respatializing Resources: Ethical Livelihood Concepts in Bolivia as Versatility or Verisimilitude?', *Geoforum* 64 (2015): 314-324.

against rampant resource exploitation to pillars of state policy.[235] Independent studies by Lalander and Zimmerer indicate, however, that over the ten years following the legal incorporation of the principles, multiple interpretations obscured their meanings, and their application became uneven and contradictory. Both states continue to prioritize the promotion of extractive industrial development that often conflicts with the principles.[236] Having legally embedded principles is apparently not a panacea for managing resource use conflicts when they are not applied consistently across government agencies and not supported at a local level.

New Zealand provides another example of a state incorporating Indigenous governance principles into state law. The Māori legal principle of kaitiakitanga, translated by Te Aho as, "protecting the environment for its own sake, as well as for present and future generations" is incorporated in New Zealand's Resource Management Act 1991, which is applied using watershed boundaries.[237] Similarly, incorporated in the National Policy Statement for Freshwater Management, is the principle of *Te Mana o te Wai*, described as "the innate relationship between the health and well-being of the water and the wider environment and their ability to support each other while sustaining the health and well-being of the people".[238] Te Aho cites Charpleix and Salmond in noting that the principles significantly change the culture of river management as well as its legal structure. A quantitative study of Māori ecological values in government policy publications appears to back up this assertion.[239] Kanwar et al. identified nine clearly articulated Māori values, used more frequently by regional governments than by the national government. The authors attribute the difference to the state's investment in regional-level governance. Harmswoth et al. found that Māori governance frameworks, as well as principles and values, effectively support good governance through partnerships, co-management, and co-governance arrangements.[240] In the New Zealand case, where the state embraces and supports Indigenous engagement and regional governance, legally-embedded Indigenous principles apparently do shift the culture of water and land governance in a way that is consistent with the high-level purposes of 21st century watershed governance.

In Haida Gwaii, the Haida first used the strategy of an independent Indigenous governance process to develop the Haida Land Use Vision, then used a second strategy of engaging in a shared planning process with the state government. The result was a recognition of Haida governance principles, a restructuring of land use around ecosystem-based management, and the creation of space for the expression of Haida

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[235] *Ibid.*
[236] Lalander, 'Rights of Nature and the Indigenous Peoples in Bolivia and Ecuador'; Zimmerer, 'Environmental Governance through "Speaking Like an Indigenous State" and Respatializing Resources'
[237] Te Aho, 'Te Mana o Te Wai: An Indigenous Perspective on Rivers and River Management', 2.
[238] *Ibid,* 3.
[239] Kanwar, Kaza, and Bowden, 'An Evaluation of Māori Values in Multiscalar Environmental Policies Governing Kaipara Harbour in New Zealand'.
[240] Harmsworth, Awatere, and Robb, 'Indigenous Māori Values and Perspectives to Inform Freshwater Management in Aotearoa-New Zealand'.

cultural relations. In the cases of Bolivia and Ecuador, the incorporation of Indigenous principles, even at the level of the state constitution, was not enough to make space for Indigenous cultural relations when states simultaneously, and vigorously, supported the expansion of industrial extractivism. In New Zealand, the incorporation of Indigenous governance principles into state law, in combination with a state investment in Indigenous participation in regional-level authorities, created space for a cultural shift in management practices and structures. Taken together, these examples indicate, consistent with the theory put forward by Bradford et al., that an appreciation of Indigenous governance principles, together with state investments in good governance at a regional scale and consistency across government, can help to enable watershed governance that meets the ecological, reconciliation, and good governance challenges of the 21st century. This literature supports the notion that Indigenous governance principles are a good fit with ecological watershed governance.

4.2 Ecological Governance Principles

The literature on ecological watershed governance calls for the incorporation, in state law, of both ecological and good-governance principles.[241] I explore the theoretical role of ecological governance principles in this section and the principles of good governance in the next section (2.3.3). I begin with the theories of Jennings, who writes from a philosophical perspective, and of Woolley who writes from a more pragmatic viewpoint based on her experience in public and environmental planning in the United Kingdom.[242] Both theorize that legally-binding principles can provide ethical guidance for good ecological governance while also limiting people's ability to adopt ecologically destructive governance patterns. After reviewing the theory, I then look at examples of ecological principles applicable to watershed governance in the ecological, watershed, Indigenous, and place-based governance literatures.

In Jennings' view, states must incorporate ecological governance principles at a constitutional level, applicable across all levels of government.[243] Jennings, however, warns against relying only on a constitutional approach to ecological governance, arguing that the state must simultaneously invest in regional-scale governance that supports

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[241] In his synthesis paper on ecological economics and political ecology, M'Gonigle calls for "a different set of starting principles" to act as "reference points of accountability". Both Jennings and Woolley endorse the idea of legally embedding ecological governance principles in law, Jennings at a constitutional level. Brandes et al. argue that the state must support watershed governance with both high-level principles, applied broadly across state policies, and a strong legal framework. One option put forward by O'Riordon et al. is to embed such governance principles in law using the Doctrine of Public Trust. M'Gonigle, 'Ecological Economics and Political Ecology: Towards a Necessary Synthesis'; Jennings, *Ecological Governance*; Woolley, *Ecological Governance*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Brandes, 'A Revitalized Water Agenda for British Columbia's Circular Economy'.

[242] Jennings, *Ecological Governance*; Woolley, *Ecological Governance*.

[243] Jennings, *Ecological Governance*.

discursive democracy.[244] Jennings distinguishes discursive democracy from interest-based democracy, characterizing the former as reasoning and the latter as negotiating. The problem with negotiation is that it may lose sight of values not represented at the table, like ecosystem resiliency, for example. Jennings' view of regional democracy is very similar to ideas developed by M'Gonigle in the POLIS project on ecological governance, where local values and rationality prevail over distant interests and ideologies.[245] The theoretical combination of constitutional principles and regional discursive democracy may enable a transformation of social norms toward a social contract of ecological responsibility, clearly serving the ecological and good governance purposes of watershed governance.[246]

Woolley envisages a similar transformation of social norms, supported by legally-embedded ecological principles and enhanced authority in local and regional governance, but extends her thinking into how that may work in practice, and what the principles may be.[247] Woolley argues for state investment in governance processes, including policy-making and regional planning; and governance structures, including independent oversight boards, and regional governments; all guided (and limited) by the ecological principles.

Woolley proposes a new version of the *precautionary principle* for ecological governance, moving away from setting thresholds and trying to quantify risks, toward avoiding risks by reducing consumption and development; substituting the least harmful options in decision-making; and deliberately phasing out the most harmful options.[248] Under Woolley's precautionary principle, for example, government would be obliged to respond to citizen demand for increased energy production by considering how to reshape consumption patterns to avoid the need for new energy; by selecting the energy supply options posing the least risk to the environment; and by phasing out the energy sources most damaging to the environment.

There are examples of ecological principles in watershed governance literature as well, including *water for nature*, the principle that ecosystem resilience and ecological functions, such as in-stream flow requirements for fish and fish habitat, take precedence over the instrumental use of water.[249] A second ecological principle in watershed

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[244] *Ibid*.

[245] See the POLIS website at https://www.polisproject.org/ and M'Gonigle, 'Ecological Economics and Political Ecology: Towards a Necessary Synthesis'; M'Gonigle, 'Somewhere between Center and Territory'; M'Gonigle, 'Why Ecological Governance Now More Than Ever?'

[246] Jennings, *Ecological Governance*.

[247] Woolley, *Ecological Governance*.

[248] According to Resnik the "precautionary principle holds that we should not allow scientific uncertainty to prevent us from taking precautionary measures in response to potential threats that are irreversible and potentially disastrous". David Resnik, 'Is the Precautionary Principle Unscientific?', *Studies in History and Philosophy of Science Part C: Studies in history and Philosophy of Biological and Biomedical Sciences* 34, no. 2 (2003): 329-344.

[249] Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.

governance literature, cited by Brandes et al., is *whole-system thinking*, the principle that decision-makers must consider the connections among, and the cumulative impacts to, land, water, humans, and non-humans alike.[250]

Indigenous governance literature also identifies ecological governance principles. Bradford et al., for example, cite core governance values identified by the Cree Nation Governance Working Group, including *Taapwaayaayihtimuwin*, meaning "to conceive of Nature as a spiritual being which may be respectfully approached to give both the individual and others her bounty in order for life to be sustained".[251] This is an ecological principle in the sense that it calls for respecting the inherent value of nature and ecosystems.

The formation of the Great Bear Rainforest agreements is an example of place-based governance transformation leveraged through ecological principles.[252] The agreements, intended to resolve conflicts over resource use on British Columbia's central coast, followed the creation of a negotiation framework in 2001. The framework is based on seven key principles initially supported by industry, environmental organizations, and Indigenous peoples, and then endorsed by the provincial government of British Columbia.[253] The principles focus on applying ecosystem-based management in the regional context, and their scope includes ecological, social, Indigenous and good governance elements.[254] The substance of the agreements that followed adoption of the principles, arguably, ticks most of the boxes of watershed governance purposes, as identified in section 3 above. The agreements strengthen social-ecological resilience by reshaping forestry practices to protect old-growth ecosystems and by investing in alternative local economies. They help to make space for Indigenous cultural relations by protecting old growth forest and by restructuring state relations to better respect Indigenous and ecological values. They provide good governance by enhancing regional authority through a consultation and decision-making framework for activities subject to approval under provincial jurisdiction.[255] Curran's analysis of the Great Bear Rainforest

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[250] Brandes et al. also calls for applying good governance principles in ecological watershed governance, which I address in section 1.3.3 below.

[251] Bradford, Ovsenek, and Bharadwaj, 'Indigenizing Water Governance in Canada', 280.

[252] The negotiated principles were central to a five-part framework established in 2001 to advance the negotiations. See Merran Smith and Art Sterritt, 'From Conflict to Collaboration: The Story of the Great Bear Rainforest' *Coast Funds* (2007). Deborah Curran, '"Legalizing" the Great Bear Rainforest Agreement: Colonial Adaptations Towards Reconciliation and Conservation', *McGill Law Journal* 62, no. 3 (2017): 813.

[253] Smith, Merran and Sterritt, Art, 'From Conflict to Collaboration: The Story of the Great Bear Rainforest'.

[254] Smith and Sterritt (2007, 15) identify seven principles in the agreement "intended to guide implementation of ecosystem-based management": 1) Ecological Integrity Is Maintained; 2) Human Wellbeing Is Promoted; 3) Cultures, Communities, and Economies Are Sustained within the Context of Healthy Ecosystems; 4) Aboriginal Rights and Title Are Recognized and Accommodated; 5) The Precautionary Principle Is Applied; 6) EBM Is Collaborative; and 7) People Have a Fair Share of the Benefits from the Ecosystems in Which They Live".

[255] Curran, '"Legalizing" the Great Bear Rainforest Agreement: Colonial Adaptations Towards Reconciliation and Conservation'.

agreements shows that states can tweak their legal structures to embed ecological governance principles in regions where the principles have broad support.[256]

In summary, the literature on ecological governance theory stresses the importance of situating ecological principles within a legal framework, preferably at a constitutional level that applies across all levels of government and governance. Literature based both on theory and practice calls for inclusion of good governance principles along with ecological principles. Indigenous governance literatures include ecological principles, and ecological principles have the potential to provide common ground among parties with conflicting land use values, including Indigenous communities, environmental organizations and industry.

4.3 Good Governance Principles

The literature of watershed governance overlaps the literature of its academic sibling, water governance, respecting good governance practice. They both align with the approach of New Governance, which I describe above as a shift toward decentralization and "stakeholder" decision-making.[257] In this part, I look at the three good governance principles most frequently cited in the water and watershed governance literatures: transparency, accountability, and participation.[258] I also draw on the literatures of ecological governance and Indigenous governance in relation to those principles. Before getting to those principles, however, I must set the scene by looking at a related challenge – the idea of legitimacy in watershed governance.

4.3.1 Legitimacy, Accountability and Transparency

Though sometimes referred to as a principle, legitimacy is perhaps more of a challenge to, and an indicator of, good governance. It refers to the validity of governing outcomes in the eyes of the governed.[259] It is a perpetual challenge in circumstances, like watershed governance, concerned with setting environmental and social limits in a context of conflicting values. Would it be legitimate, for example, for a state, an Indigenous government, or a local watershed authority, to limit intensive agriculture along a river to

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[256] *Ibid*.

[257] Lockwood et al., 'Governance Principles for Natural Resource Management'.

[258] Brandes and Curran, 'Changing Currents: A Case Study in the Evolution of Water Law in Western Canada'; nate Matthews and Jeremy Schmidt, 'False Promises: The Contours, Contexts, and Contestation of Good Water Governance in Lao PDR and Alberta, Canada', *International journal of Water Governance* 4, no. 4 (2014): 21-40; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Huitema et al., 'Adaptive Water Governance'. Working from a sustainable development paradigm, Wiek and Larson would add *equity* as a good governance principle (including allocation efficiency and need). Wiek and Larson, 'Water, People, and Sustainability—a Systems Framework for Analyzing and Assessing Water Governance Regimes', *Water Resources Management* 26, no. 11 (2012): 3153-3171. Capacity is another concept sometimes identified as a governance principle in watershed governance literature. I deal with capacity, not as a principle, but as an aspect of the state's role in watershed governance in section 1.5.

[259] See Brandes and Curran, 'Changing Currents'. Legitimacy is defined in the online Oxford English Dictionary as "ability to be defended with logic or justification; validity".

avoid shellfish contamination of a downstream estuary? There must be social acceptance of who should decide, how, and why, for such a decision to be considered legitimate. If governance earns the stamp of legitimacy, it is doing something right and, in that way, demonstrating good governance.

For a project like ecological governance, with its purpose of transforming social norms, the publics' perception of its legitimacy is both an aspiration and a constraint.[260] Woolley notes that maintaining legitimacy is a key factor in balancing top-down guidance coming from state-level government (including potential, legally-constituted ecological principles), with bottom-up guidance coming from community-level decision-making (such as decisions of regional planning boards).[261] Jennings, working in Western philosophical traditions, explores precisely this struggle between the legitimacy of state-imposed ecological values versus the legitimacy of community-enabled local values. He considers, and ultimately rejects, state coercion as a means of legitimizing ecological values, and proposes instead to invest in influence (through constitutional principles) and process (discursive democracy at a regional level).[262] Ecological governance in theory, and watershed governance in practice, must simultaneously shift the conception of legitimacy while working within the constraints of legitimacy. This is arguably the approach at the heart of the watershed governance theories developed by Brandes et al.[263] It is also an approach that fits with the strategy of engagement (one of three Indigenous resurgence strategies noted above) for Indigenous communities aiming to make space for Indigenous cultural relations.

In a study of watershed governance in the United States, Lant found three major failures in maintaining legitimacy.[264] The first was a lack of representation; without full participation of interested parties, there was not full legitimacy. I address participation below, as one of the key principles of good governance. The second was a tendency to limit the scope of governance to instrumental and ecological issues, when the public considered social elements equally important. Watershed governance lost legitimacy by constraining the scope to non-social problems. This failure speaks to the need for a degree of local authority and cultural context in watershed governance.[265] The third failure was in the implementation phase, when governing parties pursued actions in their own areas of interest but did not invest in the issues important to communities. This

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[260] Jennings, *Ecological Governance*; Woolley, *Ecological Governance*.
[261] Woolley, *Ecological Governance*. See also Brandes and Curran, 'Changing Currents'; Schlager and Blomquist, *Embracing Watershed Politics*.
[262] Jennings, *Ecological Governance*.
[263] Brandes et al., *At a Watershed*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Brandes and Curran, 'Changing Currents'
[264] Lant, 'Watershed Governance in the United States: The Challenges Ahead'.
[265] Schlager and Blomquist, *Embracing Watershed Politics*; LaBoucane-Benson et al., 'Are We Seeking Pimatisiwin or Creating Pomewin? Implications for Water Policy'.

speaks, in part, to the issue of capacity, addressed in section 1.5 below.[266] Legitimacy is an on-going challenge that is key to effectiveness in watershed governance. To maintain legitimacy, governance processes must be inclusive and responsive.

Closely related to the challenge of legitimacy is the principle of *accountability* in watershed governance. Good governance involves figuring out who ought to be accountable, for what, and to whom. A watershed governance entity (WGE, entity), for example, may have many conflicting lines of accountability.[267] The entity itself may be accountable to its members for delivering their planned objectives; other actors may be accountable to the entity to support of their objectives; the members of the entity may be accountable to their respective constituencies; the entity may be accountable to senior levels of democratic government; and the entity and the (polycentric) actors may be accountable to broad moral and ethical principles.[268]

An example of moral accountability is the idea of "social license", where industry earns approval for its activities by demonstrating responsibility and building its relationships with local communities. Overduin and Moore found that the informal accountability mechanisms of the social license approach failed to account for perceived conflicts of interest or to establish meaningful enforcement mechanisms.[269] Moral accountability may be one useful line of accountability, but it is not enough on its own. Brandes et al. propose that formal accountability mechanisms are necessary for WGEs that have delegated state authority - both to hold others to account, and to be held to account, in turn. [270]

Imperial identified four categories of formal accountability in his review of collaborative watershed governance in the USA, identified as: political, bureaucratic, legal, and professional.[271] An example of a political line of accountability in watershed governance is to appoint elected representatives from other levels of government to fill WGE board

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[266] Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Brandes and Curran, 'Changing Currents'; Brandes, 'A Revitalized Water Agenda for British Columbia`s Circular Economy'; Brandes et al., *At a Watershed*; Lant, 'Watershed Governance in the United States; Schlager and Blomquist, *Embracing Watershed Politics*.

[267] First described by Nelson, the idea of WGE was originally a regional-scale organization using New Governance tools (like collaboration) and engaging local representation while exercising delegated state authority. Nelson, 'Government as Theater: Toward a New Paradigm for the Public Lands'; Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.

[268] Schlager and Blomquist, *Embracing Watershed Politics*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.

[269] Overduin describes a social license as "an informal form of permission about resource extraction". Overduin and Moore, 'Social License to Operate: Not a Proxy for Accountability in Water Governance', *Geoforum* 85 (2017): 72.

[270] Nelson, 'Government as Theater'; Brandes et al., *At a Watershed'*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.

[271] Imperial and Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability'.

seats.[272] Formal democratic processes then provide a line of accountability to the WGE. Bureaucratic accountability applies to performance standards for government employees who may participate as watershed governance actors in the course of their departmental duties. Legal accountability refers to an actor's obligation to act within the law. (Imperial provides a context here of acting only within state law, without reference to Indigenous law.) Professional accountability refers to meeting the standards of professional organizations. Imperial found watershed governance outcomes were superior when collaborative processes engaged all four formal accountability mechanisms.

Schlager and Blomquist observe that different accountability mechanisms, however, may dictate conflicting responses in crisis situations.[273] They provide the example of Chiricahua leopard frogs in the Buenos Aires Wildlife Refuge in Arizona. The refuge director was forced to choose between legal accountability on one hand, preventing him from moving frogs that were in immanent danger, and political and professional accountability on the other hand, requiring him to move the frogs in immanent danger. In this case the director fulfilled his professional accountability by moving the frogs, and his department fulfilled its legal accountability by firing the director. The director's dilemma raises the question of how to decide which line of accountability takes precedence when there are multiple lines of accountability.

Matthews and Schmidt raise a similar question in their study of watershed governance in Lao PDR and Alberta, Canada.[274] Governments in both cases encouraged public engagement in watershed planning while at the same time circumventing public input in decision-making. Watershed decisions were taken by the state with no accountability to people at the local level. This raises the question of to what extent state governments must be held accountable to watershed-level governance and vice versa. As noted above, several theorists argue for a balance of accountability between state and regional governance entities.[275] Watershed entities may be held accountable to the state through mechanisms like state representation on watershed boards, or by establishing clear principles at a state level that apply across all levels of governance. State governments may be held accountable to regional governance entities, such as WGEs, by delegating a degree of state authority for decision-making to the watershed level. As Woolley noted, the effectiveness of such reciprocal accountability would be reflected in the perceived legitimacy of each level of governance.

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[272] Schlager and Blomquist, *Embracing Watershed Politics,* 73. In such circumstances, "[a]ccording to Weber (2003), local watershed initiatives are fully accountable both to the local communities within which they operate and to national interests and values as reflected in… laws".

[273] *Ibid.*

[274] Matthews and Schmidt, 'False Promises', *International Journal of Water Governance* 2, no. 2 (2014): 21-40.

[275] Woolley, *Ecological Governance*; Jennings, *Ecological Governance*; M'Gonigle, 'Somewhere between Center and Territory'; Brandes et al., *At a Watershed*.

To summarize, accountability is an important principle for watershed governance if it is to both maintain legitimacy among the governed and to maintain a commitment to its purposes. "Good" accountability requires clarity regarding who is accountable to whom and for what. It is most likely to succeed when formally structured with legal, bureaucratic, professional, and political mechanisms. Conflicts of accountability can not be avoided and there is a need for reciprocal accountability between levels of governance.

Another principle of good governance, related to both accountability and legitimacy, is the principle of transparency.[276] Overduin and Moore, citing McAllister, describe transparency in watershed governance as full public disclosure of the processes and sources of information used to make decisions.[277] Lautz argues that the degree of transparency correlates with the strength of collaborative and deliberative processes.[278] In that sense, transparency is a procedural requirement for good watershed governance.[279] It is also an ethical requirement, necessary to support legitimacy and accountability, and to avoid conflicts of interest.[280]

4.3.2 Participation

The final good governance principle I present in relation to watershed governance is the principle of participation.[281] The concept of participation is to ensure that those affected by decisions have a voice in decision-making.[282] As a principle of the New Governance movement, it is closely associated with collaborative or consensus-oriented and deliberative decision-making.[283] The benefits of wide participation can include: educating, building collective wisdom, building relationships, resolving conflict, accessing a wider range of resources, legitimizing decisions, and building greater capacity to influence those beyond the watershed.[284] The risks include a tendency to settle for the lowest-common-denominator rather than aiming for higher principles, susceptibility to entrenched power relations, exploitation of unpaid volunteers, and

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[276] Ribot, *Democratic Decentralization of Natural Resources: Institutionalizing Popular Participation*; Kirchhoff and Dilling, 'The Role of US States in Facilitating Effective Water Governance under Stress and Change', *Water Resources Research* 52, no. 4 (2016): 2951-2964.

[277] Brandes and Curran, 'Changing Currents'; Overduin and Moore, 'Social License to Operate'; Lord Selborne, *The Ethics of Freshwater Use: A Survey* (UNESCO France, 2000); Kirchhoff and Dilling, 'The Role of US States in Facilitating Effective Water Governance under Stress and Change'; Huitema et al., 'Adaptive Water Governance'.

[278] Kirchhoff and Dilling, 'The Role of US States in Facilitating Effective Water Governance under Stress and Change'; Lautze et al., 'Putting the Cart before the Horse'.

[279] Wiek and Larson, 'Water, People, and Sustainability'.

[280] Selborne, *The Ethics of Freshwater Use: A Survey*.

[281] Huitema et al., 'Adaptive Water Governance; Matthews and Schmidt, 'False Promises'.

[282] For a history of the role of participation as a principle in environmental governance, see Neef, 'Transforming Rural Water Governance'

[283] Chris Ansell and Alison Gash, 'Collaborative Governance in Theory and Practice', *Journal of Public Administration Research and Theory* 18, no. 4 (2008): 543-571.

[284] Nowlan, Bakker, and Governance, *Practising Shared Water Governance in Canada: A Primer*.

having limited influence in decision-making due to lack of authority and jurisdiction.[285] I briefly explore a few of these themes below.

One of the questions about participation in governance processes is whether the degree of influence resulting from the process is worth the effort of engaging.[286] Matthews and Schmidt, in the example cited above respecting accountability in watershed planning in Lao PDR and Alberta, Canada, found that participatory bodies sanctioned, but not empowered, by the state may have very little influence on watershed governance outcomes.[287] In such cases, participation is but a veneer of legitimacy. Woolley notes that it is difficult to sustain participation when the process does not demonstrate influence and substantiate legitimacy.[288] Woolley argues, on that basis, for the delegation of a degree of authority to regional governance bodies.

One of the complications for a WGE with authority is deciding who participates. As noted above, one line of accountability for participants will be to the constituencies they represent. The selection of participants is, therefore, a choice of constituencies. As Schlager and Blomquist put it, "ultimately, debates over who should be included within decision-making processes are debates over which values should be given the greatest weight".[289] If the role of WGEs is to express local cultural values in a multi-level and polycentric governance tapestry, is it appropriate to invite the participation of those living outside the watershed but affected by decisions of the watershed board, such as investors in extractive resource industries? By selecting participants, one is deciding to whom watershed decisions will be accountable. I discuss this challenge in more detail in section 5 in the context of Indigenous and colonial government jurisdictional conflict.

The theory of collaborative management, often applied in watershed contexts, calls for full participation by the range of actors affecting and affected by decision-making processes. The aim is to provide a forum for "stakeholders" to resolve value conflicts through discussion, usually using technical- and consensus-based processes.[290] In collaborative watershed management in California, Kallis found that entrenched financial interests abused collaborative processes by effectively vetoing ideas that challenged their

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[285] Schlager and Blomquist, *Embracing Watershed Politics*; Nowlan, Bakker, and Governance, *Practising Shared Water Governance in Canada: A Primer*; Kallis, Kiparsky, and Norgaard, 'Collaborative Governance and Adaptive Management'; Nadasdy, 'Reevaluating the Co-Management Success Story'.
[286] Imperial and Hennessey, 'Environmental Governance in Watersheds'; Schlager and Blomquist, *Embracing Watershed Politics*.
[287] Matthews and Schmidt, 'False Promises'.
[288] Woolley, *Ecological Governance*. For an Australian example of lost public engagement due to constrained influence, see Virginia Marshall, *Overturning Aqua Nullius: Securing Aboriginal Water Rights*, (Canberra: Aboriginal Studies Press, 2017). For a Canadian example, see Matthews and Schmidt, 'False Promises'.
[289] Schlager and Blomquist, *Embracing Watershed Politics*, 62.
[290] Ansell and Gash, 'Collaborative Governance in Theory and Practice'.

values.[291] Similarly, Nadasdy found consensus-based co-management in northern Canada served to further entrench colonial values at the expense of Indigenous values.[292] Bowie, on the other hand, in a study of Indigenous participation in collaborative environmental management in Canada, describes participation as a foothold for advancing the strategy of engagement.[293] Bowie notes the benefits of relationship-building, educating, networking, and influencing a range of governance actors. In his study of collaborative watershed governance in the United States, Imperial concluded that participation in collaborative processes can be useful but is not a guarantee of "good" watershed governance.[294]

The principle of participation has potential to strengthen watershed governance by sharing ideas, knowledge, wisdom and resources, and by building relations, among those invested in working together in a deliberative process. The process itself, however, must deliver meaningful influence on governance outcomes to warrant and sustain participation. Participatory processes are political and may founder on the shoals of conflicting accountabilities, values and entrenched interests.

4.4 Summary of Watershed Governance Principles

Indigenous governance principles, at a fine scale, are as diverse and nuanced as the Indigenous cultures that manifest them. At a broad scale, in the political context of colonialism, many Indigenous communities prioritize the principles of *enabling cultural relations* and *transforming state relations*. Some Indigenous governance principles, like the Cree principle of taapwaayaayihtimuwin, share common ground with ecological governance principles. There is little academic literature specific to structuring watershed governance using Indigenous governing principles, but there are examples of de-colonizing resource governance successfully coalescing around Indigenous governance principles.[295]

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[291] Kallis, Kiparsky, and Norgaard, 'Collaborative Governance and Adaptive Management: Lessons from California's CALFED Water Program'. See also Schlager and Blomquist, *Embracing Watershed Politics*, 193.
[292] Nadasdy, 'Reevaluating the Co-Management Success Story'.
[293] Ryan Bowie, 'Indigenous Self-Governance and the Deployment of Knowledge in Collaborative Environmental Management in Canada', *Journal of Canadian Studies* 47, no 1 (2013): 91-121.
[294] Imperial and Hennessey, 'Environmental Governance in Watersheds: Collaboration, Public Value, and Accountability'. See also Matthews and Schmidt, 'False Promises', 35
[295] There is a body of work on Indigenous approaches to *water* governance, but it does not address the structure of watershed governance directly. Recent Canadian work includes: von der Porten and de Loë, 'Collaborative Approaches to Governance for Water and Indigenous Peoples'; von der Porten and de Loë, 'Water Policy Reform and Indigenous Governance'; Wilson, 'Indigenous Water Governance'; Tsilhqot'in, 'The Agreement'; LaBoucane-Benson et al., 'Are We Seeking Pimatisiwin or Creating Pomewin? Implications for Water Policy'; Jonathan Boron, 'Indigenous Governance Tools for Exerting Sovereignty over Traditional Territory: A Case Study of Mineral Development in the Stk'emlupsemc Te Secwepemc Territory' (Essay, Simon Fraser University, 2017); Pasternak, *Grounded Authority: The Algonquins of Barriere Lake against the State*; Rosie Simms, 'Indigenous Water Governance in British Columbia and

Ecological governance principles support the transformation of social norms so that ecological resilience is valued above instrumental exploitation of the environment. Good governance principles, including accountability, transparency, and participation, highlight the centrality of legitimacy in a decentralized, New Governance landscape. Both ecological governance theory and watershed governance theory call for a balancing of state-level and regional-level governance regimes using principles.

Principles play important roles in twenty-first century watershed governance. They provide an opportunity to bring Indigenous governance approaches to multi-jurisdictional settings. They offer a focus for value negotiation that can form the basis for relationship building in emergent watershed governance entities. They ensure that values like ecological sustainability do not fall off the governance table. They provide unifying guidance in decision-making. They support reciprocal accountability, legitimacy, and transparency among polycentric governance actors. Ecological watershed governance in colonial states needs principles drawn from Indigenous, ecological, and good-governance sources.

5. Jurisdiction and Authority in Watershed Governance

Watershed governance is a social construct. We build it to address the failures of our current governance arrangements and the challenges of our time: environmental degradation and conflict, colonial hegemony, and declining social-ecological resilience. The structure of watershed governance must account for the decision-makers whose actions affect watershed conditions. In colonial states, the decision-makers include governmental actors (Indigenous, state, regional, and local governments and watershed governance entities) and non-governmental actors (Indigenous and non-Indigenous communities, environmental non-governmental organizations, and industry). When considering how this range of actors may work together, and how states may enable the manifestation of Indigenous legal principles, it is necessary to consider the landscape of jurisdiction and authority.

In this section, I look at the contours of jurisdiction in colonial states and the relationship between jurisdiction and two kinds of authority (moral and practical). I then examine theoretical challenges for shaping authority in watershed governance using three themes: 1) contested Indigenous and state jurisdictions; 2) place-based versus state-based authority; and 3) aligning authorities in policy and law. I focus on watershed governance

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Canada: Annotated Bibliography', *Water Economics, Policy and Governance Network* (University of British Columbia, 2015); Rosie Simms et al., 'Navigating the Tensions in Collaborative Watershed Governance: Water Governance and Indigenous Communities in British Columbia, Canada', *Geoforum* 73 (2016): 6-16; Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water: Towards Watershed Co-Governance'; Norman and Bakker, 'Transcending Borders Through Postcolonial Water Governance?'; Michele-Lee Moore, Suzanne von der Porten, and Heather Castleden, 'Consultation Is Not Consent: Hydraulic Fracturing and Water Governance on Indigenous Lands in Canada', *Wiley Interdisciplinary Reviews: Water* 4, no. 1 (2017).

literature, but also draw on ideas originating in the adaptive, ecological, co-governance and water governance literatures. I also refer to a single study on Indigenous perspectives of environmental governance, noting the limited availability of academic publications with Indigenous perspectives of watershed governance. I begin by setting the frame with a discussion about jurisdictional overlap and competing authorities in the Canadian colonial context.

5.1 Jurisdiction in Ecological Watershed Governance in Colonial States

Jurisdiction is defined as "the official power to make legal decisions".[296] Legal decisions are made by many levels of government in colonial, federal states like Canada. Indigenous peoples have long-standing legal traditions predating the creation of colonial states, and in traditional territories, Indigenous, federal, and provincial governments share legal powers rooted in the constitution and clarified through case law. [297] In addition, regional and municipal governments exercise power, delegated by provinces, to make legal decisions. Such arrangements are subject to change as provincial law changes. In addition, Indigenous people may legitimately hold greater legal decision-making power, especially in un-ceded Indigenous territories, than is currently recognized by the Canadian federal government or even by the Canadian constitution.[298] Watersheds are subject to overlapping and contested spheres of jurisdiction periodically subject to change and re-interpretation.

5.2 Authority in Ecological Watershed Governance in Colonial States

Authority, defined as the right to make decisions, is closely linked to jurisdiction. Pasternak, in fact, characterizes jurisdiction as "the authority to have authority" – the right to decide who has the right to decide. [299] In cases of overlapping jurisdiction, it is not always clear where ultimate authority resides. Roughan notes two types of authority in resource management, *moral* and *practical*.[300] Moral authority is the power of influence legitimated by the wielder's expertise. A professor of marine ecology, for example, is an authority on anadromous fish habitat. Practical authority is influence through "power over", applied, in theory, for the public good and legitimated through a publicly acceptable process such as a democratic election that vests decision-making authority in a municipal council. Overlapping claims to authority are "relative" in Roughan's view, and she argues that it is as much a moral as a practical matter to decide

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[296] Oxford Living Dictionary, accessed 12 March, 2019, https://en.oxforddictionaries.com/definition/jurisdiction.
[297] Borrows, *Canada's Indigenous Constitution*. For an example of clarification through case law, see: Tsilhqot'in Nation v. British Columbia, 2014 SCC 44.
[298] Pasternak, *supra* note 80; Borrows, *Canada's Indigenous Constitution*.
[299] Oxford Living Dictionary, accessed 12 March, 2019, https://en.oxforddictionaries.com/definition/jurisdiction. Pasternak, *Grounded Authority: The Algonquins of Barriere Lake against the State,* 5.
[300] Nicole Roughan, *Authorities: Conflicts, Cooperation, and Transnational Legal Theory* (Oxford University Press, 2013).

who shall have decision-making power in particular circumstances.[301] Conflicts in decision-making among relative authorities can be resolved practically, through a Hobbesian reliance on hierarchy of authority, or morally, through reasoning based on principles. The theoretical literature on watershed governance, as we shall see below, draws on both approaches.

In watershed governance theory developed by the POLIS Project on Ecological Governance, Indigenous and state governments must establish co-governance arrangements in watersheds with contested jurisdiction, ensuring Indigenous representation across all levels of decision-making.[302] State and Indigenous governments must negotiate principles, processes, structures, and supports to enable creation of watershed governance entities.[303] Because they are place-based, WGEs must also establish administrative co-governance arrangements between Indigenous governments and the place-based diminutives of state government - regional and municipal governments.[304] Nadasdy raises a flag of caution about co-governance structures that retain final decision-making authority with the state.[305] Indigenous communities may be taxed to participate in endless technical processes without sufficient support while Indigenous processes are undermined or ignored. In a study of Indigenous and western knowledge integration in resource management in Australia, Hill et al. found that Indigenous-driven and structured co-governance is more effective than state-driven co-governance, because it allows for integrity of Indigenous approaches.[306] Phare et al. argue that states must accept Indigenous authority as equivalent to state authority, and recognize Indigenous cultural relations and Indigenous law, to enable effective co-governance.[307] Along with recognition, states must also provide resources for capacity-building of both Indigenous partners and state administration.[308] In theory, the first step in creating WGEs with legitimate authority in colonial states is for state governments to invest in co-governance, by recognizing Indigenous jurisdictions, cultural values and

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[301] *Ibid.,* 28.
[302] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*.
[303] Brandes et al.; Bradford, Ovsenek, and Bharadwaj, 'Indigenizing Water Governance in Canada'; Craig et al., 'Balancing Stability and Flexibility in Adaptive Governance: An Analysis of Tools Available in US Environmental Law'.
[304] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*.
[305] Nadasdy, 'Reevaluating the Co-Management Success Story'; Nadasdy, *Sovereignty's Entailments: First Nation State Formation in the Yukon*.
[306] Hill et al., 'A Typology of Indigenous Engagement in Australian Environmental Management: Implications for Knowledge Integration and Social-Ecological System Sustainability', *Ecology and Society* 17 (2012): 1-17.
[307] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'; Wilson, 'Indigenous Water Governance'. For an example with respect to water co-governance see: Moore, von der Porten, and Castleden, 'Consultation Is Not Consent'.
[308] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'. For a study of capacity requirements for Indigenous participation in watershed co-governance in British Columbia, Canada, see: Cave et al., 'Indigenous Watershed Initiatives and Co-Governance Arrangements: A British Columbia Systematic Review' *First Nations Fisheries Council* (2016).

legal traditions, negotiating shared principles and standards, and building co-governance capacity.[309]

The second authority theme, place-level versus state-level authority, addresses the tension between authority invested in WGEs and authority retained by Indigenous and colonial nations. The latter must invest in the moral authority of WGEs by ensuring capacity for administration, relationship building, and convening of technical expertise; and in the practical authority of WGE by delegating decision-making authority.[310] The benefits of place-based deliberative decision-making by communities at a watershed scale is a common theme in adaptive and ecological governance literatures.[311] In contrast to more rigid state-level bureaucratic approaches, place-based participatory engagement can harness greater diversity of outlooks, sources of knowledge and innovative thinking.[312] As place-based governance structures, WGEs are also better situated to lead self-organization among polycentric decision-makers in response to emergent governance challenges.[313] An example is the consensus developed among provincial, federal, regional government departments, and industry through the leadership of the Cowichan Watershed Board regarding augmenting river flows for salmon reproduction through greater in-stream storage.[314] The ecological watershed governance literature holds that WGEs are similarly better situated to lead strategic planning and visioning exercises and to reflect community social values.[315] Both ecological and adaptive governance theory call for WGE authority to monitor and assess changing ecological conditions, to identify policy conflicts and inconsistencies, and to develop thresholds and ecological limits.[316] There are many potential benefits to investing in WGE authority, but it is not without risk.

Huitema et al., (citing Ostrom and Janssen), for example, writing from an adaptive governance perspective, warn that creating a formal regional institution may impinge on

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[309] For a discussion on the role of standards for protecting ecological, social and cultural values, see Moore, von der Porten, and Castleden, 'Consultation Is Not Consent', 379.

[310] Brandes et al., *At a Watershed*; Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'.

[311] Jennings, *Ecological Governance*; Kellogg and Samanta, 'Network Structure and Adaptive Capacity in Watershed Governance'. In a wide review of the literature on scale in environmental governance, Moss and Newig concluded that authority must be matched to scale (state, regional or local) in accordance with the cultural context of place. Moss and Newig, 'Multilevel Water Governance and Problems of Scale'.

[312] Lipschutz, 'Bioregionalism, Civil Society and Global Environmental Governance', in *Bioregionalism* (Routledge, 2005): 115-134; Cosens et al., 'The Role of Law in Adaptive Governance'.

[313] Self-organization is about how those affected by a situation work together in a non-hierarchical fashion to address the challenge. DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance', *Ecology and Society: A Journal of Integrative Science for Resilience and Sustainability* 22, no. 1 (2017): 1; Folke et al., 'Adaptive Governance of Social-Ecological Systems'.

[314] See http://www.onecowichan.ca/why_raise_the_weir. Viewed 14 March, 2019.

[315] Woolley, *Ecological Governance*; Brandes et al., *At a Watershed*; M'Gonigle, 'Somewhere between Center and Territory'.

[316] Brandes et al., *At a Watershed*; Woolley, *Ecological Governance*; Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'; Lant, 'Watershed Governance in the United States'.

the flexibility needed for governance adaptation.[317] Jennings and Woolley, writing independently from ecological governance perspectives, warn that local governance institutions with independent authority are also prone to going off-script when not held to account.[318] Ecological and co-governance literatures address these risks, proposing accountability mechanisms in the form of legally embedded guiding principles and standards, effective leadership, and independent oversight.[319] Jennings goes as far as proposing environmental courts as part of an ecological constitution.[320] This is similar to the idea of Brandes et al. to utilize existing environmental review boards. Adaptive, ecological, and co-watershed-governance theories identify significant benefit to investing in WGE authority and also propose accountability measures to mitigate the associated risks.

The third authority theme is the challenge of aligning legislation, regulations, and policy, among state authorities. Ministries within governments carry different mandates, and it is not unusual for policies and regulations to conflict, as in the example of pro-extractive development conflicting with constitutionally embedded Indigenous ecological principles in Ecuador and Bolivia, as noted above. An example in British Columbia, Canada, is the issuance of water licenses for fracking by the BC Ministry of Forests, Lands and Natural Resource Operations without sufficient regard to the impacts of water withdrawals on other government policy goals.[321] An ongoing challenge for watershed governance is to identify and resolve such conflicts of authority within government policy and legal structures, to align all agency authorities with common principles and standards.[322]

6. Government Roles in Watershed Governance Literature

With its place-based nature, watershed governance must face the institutional realities of polycentric decision-making and multi-level government (see part 2.6 above). Schlager and Blomquist, in fact, theorize that multi-level (and multi-institutional) authorities are necessary to manage the complexity of watershed governance, which requires more intellectual capacity than a single institution can provide.[323] The adaptive governance literature theorizes that multi-level governance is necessary to provide flexibility in

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[317] Huitema et al., 'Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining a Research Agenda'.
[318] Woolley, *Ecological Governance*; Jennings, *Ecological Governance*. See also Schlager and Blomquist (2008, 63), "Neither defining communities of interest broadly nor giving pride of place to local, geographic communities guarantees that a particular set of values will be pursued consistently over time as the watershed setting and its context change." Schlager and Blomquist, *Embracing Watershed Politics*.
[319] Brandes et al., *At a Watershed*; Woolley, *Ecological Governance*; Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.
[320] Jennings, *Ecological Governance*, 186.
[321] Deborah Curran, 2017, 'Leaks in the System: Environmental Flows, Aboriginal Rights and the Modernization Imperative for Water Law in British Columbia', https://dspace.library.uvic.ca/handle/1828/9182.
[322] Brandes et al., *At a Watershed*.
[323] Schlager and Blomquist, *Embracing Watershed Politics*; Woolley, *Ecological Governance*.

responding to changing social or environmental conditions.[324] Together, the theories beg the question of what roles different governments and levels of government must fulfill to work together in watershed-scale governance.[325] In this section, I survey a range of watershed governance-related literature (watershed governance and co-governance, water governance, adaptive governance, ecological governance, and Indigenous environmental governance) regarding potential roles for institutions of public government. I note, once again, the limited number of academic studies available from Indigenous perspectives. In accordance with the research focus on how state governments can enable Indigenous principles in watershed governance, I focus mainly on the roles of state governments (mainly provincial, with its constitutional responsibility for resource management in the Canadian context). Because state governments need to coordinate their roles with watershed governance entities, I first review what the literature says about the roles of WGEs. My review is not intended to be comprehensive but rather to illustrate the scope of WGE and state government roles in watershed governance literature. I structure my review with themes inspired mainly by the work of Brandes and associates, but also from the adaptive and Indigenous environmental governance literatures.[326]

6.1 Roles of Watershed Governance Entities

I review the literature on roles for WGEs in watershed governance using six themes: 1) building relationships; 2) planning; 3) setting limits; 4) managing knowledge; 5) aligning policies; and 6) educating communities.

6.1.1 Building Relationships

One important role of WGEs, appearing in the adaptive governance literature, is to facilitate self-organization among decision-makers when government mechanisms fail to address emerging issues in socially acceptable ways.[327] The adaptive governance literature refers to the networking that enables self-organization as *bridging*, noting the fundamental importance of establishing relationships of trust.[328] Chaffin and Gunderson

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[324] Folke et al., 'Adaptive Governance of Social-Ecological Systems'.

[325] Balvanera et al. (2017, 17) considers an important consideration in the development of new forms of governance using watershed boundaries to be identifying "the specific relationships among agents, processes, and resources at different temporal and spatial scales that together help shape a particular regime". R. M. M'Gonigle (2003, 125) reinforces this point, asserting that "understanding how our institutions fit within the spatial dimension (or don't) is the signal characteristic of an ecological political economy."

[326] Brandes et al., *At a Watershed*.

[327] Cosens et al., 'The Role of Law in Adaptive Governance'; Chaffin and Gunderson, 'Emergence, Institutionalization and Renewal: Rhythms of Adaptive Governance in Complex Social-Ecological Systems'; Daniel DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance', *Journal of Environmental Management* 165 (2016): 81-87.

[328] Folke et al. (2005, 296) write that, "Bridging organizations by definition operate on the edges of different domains of practice and in so doing create arenas for social processes and trust-building that support shared capacity for adapting, coping, and transforming." See also Fikret Berkes, 'Evolution of Co-

give examples of locally-led, self-organizing governance in the Klamath watershed in the USA, the Kristianstad Vattenrike wetland of Sweden, and the Great Barrier Reef Marine Park in Australia.[329] In all cases, local institutions led self-organization through relationship-building and political leadership. Whyte writes of a similar role in Indigenous environmental governance theory of convening (moral) relationships and responsibilities.[330] In a study of watershed governance structures in Australia, Marshall ranked the effectiveness of self-organization led by watershed authorities as superior to other governance approaches by national and sub-national institutions, even for issues that extend beyond watershed boundaries.[331] There is wide support in the literature for watershed governance entities playing the role of convener - building relationships, leading discussions, and developing governance responses to emergent issues.

6.1.2 Planning

The ecological governance literature identifies a role for WGEs beyond convening and coordinating, in the realm of planning.[332] Woolley proposes that regional governance entities, like WGEs, lead strategic planning exercises to implement principles, standards, and objectives set by the state.[333] Brandes et al. propose that WGEs lead planning exercises to develop and implement bottom-up watershed visions.[334] In both cases, a second role of WGEs is to lead watershed planning processes, sanctioned and supported by the state, that give an authoritative voice for bottom-up governance.

6.1.3 Setting Limits

A third role for WGEs, cited in water co-governance literature, is to set ecological limits and thresholds for decision-making, such as minimum ecological flows in rivers, and to develop guidance for licensing decisions, such as issuing water use licenses.[335] This role

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Management: Role of Knowledge Generation, Bridging Organizations and Social Learning', *Journal of environmental management* 90, no. 5 (2009): 1692-1702.

[329] Chaffin and Gunderson, 'Emergence, Institutionalization and Renewal'.

[330] Whyte, 'Critical Investigations of Resilience'.

[331] Marshall, 'Nesting, Subsidiarity, and Community-Based Environmental Governance beyond the Local Scale'. For a discussion of the primacy of process over boundaries in watershed governance, see Seanna Davidson and Rob De Loë, 'Watershed Governance: Transcending Boundaries', *Water Alternatives* 7, no. (2014).

[332] For theory, see at page 291, Derek Armitage and Ryan Plummer, 'Adapting and Transforming: Governance for Navigating Change' in *Adaptive Capacity and Environmental Governance* (Springer 2010): 287-302. For an empirical example of the benefits of place-based planning, see Craig et al., 'Balancing Stability and Flexibility in Adaptive Governance: An Analysis of Tools Available in US Environmental Law', *Ecology and society: a journal of integrative science for resilience and sustainability* 22, no. 2 (2017): 1.

[333] Woolley, *Ecological Governance*.

[334] Brandes et al., *At a Watershed*.

[335] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water: Towards Watershed Co-Governance'. See also Lant (2003, 26), "We need to empower local watershed-based institutions as described above and equip them with the scientific tools they need (e.g. an upgraded stream gauging network, spatial decision support systems, locally calibrated and verified watershed models) to adaptively

fits regional-level governance because it requires local knowledge, including of Indigenous cultural relations.[336] Watershed governance literature, in contrast, argues that ecological limits are primarily a responsibility of the state, with its greater resources, responsibilities beyond the watershed, and ability to exercise authority over various ministries and regional and municipal governments.[337] In theory, the state, Indigenous governments, and WGEs all have roles in setting ecological limits in a watershed.

6.1.4 Managing Knowledge

A fourth role for WGEs is the production and management of knowledge. The adaptive governance literature identifies knowledge production and availability as priorities for "good" decision-making in response to emerging issues.[338] Watershed governance literature notes the necessity of both baseline and continued periodic monitoring to identify and understand cumulative effects, like declining salmon runs in coastal rivers.[339] One of the challenges is to produce knowledge appropriate to the ecological and geographical scales of interest in the watershed.[340] Watershed governance entities are well positioned to gather and synthesize knowledge, facilitate community-based monitoring, and identify local information gaps at appropriate scales.[341] If empowered to conduct planning or to help set ecological limits, they share responsibility with the state to make knowledge available to decision-makers. Woolley, presenting an ecological governance perspective, argues against relying only on the state for knowledge collection, research, and dissemination, due to the shifting political priorities of state governments.[342] Ecological and co-governance literatures celebrate the power of western (i.e. reductive and quantitative) scientific knowledge while pointing out its limitations respecting the complexity of ecological systems and of social-ecological systems, and its

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manage watersheds. In constructing these institutions, we need to explicitly and consciously build upon preexisting local institutions that manifest local social capital and carry local legitimacy."

[336] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

[337] Brandes et al., *At a Watershed*. See also Margulis, McKeon, and Borras Jr (2013, 15) citing the need to embrace the international complexity of governance rather than focusing only on 'solutions at the local level'. Margulis, McKeon, and Borras Jr, 'Land Grabbing and Global Governance: Critical Perspectives', *Globalizations* 10, no. 1 (2013): 1-23.

[338] Folke et al. (2005, 289), 'Adaptive Governance of Social-Ecological Systems'.

[339] Cumulative effects are environmental changes attributable to incremental and synergistic impacts from multiple sources of stress over time. See Alfred Kahn, 'The Tyranny of Small Decisions: Market Failures, Imperfections, and the Limits of Economics', *Kyklos* 19, no. 1 (1966): 23–47; Sheelanere, Noble, and Patrick, 'Institutional Requirements for Watershed Cumulative Effects Assessment and Management'; Schindler, 'The Cumulative Effects of Climate Warming and Other Human Stresses on Canadian Freshwaters in the New Millennium'; Marian Weber, Naomi Krogman, and Terry Antoniuk, 'Cumulative Effects Assessment: Linking Social, Ecological, and Governance Dimensions', *Ecology and Society* 17, no. 2 (2012); Jessica Clogg et al. 'Paddling Together: Co-Governance Models for Regional Cumulative Effects Management' (2017); Brandes et al., *At a Watershed*.

[340] Dietz, Ostrom, and Stern, 'The Struggle to Govern the Commons'.

[341] Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'; Brandes et al., *At a Watershed*.

[342] Woolley, *Ecological Governance*.

struggle to recognize other legitimate sources of knowledge.[343] There is wide recognition in the literature of the benefit of using both western and Indigenous knowledge for environmental management and governance.[344] State governments, Indigenous communities, and WGEs have roles in knowledge production and management.

6.1.4 Aligning Policies and Regulations

A fifth role for WGEs, identified in section 2.4 and highlighted in the watershed, ecological, and adaptive governance literatures, is to help align government policies and regulations with watershed governance principles and priorities.[345] In watershed governance literature, Brandes et al. propose a leadership role for WGEs in aligning state, regional and municipal government laws and policies. Watershed governance entities engaged in coordinating governance actors, planning, assessing limits, and collecting and integrating knowledge are well positioned to identify inconsistencies in state policy and state law. Adaptive and ecological governance literatures, on the other hand, assign this role to the responsible authority (i.e. the state), where it may be considered one aspect of developing a legal framework in support of watershed governance.[346] What is missing from these approaches is specific consideration of the role of Indigenous governments. At a general level, the watershed governance literature calls for Indigenous participation at all levels of decision-making and the co-governance literatures calls on states to share law and policy development with Indigenous governments.[347] Accounting for these literatures, watershed governance theory calls for state governments, Indigenous governments, and WGEs to share the role of aligning state policy and state law affecting watersheds.

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[343] Woolley, *Ecological Governance*; Nadasdy, 'Reevaluating the Co-Management Success Story'.

[344] Folke et al., 'Adaptive Governance of Social-Ecological Systems'; Berkes, 'Evolution of Co-Management: Role of Knowledge Generation, Bridging Organizations and Social Learning'; Borrows, 'Living between Water and Rocks'; Borrows, 'Indigenous Love, Law and Land in Canada's Constitution'; Berkes, *Sacred Ecology*; Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants* (Milkweed Editions, 2013); von der Porten, de Loë, and McGregor, 'Incorporating Indigenous Knowledge Systems into Collaborative Governance for Water'.

[345] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*, 2005; Woolley, *Ecological Governance*; Armitage and Plummer, 'Adapting and Transforming: Governance for Navigating Change'; Cosens and Stow, 'Resilience and Water Governance'. Folke et al. (2005, 296) suggest that not only law and policy, but also taxes and subsidies need alignment.

[346] Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*, 2005; DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance'; Cosens and Stow, 'Resilience and Water Governance: Addressing Fragmentation and Uncertainty in Water Allocation and Water Quality Law'.

[347] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water: Towards Watershed Co-Governance'; Brandes et al., *At a Watershed*.

6.1.5 Educating Communities

The final role I want to consider is that of education and interpellation.[348] Brandes et al. call for community education and conflict resolution to help create a culture of sustainability in the watershed.[349] Such work serves the purpose of societal transformation, noted in part 3.1, and is about re-framing the way people think about water and watersheds.[350] Griffith provides an example of interpellation by the United States Bureau of Reclamation (a branch of the Department of the Interior) in a monthly publication extolling the benefits of dam-building. Published between 1924 and 1942, the magazine "recast Indigenous waterways for settler audiences", helping to promote instrumental views of water and watersheds along with non-Indigenous settlement.[351] Presumably, transformative education by WGEs would take a different tack. A sixth role for WGEs in watershed governance theory is to provide community education furthering the purposes of watershed governance, such as promoting relationships of responsibility, and enhancing awareness of Indigenous cultural relations and ecological limits.[352]

6.2 Roles of Colonial States

Colonial states, in theory, share many of the governance roles identified in the previous section, including facilitating watershed planning, setting environmental limits, producing and managing knowledge, and aligning state laws and policies. Parts 5.1 and 5.2 above, on jurisdiction and authority, highlight another theoretical role for colonial states in watershed governance - facilitating nation-to-nation co-governance.[353] In this part, I add

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[348] Schlager and Blomquist (2008) discuss the role, in watershed governance, of interpellation, the re-framing of ideas to cast them in a different light. Reid gives an example of the interpellation of "resilience" by neoliberal theorists, to cast it not as an intrinsic aspect of social-ecological systems, but as a part of the economy manageable through market forces. Julian Reid, 'Interrogating the Neoliberal Biopolitics of the Sustainable Development-Resilience Nexus', *International Political Sociology* 7, no. 4 (2013): 353–67. Craig et al., 'Balancing Stability and Flexibility in Adaptive Governance'; Schlager and Blomquist, *Embracing Watershed Politics*.

[349] Brandes et al., *At a Watershed*.

[350] Whyte (2016) describes mechanisms for addressing psychological biases and irrational tendencies problematic to Indigenous approaches to environmental governance. Moore (2003, 492) describes the need for interpellation at page 492: "An opaque context contributes to the complexity of water governance when the normative framework – provided by the engineering profession and hydraulic mission – which acts as an umbrella under which most research, debate, and decisions take place, is not widely acknowledged or understood."

[351] Jane Griffith, 'Do Some Work for Me: Settler Colonialism, Professional Communication, and Representations of Indigenous Water', *Decolonization - Indigeneity, Education & Society* 7, no. 1 (2018): 132.

[352] Regarding relationships of responsibility, see Whyte (2016), 'Indigenous Environmental Movements and the Function of Governance Institutions'. Regarding cultural relations, see Wilson, 'Indigenous Water Governance'. Regarding inherent limits, see Borrows in Asch, Borrows, and Tully, *Resurgence and Reconciliation.*

[353] The theoretical importance of a nation-to-nation co-governance relationship is underscored by studies demonstrating the failure to otherwise fully recognize Indigenous governance. See, for example, Nadasdy,

the themes of 1) investing in co-governance; 2) providing leadership; 3) developing a legal framework; and 4) providing governance capacity.

6.2.1 Investing in Co-Governance

Done well, co-governance can advance two of the purposes of watershed governance highlighted in section 3, convening relationships and responsibilities among watershed decision-makers, and making space to exercise Indigenous cultural relations and responsibilities.[354] "Good" co-governance requires state recognition of Indigenous jurisdictions, cultural relations, and legal traditions as well as an investment in capacity.[355] In the role of co-governance facilitator, states must invest in their own administrative ability to respectfully engage and comprehend Indigenous governance approaches.[356] States must also invest in institutional arrangements supportive of Indigenous engagement.[357]

6.2.2 Providing Leadership

Theorists concur that the state, alone, cannot deliver good watershed governance, but neither can other actors in the absence of state government engagement.[358] An important role of the state is to enable watershed governance through effective leadership and political investment.[359] M'Gonigle suggests that the state must play an interventionist role "as both a vehicle for transition and then as a central steward of territorial structures."[360] Woolley characterizes such leadership as *meta-governance* – an investment in the governing of governance. An example of meta-governance would be to establish an independent oversight board responsible for producing and managing knowledge, or responsible for reviewing government policy changes to ensure they satisfy ecological

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Sovereignty's Entailments; Bowie, 'Indigenous Self-Governance and the Deployment of Knowledge in Collaborative Environmental Management in Canada'. The Union of British Columbia Indian Chiefs clarified that watershed co-governance must function at a nation-to-nation level with the state government, rather than only at regional or municipal government levels. See UBCIC, 'Union of British Columbia Indian Chiefs Water Act Modernization Initiative Submission to: The Ministry of Environment, Water Stewardship Division Government of British Columbia'.

[354] These purposes are consistent with the approach of *collaborative consent* described by Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

[355] *Ibid.*

[356] *Ibid.*; See also Nadasdy, *Sovereignty's Entailments*.

[357] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

[358] Schlager and Blomquist, *Embracing Watershed Politics*; Woolley, *Ecological Governance*; Jennings, *Ecological Governance*; von der Porten and de Loë, 'Collaborative Approaches to Governance for Water and Indigenous Peoples'. For a description of factors limiting the effectiveness of sustainable governance by 'government', see, at page 166, Loorbach, 'Transition Management for Sustainable Development: A Prescriptive, Complexity-based Governance Framework'. For an example of the need for state engagement in environmental governance, see Giessen et al., 'From Governance to Government: The Strengthened Role of State Bureaucracies in Forest and Agricultural Certification', *Policy and Society* 35, no. 1 (2016): 71-89.

[359] Brandes et al. (2005, ix) write that WGEs "should be enabled – not required".

[360] M'Gonigle, 'Ecological economics and political ecology', 20.

principles and standards.[361] There are many ways that states can exercise leadership to enable watershed governance, including making investments in enforcement capacity, in conflict resolution capacity, and in building a legal framework to support watershed governance. In exercising the role of leadership, the state can support the watershed governance purpose of strengthening social-ecological resilience through societal transformation.

6.2.3 Developing a Legal Framework

The idea of a state legal framework to support watershed governance appears in both adaptive and ecological watershed governance literatures.[362] The framework may address structure, process, and capacity.[363] With respect to structure, it may provide a mechanism to align state policies and laws with watershed governance objectives, embed principles and standards, delegate decision-making authority, and structure enforcement mechanisms.[364] With respect to process, it may try to balance stability and flexibility in government policy (for example, by authorizing choice in administrative mechanisms) and establish legal processes for independent oversight and support and watershed planning.[365] With respect to capacity, it may provide long-term funding and administrative, technical, and institutional resources both for state government departments and for WGEs. I look at the literature regarding capacity in more detail below. Phare et al. propose that state and Indigenous governments co-create all such legal frameworks.[366] In creating legal frameworks for watershed governance, however, it is important to mind the elephant in the room, which is the existing framework of state law affecting watershed governance.[367] As noted above, aligning state law with watershed governance is a task of its own. The state will need to integrate the role of developing a legal framework for watershed governance with the role of aligning existing state law. Together, these roles will help to serve the purpose in watershed governance of convening relationships and responsibilities.

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[361] Woolley, *Ecological Governance*. Brandes et al. (2005) suggest that independent oversight boards could audit and report on WGE activities.

[362] Brandes et al., *At a Watershed*; Woolley, *Ecological Governance*; DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance'.

[363] Cosens et al., 'The Role of Law in Adaptive Governance'.

[364] Brandes et al., *At a Watershed*; Cosens et al., 'The Role of Law in Adaptive Governance'; Lipschutz, 'Bioregionalism, Civil Society and Global Environmental Governance'; Dietz, Ostrom, and Stern, 'The Struggle to Govern the Commons', *Science* 302, no. 5652 (2003): 1907–12; DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance'; Huitema et al., 'Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining a Research Agenda'.

[365] Cosens et al., 'The Role of Law in Adaptive Governance'; Brandes et al., *At a Watershed*; Woolley, *Ecological Governance*.

[366] Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

[367] See, for example the description of laws and regulations pertaining to watershed governance in British Columbia, Canada in Brandes et al., *At a Watershed*.

6.2.4 Providing Governance Capacity

Governance actors, including and perhaps especially the state, must play the role of capacity builders to enable watershed governance. [368] As noted above, states must invest in their own administrative capacity to engage respectfully in co-governance arrangements; to build a legal framework for, and align state laws and policies with watershed governance; and to provide enforcement. In colonial contexts, states must also provide resources to ensure the full engagement of Indigenous governance partners. States must also invest in the moral and practical authority of WGEs by delegating powers and by ensuring WGEs have the capacity to build relationships, lead planning exercises, produce and manage knowledge, adopt good governance practices, and resolve conflicts. States can ensure capacity for key governance functions by providing resources for institutional infrastructure and the logistics of regional governance entities, to enable participation in governance processes, and to provide capacity for implementing the outcomes of such processes.[369] States can also provide resources for monitoring and independent oversight.[370] Colonial states have a role to fulfill in building, and investing in, watershed governance capacity.

6.3 Summary of Theoretical State Government Roles

In theoretical watershed governance in colonial states, Indigenous and state governments may form partnerships to establish watershed governance entities. Those WGEs will build relationships among governance actors, lead watershed-scale planning, set ecological limits for human activities in the watershed, identify changes needed to align provincial policies and regulations with watershed priorities, and work to educate watershed communities. In this scenario, the roles of the state government include working with other governments, and the WGE, to support watershed planning, to help set ecological limits, to help align state policies and regulations with watershed priorities, and to help develop a legal framework for watershed-scale governance. The state will also act on its own to invest in co-governance and provide governance capacity.

These theoretical roles for state governments come mainly from case study literature that taps watershed and related governance experiences, much of it in colonial states. It does not tap Indigenous literature written from the perspectives of individual Indigenous legal and governance traditions. It is pan-Indigenous theory in that regard. It is theory that begs the question of what distinct Indigenous legal and governance traditions, with their distinct Indigenous governance principles, have to say about the roles of the state in shared watershed governance. It is theory that does not address my research question: how can colonial states support ecological watershed governance that fully expresses

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[368] Schlager and Blomquist, *Embracing Watershed Politics*; Brandes et al., *At a Watershed*.
[369] Cosens et al., 'The Role of Law in Adaptive Governance'; Dietz, Ostrom, and Stern, 'The Struggle to Govern the Commons'.
[370] Cosens et al., 'The Role of Law in Adaptive Governance'; Cosens and Stow, 'Resilience and Water Governance'.

Indigenous governance principles drawn from Indigenous legal and governance traditions? In the next chapter, I lay out the methodological approach I developed, and used, to address this question.

Chapter 3: Methods

1. Introduction to Research Methods

This research is concerned with two challenges facing nation states across the globe that are trying to come to terms with legacies of colonial exploitation. The first challenge is working out how to govern human activities impacting the health of watersheds – activities driving the social and ecological pressures in our times. The second challenge is learning to share governance with Indigenous societies. These challenges converge at the watershed scale when state and Indigenous governments decide to work together for the benefit of the environment. As noted in Chapter 1, a shared interest in protecting watershed ecology may provide the basis for a strong governance partnership. In the colonial context, however, given the historic continuity of state hegemony and repression of Indigenous legal traditions, such attempts at ecological co-governance are difficult. One of the difficulties is a stark difference in governance approaches. To be effective, watershed ecological governance shared by state and Indigenous governments must make space for both state and Indigenous legal and governance traditions.[371] Arguably, the onus is on the state, with its hegemonic power and greater resources, to enable such a relationship. My research draws on the experience of the Cowichan Watershed Board, a governance partnership between the Cowichan Valley Regional District and Cowichan Tribes,[372] to examine what the Province of British Columbia can do to support watershed-scale governance in a way that allows the full expression of Indigenous governance principles. I adopt a case study format to focus on a single, unique situation. In this chapter, I lay out the research methodology used to structure the case study and describe the research journey.

This chapter has four parts. In the remainder of the introductory part, I reflect on my personal limitations as a researcher with a statement on positionality. I then define a few terms and outline key concepts that give shape to the research.

In Part 2 of this chapter, I introduce the overall research framework. The framework lays out three phases of the case study. The first phase is to examine how watershed-scale governance works in practice in the Cowichan Watershed. The second phase is to examine to what extent selected Indigenous governance principles find expression in that

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[371] Borrows, 'Living between Water and Rocks'; Craft et al., 'UNDRIP Implementation: More Reflections on the Braiding of International, Domestic and Indigenous Laws', *Center for International Governance Innovation* (October 30, 2018); Littlechild, 'Transformation and Re-Formation'. I use the term "legal and governance tradition" following the observation by legal scholar Jeremy Webber that legal traditions and governance traditions are essentially the same thing in non-state and non-hierarchical societies. Webber, 'Indigenous Legal Traditions and Indigenous Governance'. As Jennings (2016, 174) puts it in his work on ecological governance, "governance is not only about the letter of the laws, but also about their spirit; not about the body of law, but about its mind".

[372] The Cowichan Watershed Board is a governance partnership between the Cowichan Valley Regional District, a regional-scale government created through provincial legislation, and Cowichan Tribes, an association of Indigenous communities belonging to the Hul'qumi'num Treaty Group.

governance. The third and final phase is to analyze how provincial government legislation supports or undermines the alignment of watershed-scale governance and Indigenous governance principles.

In part 3 of this chapter, I explain my choice of Institutional Ethnography as the theoretical research approach for the case study, and detail how essential elements of IE methodology shape the research. Of central importance is the adoption of a research standpoint anchored in watershed ecology. I then describe the IE methods employed for the study: semi-structured interviews, observation, and textual analysis (document analysis in IE terminology).

Finally, in part 4, I describe the research process, including the University of Victoria Human Research Ethics review and the complications of conducting research during a period of Covid lockdown.

1.1 Positionality

While the focus of my work is on the role of the state in shaping watershed governance, I apply an analytical framework drawn from a range of watershed governance literature as well as a set of Indigenous governance principles sourced from an Indigenous legal tradition unfortunately unfamiliar to me. My decisions to work across watershed governance literatures, and to include Indigenous metrics, pose potential sources of error and risk of unintentional consequences for others.[373] In their work on watershed governance, Schlager & Blomquist refer to the constraint of "bounded rationality" – the unexamined assumptions and internalized perspectives that limit humans' ability to take in new information or to appreciate new perspectives.[374] It is a limitation for decision-makers working with a range of disciplines in complex systems.[375] As Tuhiwai Smith points out, it's also a source of error and risk to others when non-Indigenous researchers, such as myself, try to work with Indigenous concepts.[376] I address potential errors more fully in part 3 of this chapter, where I provide a rationale for my analytical framework, but I begin here with a reflection on the intellectual orientation that bounds my rationality – my positionality as a researcher.

My worldview is shaped by the rural settler community in which I was raised in the Treaty Six area of Saskatchewan, a community that values social wellbeing sustained through pragmatism, rationality, and diligence. I am a fourth-generation descendent of prairie agricultural pioneers, themselves descendants of previous generations of colonial settlers in Eastern Canada and the United States. I still own part of the family farm, and though distanced in many ways, remain rooted to the prairie landscape. After more than a

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[373] Arsenault et al., 'Shifting the Framework of Canadian Water Governance through Indigenous Research Methods'.
[374] Schlager and Blomquist, *Embracing Watershed Politics*.
[375] *Ibid*., 103. See also Smith, *Decolonizing Methodologies*.
[376] Smith, *Decolonizing Methodologies*.

decade of working in British Columbia as a young man, I returned to rural Saskatchewan with my family in 1990, where I completed an on-line degree in Environmental Management, followed by a graduate degree in Geography and Planning from the University of Saskatchewan.

During that time, in a volunteer capacity, I organized and led a local history group, working with Plains Cree, Saulteaux, and Metis elders on the local history of nearby Big Manitou Lake. This became a ten-year project that offered me many opportunities to make cultural blunders, all of them fully embraced, and to develop a very deep appreciation for the strengths of the Indigenous people I had the honour of working with. I worked with a community displaced from their homelands by a combination of events, including the signing of Treaties Four and Six, the 1930 federal-provincial land and resource transfer, dealings with unscrupulous land agents, and ultimately, an intervention by the federal Department of Indian Affairs.

In this period, I also participated as a volunteer in source water protection planning for the Battle and North Saskatchewan Rivers in Saskatchewan and led the formation of the North Saskatchewan River Basin Council, using the Indigenous partnership template of the Fraser Basin Council in British Columbia. I went on to chair the founding meeting of the Saskatchewan Association of Watersheds, a provincial umbrella organization for watershed stewardship groups, before accepting a position as Manager, Water Resources in Nunavut.

In Nunavut I worked for the Department of Aboriginal Affairs and Northern Development Canada (AANDC). The name had changed, but under the Stephen Harper government, it was a continuation of the old Department of Indian Affairs. In addition to overseeing hydrological monitoring programs across Nunavut and formally reviewing major mining license applications, I was able to work with Inuit Associations, and at Baker Lake, with Inuit elders, to establish Nunavut's first basin-scale, cumulative effects river monitoring program. The program struggled to incorporate traditional knowledge as well as modern technical monitoring techniques, with questionable success. My experience with the machinations of the mine licensing and environmental assessment processes left me skeptical that resource development decisions in Nunavut ultimately account for Inuit social and ecological priorities, or that the federal government is an effective institution for addressing the environmental concerns of Indigenous peoples.

I value science, science technology, and the power of deduction, but also appreciate the limits of these tools in dealing with the complexity of ecological and social systems. I have learned that knowledge gained from qualitative observation often hosts wisdom and is an important contribution to environmental decision-making. I value such knowledge carried by Indigenous peoples with long connections to the lands where they live. Though I conceive of all interpretations of the spiritual realm as metaphors, I have learned to appreciate the knowledge and wisdom vested in alternative worldviews. These experiences and lessons shape my approach to watershed governance research.

I recognize the need, highlighted by Arsenault and associates, for non-Indigenous researchers to step forward to conduct research focusing on failures within colonial governance systems. Such research may create knowledge about colonial governance shortcomings while making room for the knowledge and guidance of Indigenous people.[377] Taking Arsenault's advice, I approach the research challenge with a reflection on the four "R"s of respect, responsibility, reciprocity, and relevance.[378] I commit to demonstrating respect for the thousands of years of successful governance of the Cowichan watershed by Hul'qumi'num-speaking Cowichan peoples. I accept responsibility for potential impacts of my research on Cowichan Tribes and the Hul'qumi'num Treaty Group. As an act of reciprocity, I conduct volunteer research beyond the scope of my PhD project for the Cowichan Watershed Board and as directed by Cowichan Tribes. Finally, I structure my PhD research to include a focus on forest harvesting, an issue of particular concern to Cowichan Tribes.

1.2 Definitions/Concepts

I define ecological decision-making as making decisions that deliberately account for ecological or socio-ecological objectives.

2. Research Framework

I use two methods to orient and bound the scope of the research. The first is to focus on long-standing and contentious issues in the Cowichan Watershed – particularly forest harvesting and river flow interventions. The second is to begin with a research framework drawn from interdisciplinary literature. The framework consists of a set of selected governance functions and selected Indigenous governance principles that provide a matrix to orient the research. I describe the governance functions and Indigenous principles selected for the research framework in the next part of this chapter.

2.1 Selected Watershed Governance Functions

Research on watershed-scale governance in colonial states must navigate multiple levels of government and government agencies with overlapping authorities.[379] It must also account for the entrenched dominance of state over Indigenous governance approaches.[380] To avoid embedding unexamined assumptions that may underlie state governance

[377] Arsenault et al., 'Shifting the Framework of Canadian Water Governance through Indigenous Research Methods'.
[378] The four "R"s of respect, responsibility, reciprocity and relevancy are promoted by Arsenault et al. (2018) but previously proposed by Kirkness & Barnhardt (2001).
[379] Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.
[380] Nadasdy, 'Reevaluating the Co-Management Success Story'.

institutions and processes,[381] I frame the research using theoretical *functions* of watershed governance.[382]

The idea that watershed-scale governance can be understood through governance functions is not new in watershed literature.[383] Different disciplinary approaches, however, prioritize different governance functions.[384] Deliberately adopting a perspective focused on watershed ecology, I use two theoretical governance functions rooted in watershed ecological governance literature: Creating and Advancing Watershed Targets;[385] and Ecological Decision-Making. [386] I also use one governance function identified in Indigenous environmental governance literature: Convening Responsibility. [387] I provide a description of each function in the following paragraphs.

The governance function of Creating and Advancing Targets comes from the literature of ecological governance. [388] It is about deliberately creating movement toward desirable ecological conditions, such as resilient and abundant salmon populations. Indigenous environmental governance scholar Kyle Whyte identifies a similar function, that he refers to as delivering outcomes, in a review of Indigenous submissions to environmental

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[381] Smith, *Decolonizing Methodologies*.

[382] In watershed ecological co-governance literature, functions include such things as conflict resolution, setting ecological limits, providing governing capacity, and aligning regulations and policy. In Indigenous environmental governance literature, functions include delivering environmental outcomes and convening relations and responsibilities. Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Woolley, *Ecological Governance*; Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'.

[383] Brandes et al., *A Blueprint for Watershed Governance in British Columbia*, viii. Margot Hurlbert and Evan Andrews, 'Deliberative Democracy in Canadian Watershed Governance', *Water Alternatives-an Interdisciplinary Journal on Water Politics and Development* 11, no. 1 (2018): 170. Luisa Diaz-Kope and Katrina Miller-Stevens, 'Rethinking a Typology of Watershed Partnerships: A Governance Perspective', *Public Works Management & Policy* 20, no. 1 (2015): 36. Indigenous environmental governance scholar Dr. Kyle Whyte (2016) makes a similar case for a focus on governance function.

[384] Whyte (2016), for example, prioritizes the function of *convening responsibility* working from an Indigenous environmental governance perspective.

[385] I truncate this function for the purposes of this research as explained in part 4 of this chapter, to avoid repetition in the Findings chapter.

[386] Ecological watershed governance literature leans heavily on the work of Brandes and associates, but also on more general literatures in the fields of ecological governance and adaptive governance. Brandes et al., *A Blueprint for Watershed Governance in British Columbia*; Brandes et al., *Illumination: Insights and Perspectives for Building Effective Watershed Governance in BC*; Brandes et al., *At a Watershed: Ecological Governance and Sustainable Water Management in Canada*; Brandes, Carr-Wilson, and Curran, *Awash with Opportunity*.

[387] Whyte, 'Critical Investigations of Resilience: A Brief Introduction to Indigenous Environmental Studies & Sciences'; Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'. Brandes et al, Illumination; Brandes et al, *At a watershed*; Brandes, Savannah Carr-Wilson & Deborah Curran, *Awash with Opportunity*.

[388] Moore et al., 'Patchy Resources for the Governance of Canada's Resource Patches: How Hydraulic Fracturing Is Illuminating the Need to Improve Water Governance in Canada', in *Water policy and governance in Canada* (Cham: Springer,2016); Woolley, *Ecological Governance*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*.

governance initiatives.[389] Creating and Advancing Targets is about establishing aspirational ecological targets, and about actively moving towards them.[390] Targets offer a visionary goal, a measuring stick, and an accountable commitment all in one governance function – they orient, inspire, and facilitate the evaluation of governance.

The second governance function – Ecological Decision-Making – is a conflation of two functions in distinct disciplines within the broad tent of environmental governance: setting ecological limits and adaptive decision-making. [391] The function of setting ecological limits is from the literature on ecological governance and considered necessary to constrain the extent of human activities affecting ecological conditions.[392] The function of adaptive decision-making is from the literature of adaptive governance and is focused on the concept of resilience in socio-ecological systems. To achieve resilience, ecosystems, with their inter-connected human dimensions, must be able to respond to environmental drivers, such as climate change, that may irreversibly alter the state of the environment.[393] The ability to make decisions constraining human activities while maintaining a focus on ecological conditions is central to both ecological and adaptive environmental governance.[394] I define Ecological Decision-Making as making decisions that deliberately account for ecological or socio-ecological objectives.

The literature on Indigenous governance pays limited attention to the sub-disciplines of environmental governance,[395] with the notable exception of the work of Anishinaabe scholar Kyle Whyte.[396] In the global study of Indigenous submissions to environmental governance organizations, referenced above, Whyte identifies a recurring, high-level governance function, Convening Responsibility. Whyte describes this function as a process of institutionalizing reciprocal responsibilities among humans and non-humans.

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[389] Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'.

[390] This function is central to the Cowichan Watershed Board's approach to governance. Cowichan Watershed Board, 'Cowichan Watershed Board Governance Manual, Version 3'.

[391] *Setting ecological limits* is similar in process to the function of *adaptive decision-making*. The former structures decisions to limit human behavior, while the latter adjusts ecological aspirations in response to unmitigable drivers of ecological change such as hydrological and ecological shifts wrought by a changing climate. Schlager and Blomquist, *Embracing Watershed Politics*; Brandes et al., *At a Watershed*; Brandes et al., *A Blueprint for Watershed Governance in British Columbia*. Woolley, *Ecological Governance*; Brandes and Curran, 'Changing Currents'. DeCaro et al., 'Legal and Institutional Foundations of Adaptive Environmental Governance'.

[392] Jennings, *Ecological Governance*.

[393] Folke et al., 'Regime Shifts, Resilience, and Biodiversity in Ecosystem Management'; Folke et al., 'Adaptive Governance of Social-Ecological Systems'.

[394] It is used to govern the ecosystem-based-management approaches, for example, applied in Haida Gwaii and in the Great Bear Rainforest in British Columbia. Takeda and Røpke, 'Power and Contestation in Collaborative Ecosystem-Based Management'; Curran, '"Legalizing" the Great Bear Rainforest Agreement'.

[395] See Chapter 2.

[396] For example, see Whyte's (2018) critique of resilience literature.

[397] It is an alternative to market-based or psychologically oriented governance approaches often embraced by colonial state governments. It is important not to misconstrue Whyte's observation as a pan-Indigenous generalization about the nature of all Indigenous governance. [398] Rather, it offers one perspective from which to critique non-Indigenous forms of environmental governance. [399] Convening Responsibility, understood as a governance function, adds a research dimension generally overlooked in non-Indigenous environmental governance literature.

2.2 Selected Indigenous Legal/Governance Principles

In developing theory for re-vitalizing and re-stating Indigenous law, Indigenous legal scholar Dr. Val Napoleon discusses three types of legal principles that may be found in non-state, de-centralized societies like the Cowichan Nation.[400] The first type, general principles, concerns the overall scope and structure of the legal tradition, such as the types of law within the tradition. The second type, normative principles, is concerned with expectations about relations among humans and non-humans, such as kinship relations, legitimacy of authority, and accountability. The third type, general working principles, is concerned with expectations regarding the application of law, such as prioritizing compensation over determining guilt and ensuring due processes like public witnessing. My approach for selecting Hul'qumi'num legal principles applicable to Cowichan watershed governance is to choose normative and general working principles that are both used in current application and long-standing in the legal tradition.[401] To

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[397] "Different from institutional functions based on market mechanisms or appeals to human psychological tendencies, a variety of indigenous environmentalists suggest that institutions should function to convene reciprocal responsibilities across relatives as diverse as humans, non-human beings such as plants, entities such as water, and collectives such as forests." Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions', 1.

[398] Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions'.

[399] I am careful not to use the idea of *convening responsibility* as a representation of the Hul'qumi'num legal and governance tradition. One does not need to know to what extent *convening responsibility* is compatible with the Hul'qumi'num legal and governance tradition, to use it as part of a framework for tracing governance in action. I do note, nonetheless, that the works of Hul'qumi'num legal scholar, Dr. Sarah Morales, may suggest it is not incompatible. Morales identifies *Sh-tiiwun*, translated as "responsibility", as one of the seven core teachings of Snuw'uyulh law in the Hul'qumi'num legal tradition. Morales cites her informant, elder Florence James, as saying "... Once they teach you these laws, the snuw'uyulh, as soon as I say it to you, you are now responsible. That is why we say sni'niw – you are a responsible person of the traditional ways. So that is why they say to you – you are responsible." Morales, 'Snuw'uyulh', 236.

[400] Cowichan Tribes uses the term "Cowichan Nation" to refer to the Quw'utsun Mustimuhw, the Indigenous Cowichan people, also referred to in some contexts as Hul'qumi'num Mustimuhw. Cowichan Tribes website, https://cowichantribes.com/, accessed 1 June 2023. Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'.

[401] Napoleon, 'Ayook: Gitksan Legal Order, Law, and Legal Theory'. It is the normative principles that would seem to apply most readily to watershed governance, as they lend themselves to ready application to new challenges while sustaining the "lifeworld" ways of knowing described by Mills, and the relational connections to the land, or "grounded normativity" as described by Coulthard. Mills, 'The Lifeworlds of Law: On Revitalizing Indigenous Legal Orders Today'; Coulthard, *Red Skins, White Masks*.

identify principles in current application, I turn to watershed general working principles put forward by Cowichan Tribes for application in the CWB. To identify long-standing principles, I draw on the ethnographic and legal scholarship of Hul'qumi'num legal scholar Dr. Sarah Morales.

The first Hul'qumi'num legal and governance principle of the research framework is *nutsamatkwsyaay'ustthqa'* (short form nuts'umat) meaning "we come together as a whole to work together to be stronger as partners for the watershed".[402] It is a principle put forward by Cowichan Tribes for inclusion in the Cowichan Watershed Board governance manual. I consider it a general working principle (defined above) because of its specific orientation to the well-being of a particular watershed.[403] I also consider it a normative principle because it is rooted in the concept of nuts'umat,[404] and through nuts'umat to long-standing, normative, snuw'uyulh teachings in the Hul'qumi'num legal tradition.[405]

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[402] Cowichan Watershed Board, 'Cowichan Watershed Board Governance Manual, Version 3'. The principle of nuts'umat is put forward in two variations: *Nutsamat kws yaay'us tst*, meaning "we come together as a whole to work together to be stronger as partners", and *Nutsamatkwsyaay'ustthqa'*, meaning "we come together as a whole to work together to be stronger as partners for the watershed". Cowichan Watershed Board. Former chief of Cowichan tribes, Lydia Hwitsum, refers to *Nutsamat kws yaay'us tst*, as meaning "we come together as a whole to work together to be stronger as partners" Hwitsum, 'Cowichan Watershed Board Nutsamat', 8. The definition of Nutsamat approved by the Cowichan Elders Treaty Committee for use in CWB governance is "Work together as a whole to be stronger, work together as one within the Cowichan Watershed. Demonstrate and respect our common interests and connection" Hwitsum, 'Cowichan Watershed Board Nutsamat', 4. See also Cowichan Watershed Board, *Pathways and Partnerships: A Framework for Collaboration and Reconciliation in the Cowichan Watershed*, https://poliswaterproject.org/files/2019/01/CWB_PathwaysAndPartnerships_Final_web.pdf, 3. Morales does not address the principle of *nutsamatkwsyaay'ustthqa'* directly in her PhD dissertation, but she describes a related principle, *sts'lhnuts'amat*, meaning kinship/family, that is one of the key teachings or principles of the law of snuw'uyulh.

[403] Interview with Lydia Hwitsum, 24 September, 2021. Cowichan tribes chief Lydia Hwitsum explains that "nuts'umat" may be translated in English as all working together for a common goal, but in the Hul'qumi'num language the term must always be combined what nuts'umat is being applied to. "If you're going to be nuts'umat, you got to be nuts'umat about something. It's a concept." Hwitsum explains further, "I want to talk a little bit about the principle of nuts'umat. It's a principle, and it's a standard. It's a way of being. And I think that I say it like that because the English language doesn't always just translate. It was like, 'oh, this is a principle'. Well, it can be a verb as well. Nuts'umat is a way of being. Nuts'umat can be a noun because it is a way to be. So it's not the same. It's hard to translate into English language, but I actually brought this principle, as you've probably seen in the writings, into our work with the Cowichan Watershed Board".

[404] The Cowichan Hul'qumi'num dictionary defines *Nutsamat* as "one whole team or group, to form one whole piece". I note various spellings of this principle, depending on source. Cowichan Tribes website, https://cowichantribes.com/, accessed 1 June 2023.

[405] Snuw'uyulh is a condition, or state of being, made possible by adhering to key teachings intended to "foster harmony, peacefulness, solidarity and kinship between all living beings and nature in the world". The seven key teachings of Snuw'uyulh, also described by Morales as legal principles, are: 1) Sts'lhnuts'amat ("Kinship/Family"); 2) Si'emstuhw ("Respect"); 3) Nu stl'I ch ("Love"); 4) Hw'uywulh ("Sharing/Support"); 5) Sh-tiiwun ("Responsibility"); 6) Thu'it ("Trust"); and 7) Mel'qt ("Forgiveness"). At

The second Hul'qumi'num legal principle of the research framework, also a working principle endorsed by Cowichan Tribes for inclusion in the Cowichan Watershed Board governance manual, is *mukw'stem'o'slhilhukw'tul* (short form mukw'stem) meaning "everything is inter-connected", or "we are all inter-connected".[406] According to Morales, the idea of connectedness among humans, non-humans, and the land underlies the Hul'qumi'num worldview and is the basis for the collective nature of all Coast Salish societies.[407] Mukw'stem'o'slhilhukw'tul appears to be a normative principle as well as a working principle that is both long-standing and current in the Hul'qumi'num legal and governance tradition.

I considered using a third Hul'qumi'num legal principle in the research framework cited in Morales' work – the principle of reciprocity. Morales uses this English-language term, along with respect, to identify characteristics of the Hul'qumi'num legal and governance tradition that are central to the Hul'qumi'num worldview and that govern relations to ancestors, kin, and land.[408] Reciprocity is a normative principle in this sense, respecting land and resource use.[409] It underwrites the snuw'uyulh teaching to share resources and the obligations to take only what one needs and to provide for future generations. [410] I decided mid-way through my interviews, however, not to include reciprocity in my analytical framework because of its origins in the English language rather than in the Hul'qumi'num language and informants' unfamiliarity with its English meaning.

I set a research scope by adopting a focus on two contentious issues in the Watershed, river flow and forestry management, and by establishing an investigative framework using three functions of watershed-scale governance, drawn from ecological and Indigenous environmental literature, and two normative and general working principles

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page 250 Morales, 'Snuw'uyulh: Fostering an Understanding of the Hul'qumi'num Legal Tradition', 2014. As a part of snuw'uyulh, *sts'lhnuts'amat* carries the values of "respect, kindness, cooperation, friendliness, reciprocal relations and love", and applies to interactions with all relations – "animate, inanimate and spiritual". At page 223, Morales. At page 149, Morales writes "I would go so far as to argue that [snuw'uyulh] encompasses the basic normative principles upon which our culture is based."

[406] Cowichan Watershed Board, 'Cowichan Watershed Board Governance Manual, Version 3'.

[407] The principle of *mukw'stem'o'slhilhukw'tul* resonates with Morales' description of *relational-connectedness*, the bedrock of the Hul'qumi'num worldview that encompasses "relationships to our ancestors, the people and the land around us – all our relations". It is reinforced through the institutions of "familial, social, cultural, economic and political systems". Morales, 'Snuw'uyulh', 48-49.

[408] Morales, 'Snuw'uyulh', iii.

[409] *Ibid.*, 118.

[410] Morales, 'Stl'ul Nup'. One Cowichan Tribes member of the CWB describes reciprocity in the following way: "But when our elders take us out to show us how to pick medicine, we don't go and harvest like a field of corn. We pick what we need out of that, so it comes back. That's the best way I can explain it." Interview with C06, 29 September 2021. From her interviews and focus groups with Hul'qumi'num participants, Cheri Ayers identified respect and reciprocity as top Hul'qumi'num principles for marine conservation areas. The corollaries were "taking only what was needed; maintaining populations of all species; everything is connected; and ensuring resources are available for future generations". Pages 51-52 of Cheri Ayers, 'Marine Conservation from a First Nations' Perspective: A Case Study of the Principles of the Hul'qumi'num of Vancouver Island, British Columbia' (Masters Thesis, University of Victoria, 2005).

put forward by Cowichan Tribes for application in the CWB. Having established a scope and focus, the next research step was to select a suite of suitable investigative tools. In the next section, I describe the theoretical methodology and applied methods that I used.

3. Methodology

3.1 Introduction to Case Study Methodology

In this part, I describe the research theory, or methodology, and the research methods used in this study. This study sits at the nexus of state and Indigenous legal and governance traditions, each shaped by unique worldviews and underlying assumptions.[411] Such assumptions are not always daylighted yet play out in day-to-day governance practice. They are there in governance instruments, the policy, legislative, regulatory and administrative elements that structure state governance.[412] State-led governance, for example, may conduct environmental reviews based on the unexamined assumption that linear and hierarchical frameworks can fully account for the complexity of social-ecological systems.[413] Working in the colonial context, it is essential to adopt a methodological framework capable of navigating such assumptions.

Feminist scholar Dorothy Smith points out that underlying assumptions, if unchallenged in research methodology, risk creating a self-reinforcing loop of theory, quite divorced from reality.[414] In her pioneering work on the field of institutional ethnography (IE), Smith introduces a methodological approach designed to overcome such assumptions. I apply elements of that methodology in this case study, as explained in the following section.

3.2 Institutional Ethnography Methodology

In an early work Smith examined, through her personal experience, the ideological undercurrents and relationships that perpetuated middle-class privilege over single parent needs in an educational institution.[415] Drawing from her experience as a feminist activist, Smith devised strategies for charting the "ruling relations" that perpetuate such entrenched power in institutional settings and that effectively determine how things

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[411] Norman and Bakker (2017, 140) note that "…the study of water governance must thus be attentive not only to the content of regulations, but also to the underlying worldviews".

[412] Simpson (2017, 178), for example, points out that colonial states "will always define issues with a solution that re-entrenches its own power".

[413] Nadasdy for example, recounts how a focus on "Western science" can hide unexamined and underlying assumptions that sideline Indigenous knowledge and Indigenous environmental governance approaches. In his reviews of Crown-Indigenous co-management in Canada`s arctic, Nadasdy describes a common trajectory of default to regulatory and analytical frameworks developed by Crown governments at the expense of Indigenous ways of knowing and of governing. Nadasdy, 'Reevaluating the Co-Management Success Story'; Nadasdy, *Sovereignty's Entailments.*

[414] Dorothy Smith, *Institutional Ethnography: A Sociology for People* (Rowman Altamira, 2005).

[415] William Carroll, *Critical Strategies for Social Research* (Canadian Scholars' Press, 2004), 186-187.

happen as they do.[416] Smith, and those who followed, developed techniques to daylight informal relationships, unspoken assumptions, and unexamined influences that shape institutional relations and power dynamics.

A key technique of IE is to learn from people's experiences of how things work in practice. In this way, IE provides a research path largely independent of theoretical relationships and processes. For example, interviews with workers may identify unacknowledged working relationships, only apparent to those involved, that circumvent formal lines of authority.[417] A second technique of IE is to analyze the text of documents that influence how things are done, such as management guidelines, to expose underlying assumptions and biases in institutional settings.[418]

In borrowing IE methodology for a case study of watershed ecological governance, I focus not on institutions, however, but on governance functions. I trace people's experiences to "map out" how those functions work in practice.[419] While this approach may push the boundaries of IE as an established research method, it nonetheless provides the tools needed to trace how watershed governance truly works. In the remainder of this section, I review elements of IE methodology that shape the research approach and research methods used in this study.

The first element of IE that I apply is a technique for managing assumptions embedded in a researcher's point of view. It can be difficult to adopt the outlook, touted in much empirical research, of impartial observer. Researcher's perspectives, in fact, often color results and can be an unexamined source of error.[420] To address this issue, IE introduces the idea of a standpoint. A standpoint is a deliberate and transparent choice of outlook used to orient and direct research.[421] By using a standpoint, the researcher adopts a perspective that becomes an intentional part of the research structure. In this study, I adopt a standpoint of watershed ecology.[422] I study how governance functions work, and

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[416] *Ibid.*, 166.

[417] Early work in the field of IE focused mainly on institutional settings, exploring the true "ruling relations" versus theoretical authority structures. Marie Campbell and Frances Gregor, *Mapping Social Relations: A Primer in Doing Institutional Ethnography* (University of Toronto Press, 2002).

[418] *Ibid*.

[419] *Ibid*.

[420] Smith, *Institutional Ethnography*; Campbell and Gregor, *Mapping Social Relations*.

[421] In researching the dynamics of health care institutions, for example, the quality of patient care may be used as a standpoint from which to assess all institutional activities. The standpoint of patient care offers a view that orients the research project to patients rather than to management structures or management theory, and directs the researcher's engagement accordingly. Campbell and Gregor, *Mapping Social Relations*.

[422] I choose watershed ecology as a standpoint based on the assumption, presented in Chapter 1, that a focus on watershed ecology provides a suitable forum for working out how to coordinate state and Indigenous approaches to land and water governance. I present the findings of how governance functions work and how Indigenous principles influence watershed-scale governance in Chapter 5. The standpoint is less relevant for the analysis, in Chapter 6, of how state legislation affects the application of Indigenous principles.

how Indigenous principles influence governance, as seen from the vantage point of watershed ecology.[423]

The second element of IE applied in this study is an initial theoretical orientation. By adopting a standpoint and following people's experiences, IE researchers aim to overcome assumptions embedded in theory, but that doesn't exclude using theory to provide a starting point.[424] As explained in section 2.0 of this chapter, I orient this study with a theoretical framework of selected watershed governance functions and Indigenous legal/governance principles.[425]

A third, and more fluid, element of IE is the ongoing juxtaposition of people's experiences with the researcher's standpoint.[426] The researcher takes a path that accords with both. I choose, for example, to follow specific examples of watershed governance functions identified as important in people's experiences of governance and also relevant to the standpoint in watershed ecology.

The final element of IE that I note here is its iterative nature. The process of following people's experiences is not linear, and it is common in IE to double back on initial work to re-assess it in light of subsequent findings.

3.3 Research Methods

I adopted three research methods for the case study, all common to case studies and to IE: participant observation, semi-structured interviews, and document analysis.[427] I briefly describe each method below.

To learn from the experiences of people engaged in governance of the Cowichan Watershed, I observed the monthly meetings of the Cowichan Watershed Board, interviewed former and current members of the Board, and reviewed documents pertinent to watershed governance over my chosen study period, which corresponded to the active period of the CWB from 2010 to time of writing in the spring of 2023.

I observed the meetings of the CWB, including informal chat sessions, from the summer of 2019 to April of 2023. The meetings are open to the public, and at the beginning of

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[423] I explain the deliberate choice to center my research on watershed ecology in Chapter 1. It is based on the assumption that a shared focus on watershed ecology provides a suitable platform for state and Indigenous governments to work out how their respective legal and governance traditions can work together.

[424] Though the strength of IE is its ability to escape the bounds of theoretical processes and relationships, such work can rest on a foundation developed through a review of the literature. Campbell and Gregor, *Mapping Social Relations*.

[425] I also set a manageable scope for the study with a focus on forest harvesting and flow interventions.

[426] This is the essence of IE as described by Smith and elaborated by Campbell. Smith, *Institutional Ethnography*; Campbell and Gregor, *Mapping Social Relations*.

[427] Lyn Richards and Janice Morse, *Readme First for a User's Guide to Qualitative Methods*; Smith, *Institutional Ethnography as Practice* (Sage, 2012).

each meeting the Board provides an opportunity for public participants to speak on pressing issues. There is an informal chat time in the half hour period prior to meeting times, and again following adjournment. I made notes during meetings and chat periods and accessed written materials and presentations made available by the Board for each meeting.

I conducted semi-structured interviews over a two-year period with people directly engaged with the Cowichan Watershed Board over the study period.[428] I started with those who had the longest periods of engagement, adding others who were involved at key historical moments that became apparent during the research. The pool of potential candidates was not large. I conducted a total of 13 interviews. Interviewees included past and present Board members from the Cowichan Valley Regional District (CVRD) and from Cowichan Tribes as well as staff from the CWB, CVRD, and provincial government. I also interviewed informants and observers who participated in CWB meetings, and one industry technician. The interviews generally followed an interview template matching the research framework, but also pursued leads and related ideas that arose during the interviews. I stopped recruiting interviewees when the interviews began to produce little additional information.

I used document analysis (also referred to as textual analysis) to augment interviews and to explore emergent themes related to each governance function. I was very fortunate in finding an abundance of documentation about the Cowichan Watershed online. I must acknowledge the commitment of CWB to transparency and the dedication of over-worked staff to the accessibility of relevant documentation.

4. Research in Practice

My research journey started in January 2017 when I was accepted as a PhD student in the Political Ecology lab in the School of Environmental Studies at the University of Victoria. A project working with several British Columbia First Nation communities to revitalize Indigenous water law caught my eye. Professors Deborah Curran and Val Napoleon led the project and Professor Curran agreed to take me on as a graduate student. One of the Indigenous partners in the water law project was Cowichan Tribes, and as I began to learn about the revitalization of law in the Hul'qumi'num legal and governance tradition, I found myself thinking about how Indigenous and state governments could share authority in land and water management. After I had been thinking for a year about how to frame such research, Professor Curran suggested I consider a focus on Indigenous governance principles. I completed a literature review and formulated a research proposal that my supervisory committee accepted in the spring of 2019.

[428] I conducted all interviews by telephone due to University of Victoria COVID19 restrictions in place during 2020 to 2022.

By then, I had prepared the ground for field work to some extent, participating in a Cowichan Tribes workshop on water law revitalization as part of the water law project, taking an introductory course in Indigenous law revitalization methods, and meeting with the ED of the CWB, along with a former co-chair from Cowichan Tribes. I offered my time as a volunteer researcher in reciprocity for conducting my own research in the Cowichan Watershed. The former co-chair checked in with Cowichan Tribes and asked me to conduct research on forestry in the Watershed.

Over the winter of 2019-2020, I developed an ethics proposal for my work. As part of that process, I presented the research proposal to the CWB and received their endorsement. On the advice of UVIC, I used the opportunity to ask the Chief of Cowichan Tribes how to get feedback on my proposal from Cowichan Tribes. The Chief directed me to take the proposal to Cowichan Tribes administration. By this time, the Covid-19 lockdown had begun, and it was not possible to make direct personal connections. This compounded the challenge of engaging with very busy people with other, more urgent priorities. The administrative staff at Cowichan Tribes was nonetheless very helpful and set up a ZOOM meeting for me to share my intentions with Cowichan Tribes Tumuhw (land management) Committee.[429] The Tumuhw Committee had no objection to my proposal and UVIC approved my ethics application in 2020. I submitted my volunteer research paper, on the effects of historic provincial forestry policies on the Cowichan Watershed, to the CWB and Cowichan Tribes and started to reach out to people, via email, to set up interviews.

In the absence of direct personal contact, the process of setting up interviews was painfully slow. Many people did not respond to my first round of emails. Some did not respond to the second round or to the first two phone calls after two rounds of emails. It was over a year before I had completed enough interviews to feel comfortable moving forward. Meanwhile, I transcribed the interviews and studied the interview transcripts, beginning to map governance practice and the influence of Hul'qumi'num governance principles and identifying themes for document review.

I used NVIVO software to organize my observations with categories based on the governance functions and Indigenous principles of the research framework. I also introduced additional categories, such as Indigenous knowledge and Indigenous leadership, highlighted as important in informant responses. I then reflected on the interview responses in each category and identified themes that helped to inform additional research steps.

Based on the completion of interviews and transcript reviews, my Advisory Committee approved my advancement to the writing-up phase of research in the spring of 2022. For me, the beginning of the writing-up phase was also the beginning of an intense document

[429] Cowichan Tribes Tumuhw Committee is responsible for land use policy and advice within Cowichan Tribes governance structure. https://cowichantribes.com/laws/quwutsun-tumuhw, accessed 1 June 2023.

review phase, where elusive details revealed the true shape of governance functions in practice. The Findings chapter (Chapter 5) describes what I learned by putting the interview themes and participant observations together with various trails traced through extensive document review. I concluded document review and ceased data collection in May of 2023. I stuck to my theoretical framework as I pursued the themes identified in my interviews, putting them into historical context and tracing connections among governance functions, Indigenous principles, and governance actors.

As I worked through my framework, I considered adding a fourth governance function, Watershed-Scale Leadership, because of its apparent significance to many interviewees. Ultimately, I decided not to expand the mapping framework because I wanted to avoid excessive repetition in the historical elements that form a storyline for my Findings chapter. I decided to address watershed-scale leadership in my Analysis chapter (Chapter 6).

As anticipated in institutional ethnographic theory, I made a few changes to the research framework as I mapped governance in practice. The first was to curb my ambition in relation to the function of Creating and Advancing Targets. Initially I planned not only to map how the CWB developed aspirational targets for watershed conditions, but also what the CWB did to advance the targets. In practice, I found that the map of advancing targets related to river flow management was nearly indistinguishable from the map of Ecological Decision-Making, and to present both would have been repetitively redundant. I therefore mapped only the creation aspect, referring to the adjusted function merely as Creating Targets. I did, nonetheless, depart from my framework somewhat by including a brief description of the Board's work to advance the Watershed Knowledge Target because of its apparent relevance to the Board's application of nutsamatkwsyaay'ustthqa'.

In part 2.2 above, I describe a second change to my framework respecting the selection of Hul'qumi'num governance principles. I dropped *reciprocity* as a Hul'qumi'num principle based on feedback from a Cowichan Tribes interviewee who did not readily associate this English word with Hul'qumi'num teachings.

Due to the abundance and ready availability of online documentation, I was able to trace the themes that emerged in my interviews and document review process without going back to my informants for further direction or information. My Findings on watershed governance functions are rich in detail – perhaps excessively so from an investigative perspective but usefully so as a nuanced historical snapshot. Before we get to Findings, however, I want to introduce you to the research setting – the governance landscape of the Cowichan Watershed.

Chapter 4: Setting

1. Introduction

The purpose of this research, as detailed in Chapters 1 through 3, is to examine the influence of provincial law on the application of Indigenous governance principles in the Cowichan Watershed (the Watershed). I choose the Cowichan Watershed to learn from the experience of the Cowichan Watershed Board (CWB, the Board). The CWB is an ecological governance partnership created between Cowichan Tribes, a First Nation band government, and the Cowichan Valley Regional District (CVRD), a regional-scale state government with delegated provincial authorities.[430] In this chapter, I provide background by sketching the governance setting of the Watershed. I draw out the ecological, legal, and historical contours that give shape to governance at the watershed scale. My research interest is the active period of the Board, 2010 to 2023, but I include highlights from the longer, and ongoing, colonial era to help illuminate long-standing drivers of ecological and governmental change.[431]

I begin, in this introductory section, by describing the geography and ecology of the Watershed, and factors driving changes in ecological conditions.[432] In section 2, I sketch the legal landscape of the Watershed relating to river flow and forestry management, looking at legal traditions, and state legislation and administrative structures. I focus mainly on provincial law, due to its administrative dominance, and due to the limited accessibility of Indigenous law. I present state law in pieces. I separate federal law from provincial law, in both cases attempting to distinguish law pertaining to river flow from law pertaining to forestry management. I limit the scope to those aspects of law most visible at the watershed scale over the study period – mainly Provincial legislation and administration.

In section 3, I outline the history of state-sponsored, watershed-scale planning initiatives that help shape governance in the Watershed. In section 4, I introduce some of the many agencies and organizations doing stewardship work in the Watershed. I see these organizations as governance actors whose energy affects what gets done and how things get done. Finally, I summarize this Chapter in section 5, highlighting the attributes of the Cowichan Watershed as a research setting.

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[430] See the Cowichan Watershed Board description of this partnership at: https://cowichanwatershedboard.ca/partners/, accessed 30 September, 2022.

[431] By colonial period I refer to the time from the establishment of a British colony in Fort Victoria in the mid-1850s to present day.

[432][432] As described in Chapter 1, I do not always distinguish between “ecology” and “socio-ecology”. I view people as part of the living environment.

1.1 Geography and Ecology of Cowichan Watershed

Located on the eastern slope of southern Vancouver Island, British Columbia, the Cowichan Watershed catchment encompasses 930 square kilometers, from the 1491 meter peak of the El Capitan Mountain in the north, to the shores of Salish Sea in the southeast.[433] Two dozen streams in the upper half of the watershed feed Lake Cowichan (the Lake), the source of the Cowichan River (the River).[434] The Cowichan River runs through Coastal Western Hemlock and Coastal Douglas-Fir biogeoclimatic zones, meeting the Koksilah River at the estuary in Cowichan Bay.[435] As the names of the biogeoclimatic zones suggest, the watershed is known for, and by, its verdant forest cover.

The Cowichan Nation, with its intimate knowledge of land and sea, has long turned to the forest as a source of vital resources – spiritual and material.[436] Among other things, the forest provides cedar roots for rope-making and weaving,[437] cedar planks for house-building, cedar logs for canoe-making, Douglas Fir for building and heating,[438] and a great many understory plants used for food and medicine.[439] The forest is highly regarded, and not just for such traditional uses. Industrial-scale logging companies recognize the abundance of high-value timber species that grow to great heights in what is touted as perhaps the most productive timber producing area in the province of British Columbia.[440]

The forest is productive, in part, because of the growing conditions afforded by a favourable climate.[441] It also benefits from the availability of nutrients, delivered each year by thousands of salmon returning to the Cowichan and Koksilah Rivers to spawn and die.[442] The salmon feed the forest with their gift of nutrients, disbursed by predators,

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[433] Cowichan Watershed Board, 'Cowichan Lake', accessed 30 September 2022, http://www.cowichanwatershedboard.ca/content/cowichan-lake. See also PeakVisor, 'El Capitan Mountain', accessed 30 September 2022, https://peakvisor.com/peak/el-capitan-mountain.html.
[434] Cowichan Watershed Board, 'Cowichan Lake', accessed 30 September 2022, http://www.cowichanwatershedboard.ca/content/cowichan-lake.
[435] Government of British Columbia, viewed at: https://www.for.gov.bc.ca/hfd/pubs/docs/mr/mr112/page06.htm
[436] Interview with a Cowichan Tribes member of the Cowichan Watershed Board, 29 September 2021.
[437] Conversation with H. Pritchard, 26 September 2022, at Cowichan Watershed Board meeting.
[438] Joan Vastokas, 'Architecture and Environment: The Importance of the Forest to the Northwest Coast Indian', *Forest and Conservation History* 13, no. 3 (1969): 12-21.
[439] Interview with C06, 29 September 2021. For a study of plant use in Indigenous communities on the Pacific West Coast before colonization see Donald Zobel, 'Ecosystem Use by Indigenous People in an Oregon Coastal Landscape', *Northwest Science* 76, no. 4 (2002): 304-314.
[440] Richard Rajala, *The Legacy & the Challenge: A Century of the Forest Industry at Cowichan Lake* (Lake Cowichan Heritage Advisory Committee, 1993).
[441] Early settlers to the Cowichan Valley referred to the area as the warm land, noting its favourable climate. Elizabeth Norcross, *The Warm Land* (Victoria, BC: Renaissance Books, 1969).
[442] Heard et al., 'Chinook Salmon–Trends in Abundance and Biological Characteristics'; Ayers et al., 'Determining Cowichan River Flows for Fish in 2017 and Beyond' (2007).

fishers, and scavengers.[443] Some of those nutrients return to the Salish Sea, coming back down the Rivers to the estuary at Cowichan Bay. The estuary itself is an historically rich source of shellfish, once a staple in the economy and ecology of the Watershed.[444]

The Cowichan Watershed is an environment with abundant and diverse resources providing food and shelter for a complex of living organisms, including people. Forest cover and climate, along with the movements of keystone salmon species, largely shape the ecology of the watershed.[445] The condition of the forest, and the strength of the salmon runs, reflect the vibrancy of that ecology. In the next part, I outline how human activities in the colonial period drive dramatic changes in both.

1.2 Ecological Change in the Colonial Period

Indigenous people living in the Watershed in the pre-colonial era, the Quw'utsun Mustimuhw in the Hul'qumi'num language,[446] also known as the Cowichan Nation, greatly influenced its ecological condition. Much has been written about Indigenous stewardship on lands around the Salish Sea; about intimate knowledge of, and connection to all living things; about a duty of care.[447] Indigenous peoples influenced Watershed ecology through stewardship practices like prescribed burning, clam gardening, and overseeing fishing weirs to ensure bountiful salmon regeneration. The ecology of the Cowichan Watershed, however, began to change in markedly different ways with the advent of British colonization in the 1850s.

The Cowichan Nation allowed a few Europeans to settle in the Cowichan Valley (the Valley) following first contact with the British, but resisted wholesale land take-over and

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[443] Kim Hyatt and Lyse Godbout, 'A Review of Salmon as Keystone Species and Their Utility as Critical Indicators of Regional Biodiversity and Ecosystem Integrity' (Proceedings of a Conference on the Biology And Management Of Species And Habitats At Risk, Kamloops, BC, 2000); James Helfield and Robert Naiman, 'Effects of Salmon-derived Nitrogen on Riparian Forest Growth and Implications for Stream Productivity', *Ecology* 82, no. 9 (2001): 2403-2409; Helfield and Naiman, 'Keystone Interactions: Salmon and Bear in Riparian Forests of Alaska'. Returning salmon, on both the Cowichan and Fraser Rivers, have been the backbone of the Cowichan Nation way of life for thousands of years. Garibaldi and Turner, 'Cultural Keystone Species'

[444] Interview with C09, 14 October 2021. See generally Deur et al., 'Kwakwaka'wakw "Clam Gardens"', *Human Ecology* 43, no. 2 (2015): 201–12.

[445] Hyatt and Godbout, 'A Review of Salmon as Keystone Species and Their Utility as Critical Indicators of Regional Biodiversity and Ecosystem Integrity'; Helfield and Naiman, 'Effects of Salmon-derived Nitrogen on Riparian Forest Growth and Implications for Stream Productivity'.

[446] The Quw'utsun Mustimuhw are the Indigenous Cowichan people, also referred to in some contexts as Hul'qumi'num Mustimuhw. Cowichan Tribes website, https://cowichantribes.com/, accessed 1 June 2023.

[447] For example, see Ruby Peter, *What Was Said to Me: The Life of Sti`tumàtul`wut, a Cowichan Woman*, ed. Helene Demers (Victoria, B.C.: Royal BC Museum, 2021); Elsie Paul, Paige Raibmon, and Harmony Johnson, *Written As I Remember It: Teachings (Ms Taaw) from the Life of a Sliammon Elder* (UBC Press, 2015); Morales, 'Stl'ul Nup''; Brendan O'Donnell, 'Indian and Non-Native Use of the Cowichan and Koksilah Rivers, an Historical Perspective', Fisheries and Oceans Canada Native Affairs Division Policy and Program Planning (1988).

attempts to unseat their governance structure and legal jurisdiction.[448] Colonial Governor Douglas deployed gunboats to Cowichan Bay to impose British law in 1853 and 1856, following isolated but violent incidents near Victoria.[449] In 1859 the colonial government commissioned a survey of the Cowichan Valley and in 1862 supported 100 settlers taking up land. The settlement coincided with a devastating smallpox epidemic that hit the Cowichan Nation very hard.[450] Smallpox ravaged the Indigenous people of the Cowichan Watershed over a series of epidemics from 1836 through 1874. By some accounts, up to nine out of ten people succumbed.

Taking advantage of the diminished and weakened Indigenous population, Governor Musgrave, without a legal basis, "transferred" the southeast quarter of Vancouver Island to Canada in 1885.[451] The transfer was to facilitate the building of a railroad, part of a deal for joining the Canadian confederacy. Canada, in turn, transferred ownership of the land to a private contractor, Robert Dunsmuir, in exchange for his commitment to build the Esquimalt and Nanaimo (E&N) railroad up the East side of Vancouver Island. The actions of the colonial government under Musgrave, despite violating the British Royal Proclamation of 1763, effectively launched the colonial project in the Cowichan Watershed by "privatizing" the land, including its forest cover.[452] Management of forests and fisheries passed from Hul'qumi'num law to colonial state law.[453] State law banned Indigenous legal institutions, like the potlatch;[454] banned Indigenous weir fishing; severely restricted Indigenous allowable catch; [455] and restricted access to the forest lands of the Cowichan Watershed.[456]

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[448] See, for example, Marshall's account of the Cowichan response to murder charges pressed by the colony in 1853. Marshall, *Those Who Fell from the Sky: A History of the Cowichan Peoples* (Cultural & Education Centre, Cowichan Tribes, 1999), 99. See also Cowichan Tribes, 'Colonization'; Norcross, *The Warm Land*.

[449] Brian Egan, 'Sharing the Colonial Burden: Treaty-making and Reconciliation in Hul'qumi'num Territory', *The Canadian Geographer/Le Géographe Canadien* 56, no. 4 (2016): 403.

[450] Cowichan Tribes, 'Colonization'. Robert Boyd, 'Smallpox in the Pacific Northwest: The First Epidemics', *BC Studies: The British Columbian Quarterly*, no. 101 (1994): 5–40.

[451] Taylor, *Crown Land Grants: A History of the Esquimalt and Nanaimo Railway Land Grants, the Railway Belt, the Peace River Block* (Province of British Columbia Ministry of Lands, Parks and Housing, Surveys and Land Records Branch, 1981); Egan, 'Sharing the Colonial Burden'.

[452] Michael Ekers, 'Financiers in the Forests on Vancouver Island, British Columbia: On Fixes and Colonial Enclosures', *Journal of Agrarian Change* 19, no. 2 (2018): 270-294; Michael Ekers et al., 'The Coloniality of Private Forest Lands: Harvesting Levels, Land Grants, and Neoliberalism on Vancouver Island', *The Canadian Geographer/Le Géographe Canadien* 65, no. 2 (2021): 166–83.

[453] Egan, 'Sharing the Colonial Burden'; Inter-American Commission on Human Rights, 'Report No 105/09 Petition 592-07 Admissibility Hul'qumi'num Treaty Group Canada' (October 30, 2009).

[454] The potlatch is an important Indigenous institution in Coast Salish legal traditions. Morales, 'Snuw'uyulh'. Borrows, 'Indigenous Legal Traditions in Canada'.

[455] Atlas et al., 'Indigenous Systems of Management for Culturally and Ecologically Resilient Pacific Salmon (Oncorhynchus Spp.) Fisheries', *BioScience* 71, no. 2 (2021): 186–204.

[456] Interview with C09, 14 October 2021.

In this way, British Columbia assumed jurisdiction over the lands and resources of the Cowichan Watershed while passing control to private investors. The Province then provided those investors with railroad access for enterprises of resource extraction. The old-growth timber of the Cowichan Valley began to fall at a mighty pace, at first without any, and later with inadequate provincial oversight.[457] By 1974, nearly the entire Cowichan Watershed had been logged and very little original growth, often referred to as "old forest" or "old growth",[458] remained.[459]

The effects of industrial logging on watershed ecology are profound, long-lasting, and ongoing. Rajala recounts some of the early logging practices affecting salmon in his historical review of logging in the Cowichan Watershed:

> "The positioning of yarding equipment near streams destroyed their banks, depositing sediment and leaving enormous debris accumulations behind. Logging roads crossed streams frequently, and, as road networks penetrated steeper, mountainous terrain, runoff and mass soil movements worsened sediment loads. Clearcutting to the edge of streams and lakes altered seasonal flows. Low water levels during dry summers made it difficult for salmon to reach their spawning grounds, and higher water temperatures increased stress on fry. Heavy runoff after fall rains produced freshets that scoured gravel beds, destroying eggs and fry. Removing streamside trees reduced both the food supply and the shade that moderated water temperatures. Stream beds also made convenient yarding routes. That practice, and the removal of gravel for logging roads, deprived salmon of the clean, well-aerated stream beds needed for the laying and fertilization of eggs."[460]

Rajala highlights the ecological effects of altering the movement of water across and through the landscape (watershed hydrology) resulting from intensive logging operations. Logging operations also affected water movement in the Cowichan River through repeated dynamiting to facilitate log movement. The blasting removed rapids,

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[457] Rajala, *The Legacy & the Challenge: A Century of the Forest Industry at Cowichan Lake*; Peter Pearse, *Timber Rights and Forest Policy in British Columbia* (Vols 1 and 2), (Victoria, BC: Royal Commission on Forest Resources,1976).

[458] The Province of British Columbia's *Great Bear Rainforest Order* defines "old forest" as any of the following:

(a) a stand of trees 250 years or older;

(b) an old, structurally complex stand comprised mainly of climax species where older seral remnants may still be present in the upper canopy and typically have:

(i) standing snags;

(ii) rotting logs on the ground; and

(iii) patchy understories; or

(c) a stand of trees that has reached the climax state for the ecosystem it is found in where trees naturally cycle at an age less than 250 years.

[459] Judith Cullington, Rachel Holt, and Jenny Farkas, *2010 CVRD State of the Environment Report* (Cowichan Valley Regional District Environment Commission, June 2010).

[460] Rajala, *The Legacy & the Challenge: A Century of the Forest Industry at Cowichan Lake*, 90.

channelized the River, speeded flows, and destroyed fish habitat.[461] Progressive clearcutting impacted (and continues to impact) protective forest canopy, exposing unprotected slopes to significant rain events. Such changes in water movement can exacerbate flooding and diminish water availability, especially in the dry seasons.[462] Ground disturbance combined with faster runoff can increase landslides (mass wasting) along the river, and the mass wasting, in combination with overland flows in clearcut areas, increases river turbidity and sediment deposition.[463] The turbidity reduces the ability of fish to take up oxygen through their gills, taxing the health of salmon populations.[464] Heavy sediment loads move incrementally down the river on a decadal time scale, filling the River channel in the lower reaches, where the current slows and gravel drops.[465] The River runs beneath the surface of the gravel in very dry seasons, stranding returning salmon. Mature salmon struggle to navigate the gravel-filled lower reaches, and struggle to find spawning sites in channelized upper reaches.[466] Juvenile salmon struggle to find accessible side channels and rearing habitat.

Changes in hydrology and forest cover associated with logging directly affect the abundance of salmon in the rivers of the Cowichan Watershed, and salmon populations in the Cowichan Watershed are a shadow of their former strength.[467] When salmon populations decline, other species dependent on salmon suffer in turn, with knock-on effects across the watershed.[468] Logging profoundly affects Watershed ecology through

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[461] *Ibid.*

[462] Rita Winkler et al., 'The Effects of Forest Disturbance on Hydrologic Processes and Watershed', *Compendium of Forest Hydrology and Geomorphology in British Columbia. BC Min. For. Range* 66 (2010): 179.

[463] Doug Heiken, 'Landslides and Clearcuts-What Does The Science Really Say', *Umpqua Watersheds: Landslide Studies* (1997).

[464] Michael Redding, Carl Schreck, and Fred Everest, 'Physiological Effects on Coho Salmon and Steelhead of Exposure to Suspended Solids', *Transactions of the American Fisheries Society* 116, no. 5 (1987): 737–44.

[465] Michael Reid, 'Research and Cumulative Watershed Effects: USDA Forest Service Gen'; Reid, 'Cumulative Watershed Effects and Watershed Analysis'.

[466] Brendan Hicks, 'Gravel Galore: Impacts of Clear-Cut Logging on Salmon and Their Habitats' in *Ghost runs: The future of wild salmon on north and central coasts of British Columbia*, eds. Brian Harvey and Misty McDuffee (Victoria, BC: Rain Coast Conservation Society, 2002). For an example of the effects of channelization on spawning habitat, see Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report: Watershed Character and Condition' (2019).

[467] Activities occurring in the Sea beyond the Cowichan Watershed, such as commercial fishing, also impact the health of Salmon populations. V. Komori, *Cowichan River Fall Chinook Habitat Status Report* (Nanaimo, BC: Fisheries and Oceans Canada, 2 May 2010); Wilf Leudke, 'Briefing on Cowichan Chinook and Water'; Cheri Ayers et al., 'Determining Cowichan River Flows for Fish in 2017 and Beyond', *Cowichan Watershed Board*, April 2017, https://cowichanwatershedboard.ca/water-supply-target/..

[468] Helfield and Naiman, 'Effects of Salmon-derived Nitrogen on Riparian Forest Growth and Implications for Stream Productivity'.

changes in river conditions and salmon populations,[469] but that is not the only way that logging drives ecological change.[470]

One of the determinants of ecological conditions in forest ecosystems is the forest age structure – the presence and distribution of trees of various ages.[471] Forests need periodic disturbance and renewal to thrive, but they also need what forest ecologist Suzanne Simard refers to as Mother Trees.[472] Mother Trees, the elders of the forest, serve the ecological functions of seeding, nurturing, and protecting upcoming tree generations.[473] Older trees, when alive and when in decay, also provide habitat for other forest species that are part of watershed ecology. By fulfilling these ecological functions, old growth strengthens forest biodiversity and resiliency, and thereby enhances the ecological condition of the Watershed.[474]

The ecological condition of the Watershed, measured by forest resiliency, declines as logging moves from first growth (the original old growth forest before logging), through second growth (the replacement generation that follows first growth), and third growth, even to fourth-growth, as it has in the Cowichan Watershed.[475] The process drives the average age of trees ever lower, undercutting the potential benefits of a robust forest age structure.[476] Inattention to the management of forest age-class distribution continues to weaken the ecological resilience of the Cowichan Watershed.[477]

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[469] Forest Practices Board, 'Forest Practices and Water Opportunities for Action'.

[470] A full accounting of the accumulating ecological impacts in the watershed is beyond the scope of this paper. Certainly, agriculture and the development associated with a growing population also have significant impacts on watershed ecology. For an assessment of the Koksilah sub-watershed see: Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report'.

[471] The CWB recommends development of age-class distribution targets for large private managed forest land holdings. Page 4 of

[472] Suzanne Simard, *Finding the Mother Tree: Uncovering the Wisdom and Intelligence of the Forest*, (UK: Penguin, 2021.

[473] *Ibid*.

[474] In 2019 and 2020, the Province conducted an Old Growth Strategic Review, releasing a report in September 2020. See government web page at https://engage.gov.bc.ca/oldgrowth/. The Cowichan Watershed Board made a submission to the Old Growth Strategic Review panel, citing the important role of mature forests in regulating watershed hydrology and salmon habitat. Seymour and Stone, 'Submission to BC Old Growth Strategic Review Panel'. William Seymour & Aaron Stone, *Submission to BC Old Growth Strategic Review Panel* (Cowichan Watershed Board, 30 Jan. 2020). Others observe that the role of old growth forests in the Coastal Douglas-fir Ecozone (including large parts of the Cowichan Watershed) is important for sustaining biodiversity and ecological health. Spear, Tillman, and Sandborn, 'Legal Measures to Protect the Gulf Islands Coastal Douglas-fir Zone'.

[475] Cullington, Holt, and Farkas, '2010 CVRD State of the Environment Report'; Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report: Watershed Character and Condition'.

[476] Simard, *Finding the Mother Tree*. Forestry practice in the Cowichan Watershed includes re-foresting activities as well as logging. Simard argues that such practices often rely on poor science and can further compromise forest resilience without addressing the need for older trees.

[477] Seymour and Morrison, 'Cowichan Watershed Board Submission to Private Managed Forest Lands Review'.

Logging is a highly visible example of a human activity that drives change in Watershed ecology. A less obvious, but perhaps more significant, driver is human-induced global warming. The flow regime of the Cowichan River is seasonal and climate driven. The jet stream brings moist air from the Pacific Ocean in winter months, but a recurring high-pressure system often blocks that flow in summer.[478] Mountains bordering the watershed on the west and north create a rain shadow effect across the watershed. Western portions capture four times the precipitation that falls in the relative rain shadow of the eastern watershed where it meets the Salish Sea.[479] In the winter wet season, snow collects on headwater mountains, but rain predominates at lower elevations. Lake Cowichan fills and runs over in the upper watershed, and water runs high in the Cowichan River. Spring snow melt sometimes overwhelms both Lake and River, especially when rain-on-snow events occur, flooding lakefront properties upstream and floodplain properties downstream.[480] Much of the lower river has been dredged and diked, constraining the available flood plain area.[481] A downside is that big floods breach the dikes and damage people's homes. Efforts to contain floods diminish their historic role in rejuvenating the floodplain, salmon habitat, and the estuary in Cowichan Bay.[482]

A study from 2011 shows increasing average annual temperature and average annual precipitation in the Cowichan Watershed in step with climate warming.[483] Climate warming alters the timing and magnitude of spring flows and increases the intensity of rain events, affecting the flood regime for the Cowichan and Koksilah Rivers.[484] Climate warming also alters the frequency and severity of summer and fall droughts. While winters become wetter and annual average precipitation increases, summers become warmer and drier. Less water is available in Lake Cowichan in summer due to a greater rate of evaporation and of evapotranspiration from the forest. Evapotranspiration increases as forestry operations replace older stands with younger, faster-growing trees.[485] The changes in timing and volume of water movement in the Watershed disrupt salmon habitat and reproductive cycles,[486] as well as water availability for industry,

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[478] Craig Sutherland, *Technical Memorandum Cowichan River Watershed -- Climate Change Impact Assessment*, (Kerr Wood Leidal Consulting Engineers, 2012).
[479] *Ibid.,* 2.
[480] David Harper, 'Cowichan Basin Water Management Plan', *Westland Resource Group Incorporated*, March 2007, https://cowichanwatershedboard.ca/document/doc-cowichan-basin-water-management-plan/..
[481] *Ibid.*
[482] Interview with C09, 14 October, 2021.
[483] Sutherland, *Technical Memorandum Cowichan River Watershed*, 4.
[484] *Ibid.*
[485] *Ibid.*
[486] Ayers et al., 'Determining Cowichan River Flows for Fish in 2017 and Beyond'.

agriculture and Watershed communities.[487] In these ways, climate warming drives changes in social and ecological conditions.

A potential third driver of ecological change in the Cowichan Watershed relates to the use of water for pulp and paper production.[488] British Columbia Forest Products Limited built a small dam, or weir, at the outlet of Lake Cowichan in 1956.[489] Because the Lake is the origin of the Cowichan River, the Lake Cowichan Weir (the Weir) largely controls the flow of the Cowichan River. Paper Excellence (formerly Catalyst Paper), the company that currently runs the nearby Crofton Pulp Mill (the Mill), operates the Weir to provide a year-round supply of process water.[490] The Weir captures water in the spring and releases it later in the year to augment the low-flow season. Flow manipulation at the weir, like the hydrological impacts of logging, can affect the viability of salmon spawning and reproduction, and through the complex inter-connections of nature, thereby impact ecological resilience in the Watershed.[491] Weir operations have potential to either worsen or to partially mitigate hydrological changes in the Watershed, depending on flow conditions and operating priorities. It could be operated to maximize flow sensitivity to salmon reproduction. Weir operation is not an activity that necessarily drives ecological change, but it is a human activity with potential to drive ecological change towards a more desirable ecological state.

The ecology of the Cowichan Watershed is not what it was in the pre-colonial era. Human activities, historical and current, drive changes in ecological conditions. [492] In this part I describe two such historical drivers and one potential driver. Forestry operations drive ecological change through impacts to hydrology, forest cover, and forest age. The associated decline in salmon populations amplifies ecological change through lost nutrient availability and disrupted nutrient cycling. Climate warming drives ecological change by increasing evaporation and amplifying flood and drought events. Together,

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[487] Harper, 'Cowichan Basin Water Management Plan'; Sutherland, 'Technical Memorandum Cowichan River Watershed'; Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report: Watershed Character and Condition'.

[488] Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report'.

[489] Gordon Kidd, *British Columbia Conditional Water License 29542*, (Province of British Columbia Department of Lands, Forests, and Water Resources, 1965); Symonds, *In the Matter of the Operating Rule Curve for the Storage of Water in and the Release of Water From Cowichan Lake as Authorized by Conditional Water Licenses 23085 and 29542*, (Province of British Columbia Water License Database, May 2013). The weir was upgraded in 1965.

[490] Kidd, *British Columbia Conditional Water License 29542*.

[491] Vessey et al., 'Cowichan Weir Start-up, Operational and Seasonal Protocols', *Cowichan Watershed Board*, 21 October 2008, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/cowichan_weir_operating_guidelines.pdf.

[492] The United States Environmental protection Agency defines ecological condition as "the state of ecological systems, which includes their physical, chemical, and biological characteristics and the processes and interactions that connect them". Sometimes ecosystems that lose resilience tip into an alternative ecological condition and the change is irreversible. van Nes et al., 'What Do You Mean,"Tipping Point"?', https://www.epa.gov/report-environment/ecological-condition, accessed online 6 October, 2022.

forestry and climate warming tax social and ecological resilience while shifting the ecological condition of the Cowichan Watershed toward a state that is less supportive of community well-being.[493] The operation of the Lake Cowichan Weir, if used with intention, has potential to drive ecological conditions in the other direction by enhancing salmon reproduction success and dry-season water availability.

2. Legal Landscape for River Flow and Forestry Management

In this study, I critique Provincial law not from a legal perspective but from a governance perspective. If we think of governance as all human endeavors affecting decisions about ecological conditions in a watershed, law (state and Indigenous) is very important, but not everything. People do influence decisions about what happens in a watershed through legal institutions, like the provincial legislature and provincial courts, but also outside of those legal institutions. Government planning and policy initiatives, for example, are forms of governance arguably political as much as legal in nature. More clearly in the political realm, people may organize to change state policies or state law, or lead change through community activism and engagement. Each of these actions is a part of watershed governance and affects the ecological governance functions that I explore in this study. One thing they have in common, nonetheless, is the challenge of navigating the existing legal landscape. I sketch that landscape in this part, highlighting important changes over the study period. I begin with the broad strokes of legal traditions and jurisdictions. I then outline key legislation and administrative structures exercising state authority over river flow and forestry.

Many of us are somewhat familiar with the British and French legal traditions that underlie Canadian (colonial) law.[494] Fewer of us, however, have the same familiarity with the Hul'qumi'num legal tradition.[495] Prior to European colonization, all activities in the Cowichan Watershed were subject exclusively to Hul'q'umi'num law within the Hul'qumi'num legal tradition.[496] Two branches of law within the tradition, snuw'uyulh legal principles and Family Law applied to all activities in the Cowichan Watershed, including forestry.[497] The Hul'qumi'num, like other Coast Salish legal traditions, is founded on a holistic worldview that includes people as part of nature, and all things as

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[493] Reviews of Logging practices in the Watershed repeatedly indicate a failure to serve the public interest with respect to social and ecological impacts. John Doyle, 'Removing Private Land from Tree Farm Licences 6, 19 & 25: Protecting the Public Interest?'; Inc and Gordon, *Review of the Port Alberni Forest Industry,* (Ministry of Forests and Range, Operations Division, 2007); Ben Parfitt, *Restoring the Public Good on Private Forestlands*, (Canadian Centre for Policy Alternatives, 2008); Ekers, 'Financiers in the Forests on Vancouver Island, British Columbia'.

[494] I refer here to British Common Law and French Civil Law.

[495] Brian Olding, Jessica Rogers, and Brian Thom, *A Call to Action: Shared Decision Making, A New Model of Reconciliation of First Nations Natural Resource Jurisdiction*, (Hul'qumi'num Treaty Group, 2008); Cowichan Tribes, 'Colonization'.

[496] Morales, 'Snuw'uyulh'; Thom, *Coast Salish Senses of Place: Dwelling, Meaning, Power, Property and Territory in the Coast Salish World,* (McGill University, 2005).

[497] Morales, 'Snuw'uyulh'.

relatives or kin.[498] Law and governance are de-centralized and based on personal responsibility, relationships, and standards for conflict resolution rather than on hierarchical authority.[499] Resource use and economies are governed by principles of respect, trust, obligation, reciprocity, and sharing.[500] Overharvesting or failure to respect local laws and protocols for resource use warrants intervention with serious consequences.[501] Hul'qumi'num law is complex, sophisticated, and highly respected among Coast Salish legal traditions.[502] Though long suppressed and circumvented in the colonial era, the Hul'qumi'num legal tradition remains at work within the Cowichan Nation in the unceded territories of the Hul'qumi'num Mustimuhw (Hul'qumi'num-speaking people) including in the Cowichan Watershed.[503]

Hul'qumi'num law, however robust and resilient, is unfortunately not well known, nor readily accessible, outside of Hul'qumi'num society.[504] Of the two legal traditions asserting jurisdiction in the Watershed, that of the Canadian state is most visible, accessible and widely recognized. Canadian state law, particularly provincial law, dominates the regulation of river flow and forestry in the Watershed. I highlight key state legislative and administrative structures in the following sections, after first outlining state recognition of Indigenous authority.

2.1 State Recognition of Indigenous Authority

In addition to Canada's constitutional division of powers that divides up authority for the environment between the federal and provincial governments, since 1982 state governments in Canada are bound by the affirmation and recognition of aboriginal and treaty rights. While it is beyond the scope of this project to examine the impact of that constitutional recognition, it is important to note that jurisprudence by the Supreme Court of Canada requires state governments to consult and accommodate Indigenous nations

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[498] Morales, 'Snuw'uyulh'; Atleo, *Tsawalk: A Nuu-Chah-Nulth Worldview*.

[499] Indigenous legal scholar, Dr. Sarah Morales, characterizes Hul'q'umi'num legal standards for dispute resolution as well as seven principles of Snuw'uyulh (kinship, respect, trust, forgiveness, sharing, responsibility, and love) as governance tools at pages 283, 320,and 328 of Morales, 'Snuw'uyulh'; Morales, 'Stl'ul Nup'.

[500] Morales, 'Snuw'uyulh; Morales, 'Stl'ul Nup'.

[501] Morales, 'Snuw'uyulh', 283.

[502] Indigenous legal scholar Sarah Morales (2014, ii, iii 48, 99, 102) describes two branches of law in the Hul'qumi'num legal tradition: snuw'uyulh law and family law. Snuw'uyulh law places the onus on individuals to follow seven key teachings in their interactions with all beings. Morales describes the teachings as "1) Sts'lhnuts'amat ("Kinship/Family"); 2) Si'emstuhw ("Respect"); 3) Nu stl'I ch ("Love"); 4) Hw'uywulh ("Sharing/Support"); 5) Sh-tiiwun ("Responsibility"); 6) Thu'it ("Trust"); and 7) Mel'qt ("Forgiveness"). Respect and reciprocity are key principles of snuw'uyulh law (Morales, 2014, 48, 99, and 102). Family law recognizes the authority of family groups to establish and enforce localized laws on ancestral territories.

[503] Olding, Rogers, and Thom, *A Call to Action: Shared Decision Making, A New Model of Reconciliation of First Nations Natural Resource Jurisdiction*.

[504] For a description of Canada's multi-jurisdictional legal context, see Borrows, 'Indigenous Legal Traditions in Canada'; Borrows, *Canada's Indigenous Constitution*.

when decisions about land and resources may affect an Indigenous community (the "rights holders"). This duty to consult does not guarantee a substantive outcome related to environmental quality nor the ability to carry out activities such as fishing and hunting. However, it creates procedural rights that require state government decision-makers to consider the impact of their decisions. The context of the Cowichan Watershed is somewhat unique given the extent of the private managed forest designation on which the assumed owners, not being state governments, do not owe a duty to consult at this time. Mosaic Forest Management, the company currently responsible for managing private forestry in most of the Watershed, presently adheres only to state legislation and regulations. It does not recognize any Indigenous legal tradition or jurisdiction and relies on the state to provide direction regarding Indigenous rights under Canadian law.

The legal context in BC is also evolving in new ways because the Province and federal governments have committed to implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The Province enacted the Declaration on the Rights of Indigenous Peoples Act in 2019, and the federal government the United Nations Declaration on the Rights of Indigenous Peoples Act in 2021, both of which commit to making state law consistent with UNDRIP. The potential of these commitments for the Cowichan Watershed are significant but their actual impact is yet unknown. Finally, the Hul'qumi'num Treaty Group and Province are, in 2023, in the final stage of treaty negotiations that will, in addition to all of the above, have a significant impact on watershed governance.

2.2 Federal Fisheries Act

A full accounting of all aspects of federal law relating to river flow and forestry management is beyond the scope of this case study. In this section I outline only the federal *Fisheries Act*. [505] Under the *Fisheries Act*, it is an offence to destroy fish habitat and/or to kill fish – both possible when logging or operating the Lake Cowichan Weir.[506] The *Fisheries Act* provides an enforcement mechanism for fisheries violations. It also provides a permitting process to allow intentional harm to fish or fish habitat when such an action is justifiable for the greater good. The Minister responsible for the Department

[505] One of the consequences of the Colony of British Columbia joining the Canadian Federation in 1885 was that it accepted federal jurisdiction over fisheries, despite having promised control of fisheries to Indigenous groups. Douglas Harris, *Landing Native Fisheries: Indian Reserves and Fishing Rights in British Columbia, 1849-1925* (UBC Press: 2009). Legislative authority over "Sea Coast and Inland Fisheries" is vested in the Canadian Parliament under section 91, subsection 12 of the British North America Act. Viewed online 3 October 2022 at: https://www.canlii.org/en/sk/laws/stat/ss-1867-c-3/latest/ss-1867-c-3.html. The Province unsuccessfully argued, in R. *v.* Nikal, [1996] 1 S.C.R. 1013, that federal control of fisheries did not extend to waters within the "railway belt" (land transferred to Canada to build the E&N Railroad) which includes the Cowichan Watershed. See: https://www.canlii.org/en/ca/scc/doc/1996/1996canlii245/1996canlii245.html. See also summary of SCC judgments regarding British Columbia Fisheries at: https://decisions.scc-csc.ca/scc-csc/scc-csc/en/item/9725/index.do.

[506] Interview with C07, 30 September, 2021.

of Fisheries and Oceans (DFO) may authorize such "harm, alteration, disruption, or destruction of fish habitat" (HADD).[507] In practice, staff in DFO regional offices exercise the Minister's authority, applying a degree of discretion in permitting decisions at the regional level.[508]

Regional offices of DFO include sub-departments responsible for much more than enforcement and HADD permitting.[509] The Pacific Region, for example, also manages fisheries, aquaculture, marine transportation, small harbors, and marine protection. There are also sub-sub-departments, such as for stock assessment for various species within the fisheries management sub-department.[510] Critics label these departmental divisions as "silos", noted for their lack of inter-connections and coordination.[511]

The Department of Fisheries and Oceans exercises ongoing responsibilities for protecting and managing salmon populations. The day-to-day management of river flow and forestry, however, falls mainly under provincial jurisdiction. I describe the role of provincial law related to river flow management in section 2.2 and the role of provincial law related to forestry management in section 2.3.

2.3 Provincial Law on River Flow Management in the Cowichan Watershed

In this section I outline provincial legislation and administrative structures related to river flow management in the Cowichan Watershed. I look at legislation and administrative structures at two points in time, 2010 and 2022, and highlight shifts in the regulatory framework over the intervening period. I focus mainly on legislation that is central to river flow management over the study period, but noting some peripheral legislative change as well.

In 2010 the Province of British Columbia regulated activities affecting surface water on private land through the *Water Act*, the *Fish Protection Act*, the *Water Protection Act*, and the *Drinking Water Protection Act*,[512] as well as through powers delegated to

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[507] *The Fisheries Act*, Section 35.1(3), accessed online 8 October, 2022, https://laws-lois.justice.gc.ca/eng/acts/f-14/FullText.html.

[508] Fisheries and Oceans Canada, *Practitioner's Guide to Habitat Compensation for DFO Habitat Management Staff*, 2007.

[509] Responsibilities delegated to DFO Pacific Region include: management of fisheries, management of sustainable aquaculture, marine transportation services and safety, marine environmental protection and research, and management of federally owned small craft harbours. See Fisheries and Oceans Canada, *Fisheries and Oceans Canada Pacific Region*, https://www.dfo-mpo.gc.ca/contact/regions/pacific-pacifique-eng.html, accessed 12 October, 2022.

[510] Interview with former DFO fisheries biologist, 16 November, 2020.

[511] See for example Jessen, 'A Review of Canada's Implementation of the Oceans Act since 1997—from Leader to Follower?', *Coastal Management* 39, no. 1 (2011): 20–56.

[512] Regulations under the *Energy Resource Activities Act* would also regulate impacts on water, riparian habitats, wildlife and old growth forests, if there were oil and gas developments in the Cowichan Watershed. The *Forest and Range Practices Act* obligated forest companies operating on public lands to

municipal-level governments via the *Community Charter*.[513] Of these, the *Water Act* stands out as the legislation with singular authority over river flow management. The centerpiece of this legislation was, and remains, the Province's assertion of ownership of all water, in any stream in British Columbia – and the right to its use and flow.[514] The administrative mechanism for exercising these authorities over surface water was, and remains, water licensing. I explain how licensing relates to flow in the Cowichan River in the next few paragraphs before returning to a description of related legislation.

The provincial ministry responsible for water licensing in 2010 was the Ministry of Forests, Land, Natural Resources and Operations (FLNRO).[515] Authority for licensing decisions was vested in the provincial Comptroller of Water Rights with delegated authority extended to Regional Water Managers working in FLNRO offices around the Province. Apart from a re-structuring and re-naming of FLNRO, this arrangement remains the same in 2022, though now under the *Water Sustainability Act*.[516] The Ministry overseeing water licensing in 2022 is the Ministry of Land, Water and Resource Stewardship (LWRS).

Two water licenses, issued in the 1950s for the Crofton pulp mill authorize storage of water in Lake Cowichan and a third license authorizes the downstream diversion of that water from the Cowichan River.[517] Together, the licenses set minimum flows requirements for the Cowichan River. The licensee must operate the Lake Cowichan Weir in a way that will meet licensed flow objectives, however, under clause (m) of the diversion water license, the provincial Comptroller of Water Rights has authority to direct the timing and quantity of water releases, "for the public benefit".[518]

The *Fish Protection Act* of 2010, noted above, authorized Regional Water Managers to "make temporary orders regulating the diversion, rate of diversion, time of diversion,

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establish Forest Stewardship Plans to account for potential impacts on biodiversity, fish, and water, among other environmental components, but this law doesn't apply to the privately owned lands of the Cowichan Watershed. *Energy Resource Activities Act*, SBC 2008, c 36, https://www.canlii.org/en/bc/laws/stat/sbc-2008-c-36/latest/sbc-2008-c-36.html, accessed 13 October, 2022. *Forest and Range Practices Act*, SBC 2002, c 69, https://www.canlii.org/en/bc/laws/stat/sbc-2002-c-69/latest/sbc-2002-c-69.html, accessed 13 October, 2022.

[513] *Community Charter*, SBC 2003, c 26, https://canlii.ca/t/55gzx, accessed October 13, 2022.

[514] *Water Act*, RSBC 1996, https://www.bclaws.gov.bc.ca/civix/document/id/consol26/consol26/00_96483_01

[515] Blake, Cassels and Graydon LLP, 'Blakes 18th Annual Overview of Environmental Law and Regulation ...', Lexology, 2013.

[516] Province of British Columbia, *Water Sustainability Act,* https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/laws-rules/water-sustainability-act, accessed 13 October 2022.

[517] The storage licenses are CWL 29542 and CWL 23085. The diversion license is CWL 22864. Gordon Kidd, 'British Columbia Conditional Water License 29542, (Province of British Columbia Department of Lands, Forests, and Water Resources, 1956); A Paget, *British Columbia Conditional Water License 23085* (Government of British Columbia Department of Lands and Forests, 1956).

[518] Clause (m) of water license CWL 22864.

storage, time of storage and use of water from the stream".[519] This provision reinforced the Regional Water Manager's authority over operation of the Lake Cowichan Weir. The Act was amended and re-named the *Riparian Areas Protection Act* in 2014.[520] The authority of the Regional Water Manager to issue temporary orders was repealed with the amendments, but incorporated, with minor changes, into the *Water Sustainability Act* (2014).[521]

The main purposes of the *Water Protection Act*, in 2010 and through 2022, are to strengthen licensing requirements, prohibit water removal from the Province, and prohibit construction or operation of "large scale project[s] capable of transferring water from one major watershed to another major watershed".[522] This legislation has potential to affect the currently licensed diversion of water from the Cowichan Watershed for use at the Crofton pulp mill, depending on the interpretation of "large scale". A change in the licensed diversion volume could affect flow in the lower Cowichan River.[523]

Section 5 of the *Drinking Water Protection Act*, in both 2010 and 2022, establishes a mechanism for source water protection planning under the authority of regional Drinking Water Officers, but the planning scope is narrow and does not address river flow management.[524] The Act was, and is still, administered by regional Drinking Water Officers reporting through the Provincial Health Officer to the Ministry of Health.[525]

The *Community Charter* provides a framework for the powers, duties, and functions of municipal level governments in British Columbia.[526] Under the Charter, municipalities may pass bylaws to protect human health and the environment, subject to approval by relevant provincial ministries.

In 2010, water licensing and orders issued by the Comptroller of Water Rights, or by the Regional Water Manager, were the primary instruments for provincial regulation of flow

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[519] *Riparian Areas Protection Act*, SBC 1997, c 21, Section 9(2), https://canlii.ca/t/kjvb, accessed October 13, 2022. The Act, in sections 4(4) and 6(6), through 6(8), also prohibited dam construction on designated rivers and protected fish populations in "sensitive" streams, but the Cowichan Watershed had no designated rivers or listed sensitive streams. The dam prohibition and sensitive stream provisions in 2022 are included in sections 45 and 17 of the *Water Sustainability Act*.

[520] The amendment introduced a mechanism for protecting and enhancing those riparian areas "subject to residential, commercial or industrial development". *Riparian Areas Protection Act*.

[521] Under Section 8 of the *Water Sustainability Act*, water use is subject to the Act, to license conditions, and to orders from the Comptroller. Part 3, Division 5 of the *Water Sustainability Act* introduces additional powers for the Comptroller of Water Rights to issue orders regarding flow management, subject to ministerial approval and focused on water shortages, environmental flows and protecting fish populations. *Water Sustainability Act.*

[522] *Water Protection Act*, RSBC 1996, c 484, Section 6, https://canlii.ca/t/552gv, accessed on October 13, 2022.

[523] The "point of diversion" of water for the Crofton pulp mill is in the lower Cowichan River.

[524] *Drinking Water Protection Act*, SBC 2001, c 9, https://canlii.ca/t/jwpm, accessed on October 13, 2022.

[525] *Drinking Water Protection Act*.

[526] *Community Charter*, SBC 2003, c 26, Section 3, https://canlii.ca/t/55gzx, accessed on October 13, 2022.

management of the Cowichan River. Through these instruments, both authorized under the *Water Act*, the Regional Water Manager played (and continues to play) a central role in the operation of the Lake Cowichan Weir and, therefore, in Cowichan River flow management.

There was little change in Provincial legislation affecting river flow management between 2010 and 2022, with the exception of the replacement of the *Water Act* by the *Water Sustainability Act* (WSA, the Act) in 2014.[527] The passing of the WSA heralded significant changes to the Province's approach to water management.[528] The Act recognizes the hydrological connections between surface and groundwater, for example, and introduces groundwater licensing for the first time in the Province's history. The Act also, for the first time, gives the Minister authority to override water licenses in times of water shortage to protect environmental flows and fish populations.[529] For the first time Regional Water Managers must formally account for environmental flow needs in licensing decisions.[530] In addition, section 43(1) allows the Province to set binding objectives for, among other factors, the "water quantity required for specified uses of water" in a stream or watershed. Division 4 of the Act provides a mechanism to develop water protection plans that can take precedent over other legislation when approved by the provincial cabinet.[531] All of these changes have potential to affect licensed flow management, and through flow management, the ecological condition of the Cowichan Watershed.

The *Water Sustainability Act* was administered by the Ministry of Forests, Lands, Natural Resources and Operations (FLNRO) when it was passed in 2014. The FLNRO Ministry (later changed in name to the Ministry of Forests, Lands, Natural Resources, Operations and Rural Development – FLNRORD) was established in 2011 and restructured in 2022 as the Ministry of Land, Water and Resource Stewardship (LWRS). The ministerial lifespan of FLNRO/FLRORD corresponds very closely the study period of interest for this research. A former Ministry Director of Resource Management, West Coast Region, which includes the Cowichan Watershed, describes the evolving structure of the FLRORD Ministry over this period as follows:

> "When the Ministry was formed in 2011… it was very much a joining… [I]t took elements [of the] Ministry of Forests, and then we put Lands in there and we put

[527] *Water Sustainability Act*.
[528] *Water Sustainability Act*. Environmental Law Professor Deborah Curran highlights significant changes as: "regulating groundwater for the first time; environmental and critical flow protections; the establishment of "water objectives" that improve links between water quality and quantity and land and water management; incentives to increase water use efficiency; more detailed measurement and reporting; and improved planning and governance through localized and binding plans and provisions for shared or delegated decision-making." Brandes and Curran, 'Changing Currents'.
[529] *Water Sustainability Act*, Section 86-88.
[530] Curran, 'British Columbia's New Water Sustainability Act–Waiting for the Details'.
[531] Brandes and Curran, 'Changing Currents'.

> Water and Ecosystems, Fish… It was a really good move, but it's taken us years to get comfortable with it ... especially for the forestry people… They never had to really talk to the rest of us before … And, of course, layered into this is a … shift and commitment to reconciliation and to working with our Indigenous partners."[532]

A range of federal and provincial laws share jurisdiction over river flow management. These state laws are administered through several departments and sub-departments under different ministries. Only one administrative instrument, however, has clear authority to direct decisions about flow management – water licensing under the provincial *Water Sustainability Act*. The passage of the WSA in 2014 was the only significant change in state regulations related to flow control over the study period. The Act brought new dimensions of responsibility and new planning tools with potential to affect water licensing and flow management. State law is layered, broadly scoped, and, through the WSA, increasingly responsive to the ecological health of the Cowichan Watershed. This stands in sharp contrast to state regulation of forestry in the Watershed.[533]

2.4 Provincial Law on Forestry in the Cowichan Watershed

British Columbia consistently asserted its jurisdiction over forestry both as a British colony in the mid-1850s, and as a Canadian province after 1871. As a province, British Columbia introduced a cascade of forestry policy approaches through the decades, supported by legislation and regulation applying directly to provincial (Crown) land.[534] The Province only regulated forestry on the privately-owned land of the Cowichan Watershed periodically, however, through incentivized voluntary programs that I describe below. Throughout the ongoing colonial period, people in the Cowichan Watershed complained about the inadequacy of provincial forestry regulation respecting community and environmental impacts.[535]

Logging in the Cowichan Watershed was unregulated and intensive before the Province introduced the policy of sustained yield forestry through amendments to the Forest Act in 1945.[536] The central idea of sustained yield forestry is to prioritize timber harvest over all

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[532] Interview with C11 16 November, 2021.

[533] Forests on private land in British Columbia belong to the landowner and forestry on private land is largely unregulated except for the voluntary Private Managed Forest Land (PMFL) Program. Private Managed Forest Land, https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/private-managed-forest-land, accessed October 11, 2022 at.

[534] Pearse, 'Timber Rights and Forest Policy in British Columbia (Vols 1 and 2).'; Pearse, 'Evolution of the Forest Tenure System in British Columbia'; Gordon Sloan, *Report of the Commissioner the Honourable Gordon McC. Sloan, Chief Justice of British Columbia Relating to the Forest Resources of British Columbia* (1945).

[535] Rajala, *The Legacy & the Challenge*.

[536] Pearse, 'Timber Rights and Forest Policy in British Columbia (Vols 1 and 2).'; Pearse, 'Evolution of the Forest Tenure System in British Columbia'.

other forest uses, and to manage timber harvesting in such a way that the timber supply never diminishes. The Province offered incentives to entice large forestry operations on private land to voluntarily follow the new policy and regulations by formally including their private forests in provincial tree farm licenses (TFL).[537] Enticements included long-term access to adjacent areas of Crown timber, and after 1951, conditional tax exemptions for private land managed for sustained yield.[538] Private land became part of the provincial forest reserve through the TFL arrangement, subject to provincial forestry regulation.

While the Province pursued a series of provincial forest policy and legislative changes over the next 50 years, the incentives to subject private land to Crown land regulation remained essentially unchanged. Sustained yield forest policy gave way to integrated resource management, then to the prescriptive forestry code of practice, and forestry practice in the Cowichan Watershed followed the new policies.[539] The era of Cowichan Watershed alignment with provincial forestry policy came to an end, however, with the introduction of results-based forestry policy and the passage of the *Private Managed Forest Land Act* (PMFLA) in 2003.

The PMFLA creates an alternative regulatory system for privately-owned forests. Again, participation is voluntary and incentivized. Private forest land administered under the Act receives the benefits of tax exemptions and freedom from tree harvesting restrictions set by local governments.[540] The PMFLA sets objectives for soil conservation, water quality, fish habitat, critical wildlife habitat and reforestation.

The PMFLA establishes the Private Managed Forest Council (the Council) to administer the PMFL program, with a mandate to "encourage forest management practices on private managed forest land, taking into account the social, environmental and economic benefits of those practices".[541] The Council has five members, two appointed by the Province, two appointed by private land owners and a jointly appointed chairperson.[542] The Council has authority to hire staff, pass resolutions and bylaws, solicit records, conduct inspections, negotiate remediation agreements, levy financial penalties up to $25,000, issue remediation orders, and issue stop work orders. Failure to abide by Council regulations is an offence subject to fines up to $500,000.

Critics of the Act note the limited scope of forestry objectives, such as the absence of long-term sustainability and biodiversity objectives and the relative inadequacy of stream buffering, riparian areas, and cumulative effects objectives compared to regulations for

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[537] Pearse, 'Evolution of the Forest Tenure System in British Columbia'.
[538] *Ibid.*
[539] *Ibid.*
[540] *Private Managed Forest Land Act*, SBC 2003, c 80, https://canlii.ca/t/531m3, accessed on 2022-10-16.
[541] *Ibid.*, clauses 4 and 5.
[542] Managed Forest Council, https://www.mfcouncil.ca/, accessed October 16, 2022.

forestry on Crown land.[543] They note that the Council is funded entirely by fees collected from private landowners and lacks monetary resources needed for proper oversight. The structure of the Council, with half of its members being private landowners, institutionalizes a conflict of interest, shuts out local communities, and fails to account for broader public interests, including ecological objectives.

The PMFLA is the primary provincial forestry regulation applied to the private lands of the Cowichan Watershed throughout the study period, though the *Riparian Areas Protection Act* (RAPA) also applies. The RAPA allows the Province, in consultation with the BC Union of Municipalities, to issue streamside protection and enhancement directives for riparian areas that "may be subject to residential, commercial or industrial development".[544] The RAPA also allows the Province to establish regulations and technical manuals in support of the Act. The associated Riparian Areas Protection Regulation applies within the boundaries of the Cowichan Valley Regional District.[545] The Regulation focuses on potential harm to fish from developments that may include "any harmful alteration, disruption or destruction of natural features, functions and conditions in the streamside protection and enhancement area that support the life processes of protected fish".[546] Developments are defined as "the addition, removal or alteration of soil, vegetation or a building or other structure".[547] The effect of the RAPA, and its Regulation, is to constrain development activities, including forestry, in riparian areas. Protection, however, is focused on impacts to fish and not on other ecological attributes.

British Columbia embarked on a series of forest policy reviews over the study period. The Province launched a review of the PMFLA in 2018, and an Old Growth Strategic Review in 2019.[548] The Province adopted recommendations from the Old Growth Strategic Review, but made no changes in response to the PMFLA review up to the time of writing in the spring of 2023.[549] The apparent reluctance of the Provincial government

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[543] Benoit et al., 'The Need to Reform BC's Private Managed Forest Land Act', *BC Laws*, http: //www.bclaws.ca/civix/document/id/complete/statreg/03080_01, accessed February 6, 2020.
[544] *Riparian Areas Protection Act*, Part 12 (1), https://www.canlii.org/en/bc/laws/stat/sbc-1997-c-21/latest/sbc-1997-c-21.html, accessed January 7, 2023.
[545] *Ibid.*, Section 2 (1) (b).
[546] Part 10 (2) (a) (iii) of the Reguation clarifies that riparian protection focuses on "harmful alteration, disruption or destruction of natural features, functions and conditions in the streamside protection and enhancement area that support the life processes of protected fish". *Riparian Areas Protection Regulation*, https://www.canlii.org/en/bc/laws/regu/bc-reg-178-2019/latest/bc-reg-178-2019.html, accessed January 7, 2023.
[547] *Riparian Areas Protection Regulation*, Section 1 (1) (a), https://www.canlii.org/en/bc/laws/regu/bc-reg-178-2019/latest/bc-reg-178-2019.html, accessed January 7, 2023.
[548] Old Growth Strategic review, https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/old-growth-forests/strategic-review-of-old-growth-forest-management, accessed May 26, 2023.
[549] Province of British Columbia, 'Private Managed Forest Land Program Review', https://www2.gov.bc.ca/gov/content/industry/forestry/forest-tenures/private-managed-forest-land/program-review, accessed October 27, 2022.

to address the shortcomings of the PMFLA is consistent with its avoidance of forestry controversy in other watershed governance initiatives, such as the provincially-sponsored watershed planning exercises described in the next section.

3. State Planning Initiatives

Planning is one of many tools of governance. Planning at the watershed scale is a particularly important feature of ecological governance.[550] It provides an opportunity to center ecology (nature and resident humans) in regional level governance, and to extend that focus to governments at all levels.[551] The Province did not conduct any watershed-scale planning processes in the Cowichan Watershed between 2010 and 2023, but two such planning initiatives bookend the study period. One, completed just before the study period, effectively launched the Cowichan Watershed Board. The second, initiated near the end of the study period, launched the Province's first water sustainability planning process under the *Water Sustainability Act*. The Province invested in both processes, working in partnership first with regional-scale state government, then in partnership with Indigenous government. For the first planning process, the Province turned leadership over to the Cowichan Valley Regional District. For the second, the Province leads in partnership with Cowichan Tribes. I briefly describe these planning processes below, highlighting the historical contours from an ecological governance perspective. I also contrast them with more localized planning initiatives and an inter-departmental Provincial planning exercise conducted in the Watershed twenty years earlier.

3.1 State Agency Water Management Planning

Facing water shortages and conflicts over licensed water use in the mid-1980s, the Regional Water Manager initiated a water management planning process for the Cowichan and Koksilah Rivers.[552] The Regional Water Manager recruited representatives from the federal Department of Fisheries and Oceans and representatives from a wide range of provincial agencies and ministries.[553] The planning process was in-house, a state-government exercise conducted almost exclusively among provincial government agencies – with the notable absence of the provincial Ministry of Forests. The agencies ultimately produced the Cowichan-Koksilah Water Management Plan, released in 1986. One recommendation of the Plan was to conduct research on operational strategies for the

[550] Woolley, *Ecological Governance*.
[551] Brandes et al., *Illumination*.
[552] Ministry of Environment and Parks, 'Ministry of Parks and Environment Cowichan-Koksilah Water Management Plan', *Province of British Columbia*, https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-planning/water_mgmt_cowichan_koksilah.pdf, accessed October 14, 2022.
[553] Provincial agencies included the provincial Fisheries Branch; Planning and Assessment Branch; Water Management Branch; Surveys and Resource Mapping Branch; Regional Branches for Water Management, Waste Management and Fish and Wildlife; Ministry of Agriculture and Food; and the Ministry of Lands, Parks and Housing.

Lake Cowichan Weir, flagging its impact on river flows and water availability.[554] The provincial Minister of Environment and Parks ratified the plan in 1987, unfortunately without creating an administrative structure or providing resources for implementation. The plan merely encouraged provincial agencies to act on their own initiative within the existing governance structures, and little seemed to change.

3.2 Delegated Water Management Planning

A water shortage crisis in 2003 triggered a second round of watershed-scale planning for the Cowichan Watershed.[555] After a summer of drought, river levels were so low that Chinook salmon were unable to spawn. The ad hoc flow advisory group for the Lake Cowichan Weir began to champion a watershed-scale water management planning process.[556] Members at that time included Cowichan Tribes, Catalyst Paper Corp. (the Weir licensee), provincial Ministry of Environment, DFO, and Cowichan Valley stewardship organizations.[557] Cowichan Tribes was the first government to respond, commissioning a strategic recovery plan for fish and aquatic resources in the Cowichan Watershed through Cowichan Tribes Treaty Office.[558] The resulting Cowichan Recovery Plan, completed in 2005, was comprehensive in scope and content, highlighting the need for a whole-of-watershed approach to recovery.[559] The ad hoc flow advisory group remained focused on managing flow in the Cowichan River, bringing together a group of partners willing to fund water management planning.[560] Working outside of Provincial planning structures, but with the support of the Provincial Ministry of Environment, the

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[554] Burns, Harding, and Tutty, *Cowichan River Assessment(1987): The Influence of River Discharge on Sidechannel Fish Habitats* (Department of Fisheries and Oceans, 1987).
[555] Harper, 'Cowichan Basin Water Management Plan'.
[556] *Ibid*.
[557] Members of the "ad hoc committee" included Cowichan Tribes, Catalyst Paper Corp. (the Weir licencee), provincial Ministry of Environment, DFO, and Cowichan Valley stewardship organizations. The committee "was formed to consider and recommend seasonal lake storage and flow management protocols for the Cowichan River". Cowichan Stewardship Round Table (CSRT), *Revised Terms of Reference*, http://www.cowichanstewardship.com/terms-of-reference.html, accessed November 30, 2022.
[558] Cowichan Tribes Water Act Modernization Submission https://engage.gov.bc.ca/app/uploads/sites/71/2013/10/Cowichan-Tribes.pdf, accessed November 5, 2022.
[559] An independent review of the plan, conducted as part of an assessment of the Cowichan Estuary Environmental Management Plan for the Provincial Government, noted that it "provides a systematic fisheries-based assessment of the Cowichan and Koksilah watersheds including the estuary. It includes a stock assessment, a habitat assessment, analysis of limiting factors, recovery goals, objectives and targets including time frames, population and habitat stewardship goals, as well as brief sections on benefits and linkages to other initiatives." Cowichan Watershed Board, *Cowichan Estuary Plan Review*, 17 of https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CowichanEstuaryPlanReview-FinalReport-Dec2005.pdf, accessed November 5, 2022.
[560] Harper, 'Cowichan Basin Water Management Plan', 4.

funding partners launched the Cowichan Basin Water Management Forum,[561] and contracted an independent consultant to lead a water management planning process beginning in 2005.[562] The provincial Ministry of Environment contributed funding and encouraged the CVRD to lead what became a two-year planning process with full public engagement across the Watershed. [563]

The Province effectively set the scope for planning, working from a water quantity and availability perspective.[564] Both forestry and water quality were deemed out-of-scope, despite public concerns about forestry impacts on water.[565] As a former Executive Director in the provincial Ministry of Environment put it, "I do recall in the public forums, people… were concerned that the terms of reference to the Water Management Plan did not include logging, and it was focused more narrowly in scope." [566]

After watershed-wide public engagement and consultation, the CVRD approved the Cowichan Basin Water Management Plan in 2007. The completed Plan recognizes the necessity of working with a whole-watershed approach, as touted by Cowichan Tribes in their Cowichan Recovery Plan.[567]

3.3 The Cowichan Watershed Board

The Cowichan Basin Water Management Plan includes a lengthy list of recommendations. Two of the main recommendations are: 1) to form an oversight group to lead plan implementation; and 2) to consider raising the Lake Cowichan Weir to augment seasonal river flows.[568] CVRD approached Cowichan Tribes for input on how to structure an oversight group, resulting in the partnership manifest in the Cowichan Watershed Board. Let me briefly introduce the Cowichan Watershed Board before moving on to the third watershed planning process.

The structure of the CWB reflects the founding partnership between the CVRD and Cowichan Tribes. Each of these governments designates a co-chair and two additional

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[561] Cowichan Watershed Board, *Targets for Watershed Health*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CWB-Targets-for-Watershed-Health-2018-Update.pdf, accessed January 16, 2023.

[562] Funding partners were: Cowichan Valley Regional District, Fisheries and Oceans Canada, Ministry of Environment, Catalyst Paper Corporation, Cowichan Tribes, and the Pacific Salmon Commission. Harper, *Cowichan Basin Water Management Plan*, 4.

[563] Interview with C03, 17 February 2021. Interview with former Cowichan Valley Regional District administrator 18 March, 2021.

[564] Harper, *Cowichan Basin Water Management Plan*.

[565] Interviews with C02, 1 December, 2020; and C03, 17 February, 2021; and C04, 18 March, 2021.

[566] Interview with C10, 22 October 2021.

[567] Similarly, a contemporary review of the Cowichan Estuary Environmental Management Plan commissioned by the Provincial Ministry of Environment touted the whole-watershed approach advanced by Cowichan Tribes. Harper, *Cowichan Basin Water Management Plan*. Vis-à-vis Management Resources Inc., *A Review of the Cowichan Estuary Environmental Management Plan*.

[568] Harper, *Cowichan Basin Water Management Plan*.

Board members, all drawn from elected representatives.[569] The co-chairs, usually the elected chair of the CVRD and the elected chief of Cowichan Tribes, together then recruit up to six members at large, selected for their knowledge and expertise. The Federal and Provincial governments may also each appoint two members. The Board thus consists of elected leaders and subject-matter experts deeply familiar with, and invested in, the Watershed. The Board receives a small budget, contributed by the CVRD and by Cowichan Tribes, that supports a part-time director and a part-time assistant. [570] I describe Board functions and structure in greater detail in Chapter 5.

The CWB defines its purpose as "to improve collaborative management and decision-making to protect and enhance the health of the whole of the Cowichan and Koksilah watersheds".[571] With this approach, nothing relating to watershed ecology is beyond the Board's scope. The same is true for the Board's mandate, which is "to provide leadership for sustainable water management to protect and enhance ecosystem health in the Cowichan Watershed guided by the Cowichan teaching: Muks 'uw'slhilhukw'tul – We are all inter-connected".[572]

The Board meets ten times per year and operates on a modified consensus basis as detailed in its Governance Manual. It follows five governance principles: 1) partnership; 2) representation; 3) whole-of-watershed thinking; 4) transparency; and 5) nutsamatkwsyaay'ustthqa', a Hul'qumi'num governance principle meaning "we come together as a whole to work together to be stronger as partners for the watershed".[573]

3.4 Water Sustainability Planning

Water shortages reached crisis proportions in the Watershed once again in August of 2019. Flow in the Koksilah River was treacherously low for salmon returns. For the first time since passing the *Water Sustainability Act* in 2014, the Province applied Section 88, the Ministerial authority to override water licenses to protect fish populations.[574] The Province ordered farmers on the Koksilah River to stop using water for irrigation. The crisis provided impetus for the Province to launch Water Sustainability Planning for the Koksilah sub-basin, the Province's first formal planning exercise under the *Water Sustainability Act*.[575] The Province struck a partnership with Cowichan Tribes to lead the

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[569] Cowichan Watershed Board, https://cowichanwatershedboard.ca/the-cowichan-watershed-board-2/, accessed October 27, 2022.
[570] The CWB receives its funding via a related non-profit organization, the Cowichan Watershed Society. Cowichan Watershed Society at https://cowichanwatershedboard.ca/cowichan-watershed-society/, viewed 2022-10-28.
[571] Cowichan Watershed Board, *Cowichan Watershed Board Governance Manual, Version 3*, 6.
[572] *Ibid*.
[573] *Ibid*.
[574] Scoping Initiative Steering Committee, *Koksilah Watershed Water Sustainability Plan Scoping Initiative,* https://www.koksilahwater.ca/wspscoping, accessed October 14, 2022.
[575] Interview with former CWB CEO, 16 November, 2020.

planning process and in February 2020 launched the scoping phase.[576] The partners established a steering committee and a work plan for the scoping phase that included technical assessment, outreach and engagement, and Cowichan Tribes internal engagement. That phase is complete at the time of writing and the planning process has been approved by Cowichan Tribes and the Minister of Land, Water and Resource Stewardship. The scope lays out guidelines for the planning process to come. It will be grounded in Indigenous knowledge as well as Western science; it will engage Cowichan Tribes members, Watershed stakeholders and the broader Watershed community; it will follow a whole-of-watershed approach that recognizes the connections between land use and water.[577] Forestry is not excluded.

3.5 Provincial Watershed-scale Planning Summary

The Province invested (and invests) in three watershed-scale planning exercises over four decades, each following a water shortage crisis triggered by low flows in the Cowichan and Koksilah Rivers. With each round of planning, the process becomes more broadly inclusive, and the scope widens in recognition of land-water interconnections and Indigenous engagement. Forestry, deliberately excluded in the first two planning exercises, is no longer off the table in 2023. The study period for this research sits between the second and third rounds of planning. It is a period of watershed governance very much shaped by the second round and formative of the third. It is a period of engagement by many people in the Watershed and by supportive organizations outside the watershed, as I outline in the next section.

4. Watershed Governance Actors

There is another force at work in Cowichan Watershed governance, in addition to the environmental, legal and planning dimensions addressed above, and that is the influence of the disparate groups of people and organizations actively working to improve ecological conditions in the Watershed. I outline some the many organizations at work in the Cowichan Watershed in this section, governmental and non-governmental. I begin with the government with the longest track record of engagement – Cowichan Tribes.

Cowichan Tribes has a long history of activism associated with its stewardship responsibilities in the Watershed. Cowichan Chiefs travelled with other prominent Salish Indigenous leaders from British Columbia to the Royal Court in London in 1905. There they petitioned the British King to intervene in colonial grievances including the devastating logging practices in the Cowichan Watershed.[578] Since that time, as noted by former, and current, Cowichan Tribes Chief, “Cowichan Tribes has always had involvement in numerous restoration and stewardship activities”.[579] One example is their

[576] Koksilah Water, https://www.koksilahwater.ca/wspscoping, accessed October 28. 2022.
[577] Scoping Initiative Steering Committee.
[578] Interview with Cowichan Tribes biologist, October 14, 2021.
[579] Lydia Hwitsum, ‘Cowichan Tribes Water Act Modernization Submission’, (June 3, 2010), 3.

work on habitat recovery, leading an ongoing project to remove ecologically harmful gravel deposits in the lower Cowichan River, a project supported by many partner organizations, including state government agencies.[580]

One state agency actively engaged with watershed-scale stewardship initiatives is the federal DFO. It supports salmon monitoring and salmon habitat restoration in the Watershed through the Coastal Restoration Fund.[581] It also supports wild Chinook salmon recovery projects in the Watershed under its Wild Salmon Policy. In addition to leading its own stewardship initiatives and funding others, DFO also participates in the Cowichan Watershed Board.

Local stewardship organizations and environmental non-governmental organizations (ENGO) in the Watershed also contribute to governance of the Watershed. The Cowichan Station Area Association is one example with their mandate to bring "neighbours together to enhance and protect the livability, sustainability, and cultural heritage of our area".[582] Other stewardship groups active over the study period include the Sh-hwuykwselu Streamkeepers, Cowichan Stewardship Roundtable, Cowichan Land Trust, Xwulq'selu Connections, Quamichan Lake Association, Cowichan Lake and River Stewardship Society, Friends of Cowichan River, Cowichan Valley Naturalists, Koksilah Working Group, Cowichan Estuary Nature Center, Somenos Marsh Society, and the Cowichan Estuary Restoration and Conservation Association. [583] These organizations bring a wealth of local knowledge, network connections, and partnership opportunities that strengthen and enrich the ecological governance of the Watershed.[584]

Perhaps most noteworthy among these local ENGOs is the Cowichan Stewardship Roundtable. This organization emerged out of Cowichan Tribe's work developing the Cowichan Recovery Plan and predates the formation of the CWB. It brings together local residents, industry, government and stewardship groups to collaborate in protecting water and the Watershed.[585] Famous for organizing the trucking of salmon to upriver spawning areas when water was too low for fish to swim through on their own in 2006, the

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[580] Department of Fisheries and Oceans, *Coastal Restoration Fund – Projects in British Columbia*, https://www.dfo-mpo.gc.ca/oceans/crf-frc/bc-cb-eng.html#2017-08, accessed November 5, 2022.
[581] In 2017, DFO awarded $2,677,742 for a five-year project to improve habitat in the Cowichan/Koksilah estuary. Cowichan Tribes administers the project, which is supported by 28 partner organizations. Partners include the Cowichan Valley Regional District; Cowichan Watershed Board; provincial government agencies; businesses; philanthropic organizations; universities; and local, regional, and national-scale non-governmental organizations. Department of Fisheries and Oceans, *Coastal Restoration Fund – Projects in British Columbia*.
[582] Cowichan Station Area Association, https://cowichanstation.org/, accessed October 31, 2022.
[583] "Wealth of Community Knowledge" slide presented by Heather Pritchard at CWB meeting 31 October, 2022.
[584] Cowichan Watershed Board, *Pathways and Partnerships.*
[585] Cowichan Stewardship Roundtable, http://www.cowichanstewardship.com/, accessed November 7, 2022.

organization also coordinated a major Cowichan River restoration project at Stoltz Bluff.[586]

Non-governmental organizations from outside the Watershed are also important governance actors. Examples include the Nature Conservancy of Canada, BC Conservation Foundation, Coastal Invasive Species Committee, Stewardship Center BC, and Nature Trust of BC. Environmental non-profits working in partnership with the CWB include the Pacific Salmon Foundation,[587] and the British Columbia Conservation Foundation.[588] These organizations partner with non-profit organizations in the Watershed and with Cowichan Tribes on specific educational and research projects – often contributing funding.

In Industry, the owner of the Crofton pulp mill (currently Paper Excellence) operates the Lake Cowichan Weir controlling flow of the Cowichan River. Mosaic Forest Management oversees forestry operations on PMFL in the Watershed.

Prominent Watershed actors affecting governance in the Cowichan Watershed include Indigenous, federal and provincial government agencies, local stewardship groups and regional ENGOs. Through their engagement, these organizations affect the ecological governance of the Watershed. They bring their respective authorities as well as financial and volunteer resources, connections, and knowledge that enhance governance capacity at the watershed scale. Each adds unique contours to the shape of Cowichan Watershed governance.

5. Setting Summary

The Cowichan Watershed ecological governance setting is dynamic and complex. Many agencies and organizations undertake projects to address ecological challenges, answering to multiple levels of government, and to two legal regimes. The Indigenous government of Cowichan Tribes, as well as state governments at the national, provincial, regional, and local levels, lead projects and make decisions affecting Watershed ecology. State law determines property relationships, land use, and resource access. Hul'qumi'num

[586] The Cowichan River undercut the bank at Stoltz Bluff, releasing a continual slumping of fine sediments that adversely affected fish health and reproduction. Cowichan Watershed Board, *Cowichan River – Stoltz Bluff Remediation*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/Stoltz-Bluff-Summary-to-2010-for-CWB-Tour.pdf, accessed November 8, 2022.
[587] Pacific Salmon Foundation, *Sixty Local Conservation Projects to Advance Thanks to $370k in Grants*, (2016), https://psf.ca/blog/sixty-local-salmon-conservation-projects-to-advance-thanks-to-370k-in-grants/, accessed October 31, 2022.
[588] BC Conservation Foundation, *Current and Past Projects*, https://bccf.com/fisheries/current-and-past-projects, October 31, 2022.

law obliges Indigenous peoples, and Indigenous governments, to accept responsibility for sustaining Watershed health.[589]

The ecology of the Cowichan Watershed has long been a focus of governance initiatives like watershed-scale planning, and targeted activism through CWB Working Groups. Over time, participants have built relationships, and organizations have learned to work together to respond to crises while striving to improve ecological conditions in the Watershed.

The ecological health of the Watershed is important to many, humans and non-humans alike, within and beyond Watershed borders. Many non-governmental organizations, as well as government agencies, champion initiatives to protect Cowichan and Koksilah salmon runs so vital to Watershed residents and marine life in the Salish Sea. That work includes enhancing ecological conditions in the watershed. These organizations and agencies shape watershed governance by investing directly in remediation and restoration projects, sharing organizational skills, expertise, funding, and countless volunteer hours.

All such work, at government and community levels, necessarily navigates the contours of governance at the watershed-scale. The ecological drivers of logging and climate warming, the engagement of many organizations and agencies, and the jurisdictional complexity of colonialism give particular shape to those contours in the Cowichan Watershed. The government-to-government partnership between Cowichan Tribes and the Cowichan Valley Regional District, embodied in the Cowichan Watershed Board, works within the contours of this governance landscape. There is much to learn from that experience. The Cowichan Watershed is a rich setting from which to explore to conjunction of state legislation and Hul'qumi'num governance principles.

[589] Hul'qumi'num legal scholar, Dr. Sarah Morales, identifies *Sh-tiiwun*, translated as "responsibility", as one of the seven core teachings of Snuw'uyulh law in the Hul'qumi'num legal tradition. Morales cites her informant, elder Florence James, as saying "... Once they teach you these laws, the snuw'uyulh, as soon as I say it to you, you are now responsible. That is why we say sni'niw – you are a responsible person of the traditional ways. So that is why they say to you – you are responsible" Morales, 'Snuw'uyulh', 236.

Chapter 5: Findings

1.0 Introduction

This Chapter maps the ecological governance functions of Target Creation, Ecological Decision-Making, and Convening Responsibility in the Cowichan Watershed over the period 2010 to 2023. In this Chapter, I trace the ways that two Hul'qumi'num governance principles, mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa',[590] affect the governance functions. I also trace the role of the Province of British Columbia in impeding and enabling those principles. To make the map, I apply the theoretical approach developed in Chapter 2, and the research framework developed in Chapter 3, to the setting of the Cowichan Watershed.

The Chapter has three sections, corresponding to the three watershed governance functions cited above. Each section is presented in a series of parts intended to illustrate how mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' contribute to the respective governance function, and to map the corresponding roles of the Province. The first governance function, Creating Targets, is about choosing a preferable ecological state or condition for the Watershed

The map of Target Creation reveals an early investment by the CWB in both mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', and the influence of these two principles over the study period. The map of Ecological Decision-Making highlights specific ways in which Cowichan Tribes, the CWB, and others work to apply mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. The map of Convening Responsibility illuminates the influence of snuw'uyulh teachings in Cowichan Tribe's application of nutsamatkwsyaay'ustthqa', and the significant role of Cowichan Tribes leadership in re-shaping governance.

2.0 Mapping Target Creation

In Chapter 3, I introduce a debate about the nature of environmental governance. Early proponents of stakeholder-based collaborative governance argue that governance is primarily about process and dependent on mutual compromise. Others working in resilience and radical environmental governance contend that environmental governance must also have purpose. It needs an aspirational vision and a focus on outcomes. The

[590] As explained in Chapter 3, I refer to mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' as Hul'qumi'num "governance" principles that come from the Hul'qumi'num "legal/governance tradition". I use the term "legal/governance tradition" in deference to legal scholar Jeremy Webber, who writes that "[t]here is no sharp distinction between 'legal' traditions and traditions of governance generally, especially in the non-state societies of Indigenous peoples."[590] I refer to mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' as "governance" principles because the Chief of Cowichan Tribes tailored them for use in the governance context of the CWB. I lack the understanding necessary to place the principles in the context of the full Hul'qumi'num "legal/governance" tradition.

field of ecological governance aligns with the latter camp. The creation of aspirational targets toward desired socio-ecological conditions is an important function of ecological governance. It is also central to the work of the Cowichan Watershed Board (CWB, the Board).[591] In this section I look closely at how the CWB created aspirational targets, tracing their origins in the initial implementation phase of the Cowichan Basin Water Management Plan as Cowichan Tribes and the CVRD began to work together. I focus on targets related to river flow and forestry,[592] highlighting the influence of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' and the limited roles of state government agencies in Target Creation.

2.1 Target Creation 2011

The essential work of the CWB governance partnership is to create movement towards a set of aspirational Targets for whole-of-watershed health.[593] The Targets were created in 2011, shortly after the Board's formation.[594] I describe, in Chapter 4, the development of the Cowichan Basin Water Management Plan, and the subsequent establishment of the CWB. In this part, I extend the narrative to outline the implementation and governance features of the Plan, and the active engagement of the CVRD and Cowichan Tribes, that led to a set of aspirational targets.

The Plan has a very clear vision focused primarily on water availability, but also on water governance. The main element of the proposed governance structure was to be an advisory board, the Cowichan Basin Water Advisory Council, made up of organizations with "authority over water in the Cowichan Basin". The CVRD hired a coordinator to work with interested parties to establish the Cowichan Basin Water Advisory Council.[595] Four authorities stepped up to help develop the terms of reference (Cowichan Tribes, CVRD, DFO, and the provincial Ministry of Environment).[596] Of these, only two committed to the final implementation step of providing funding – Cowichan Tribes and the CVRD.[597] Cowichan Tribes and the CVRD formed a partnership and launched what

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[591] I describe the significant role of Targets in ecological decision-making in section 5.2.
[592] The CWB produced a summary of Target development and advancement available at: Cowichan Watershed Board, *Targets, Targets, Targets*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CowichanWatershedBoard-Targets07Jul2011.pdf, accessed January 16, 2023.
[593] Cowichan Watershed Board, *Cowichan Watershed Board Governance Manual, Version 3*.
[594] Interview with C02, 1 December 2020.
[595] The Plan laid out a three-step process. The steps are to: 1) formally adopt the Plan; 2) have respective staff members convene to develop an implementation strategy and terms of reference for the CBWAC; and 3) provide funding for the CBWAC. Cowichan Watershed Board, *Cowichan Watershed Board Annual Report 2019*, https://cowichanwatershedboard.ca/wp-content/uploads/2020/06/CWB_2019_AnnualReport_fnl.pdf, accessed January 16, 2023, 17.
[596] The Living Rivers Trust Fund and Catalyst Paper supported the process. Cowichan Watershed Board, *CWB Governance Manual 2018*, https://cowichanwatershedboard.ca/wp-content/uploads/2010/08/CWB-Gov-Manual-Version3-24Sep2018.pdf, accessed January 24, 2023, 3.
[597] The Province declined the invitation to provide funding for the CWB.

became the Cowichan Watershed Board. The DFO agreed to sit on the Board, but the Provincial Ministry of Environment did not.

The CVRD coordinator became the first CWB Coordinator (the Coordinator). Working closely with Cowichan Tribes, the Coordinator advocated a partnership structure of representative authorities rather than the Plan's proposed stakeholder structure:

> "The Plan recommended a Cowichan Basin Water Advisory Council chaired by the CVRD with a variety of others, some with legitimate public mandates and others that were just interests… I felt strongly that the CBWAC model would be doomed to failure and I advocated for representativeness, collaboration and partnerships and embracing the concept of whole-of-watershed thinking."[598]

One of the first initiatives, following creation of the CWB, was to set up a Technical Advisory Committee (TAC) to ground the Board's work with both science and local knowledge, including Indigenous knowledge.[599] Even with the TAC, however, it was difficult to know where to start. The Coordinator faced the challenge of bringing people together to implement a plan with 6 goals, 23 objectives, 89 action items, and 149 targets, many of a highly technical nature. The Coordinator describes the challenge in the following way:

> "[The Plan] is daunting, in a way, and you get lost in it. It doesn't really speak to human beings... It's a to-do list. And so, the challenge was making this Plan more meaningful to people and more inspiring to the Watershed Board members." [600]

The Coordinator, together with the Chief of Cowichan Tribes, proposed adopting a few highly-relatable Targets to augment the Plan's highly-technical targets. The Coordinator describes a eureka moment when the idea for the Targets took root:

> "And I actually think that the idea for the Targets happened when I was talking with [the Chief of Cowichan Tribes] on a bus in Cowichan Bay. It was on a watershed tour, and we were talking about the Plan and she said something like, 'it doesn't really speak to me'... And so we talked about what would and I said, well, what if you could eat those clams in the Bay by 2020? And I could tell she was engaged."[601]

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[598] Interview with C02, 1 December 2020.

[599] The TAC includes representatives from Working Groups set up initially for each Target. Working Group members are recruited for their knowledge and expertise in the relevant subject areas, including scientific, local, and Indigenous knowledge.

[600] Interview with C02, 1 December 2020.

[601] Interview with C02, 1 December 2020.

The Coordinator took the idea of adopting a set of aspirational Targets to the TAC.[602] After due deliberation, the TAC presented seven Targets, all approved by the Board in July of 2011, and named as follows:[603]

Water Quality Target

Estuary Health Target

Water Use Target

Watershed IQ Target

Fish Target

Water Supply Target

Riparian Habitat Target

The Water Supply Target was essentially a flow Target. It was about managing the flow of the Cowichan River to avoid water shortages associated with low flow conditions. As the Coordinator later put it, "the Flow Target was kind of a no-brainer because the Cowichan is a major salmon river, and 7 cubic meters per second was a minimum flow requirement."[604]

Both Cowichan Tribes and DFO helped to broaden the scope of the Targets beyond water availability to include the Fish Target.[605] Recognizing the inter-connections of salmon and habitat conditions, the TAC also created a Riparian Habitat Target and a Water Quality Target. They recommended a Water Quality Target despite the Province's exclusion of water quality in the planning terms of reference.[606]

In contrast to the inclusion of a Water Quality Target, however, the TAC did not recommend establishing a separate Forestry Target. As the Coordinator explained:

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[602] "I guess the next meeting I talked about the idea of maybe having some Targets." Interview with C02, 1 December 2020.The TAC also drew on an academic critique of the effectiveness of watershed report cards in Canadian watersheds. Veale, 'Assessing the Influence and Effectiveness of Watershed Report Cards on Watershed Management: A Study of Watershed Organizations in Canada'. Cowichan Watershed Board, *Target*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CWB-Targets-for-Watershed-Health-2018-Update.pdf, accessed January 17, 2023.

[603] Cowichan Watershed Board, *Targets, Targets, Targets*.

[604] Interview with C02, 1 December 2020.

[605] Interview with C02, 1 December, 2020. A Cowichan Tribes member of the TAC describes the significance of inter-connections between the Flow Target and the Fish Target: "If we don't do whatever it is we can do … to manage … fish and flows, and that balance of ecosystems and fish survival, then what are we doing? Interview with C09, 14 October 2021.

[606] At the time exceptionally high turbidity in the Cowichan River affected salmon health. Cowichan Watershed Board, *Targets, Targets, Targets*.

> "When that Plan was being developed, as I understand it, the direction from the CAO of the CVRD was 'don't get into forestry and don't get into water quality'. Certainly, the forest policy in British Columbia is a big issue to take on… and as far as forestry goes, the fix considered at the time seemed to be… business as usual on the land but raising the Weir to capture some more of the water that was running off the land."[607]

The fix that the Coordinator refers to is to compensate for hydrological impacts of forestry by raising the Lake Cowichan Weir and using the additional water storage to regulate seasonal flows.[608] Concerns about hydrological impacts to river flows from forestry were subjugated to the Water Supply (Flow) Target due to the long recovery period for hydrological impacts of forestry, the prospect of a hydrological fix for river flow by raising the Lake Cowichan Weir, and the perceived intransigence of Provincial forestry regulation. As the Coordinator from 2011 put it in a later interview,

> "Has the flow target led to an optimal method of obtaining a [forest hydrology] outcome? Well, no, but with climate change, what kind of forest practices [will] the government get its head around … that will permit adequate storage of water on the land and slow release of it? The province … has really not followed up on the whole sustainability issue [with] forestry and forest practices. Will it get better? Let's hope. I've been hoping it will get better from, when did I start working for the government, 1977? What's that, forty-three years? You can only hope for so long."[609]

Coming out of the water management planning process, in 2011 the TAC focused initially on water availability and salmon impacts when creating Targets related to river flow. Though concerned about forestry impacts to Watershed hydrology, the TAC created no forestry Target. The TAC and the Board had no confidence that changes in forestry practice would sufficiently mitigate hydrological changes exacerbated by climate warming, or that the Province would support Targets that might affect the forest industry.[610] In 2011, they did not consider setting a forest Target for reasons other than mitigating hydrological impacts. They did not consider creating an aspirational Target for the ecological condition of the forest.

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[607] Interview with C02, 1 December 2020.

[608] A former DFO fisheries biologist, who sat on the TAC when the Targets were created, explains that such a fix is necessary because of the long recovery period needed to regain hydrological function: "My understanding … is the forest practices over the last hundred years will be affecting our watershed for the next hundred years ... Some of those impacts that I see, as a salmon biologist, are really significant to the fluvial morphology of our rivers and are going to take generations. Interview with C01, 16 November 2020.

[609] Interview with C02, 1 December 2020.

[610] As a past ED of CWB explained, hydrological impacts from logging last for many decades and

The idea of adopting a set of Watershed Targets emerged from the nascent relationship between the CVRD coordinator and the Chief of Cowichan Tribes. Using the plan as a foundation, they established a governance partnership, drawing on their own experiences and sharing ideas about how best to bring people together for the benefit of the Watershed. They recruited a TAC to bring the best available knowledge to the task of setting a vision for desired Watershed conditions in the form of aspirational Targets. The process was shaped by the application of Hul'qumi'num governance principles, as I describe in the next part.

2.2 Hul'qumi'num Governance Principles and Target Creation

In this part I look at the influence of Hul'qumi'num governance principles and the roles of state and Indigenous government agencies in Target Creation. From the beginning, the CWB worked to incorporate the governance approach championed by Cowichan Tribes. The Chief of Cowichan Tribes advocated for inclusion of nuts'umat,[611] a way of making a commitment to work together by exercising partners' respective authorities in a coordinated way. The Chief explains the concept as follows:

> "One of the key pieces of nuts'umat is you don't lose, you don't meld, your authority. It doesn't become something else. You hold your authority and you find the overlap and make a commitment to one thing based on that circle. If you're going to be nuts'umat, you got to be nuts'umat about something. It's a concept. In our case with the Cowichan Watershed Board, it was nutsamatkwsyaay'ustthqa'… When it comes to [a healthy Watershed], we're all going to bring our authorities together."[612]

Cowichan Tribes proposed nutsamatkwsyaay'ustthqa' as a shared commitment, clarifying its definition (in 2023) as "we bring together decision-makers and communities to be stronger and work respectfully to advance whole of Watershed health and reconciliation".[613] The CVRD Coordinator tasked with establishing the CWB also embraced nuts'umat:

> "Early on, I went to [Cowichan Tribes] and I said, look I don't want to, but from time to time, because I don't know the Cowichan culture, I may piss you off because I'll inadvertently do something that is culturally incorrect. Could you suggest to me some advisor or mentor? So I was introduced to Albie Charlie and

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[611] As the former and current Chief later explained, "I actually brought this principle [of nuts'umat] … into our work with the Cowichan Watershed Board. And the reason I did that was… we wanted to be able to see ourselves as Hul'qumi'num Mustimuhw, as Indigenous people, in this work." Interview with C05, 24 September 2021.

[612] Interview with C05, 24 September 2021.

[613] This principle was only formally adopted in the CWB Governance Manual in 2018. The definition given here is from the CWB *Setting the Course* workshop of 2023, https://cowichanwatershedboard.ca/wp-content/uploads/2023/03/CWB-DRAFT-MEETING-MINUTES-Feb-2023-v3.pdf, accessed March 29, 2023.

> he introduced the concept of nuts'umat to me… For me, it was very, very rewarding watching people work together to solve problems." [614]

As they first launched the CWB, the CVRD and Cowichan Tribes committed to work together to achieve the TAC Targets using the Hul'qumi'num governance principle of nutsamatkwsyaay'ustthqa'. They also embraced the Hul'qumi'num governance principle of mukw'stem'oslhilhukw'tul, translated as everything is inter-connected. The CVRD Coordinator embraced mukw'stem'oslhilhukw'tul for two reasons. The first was a recognition of the need to work respectfully with Cowichan Tribes: "it was my view that if you're going to implement a plan … nothing was going to be stable unless First Nations were party to that and agreeing with what was going to be done."[615]

The second reason was for the resonance of mukw'stem'oslhilhukw'tul with the Coordinator's training and experience as an ecologist:

> "[I embraced] the concept of whole-of-watershed thinking… likely because I was once an ecologist, [and] because concurrently I was reviewing the Cowichan Estuary Environmental Management Plan which had, stupidly in my view, zoned/splintered an ecological system (the estuary) into artificial units that screwed up thoughtful management decision-making."[616]

Both the Chief of Cowichan Tribes and the CVRD Coordinator embraced nutsamatkwsyaay'ustthqa' and mukw'stem'oslhilhukw'tul from the beginning, and they were later incorporated into the CWB Governance Manual. Cowichan Tribes promoted the formal adoption of these principles, though, as a former ED of the CWB explains, it was not an easy decision for them:

> "We really drilled down pretty deeply over a year's series of workshops and when this idea of adopting the principle of nuts'umat came up, some of the Cowichan Tribes people said no, you guys don't understand this enough. You don't understand how big a commitment this is. I don't think you're up to it. And the Chief argued the other way; said 'no, this is the way we need to go. This is how we have to operate, and we need to extend this to our non-Indigenous partners and help them'." [617]

The TAC selection of Targets reflects the influence of both principles. Mukw'stem'oslhilhukw'tul is evident in the scope of the Targets that exceeds the scope of the Plan by including fish, water quality and riparian health; in the adoption of a

[614] Interview with C02, 1 December 2020.
[615] Interview with C02, 1 December 2020.
[616] Interview with C02, 1 December 2020.
[617] Interview with C01, 16 November 2020.

whole-of-watershed outlook; and in the creation of a single Watershed advisory Board. In the words of the Coordinator:

> "In the Cowichan worldview, everything is connected. The fact that there's a Watershed Board, and it's not like, an estuary board, a river board, and a lake board, and tributaries-to-the-lake board, and a land-around-the-tributaries board, is indicative that it's been embraced from the beginning."[618]

The influence of nutsamatkwsyaay'ustthqa' is evident in the structure of the CWB, where Board members commit to working together to advance a set of aspirational Targets. It is also evident in the TAC's engagement of two levels of state government (federal and regional) and Cowichan Tribes, successfully developing Targets through consensus.

Cowichan Tribes found synergy with the CVRD Coordinator who drew on his experience as an ecologist and environmental planner to champion a whole-of-watershed approach and the inclusion of Hul'qumi'num governance principles. Cowichan Tribes led the application of those principles in the creation of both the CWB and the Targets. The federal Department of Fisheries and Oceans, accepting a seat at the Board table as well as on the TAC, helped to shape the Targets by backing a Cowichan Tribes initiative to include salmon and salmon habitat. The Province on the other hand, mainly sat on the sidelines. It helped set the terms of reference for the CWB but declined invitations to sit on the Board and the TAC.

2.3 Target Review 2018-2023

The Targets created by the CWB TAC in 2011 were specific to the priorities of the Plan at the time of its creation. The CWB, nonetheless, anticipated that priorities would shift as the Board began to fill knowledge gaps and fulfill the Target aspirations.[619] Initially, the TAC created a working group for every Target, each tasked with advancing their Target using CWB governance principles.[620] Over time, the initial groups coalesced into a set of five core working groups that engaged in a review of the CWB Targets beginning in 2018 and ongoing in 2023.[621] In this part, I outline the continued influence of

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[618] Interview with C02, 1 December 2020.

[619] Cowichan Watershed Board*, On Target*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CWB-Targets-for-Watershed-Health-2018-Update.pdf, accessed January 17, 2023, 4.

[620] State government participants in CWB technical Working Groups over the study period include DFO and the provincial ministries of FLNRORD, Environment, Parks, and LWRS; and at the level of local government, the City of Duncan, School District 79, and the Municipality of North Cowichan. Cheri Ayers, 'Piloting Integrated Watershed Management Using Chinook as a Key Indicator Species on the South Coast of BC - The Cowichan Watershed and Chinook Health Initiative', Presentation at the Cowichan Watershed Board, (February 26, 2016), https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CWB-ChinookProjectUpdate-C.Ayers-29Feb2016.pdf.

[621] The core working groups in 2023 are: 1) Water Quality, Estuarine and Public Health; 2) Fish and Flows; 3) Water Conservation; 4) Outreach and Education; and 5) Riparian Health.

Hul'qumi'num governance principles and the continued lack of engagement by the Province in Target review.

The Target review involves a total of 80 specialized knowledge holders working under the leadership of a Registered Professional Forester and Ecosystem-Based Planning Specialist.[622] In accordance with the CWB Governance Manual, the Target review process follows the whole-of-watershed approach and Hul'qumi'num principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.[623] At the time of writing, in the spring of 2023, the CWB still has its original seven Targets, though some of the names have changed. The Watershed IQ Target is now the Watershed Knowledge Target, and the Water Supply Target has become the River Flows Target.[624] The TAC is working on a Whole-of-Watershed Target, but has not (yet) recommended setting a distinct Forest Target even though at least one Cowichan Tribes member of the Board thinks it is past due:

> "So I've been with the Cowichan Watershed Board for eight years. I know we've set Targets. We check those Targets regularly… Would we like to see… our voices as Hul'qumi'num Mustimuhw … heard through forestry practices? Yes."[625]

The Province participates in a technical capacity on the Fish and Flow Working Group of the CWB, contributing to discussions respecting Cowichan River flow, but it doesn't participate as a Board or TAC member, and it doesn't contribute to Target review. As I explore in the part 3.7, the TAC and the Board have not given up on a role for the Province respecting forest targets, having formally recommended that the Province set targets for old growth retention and recruitment applicable to Private Managed Forest Land in the Watershed.[626]

2.4 Watershed Knowledge Target

I describe how the Board works to advance Targets related to river flow management as I discuss the governance functions of Ecological Decision-Making and Convening Responsibility in sections 3 and 4 of this Chapter. Before shifting attention to those functions, however, I share my findings here on how the Board works to advance the Watershed Knowledge Target. The Watershed Knowledge Target plays a significant role in the Board's work on all other Targets and a significant role in applying nutsamatkwsyaay'ustthqa'.

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[622] Personal notes of Cowichan Watershed Board Meeting, September 26, 2022.
[623] Cowichan Watershed Board, *Cowichan Watershed Board Governance Manual, Version 3*.
[624] The full expression of the River Flows Target is: "We want to ensure that Cowichan River summer flows are at levels that support the needs of people and fish." Cowichan Watershed Board, *On Target*.
[625] Interview with C06, 29 September 2021.
[626] See my description of the Board's submissions to the Provincial Forest Policy Reviews in section 5.2.7.

The Watershed Knowledge Target is expressed as: "we want Cowichan Watershed residents to increasingly know and value their watershed. We can't fully value what we don't understand."[627] The Watershed Knowledge Working Group (the Group) uses a range of initiatives to advance this Target. Between 2011 and 2018, for example, the Group conducted dozens of day-long bus tours in the Watershed; co-hosted a free, monthly lecture series at the Duncan campus of Vancouver Island University; coordinated local stewardship groups to provide outdoor environmental education for primary school students; initiated a Shoreline Stewardship Program, in partnership with the Cowichan Lake and River Stewardship Society, to educate landowners on riparian issues and shoreline restoration; and partnered with Cowichan Tribes to host an annual River Cleanup day.[628] It is a very impressive list of achievements, but it is not the only watershed knowledge work carried out by the CWB. The Board co-chairs and Executive Director contribute significantly in two additional ways.

One way the co-chairs and ED help build watershed knowledge is through direct outreach in support of working partnerships, funding applications, and state government appeals. I describe such outreach in part 3.4 below on Weir license decision-making. A second way that co-chairs and ED build watershed knowledge is by continually educating both working partners and members of the Cowichan Watershed Board itself, many of whom serve at the voting pleasure of Cowichan Tribes and the Cowichan Valley Regional District on limited terms. A Cowichan Tribes member of the CWB describes this challenge as, "I guess one of the biggest issues is it's really, really tough to deal with these larger scale issues and initiatives when people change so frequently."[629]

A former ED of the CWB highlights this challenge in relation to changes in government representatives and government administrative staff:

> "This is not simple work. It's important work and it's worthwhile, but it's a constant care and feeding issue… there's an election and then there's another election and then there's a by-election and all of a sudden you've got a bunch of different people sitting at the table that don't get it… if an initiative has legs, the players change … be they staff or elected officials, many of them are no longer there and others are in their places. And so you have to keep reconfirming and reasserting and re-educating all the time…"[630]

The challenge of continually educating Board members is particularly acute with respect to understanding Hul'qumi'num governance principles. Once again in the words of a former CWB ED:

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[627] Cowichan Watershed Board, *On Target*, https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CWB-Targets-for-Watershed-Health-2018-Update.pdf, accessed January 17, 2023, 15.
[628] Cowichan Watershed Board, *On Target*.
[629] Interview with C09, 14 October 2021.
[630] Interview with C01, 16 November 2020.

> "I think people on the Indigenous side that weren't part of that [governance workshop] process, now come and see - what are these guys doing? They don't know what they're talking about - they shouldn't be talking about this stuff. And I get that. So, there's this constant need to go back and to have these same conversations over and over again. I think there's a need to do that."[631]

A Cowichan Tribes member of the CWB compares the ongoing education of Board members to Hul'qumi'num protocols for working collaboratively with other Nations:

> "There's a way that it's done. Not only in each individual community, but between Nations, and there's varying ways in which those respects are performed. Each of those respects have snuw'uyulh, have teachings, behind them, and they're all to be respected. If you're in another Nation's territory, then you do things and respect things in their way. And so that plays a key role. The nice thing about the Watershed Board, the benefit of the Board, it's a way to be able to communicate to, say, those who are more fiscally oriented on the CVRD Board, that this is a legitimate way. This is a legitimate process and there are distinct benefits to doing things this way."[632]

The Cowichan Watershed Board plays a central role in advancing Watershed Knowledge, including respect for Hul'qumi'num governance approaches, but it does not work alone. The CWB works with partners, including Watershed stewardship organizations and schools, as noted above. It also coordinates with Cowichan Tribes. A former Chief of Cowichan Tribes describes one initiative of Cowichan Tribes to educate both the CWB and the CVRD on Hul'qumi'num governance:

> "I actually did the whole PowerPoint presentation workshop… just to help CVRD understand what we're talking about when we bring [Hul'qumi'num principles] forward to actually make that shift between here's what I know to be, as a colonized mind, and here's what I know, now, in terms of Cowichan's principle of nuts'umat. I went through that exercise with the Cowichan Watershed Board and CVRD as well… to try to lift up nuts'umat and get some understanding of what we're talking about. And to shift the mind, as I said in terms of there are ways of being and systems. And that can be really beneficial to us all."[633]

Continuous education and communication are important tools for advancing the Watershed Knowledge Target. They also help to advance other Targets, such as the River Flow target. A former Director of Resource Management with the provincial FLNRORD Ministry makes the connection in this way:

> "I think when we look at governance… there's relatively good communication in the watershed and with a lot of help from the Cowichan Watershed Board to

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[631] Interview with C01, 16 November 2020.
[632] Interview with C09, 14 October 2021.
[633] Interview with C05, 24 September 2021.

> facilitate that communication. And with that communication, I think when you look strictly at the Weir management, I'm not sure what else could be done differently."[634]

The Watershed Knowledge Working Group advances the Watershed Knowledge Target by working in partnership with many other organizations on community engagement activities, advancing the knowledge, understanding, and appreciation of the watershed and of Hul'qumi'num governance principles. The co-chairs and ED also work hard to bring Watershed knowledge and appreciation to government agencies and funding partners outside the Watershed, as well as to the revolving cohort of elected representatives from Cowichan Tribes and the Cowichan Valley Regional District who sit on the Board. This work includes constantly re-visiting the meaning of the Hul'qumi'num principles adopted in the CWB Governance Manual.

2.5 Target Creation Summary

The starting point for CWB work on Target Creation was the Cowichan Basin Water Management Plan of 2007, a plan focused on water management due to increasingly critically low seasonal flows in the Cowichan River. It was a plan executed by the regional CVRD government but initially scoped by the Province to exclude water quality and forestry. The CWB expanded that scope when they first created Targets to include water quality because of the importance of water quality to salmon. The CWB similarly set a Target for riparian health. This broadening of scope was consistent with the application of mukw'stem'oslhilhukw'tul. The Board initially looked only at hydrological connections between forestry and river flow without setting a Target for the condition of the forest itself.

With the review of Targets, ten years on, the Board began to look beyond hydrological connections to the ecological well-being of the forest, recommending that the Province create old growth retention and recruitment targets for land managed under the PMFLA. This push recognized the ecological continuity and inter-connections between land and water – consistent with mukw'stem'oslhilhukw'tul. At the time of writing, the Board is considering a Whole-of-Watershed Target that will address overall Watershed ecology, including the condition of the forest.

Both the Chief of Cowichan Tribes and the CVRD coordinator brought mukw'stem'oslhilhukw'tul in the form of whole-of-watershed thinking to the Cowichan Watershed Board from its inception. They also brought nutsamatkwsyaay'ustthqa'. In this way, the CWB partnership consciously adopted and applied these two Hul'qumi'num principles in all its work, including Target Creation. The principles continued to provide direction for the review of Targets that began at the ten-year mark and remains on-going. The influence of mukw'stem'oslhilhukw'tul is evident in the scope of the Targets adopted by the Board. The influence of nutsamatkwsyaay'ustthqa' is evident in the range

[634] Interview with C11, 16 November 2021.

of experts who participated in Target Working Groups and the Technical Advisory Committee and their success in finding consensus. One of the ways that the CWB applied these two principles, affecting Target review as well as other Board activities, was through a continual investment in the education of Watershed residents, Board members, and partner organizations.

The Province had very little, if any, role in the work of Target Creation.

3. Mapping Ecological Decision-Making

I describe Ecological Decision Making, in Chapter 3, as making decisions that deliberately account for ecological or socio-ecological objectives. In this section, I map out how such decision-making works in practice in the Cowichan Watershed respecting river flow and forestry management, exploring the influence of selected Hul'qumi'num governance principles and the roles of state and Indigenous governments in applying those principles.

Ecological Decision Making is complicated, not unlike the ecology of the Cowichan Watershed itself. Climate change, industrial-scale resource exploitation, and intensifying land use drive continual changes in the physical condition of the watershed (outlined in Chapter 4);[635] shifting state policies drive changes in provincial legislation and ministerial structure; and the ups and downs of reconciliation, treaty negotiation, and constitutional court challenges complicate coordination among Indigenous and state authorities.[636] To develop a map of Ecological Decision Making in this complex environment, I focus on two contentious issues: 1) management of river flow using the Lake Cowichan Weir;[637] and 2) retention and recruitment of old growth forest.[638]

In parts 3.1 through 3.4 of this section, I map out two dimensions of Weir decision-making – operations and licensing. The operational dimension deals with how much water to hold in storage in Lake Cowichan, and when best to release it to the Cowichan River, while working within water license conditions. The licensing dimension deals with re-structuring license conditions. I provide background on the provincial water licensing structure and operational challenges in part 3.1, and build on that background, in part 3.2, to outline operational decision-making practice as it was in 2010. In part 3.3, I trace

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[635] For a more detailed summary, see also the Pritchard et al., 'Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report'.

[636] From interview with former Executive Director, Water Protection and Sustainability in the British Columbia Ministry of Environment, October, 2021.

[637] The operation of the Weir largely determines summer and fall flows of the Cowichan River, and is contentious due to possible impacts on fish populations as well as perceived risks of flooding at Lake Cowichan. Harper, *Cowichan Basin Water Management Plan*.

[638] Forest age structure is an issue raised by the CWB in their 2020 submission to the BC Old Growth Strategic Review. Cowichan Watershed Board, 'Cowichan Watershed Board Submission to the BC Old Growth Strategic Review Panel'. See Chapter 4 for a discussion on the ecological significance of old growth in the Watershed.

changes in operational decision-making between 2010 and 2023. I address changes in Weir license decision-making over the same period in part 3.4.

In part 3.5, I map the use of Hul'qumi'num governance principles in Weir operational and licensing decision-making. I sketch the more obscure decision-making practices for old growth retention and recruitment in the Watershed in 3.6. This section is brief, reflecting the limited role of provincial regulation and public oversight on Private Managed Forest Land in British Columbia,[639] and the virtual absence of Hul'qumi'num principles in that context. In part 3.7, I describe a nascent decision-making process related to old growth retention and recruitment, noting the underlying influence of Hul'qumi'num governance principles.

3.1 Regulatory Framework for the Lake Cowichan Weir

In this part I introduce the Lake Cowichan Weir (the Weir) – what it does, who operates it, and under what regulations and authorities. British Columbia Forest Products Limited (BCFP) built the Weir at the outlet of Lake Cowichan in 1956 to use the Lake as a reservoir and ensure water availability for the Crofton pulp mill. BCFP worked entirely within the framework of Provincial law to license, then operate, the Weir.[640] Weir operations control the release of water from Lake Cowichan and the seasonal flow of the Cowichan River. Decision-making processes for Weir operations are framed by both Provincial and federal law.[641] The Province regulates water withdrawals and storage through water licensing, and DFO recommends River flows that may avoid collateral damage to salmon.

The Weir storage licenses, issued originally under the *Water Act*, frame decisions about Weir operations throughout the study period.[642] Clauses in the licenses specify minimum flow requirements for the Cowichan River, which must be sustained by the licensee "at its own expense".[643] The enactment of the *Water Sustainability Act*, in 2014, broadened

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[639] Emilie Benoit, Lola Churchman, and Calvin Sandborn, *The Need to Reform BC's Private Managed Forest Land Act*, (Environmental Law Centre Clinic UVIC, 2019).

[640] Lake Cowichan is used to capture and store spring snow melt under a licensing arrangement providing process water for the Crofton pulp mill. The mill is near Crofton, located on the East coast of Vancouver Island, north of the Cowichan Watershed.

[641] For a discussion on multi-level water governance see, Gupta and Pahl-Wostl, 'Global Water Governance in the Context of Global and Multilevel Governance: Its Need, Form, and Challenges'.

[642] Two storage licenses, one issued in 1956 and amended in 1958 (CWL 23085), and one issued in 1965 (CWL29542), authorize storage of water in Lake Cowichan using the Weir. A separate diversion license from 1956 (CWL 22864), allows removal of water from the Cowichan River at a diversion point downstream of the Weir. See British Columbia Conditional Water License 22864, issued October, 1955, and Order by Comptroller of Water Rights Regarding British Columbia Conditional Water License 22864, issued 7 August, 1958. Paget, *British Columbia Conditional Water License 23085;* Kidd, *British Columbia Conditional Water License 29542*.

[643] Robert Wickett, Daphne Stancil, and Douglas VanDine, *DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483*, (British Columbia Environmental Appeal Board, 2015), 3.

the scope of Provincial water licensing to include environmental flows and groundwater licensing but did not change the Weir licenses.[644]

The license holder (the licensee, variously BCFP, Catalyst Paper, and Paper Excellence) is responsible for Weir operation, but subject to the direction of the Provincial Comptroller of Water Rights. Under clause (m) of the diversion water license, the Comptroller may direct the timing and quantity of water releases from the Weir, "for the public benefit". This, along with the power under both the *Water Act* and the *Water Sustainability Act* to order additional license conditions, gives ultimate decision-making authority to the Comptroller of Water Rights.[645] One series of orders affecting the Weir licenses allows the Licensee to provide water to the Municipality of North Cowichan. Another order, issued in 1958, specifies that the licensee must obtain approval from DFO before reducing flow in the Cowichan River below a specified threshold.[646]

The Department of Fisheries and Oceans influences Weir operational decision-making beyond its role in provincial water licensing. Weir operational decisions directly affect the timing and flow volumes of the Cowichan River, impacting salmon and the ecology of the watershed as a whole.[647] Under the federal *Fisheries Act*, as noted in Chapter 4, the Department administers permits for harmful alteration, disruption or destruction of fish or fish habitat associated with Weir operations.[648] The overlapping authorities of provincial licensing and federal permitting together create an administrative framework substantially unchanged from 2010 to 2023. In the next part, I look at how decision-making for Weir operations worked within that framework in 2010.

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[644] Ashley Jollymore, Keiley McFarlane, and Leila Harris, *Whose Input Counts?: Public Consultation and the BC Water Sustainability Act*, (Vancouver: Program on Water Governance, 2016); Brandes and Curran, 'Changing Currents'.

[645] The *Water Sustainability Act*, like preceding legislation, empowers the Comptroller to change water license conditions through written orders. Water Sustainability Act. Section 37 (1) (g) of the Water Act (1992) delegated authority to regional engineers or officers to issue orders pertaining to timing and volume of water withdrawals or releases. See (archived) *Water Act* (1992), https://www.bclaws.gov.bc.ca/civix/document/id/92consol16/92consol16/79429#section34, accessed 6 September, 2022. Under Section 8 of the *Water Sustainability Act*, water use is subject to the Act, to license conditions, and to orders from the Comptroller. See the *Water Sustainability Act,* SBC 2014, c 15, viewed 31 August, 2022 at: https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html#Part_2_Licensing__Diversion_and_Use_of_Water_46436.

[646] British Columbia Conditional Water License 22864.

[647] As described in Chapter 4, salmon are a keystone species in the Cowichan Watershed, and the health of salmon runs is central to watershed ecology. Pritchard et al., *Ecosystem-Based Assessment of the Koksilah River Watershed Phase 1 Report.*

[648] The Fisheries Act prohibits work or undertakings that will result in fish kills (section 34.4.1), with the exception that under section 35, regarding intentional harmful alteration, disruption or destruction of fish habitat, the Minister may issue permits when warranted. See *Fisheries Act*.

3.2 Weir Operational Decision-Making 2010

Provincial and federal laws shape decisions about Weir operations, but they are not the only factor. State administrative structures and dynamics also play a role. In this part, I trace such influence in the era before the study period to better illustrate the administrative dimension of Weir decision-making practice as it was in 2010.

After construction, Weir operations initially increased summer and fall flows in the Cowichan River above historical averages, to the benefit of fall-run salmon and people experiencing seasonal water shortages downstream.[649] Enjoying this perceived benefit for the first few decades after construction (approximately 1958 to 1980), the Regional Water Manager (acting for the Comptroller of Water Rights) largely left Weir operational decisions to the licensee, only providing sufficient oversight to ensure that decisions followed the terms of the water licenses.[650] A Cowichan Tribes fisheries biologist described the insularity of Weir operational decision-making in this period in the following way, "Decisions … about the Weir and the flows were completely dictated by the relationship between [the licensee] and the Province".[651]

Despite the seasonal benefits of greater fall flows, however, not everyone was happy with Weir operational decisions. Changes in river flow affected different river users in different ways. In the 1980s, periodic surges from Weir operations disrupted fish-counting work by DFO on the lower Cowichan River. As a participating Cowichan Tribes biologist explained:

> "[T]here was a sudden release that would basically almost wipe out or eliminate the ability to do work with the counting fence. And at times, there really wasn't rhyme or reason, because all of the different agencies and departments were working independently, and nobody was talking to each other."[652]

The Regional Water Manager was obliged to consult with DFO, especially when there was risk of low river flows, but the scope of those consultations is questionable in hindsight. As one former DFO biologist explained,

> "I worked for a federal agency. And I was a salmon guy and that's what I did. Even within the salmon guys, there were the stock assessment, the counters, and there were the managers and there were the enhancers and there were the habitat guys and there were guys with guns, the enforcers, all looking after salmon, right?

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[649] Robin Pike et al., *Cowichan River: A Summary of Historical Disturbances, Water Use Pressures and Streamflow Trends* (Victoria, BC: Water Science, 2017. It is not known how this may have affected the decline in spring-run Chinook.

[650] Wickett, Stancil, and VanDine, *DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483*, 4

[651] Interview with C09, 14 October, 2021.

[652] Interview with C09, 14 October, 2021.

> And there was some conversation there, but I don't know who was working in herring. What's the major food source for salmon? Its herring. So we can learn. In my mind, I drank the Kool-Aid."[653]

Individual sub-departments within the federal Department of Fisheries and Oceans did not always know what other sub-departments were doing. The counting fence was part of an initiative to try to understand declines in Chinook salmon populations and returns to the Cowichan River, an initiative independent of the sub-department dealing with minimum flows through HADD permits. The apparent lack of communication among DFO siloes is indicative of the Department's lack of (unified) engagement in Weir operational decision-making before the 1980s.

Diminishing salmon populations in the Cowichan and Koksilah Rivers caused wide-spread public concern in the 1980s.[654] Cowichan Tribes, community groups and local governments lobbied the Province to use the Weir to enhance environmental flows. The Regional Water Manager, in consultation with DFO and the Provincial Ministry of Environment,[655] responded by changing Weir decision-making practice in two ways, first issuing an order to impose a Rule Curve in Weir water licenses in 1990, that prescribed seasonal flow timings and flow volumes;[656] and second, consulting informally with flow stakeholders on real-time flow decisions acting outside of the Rule Curve prescriptions. As one participant from Cowichan Tribes describes it:

> "People actually … started to work together. And over the following years, leading up into the latter part of the nineties … people … thought reasonably and did their job as they saw it… just running that issue off the side of their desk. And people were basically collaborating. We used to … meet in various offices here in town, and then we started the ad hoc conference calls."

Changes in climate and watershed hydrology, however, continued to diminish summer and fall flows, increasing pressure on fish habitat and reducing water availability.[657] In 2003, flows in the Cowichan River were too low to support the fall run of Chinook salmon and nearly forced the Crofton pulp mill to shut down for lack of process water.[658] It was a crisis situation that rallied the community and spurred the watershed-scale water management planning process described in Chapter 4. A key action item in the resulting

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[653] Interview with C01 November, 2020.
[654] Harper, *Cowichan Basin Water Management Plan*.
[655] Wickett, Stancil, and VanDine, *DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483*.
[656] Symonds, *In the Matter of the Operating Rule Curve for the Storage of Water in and the Release of Water from Cowichan Lake as Authorized by Conditional Water Licenses 23085 and 29542.*
[657] Hydrological impacts from logging include large scale deposition of gravel in lower river reaches. The gravel deposits allows low river flows to run below the surface, interfering with fish movement. Pike et al., *Cowichan River*; Leudke, 'Briefing on Cowichan Chinook and Water'; Komori, 'Cowichan River Fall Chinook Habitat Status Report'.
[658] Cowichan Watershed Board, *Pathways and Partnerships*.

Plan was to examine the feasibility of raising the Lake Cowichan Weir to store more water in Lake Cowichan for release in later summer to augment low seasonal flows.[659]

The idea of raising the Lake Cowichan Weir enjoyed wide support among Watershed residents, with one major exception.[660] Concerned about possible impacts to lakefront lots on Lake Cowichan, several property owners spoke passionately against the idea.[661] A former head of planning for the CVRD described property owner resistance in the following way:

> "We would have public meetings to go over what we found in the Water Management Plan as we move forward. You'd go to a public meeting or you have an open house in the Duncan area and everyone's going, "Yeah, this is great. My God, we got to do this"… And then we'd go to have a public meeting up in the Lake area, Lake Cowichan or Youbou, and it was exactly the opposite."[662]

Faced with this resistance, and concerned about potential liability for property impacts, the Province reverted to more formal decision-making practices, sidelining the ad hoc advisory group, and adhering inflexibly to the 1990 Rule Curve.[663] As one member of the ad hoc advisory group put it: "then this … era really shifted … Things were … charged … by the discussion … of … the need [to raise the] Weir."[664]

The Regional Water Manager reverted to coloring within the lines of water license prescription, rather than showing flexibility to the established, albeit informal, ad hoc advisory group.[665] By 2010, the Province had returned to an insular practice for Weir operational decision-making, driven by risk aversion about potential liability for damage to lakeshore properties.[666]

In 2010, the Province exercised ultimate authority over Weir operational decision-making.[667] It eliminated flexibility in its administrative practice in response to public pressure, relying only the prescriptive Rule Curve to guide decisions and no longer

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[659] Harper, *Cowichan Basin Water Management Plan.*
[660] Harper, *Water Issues*.
[661] Harper, *Cowichan Basin Water Management Plan.* Interviews with C03, C04, and C09.
[662] Interview with C04, 18 March, 2021.
[663] In making recommendations for expanding the flexibility of the rule curve in 2012, consulting engineer Craig Sutherland commented that his recommendations aligned with the way decisions were made previously, when the ad hoc flow advisory group was actively involved with Weir decisions prior to 2008. Sutherland, 'Technical Memorandum Cowichan Lake Weir -- Provisional Rule Band Operating Rules'. Interview with C09.
[664] Interview with C09, 14 October, 2021.
[665] Sutherland, 'Technical Memorandum Cowichan Lake Weir'.
[666] Interview with C09, 14 October, 2020.
[667] As described above, the Provincial structure of water licensing, along with water license conditions, gives final authority to the Comptroller of Water Rights and her delegated representatives, the Regional Water Managers and Engineers. *Water Sustainability Act*.

accepting advice or acting flexibly in response to other parties.[668] With this administrative shift, the Province was less able to consider the needs of the Watershed as a whole. There was minimal consultation across siloes within DFO, inhibiting federal administrative cohesion. Under state administrative practices in 2010, Cowichan Tribes was excluded from decision-making and there was no role for Hul'qumi'num governance principles. Decision-making practice, however, began to change after the formation of the CWB in 2010.

3.3 Changes in Weir Operational Decision-Making to 2023

The period 2010 to 2023 witnessed significant political shifts in Canada, at national, provincial, and regional scales. The Cowichan watershed experienced winds of change unleashed by the fall of the Conservative government nationally, the rise of the Green Party and NDP provincially, and a very active non-governmental stewardship community in the Cowichan Watershed.[669] The partnership between the Cowichan Valley Regional District and Cowichan Tribes, manifest in the Cowichan Watershed Board, effectively leveraged opportunities related to these shifts,[670] re-shaping Weir operational decision-making practices along the way.[671]

3.3.1 Shared Learning and Administrative Change

Through its Fish and Flows Working Group (FFWG), and building on work already started by CVRD, the CWB soon developed a work plan for advancing the flow

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[668] Interviews with C07, 30 September 2021, and with C09, 14 October 2021.

[669] At a political level, a new federal government, for example, promoted the concept of reconciliation with Indigenous peoples, and the Truth and Reconciliation Commission issued its final report in 2015 including 94 calls to action. Many changes occurred in the legal realm as well, with clarification of Indigenous land rights in the courts and new legislation at federal and provincial levels. British Columbia introduced the *Water Sustainability Act* in 2014, and Canada's *Declaration on the Rights of Indigenous Peoples Act* in 2019. Canada implemented the *United Nations Declaration on the Rights of Indigenous Peoples Act* in June 2021. I describe active Watershed-oriented environmental non-government organizations in Chapter 4. Truth and Canada, *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada*. Government of Canada, *DRIPA*, https://www.canlii.org/en/bc/laws/stat/sbc-2019-c-44/latest/sbc-2019-c-44.html; United Nations, *UNDRIP*, https://www.canlii.org/en/ca/laws/stat/sc-2021-c-14/latest/sc-2021-c-14.html, accessed March 3, 2023.

[670] I highlight actions of the CWB that leverage government and non-government partnerships at a political level through the remainder of this section. One example is an initiative by CWB to bring watershed stewardship groups together in support of a CVRD referendum on developing a "water service" function allowing the CVRD to levy a tax for water management work and potentially partner in holding a conservation water license. Cowichan Watershed Board meeting minutes for 24 September 2018.

[671] Hunter et al., *The Cowichan Watershed Board: An Evolution of Collaborative Watershed Governance*.

Target.[672] The work plan was ambitious with its own objectives and action items.[673] The action items included technical studies to fill knowledge gaps.[674] One study was an evaluation of potential lakeshore impacts from raising of the Weir; another was developing a more informative climate model matching the scale of the Cowichan Watershed. [675] The CVRD successfully applied for funds to support the technical studies with additional funding gleaned from external partners working with the Cowichan Watershed Board.[676]

The technical studies follow a pattern of initiatives championed by the CWB, and executed in collaboration with CWB partners, to provide a better scientific basis for decision-making. Another example of this approach is the installation of a "snow pillow" by CVRD to measure the Cowichan Watershed winter snow pack, enhancing spring run-off predictions.[677]

With most of the technical studies completed by the fall of 2012,[678] the CWB and its partners put together a strong case, based on a whole-of-watershed approach, for using the Weir to store more water in the spring and release more water in summer and fall.[679] Though the CVRD had initially refused to endorse similar licensing recommendations in the Cowichan Basin Water Management Plan, they were now on the same page with

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[672] Working groups are tasked with providing information, expertise, and recommendations for Board-level decision-making. The Working Groups report to the Board through a Technical Advisory Committee, also appointed by the Board. Ayers et al., *Determining Cowichan River Flows for Fish in 2017 and Beyond*; Cowichan Watershed Board, *Cowichan Watershed Board Governance Manual, Version 3*. Fish and Flow Working Group, 'Factors Supporting a Summer Flow Target for the Cowichan River'.

[673] Fish and Flow Working Group, 'Factors Supporting a Summer Flow Target for the Cowichan River'.

[674] Fish and Flow Working Group.

[675] Climate modelling had previously been done at a broad regional scale that was not sufficiently refined to provide confident predictions at a local level. The "down-scale" model developed more detailed analysis at the watershed scale. Fish and Flow Working Group,
presented at the Cowichan Tribes Chief and Council Chambers, 8 March 2012.
https://cowichanwatershedboard.ca/water-supply-target/.[676] The BC Conservation Fund, for example, paid most of the cost (in partnership with CVRD) for a flow modelling study that accounts for climate warming. Cowichan Watershed Board, *Gas Tax Funding Cowichan Basin Water Management Plan Implementation Projects Report for Phase 1* https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/CowichanBasinWaterManagementPlan-Implementation-GasTaxProjects-Phase1Report-May2014.pdf, accessed December 3, 2022, 4.

[677] Interview with C07, 18 March, 2021.

[678] In the spring of 2011, Kerr Wood and Leidal (KWL) delivered two reports. The first outlined climate change impacts to the Watershed. The second recommended replacing the licensed Rule Curve with a more flexible Rule Band. In January 2012, CVRD presented a completed Integrated Flood Management Plan. Sutherland, *Technical Memorandum Cowichan River Watershed*; Kerr Wood Leidal, 'Cowichan Lake Water Management Rule Curve and Rule Band'. Cowichan Watershed Board meeting minutes 5 January 2012.

[679] Sutherland and Kerr Wood Leidal, 'Cowichan Lake Water Management Rule Curve and Rule Band'.

Cowichan Tribes and ready to act.[680] The CVRD position changed through the shared journey of identifying and filling information gaps.

The CVRD passed a resolution calling on the province to facilitate water license changes to allow an increase in the height of the Lake Cowichan Weir and greater flexibility in flow management.[681] The CWB Coordinator and Co-Chairs (the Chair of the CVRD Board and Chief of Cowichan Tribes) actively reached out to the Province, lobbying for the proposed changes in the Weir water licenses both at the regional administrative level, and at the Ministerial level.[682] The Board invited the Regional Water Manager to give a presentation on the water licensing process.[683] The CWB, CVRD and Cowichan Tribes hosted the provincial Minister responsible for water licensing on a Watershed tour, demonstrating how changes to the Weir could help address seasonal flow crises.[684]

In response, and in deference to lakefront property owners, the Regional Water Manager hired a consultant to assess potential property impacts. The consultant concluded that the license changes would have very little if any effect on lake shore properties.[685] The Deputy Comptroller of Water Rights then decided that the Province would modify the Rule Curve to provide greater flexibility in the timing of water storage and release under the existing licenses. The Deputy Comptroller also decided that the Province would not authorize raising the Weir by modifying existing water licenses.[686] A new, separate license would be needed to store water for conservation purposes. After a period of public consultation, the Deputy Comptroller of Water Rights ordered changes to the rule curve, effective in May of 2013.[687] The changes allow the Weir operator to sustain a high lake level longer through early summer (i.e. longer than the 1990 rule curve), and to lower the lake level further in the fall (i.e. lower than the 1990 rule curve).[688] The Deputy Comptroller describes the change as a shift from a Rule Curve to a Rule Band.

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[680] The CVRD passed a resolution endorsing all of the other 85 action items, but withheld approval of the license changes. Cowichan Watershed Board meeting minutes 6 June 2013.

[681] Cowichan Tribes, the CWB, and DFO supported the CVRD resolution. Thompson, Seymour, and Stone, 'Cowichan Watershed Board Annual Report 2019'; Sutherland, 'Technical Memorandum Cowichan Lake Weir -- Provisional Rule Band Operating Rules'. Symonds, 'In the Matter of the Operating Rule Curve for the Storage of Water in and the Release of Water From Cowichan Lake as Authorized by Conditional Water Licenses 23085 and 29542'.

[682] A request for provincial funding for CWB operations, for example, reached the level of the Provincial cabinet in May 2012. Cowichan Watershed Board meeting minutes 10 May 2012.

[683] Cowichan Watershed Board meeting agenda 1 May 2014.

[684] Cowichan Watershed Board meeting minutes 4 September 2014.

[685] Wickett, Stancil, and VanDine, 'DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483.'

[686] Symonds, 'In the Matter of the Operating Rule Curve for the Storage of Water in and the Release of Water From Cowichan Lake as Authorized by Conditional Water Licenses 23085 and 29542'.

[687] Symonds.

[688] Wickett, Stancil, and VanDine, 'DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483.'

The 2013 Rule Band is essentially a return to decision-making practices as they were in the 1990s. It is similar to a set of weir operational protocols written in 2008 by an informal group consisting of three DFO members, a member of the provincial Ministry of Environment, a representative of Catalyst Paper and a representative of Cowichan Hatchery, with input from UMA Engineering. The 2008 protocols were based on operational decisions and observations in preceding years.[689]

Cowichan Tribes and the CVRD worked together in coordination through the FFWG and the TAC to identify and fill knowledge gaps. Through shared learning and consensus decision-making they adopted a common position on the need for, and viability of, raising the Weir. They then acted to promote the idea and in the process pushed the Province to change its administrative approach to Weir operational decision-making. The Province adapted the Rule Curve, introducing the more flexible Rule Band.

3.3.2 Influence of the Ad Hoc Flow Committee

The introduction of the Rule Band triggered a series of events that resulted in further administrative and operational decision-making changes – creating an opening for Hul'qumi'num governance principles. Following the Deputy Comptroller's order to replace the Rule Curve with the more flexible Rule Band, several lakefront property owners appealed to the British Columbia Environmental Appeal Board under the *Environmental Management Act*.[690] The CWB, through its sister organization, the Cowichan Watershed Society,[691] sought status to participate in the appeal, and made the case for raising the Weir.[692] The Appeal Board first ruled that the CWB had a valid interest in participating in the appeal. In a subsequent ruling, after hearing submissions including from the CWB, the Appeal Board then upheld the decisions of the Deputy Comptroller of Water Rights.[693] It noted that raising the Weir for additional water storage was unlikely to affect property owners but ruled that such a change would require an

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[689] As consulting engineer Craig Sutherland described it: "The [2013] Rule Band approach essentially represents the manner in which the Weir was operated up until 2007-2008, under Catalyst's water license, and as directed by the Ministry of Environment [Water Sustainability Division]." Page 2 of Sutherland, 'Technical Memorandum Cowichan Lake Weir -- Provisional Rule Band Operating Rules'. Vessey et al., 'Cowichan Weir Start-up, Operational and Seasonal Protocols'.

[690] Wickett, Stancil, and VanDine, 'DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483.'

[691] The Cowichan Watershed Society was formed on the advice and with the assistance of the non-profit West Coast Environmental Law group to provide a legal entity eligible to participate in the environmental appeal. Cowichan Watershed Society describes itself as "a non-profit Society founded in 2014 to provide financial and administrative support for the work of the Cowichan Watershed Board". Cowichan Watershed Board meeting minutes 1 August, 2013. See also, https://cowichanwatershedboard.ca/cowichan-watershed-society/. Accessed 12 September 2022.

[692] West Coast Environmental Law assisted the CWB in its appeal. Andison, 'Preliminary Decision'.

[693] Wickett, Stancil, and VanDine, 'DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483.'

additional water license.[694] The ruling highlights a gap in Provincial water policy – how to reconcile environmental flow needs and conservation water licenses with existing water licenses. I examine Weir licensing challenges further in part 3.4.

Following the decision of the Appeal Board, the Regional Water Manager applied the more flexible Rule Band and, more significantly, also re-constituted an advisory group, now known as the Ad Hoc Flow Committee (the Committee), made up of Indigenous, federal and Provincial government agencies, the CWB and the Weir licensee.[695] The CWB participates in the Ad Hoc Flow Committee, and many of the Committee members participate in the FFWG.[696] This engagement helped to change Weir decision-making over the study period, increasing its scope and expanding the influence of the CWB and of Hul'qumi'num governance principles.

A former Coordinator of the CWB recounts a meeting of the FFWG soon after the formation of the Ad Hoc Flow Committee, when the CWB effectively determined the decision-making approach of the Committee:[697]

> "Interestingly, I recall a watershed moment early on in the history of the Watershed Board, which was at a Flows Committee meeting. During a desperately dry year, must have been 2012. At that time, both Catalyst and the Province wanted to reduce the flow in the River… oh, and North Cowichan wanted to reduce the flow in the River too. But the Cowichan Tribes representative didn't want the flow in the River reduced. I remember a very brief but tense silence in the room which was broken by the Provincial rep who said 'OK, then we will reduce the flow'. And Ross Forrest, who was chairing the meeting, said 'not so fast'. He said 'we work by consensus here'. You feel that an

[694] The Appeal Board ruled that "the Order will not cause a substantial increase in the extent or duration of flooding on the Appellants' properties. The Board also found that there was no evidence that the Order will cause erosion of the Appellants' properties above the natural boundary of the lake. " Wickett, Stancil, and VanDine.

[695] A recommendation of the Cowichan Basin Water Management Plan was that the CWB act as an advisor in operational decision-making. Page 25 of Harper, 'Cowichan Basin Water Management Plan'. One of the recommendations of an engineering review of Weir operations was that continued use of the Ad Hoc Flow Committee. Sutherland and Kerr Wood Leidal, *Cowichan Lake Water Management Rule Curve and Rule Band,* (Cowichan Watershed Board, 2011).

[696] Interview with C02, 1 December, 2020.

[697] While the Ad Hoc Flow Committee and the FFWG are separate entities, in practice their work is often coordinated through overlapping membership and contact at FFWG meetings. For example, the decision of the Ad Hoc Flow Committee to prepare a summer flow plan for 2015 appears to have been taken at a FFWG meeting in February of that year. See CWB Fish and Flows Working Group meeting minutes 12 February, 2015. The CBWMP had recommended that the Ad Hoc group be replaced by a group appended to the Cowichan Basin Water Advisory Committee (what became the CWB). Harper, *Cowichan Basin Water Management Plan*, 25. One participant described key participants in the Ad Hoc Flow Committee in 2021 as: Cowichan Watershed Board, Cowichan Tribes, the Provincial Fisheries group in the FLNROD Ministry, the Regional Water Manager, and Fisheries and Oceans Canada. Interview with C07, 18 March, 2021.

> absolute shift had occurred in the room. It was decided that there would be no flow reduction without further discussion and agreement. It felt that, working together, we had achieved a major breakthrough in how we were going to manage summer flows in the Cowichan."[698]

The Coordinator attributed the change to the CWB application of Hul'qumi'num governance principles introduced by Cowichan Tribes:

> "And this is all part of everything's connected because the issue was really about swimming at the Quamichan Village, which is below the sewage outfall; the flow and the traditional use of the River for bathing in... It was about the Flow Target, actually, which could no longer be achieved. It was about a different way to make decisions. It was about giving Cowichan Tribes a voice. This was about the commitment … to the principle of consensus which was there no doubt because of the presence of Cowichan Tribes. Up until Ross Forrest upheld the CWB principle of consensus at the meeting I'm pretty sure that operating on the basis of consensus was a foreign concept for the provincial, industry and local government reps at the table." [699]

Influenced by the FFWG, the Ad Hoc Flow Committee began to work as an active partnership. In the summer of 2019, for example, after an unusually dry spring, the Cowichan River fell below license requirements for minimum flow.[700] The Lake Cowichan Weir owner faced the potential of pumping large volumes of water out of the Lake, over the Weir and into the River to augment flows, at huge expense.[701] The event sparked action by the Ad Hoc Flow Committee. One participant at the time describes the Committee's collaborative investment in new knowledge production, in the form of an alternative flow decision-making chart, to help address the challenge:

> "This chart has developed in the last three years … partly in response to the horrible conditions of 2019... And this is the consortium of us, Cowichan Watershed Board, Cowichan Tribes, the Provincial Fisheries, FLNRORD, and DFO. We had Kerr Wood Leidal build this model. It's … very helpful that we are all working together and it's a very cooperative collaborative process." [702]

The new chart embraces the idea of capturing more water behind the Weir earlier in the spring. The increase could mitigate uncertainty about summer and fall water shortages, without raising the Weir.[703] The background science for the chart debunks the historical concern that early spring capture translates to higher flooding risk at Lake Cowichan.

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[698] Interview with C02, 1 December, 2020.
[699] Interview with C02, 1 December, 2020. See also interview with C09.
[700] Interview with C07, 30 September 2021.
[701] 'Pumping Water Directly into Cowichan River Is Proving a Success'.
[702] Interview with C07, 30 September 2021.
[703] Interview with C07, 30 September, 2021.

Any decision to follow the chart and allow early storage, however, would step outside of the Rule Band as it is written in existing licenses. With the chart not (yet) incorporated into the water licenses,[704] the Weir operator can only apply it through extraordinary authorization by order of the Comptroller of Water Rights.[705]

A former Provincial Director of Resource Management captures the role of the Comptroller of Water Rights respecting license orders as follows:

> "[T]here is that group that will look at the Rule Curve at the beginning of the year and say, well, this is what's happening. And then they'll go to the Province... And then because of the way the Act and the rights and all that works is, the Province has to say, okay, and they will issue the order to accept that change. So there is a process there."[706]

In practice, however, the Comptroller does not always follow Ad Hoc Flow Committee advice when they fail to reach consensus. [707] In the spring of 2019, for example, the licensee wanted to reduce spring River flow below the Rule Band. It wanted to use the flow to instead raise Lake levels, saving water for fall-run Chinook and possibly avoiding the obligation to pump water to maintain minimum flows. Other members of the Committee were concerned about impacts to salmon fry from reduced flow in May. The licensee failed to persuade the Ad Hoc Flow Committee to press the Province for permission to act outside of the Rule Band. The licensee then lobbied the Deputy Minister and the Comptroller of Water Rights ultimately approved a reduction in spring flow (below the rule band minimum) to better support fall flow. In this situation, the Ad Hoc Flow Committee struggled to find consensus where no option could fully mitigate complex ecological and socio-ecological risks, and the Province responded to industry concerns.

The Province exercises authority for Weir operational decision-making through water license conditions and orders by the Comptroller of Water Rights. It doesn't directly include Hul'qumi'num governance principles in those processes, but it is beginning to make space for the principles through engagement with the Ad Hoc Flow Committee. A former Regional Water Manager acknowledges the Province's limited acceptance of Indigenous principles in the following comments:

> "Because we sit on that [Ad Hoc Flow] Committee … this year… I didn't issue the order until Cowichan Tribes had given their consent … We're moving from… rights and title, to incorporating concerns from Nations, and what their Indigenous

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[704] The Comptroller of Water Rights would have to issue an order modifying license conditions to allow seamless application of the proposed changes at the discretion of the Weir operator. Paget, *British Columbia Conditional Water License 23085*.
[705] Interview with C07, 30 September 2021.
[706] Interview with C11, 16 November 2021.
[707] Interview with C07, 30 September 2021.

> principles are… We consult, because we must consult … but then we're also part of the discussions on the Committee."[708]

The practice of decision-making for Weir operations changed through the Province's re-constitution of the Ad Hoc Flow Committee after 2012. Decision-making effectively moved from the singular authority of the Regional Water Manager (and Comptroller of Water Rights) to the Ad Hoc Flow Committee in conjunction with the FFWG. Weir operational decision-making broadened in scope, involved a greater range of representative decision-makers, and became more accountable, in practice, to the Fish and Flow Targets championed by the Cowichan Watershed Board. In 2023, the Ad Hoc Flow Committee works generally by consensus, adheres to a whole-of-watershed perspective, and actively develops innovative decision-making tools, such as the proposed new Flow Chart. The FFWG plays an influential role by sharing a governance approach shaped by Hul'qumi'num principles, filling knowledge gaps, sharing partner expertise, and building and strengthening partner relationships. The Province makes space for the Ad Hoc Flow Committee, but limits the Committee's effectiveness through rigid water licensing arrangements and deference to industry at the level of the Comptroller of Water Rights. The Province does not apply Hul'qumi'num governance principles itself, but is beginning to make space for them informally under the influence of the Ad Hoc Flow Committee, and within its existing administrative and licensing structure.

3.4 Changes in Weir License Decision-Making

Changes in the water licensing structure can affect operational decision-making, and ultimately Watershed ecological conditions. In this part, I outline the efforts by Cowichan Tribes, CVRD, and CWB to change the Weir water license structure to help advance Watershed Targets. Once again, I begin with a little historical background relevant to the study period.

Cowichan Tribes asked the Province to change the structure of water licenses affecting the Cowichan River in the 1990s. A Cowichan Tribes biologist describes the encounter in the following way:

> "We had actually started inquiring… about environmental flows, about an environmental or conservation license on water. And I am not kidding, I'm not trying to be pointed or even funny because it was not funny to us at the time. Those that were in charge of licensing, quite literally they laughed. And they were very blunt. They basically said Indigenous organizations couldn't get a license… Originally we actually asked for a license for salmon, for fish. That was… our vocabulary in that era... And when they laughed, we said, okay, well, how about a water license for our community to ensure the protection of our resources, the

[708] Interview with C12, 17 January 2022.

> liability of Chinook. They didn't laugh quite so hard, but they… said basically… no, sorry, that's not possible, and… without listening… closed the door without any… discussion about what then might be possible."[709]

The Regional Water Manager was unwilling to discuss changes to the Weir water licenses for conservation purposes in the 1990s. Cowichan Tribes nonetheless continued to make the case, encouraging its CVRD partner to petition the Province to change the Weir water licenses in 2011.[710] As noted above, the Province again stood in the way with the Deputy Comptroller of Water Rights claiming to lack authority to approve changes to existing licenses for conservation use, a position upheld in a later ruling by the BC Environmental Appeal Board.[711] In 2011, as in the 1990s, the practice of license decision-making was a solitary endeavor carried out by the Comptroller of Water Rights or the Regional Water Manager.

Following the Environmental Appeal Board ruling in 2013, and anticipating the enactment of the *Water Sustainability Act*,[712] Cowichan Tribes, the CVRD, and the CWB began a renewed effort to secure a conservation water license.[713] As I describe in the following paragraphs, the CWB spearheaded the initiative, with the CVRD and Cowichan Tribes also playing leadership roles. Over the period of 2013 to 2023, the trio invested in a sustained campaign to facilitate raising the Weir and changing the Weir water licenses as necessary to support increased water storage for conservation flows.

One of the first steps of the CWB in 2013 was to task the FFWG with researching the ecological flow requirements for the Cowichan River from a whole-of-watershed perspective. [714] The Board also addressed concurrent but independent licensing initiatives

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[709] Interview C09 14 October 2021.

[710] As previously noted, the Cowichan Watershed Board commissioned the Cowichan Recovery Plan in 2004, initiated the Cowichan Stewardship Roundtable, and helped to launch the water management planning exercise that produced the Cowichan Basin Water Management Plan.

[711] The BC Environmental Appeal Board ruled in 2013 that the Comptroller of Water Rights lacked authority to approve the raising of the Lake Cowichan Weir in support of conservation use (to support ecological flows) – a purpose beyond the scope of existing licenses. Alan Andison, *DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Preliminary Decision in the matter of six appeals under section 92 of the Water Act, R.S.B.C. 1996, c. 483,* (British Columbia Environmental Appeals Board, 2013).; Wickett, Stancil, and VanDine, *DECISION NOS. 2013-WAT-013(b), 015(c), 016(b), 017(c), 018(c) and 019(c) Final Decision in the Matter of Six Appeals under Section 92 of the Water Act, R.S.B.C. 1996, c. 483*.

[712] The *Water Sustainability Act* was enacted in spring of 2014. https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html?searchUrlHash=AAAAAQAMY29uc2VydmF0aW9uAAAAAAE&offset=0&highlightEdited=true, accessed December 19, 2022.

[713] Cowichan Watershed Board meeting minutes 6 June 2013. Under the *Water Sustainability Act*, conservation water licenses may be issued for the "diversion, retention or use of water for the purpose of conserving fish or wildlife". Section 2 of the *Water Sustainability Act*, https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html?searchUrlHash=AAAAAQAMY29uc2VydmF0aW9uAAAAAAE&offset=0, accessed December 20, 2022.

[714] Cowichan Watershed Board meeting minutes 6 June 2013.

of the CVRD,[715] and of Catalyst Paper,[716] passing a motion asking Cowichan Tribes and the CVRD to jointly apply for a conservation water license to support raising the Weir. The CWB worked to bring the independent actions of the licensee, the CVRD, and Cowichan Tribes together in a unified and coordinated way, to fill information gaps and learn and strategize together.

3.4.1 The Weir Partners

By 2015, the CWB, Cowichan Tribes, the CVRD, DFO, and the licensee (Paper Excellence at that time) had established a semi-formal partnership (the Weir Partners[717]) for the purpose of raising the Weir and securing a conservation water license.[718] In June 2016, the Weir Partners met with the provincial Deputy Minister and Assistant Deputy Minister in charge of water licensing, and the Comptroller of Water Rights, to discuss options.[719] The Ministerial party encouraged Weir Partners to develop an action plan for a shovel-ready project in preparation for meeting directly with the Minister. The Province supported shovel-ready planning financially by approving a grant to CVRD through the

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[715] The CVRD halted a study with Catalyst Paper on the feasibility of raising the Weir incrementally using existing licenses, re-directing staff to consider options for long-term water security. Cowichan Watershed Board meeting minutes 2 October 2014. The CVRD then began preparing an application for a conservation water license and applied for municipal gas tax funding to support detailed engineering, preliminary costing and environmental impact assessment work necessary to raise the existing Weir. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes* (February 12, 2015).

[716] Catalyst Paper, the Weir water Licensee, also independently explored licensing contingencies. Cowichan Watershed Board meeting minutes 2 October 2014. It looked at two stop-gap measures: 1) to apply under section 8 of the *Water Sustainability Act* to install pumps at the Lake Cowichan Weir; and 2) to prepare an application to install temporary barriers to effectively raise the Weir by about 20 cm. Cowichan Watershed Board meeting minutes 30 November 2015. It also looked at a third contingency – to work collaboratively with other parties on a long-term solution for managing seasonal flows in the Cowichan River. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (April 4, 2016).

[717] I use the term Weir Partners to distinguish this group from other partnership relations related to the Weir. It is not a term used formally by the parties involved.

[718] The Weir Partners developed a four-step strategy: 1) to obtain Provincial government support for licensing changes through engagement and by developing a Water Use Plan; 2) to inform people about the value and feasibility of raising the weir; 3) to raise funds for weir design and weir construction; and 4) to identify the most suitable conservation license holder. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes,* (November 30, 2015).
Regarding the 2017 application, see: Cowichan Valley Regional District, Climate Change and Water Use Planning https://compassrm.com/portfolio/cowichan-valley-regional-district-climate-change-and-water-use-planning/, accessed November 30, 2022. Leroy van Wieren, *Cowichan Lake Weir Design*, https://cowichanlakeweir.ca/weir-design/, accessed September 9, 2022. Leroy Van Wieren*, Water Licensing Regulatory Approval Process and Next Steps*. Cowichan Watershed Board, *Cowichan Weir License & Owner Process: Status Update*, (2022), https://cowichanwatershedboard.ca/wp-content/uploads/2022/02/CWB_Feb28_Cowichan-Weir-License-and-Owner-Process-Update_Natasha-Overduin.pdf, accessed 30 November, 2022.

[719] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (June 27, 2016).

BC Clean Water and Wastewater Fund, even though the initiative fell outside of the Fund's normal guidelines.[720] The CVRD launched engineering work in 2017.[721]

In parallel to the engineering work, the Weir Partners launched a water use planning exercise,[722] building on the completed study of ecological flow requirements by the FFWG,[723] and the watershed-scale climate model produced by the CVRD.[724] Though the Province was not directly involved, the Weir Partners followed a set of guidelines established by the Province in 1998 for creating a Water Use Plan (WUP).[725] Weir Partners recruited a Public Advisory Group (PAG) and held a series of public meetings across the Watershed through the winter of 2017 and spring 2018.[726] In May 2018, after great effort, the PAG reached consensus on the additional water storage required in Lake Cowichan to meet seasonal flow targets for the Cowichan River.[727] The consensus fully accounts for ecological objectives, including sustaining salmon populations, and a whole-of-watershed assessment.[728] In this way, the WUP delivered an outcome that aligns with the Hul'qumi'num principle of mukw'stem'oslhilhukw'tul, using a process that aligns with nutsamatkwsyaay'ustthqa'. Not only the CWB, but also the Weir Partners worked in accordance with the governance approach of Cowichan Tribes.

In October 2018, with WUP and feasibility engineering work in hand, the CWB met with the Provincial Ministers of FLNRORD and Environment as well as the local Member of

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[720] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (March 27, 2017).
[721] Catalyst Paper reported in December 2016 that the existing Weir structure was incapable of supporting additional height, and the project to raise the Weir became a project to replace the Weir. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (December 5, 2016). The Weir Partners redirected CVRD engineering plans accordingly. Van Wieren, *Cowichan Lake Weir Design*.
[722] Water Use Plans (WUP), usually used in water license applications for large hydro dams, provide technical guidance for operating water control structures in British Columbia. Province of British Columbia, 'Water Use Plan Guidelines'. To avoid potential conflict, the CVRD turned administration of this part of the project over to the other Weir Partners (CWB, Cowichan Tribes and Catalyst Paper). Those partners chose Compass Resource Management Inc. (Compass) as project lead, backed up with technical support from EcoFish Research Ltd. and Kerr Wood Leidal Consulting Engineers. Compass started work in August of 2017. The CVRD funded the Compass contract with its British Columbia Clean Water and Wastewater Fund grant, augmented by additional funds from Catalyst Paper. The planning mandate was to 1) look at environmental, industrial, agricultural, cultural, and recreational flow needs; 2) determine what water levels are needed at different times of the year and why; and 3) find consensus on the corresponding Lake levels needed to support those needs. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (July 31, 2017). Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (November 27, 2016).
[723] Ayers et al., 'Determining Cowichan River Flows for Fish in 2017 and Beyond'.
[724] CVRD, *Cowichan Basin Water Use Planning*, https://www.cvrd.ca/2318/Cowichan-Basin, accessed December 1, 2022.
[725] Province of British Columbia, 'Water Use Plan Guidelines'.
[726] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (November 27, 2017).
[727] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (May 28, 2018).
[728] Compass Resource Management Ltd., *Public Advisory Group Summary Report Cowichan Water Use Plan* (October 30, 2018), https://cowichanwupca.files.wordpress.com/2018/10/cowichanwup_finalreport_oct30_2018.pdf, accessed December 9, 2022.

the Legislative Assembly (provincial) and Member of Parliament (federal). The CWB pressed the Ministers to provide funds to construct a replacement Weir and for the Province to agree to hold the conservation water license. The Minister of FLNRORD formally responded to the request by letter early in 2019.[729] The Province would not provide funds for construction nor agree to hold the conservation water license.

The Weir Partners met to discuss strategy.[730] They decided to complete the engineering, pursue funding for construction, and only then address the issue of who would ultimately hold the associated conservation water license. [731] With this strategy change came risk. Funders may be less willing to support a project lacking an identified champion.[732]

Led by the CWB, the Weir Partners worked to build public support. They built a dedicated website for full transparency,[733] and provided regular reports to CWB and CVRD meetings.[734] The CWB partnered with the Cowichan Lake and River Stewardship Society to deliver a public education program called "Weir Ready!" over the summer of 2019.[735] As part of "Weir Ready!", volunteers went door-to-door to residences around Lake Cowichan demonstrating how a higher Weir might affect lake levels.

Weir Partners also worked on funding. With the support of DFO, they secured a grant from the BC Salmon Restoration and Innovation Fund, a federal fund administered by DFO, for Weir design work. The grant was administered by the CVRD,[736] and design work started in January 2020.[737] Following recommendations of the WUP, the Weir design work included a Cowichan Lake Shoreline Assessment, a project to precisely map out potential impacts on lakefront properties.

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[729] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (February 25, 2019).
[730] *Ibid.*
[731] Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (July 31, 2019).
[732] Weir Partners carried on a three-part government engagement strategy of: 1) engaging senior state governments politically; 2) engaging the FLNRORD staff in the regional office; and 3) meeting more regularly as a Weir Partnership. Presentation by KWL at Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes*, (January 28, 2019).
[733] The Cowichan Lake Weir website, https://cowichanlakeweir.ca/weir-design/.
[734] Cowichan Lake Weir, https://cowichanlakeweir.ca/about-water-supply/, accessed December 1, 2022.
[735] The Real Estate Foundation of BC provided grant funding for this campaign: https://cowichanwatershedboard.ca/wp-content/uploads/2019/07/WeirReadyPlanCWBMtgJune2019.pdf, accessed December 1, 2022.
[736] Cowichan Watershed Board, *Cowichan watershed board cheers 24 million grant to Cowichan tribes to address severe drought and flooding in the watershed due to climate change* (November 12, 2020). https://cowichanwatershedboard.ca/content/cowichan-watershed-board-cheers-24-million-grant-to-cowichan-tribes-to-address-severe-drought-and-flooding-in-the-watershed-due-to-climate-change/, accessed December 1, 2022.
[737] The scope of work includes "engineering designs, environmental impact assessments and geotechnical studies, cost estimates and tender documents to allow the partners or others to support a future water license application for a new structure" and to "[p]rovide the necessary information to support future regulatory review". Cowichan Lake Weir Design, https://cowichanlakeweir.ca/weir-design/, accessed December 1, 2022.

3.4.2 Cowichan Tribes and CWB Leadership

Cowichan Tribes led a separate application for Weir funding from the Disaster Mitigation and Adaptation Fund within the federal Department of Infrastructure and Communities. Working with Cowichan Tribes, the CWB played a key role in bringing together support for the application.[738] In addition to the Board itself, the Cowichan Valley Regional District, the Province of B.C., Paper Excellence, the Department of Fisheries and Oceans, Watershed stewardship groups, and Watershed residents endorsed the application.[739] The initiative secured federal funding of $24.2 million, matched in part by $5.3 million from Cowichan Tribes and partners, available for construction of a replacement weir.[740] The breadth and depth of support for the application, solicited by the CWB and including letters from many members of the public, speaks to the Hul'qumi'num principle of nutsamatkwsyaay'ustthqa' – we come together as a whole to work together to be stronger as partners for the watershed.

The major grant to Cowichan Tribes met about half the anticipated construction costs for a replacement Weir, but came with an expiry date.[741] The Weir replacement project now had a timeline – Cowichan Tribes must use the construction funds before grant expiry in 2028 – or lose them.[742] Facing this deadline, and with the WUP and significant funding in hand, the Weir Partners turned once again to the thorny question of who would take responsibility for holding the conservation water license.[743]

In coordination with the Weir Partners, and facilitated by the CWB, Cowichan Tribes contracted Compass Resource Management Inc. to lead a process to identify a party willing to hold a conservation water license for the Weir.[744] Compass asked government agencies and organizations with River flow responsibilities to participate in a structured decision-making process – to find agreement, by consensus, on a single preferred arrangement for Weir licensing and ownership.[745] In a process very similar to Chief

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[738] Personal notes on Cowichan Watershed Board, *Cowichan Watershed Board meeting*, September 27 2021.
[739] Cowichan Watershed Boards, accessed December 1, 2022.
[740] Cowichan Watershed Board news release, 9 November, 2020. https://cowichanwatershedboard.ca/content/canada-helps-protect-the-cowichan-valley-from-the-impact-of-climate-change/, viewed December 1, 2022.
[741] Compass presentation to CWB meeting. Cowichan Watershed Board meeting minutes 27 June 2022.
[742] Personal notes from Cowichan Watershed Board, *Cowichan Watershed Board*, meeting 27 September 2021.
[743] Compass Resource Management presentation to Cowichan Watershed Board meeting, February 2022. https://cowichanwatershedboard.ca/wp-content/uploads/2022/02/CWB_Feb28_Cowichan-Weir-License-and-Owner-Process-Update_Natasha-Overduin.pdf, accessed December 2, 2022.
[744] Personal notes of Cowichan Watershed Board meeting 27 September 2021.
[745] Participants included the Licensee, CVRD, Cowichan Tribes, BC Ministry of LWRS, DFO, and CWB. Compass Resource Management presentation to Cowichan Watershed Board meeting, February, 2022. https://cowichanwatershedboard.ca/wp-content/uploads/2022/02/CWB_Feb28_Cowichan-Weir-License-and-Owner-Process-Update_Natasha-Overduin.pdf, accessed December 2, 2022.

Hwitsum's application of nutsamatkwsyaay'ustthqa' within the CWB,[746] Compass asked all participants to share their mandates and legal obligations related to River flow, Weir operation and Weir construction. In this way, individual organizations became transparently accountable to their respective areas of responsibility in accordance with nutsamatkwsyaay'ustthqa'. Though no party ultimately volunteered to become the water license holder, Cowichan Tribes, the CVRD, and Paper Excellence agreed to work on an application. The Province and DFO bowed out.

In a show of support, the Province agreed to "resource, enable and empower" a local partnership working towards a new Weir, and to accept a non-binding application for a conservation water license (i.e. original signatories are not obliged to ultimately accept responsibility for holding the license).[747] Willing Weir Partners (not including DFO and the Province) agreed to submit a joint "place-holder" application, accepting that final decisions about licensing arrangements will be worked out as the Province moves through the administrative licensing process.[748]

At the time of writing, in March 2023, the coordination committee of the Weir Partners anticipates having the water license, construction permits and final financing all in place by 2024.[749] Though the outcome is uncertain, the conservation water licensing initiative of CWB, Cowichan Tribes and CVRD clearly marks change in Weir licensing decision-making practice from 2010. Weir license decision-making in 2023 is no longer an exclusive exercise of the Regional Water Manager. It has become a collaborative exercise across a spectrum of Watershed actors, including Watershed residents as well as Indigenous, federal, and Provincial governments at administrative and Ministerial levels. Watershed actors work independently, and form and re-form partnerships. Cowichan Tribes plays an important leadership role and the CWB plays a central coordinating role, working in accordance with both mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

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[746] I expand on the ways that Cowichan tribes uses nutsamatkwsyaay'ustthqa' in Chapter 6.

[747] Cowichan Watershed Board Executive Director update at CWB meetings 30 May 2022 and Compass Resource Management update at CWB meeting 27 June 2022.

[748] Adhering to the *Water Sustainability Act*, the Provincial Comptroller of Water Rights must address a range of considerations when processing a license application, including: the beneficial use and availability of water; environmental flow needs; and impacts on other water users and landowners (including related approvals and authorizations). Respectively sections 15 and 13 of the *Water Sustainability Act*. https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html, accessed December 19, 2022. In a presentation to the CWB in May 2019, the Assistant Regional Water Manager indicated that the Province also considers impacts to Aboriginal interests during the licensing process. Water authorizations staff follow a process that includes consultations, referrals, review of technical reports, and solicitation of additional reports if necessary. Robinson, 'Overview of the Basic Considerations Involved in Water Licensing'.

[749] Compass Resource Management presentation to CWB meeting 27 June, 2022.

3.4.3 Summary of Changes in Weir License Decision-Making

Between 2010 and 2023, the independent activities of Watershed actors pushing for license changes coalesced into a cohesive effort led mainly by Cowichan Tribes, the CVRD, and the CWB. Over the decade, raising the Weir and securing a conservation water license became an exercise supported by the Watershed public, stewardship organizations, ENGOs, environmental foundations, industry, DFO and, eventually, the Province. The Province, having refused to engage with Cowichan Tribes in the 1990s, became increasingly responsive, first at the regional administrative level with the introduction of the Rule Band and Ad Hoc Flow Committee, then at the Deputy Ministerial level with encouragement and funding for engineering work and water use planning, and finally at the Ministerial level with funding support for water licensing, albeit coupled with a formal refusal to take responsibility for building a new Weir or for holding a conservation water license. The Province remained hands-off with respect to organizing, relationship building, and accepting responsibility, but leant financial and administrative support to others.

3.5 Weir License Decision-Making, Hul'qumi'num Principles, and the Provincial Government

The existence of a singular conservation water license application, under review by the Province in the spring of 2023, is evidence of the successful application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. The WUP Public Advisory Committee consensus on ecological flow needs addresses social and ecological inter-connections is further evidence of the successful application of mukw'stem'oslhilhukw'tul. The consensus and political shifts of many parties working together to develop the license application is further evidence of the successful application of nutsamatkwsyaay'ustthqa', as is the overwhelming institutional and public support expressed in fundraising initiatives. The map I sketch of changes in Weir decision-making clearly shows Hul'qumi'num principles at work. It also reveals some of the methods used by different Watershed actors to apply those principles. I highlight some of those methods in this part, noting the role of the Provincial government where applicable.

Cowichan Tribes applied nutsamatkwsyaay'ustthqa' by developing a partnership with the CVRD and by holding CWB members, Provincial Ministries, and potential license holders to account, challenging them to fully use their respective powers of authority to uphold a commitment to whole-of-watershed health. Cowichan Tribes also applied nutsamatkwsyaay'ustthqa' by leading a process to resolve conflict over who will hold the conservation water license for the Weir. The CWB also applied nutsamatkwsyaay'ustthqa' by creating working partnerships to address specific purposes such as research, education, planning, lobbying, and fundraising. The CWB further applied nutsamatkwsyaay'ustthqa' by working to resolve conflict with Lake Cowichan property owners. The Weir Partners applied nutsamatkwsyaay'ustthqa' by building

consensus on River flow needs through a water use planning process and by strategic advancement of winning conditions for building a replacement Weir. The Province did not employ any of these methods.

The Province mainly sat on the sidelines: providing no way to amend existing water licenses to accommodate conservation water storage or environmental flows; bowing out of a Board seat with CWB; bowing out of the water use planning exercise; and refusing to take responsibility for replacing the Weir or holding a conservation water license. The Province did provide support by partially funding Weir design work; by allowing a "placeholder" application for a conservation water license; and by generally staying out of the way of the CWB and the Weir Partners. Similar to its role in operational decision-making, the Province did not directly apply Hul'qumi'num governance principles to license decision-making, though it offered a degree of support to others who did.

3.6 Ecological Decision-Making and Old Growth Retention and Recruitment

Logging has decimated nearly all old growth forest in the Cowichan Watershed,[750] yet old growth retention and recruitment targets remain important to people living there.[751] I describe in Chapter 4 the role(s) of mature trees, the elders of the forest, in maintaining healthy forest ecology.[752] I also describe the historically intensive use of forests by industrial logging companies,[753] and extensive use of the forests by people of the Cowichan Nation.[754] Decisions about old growth retention and recruitment affect both the ecological condition of the forest and forest use, and are a form of Ecological Decision Making. In this section, I map how decision-making about old growth retention and recruitment works in practice in the Cowichan Watershed. I highlight the influence of Provincial and Indigenous governance frameworks and of institutional investors. I also mark the absence of Cowichan Tribes or Cowichan Watershed Board participation, or of Hul'qumi'num governance principles, in decision-making.

Once again, I focus on the period of 2010 to 2023, a period of little change in state laws related to forestry on the privately-owned land of the Cowichan Watershed.[755] Provincial law largely determines the structure of decision-making for old growth retention and recruitment in the Watershed, as it does for Weir operational and licensing decisions – but in a markedly different way. Under the constitutional division of powers, the Province

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[750] Rajala, *The Legacy & the Challenge*. Mosaic Forest Management also acknowledges the absence of old growth timber on its lands.

[751] People in the Cowichan Watershed recognize the value of old growth forests and of forests returning to old growth conditions, as witnessed by CWB submission to the Province's Old Growth Strategic Review. Cowichan Watershed Board, *Cowichan Watershed Board Submission to the BC Old Growth Strategic Review Panel*.

[752] Simard, *Finding the Mother Tree.*

[753] Rajala, *The Legacy & the Challenge*.

[754] Interview with a Cowichan Tribes member of the Cowichan Watershed Board 29 September 2021.

[755] I provide an overview of federal and Provincial law related to forestry in the Cowichan Watershed over the study period in Chapter 4.

has jurisdiction over forestry, but, as I outline below, neither federation nor Province has created a legal mechanism to exercise direct authority over old growth retention and recruitment decisions affecting private land. This contrasts sharply with the Provincial water licensing structure that directly addresses Weir operations.

Forestry on private land in British Columbia must comply with a range of federal and Provincial legislation, as I discus in Chapter 4.[756] Relevant Provincial legislation includes the *Drinking Water Protection Act*, *Environmental Management Act*, *Integrated Pest Management Act*, *Land Act*, *Water Sustainability Act*, *Wildfire Act*, and *Wildlife Act*. [757] In the Cowichan Watershed, the *Riparian Areas Protection Regulation* and the *Private Managed Forest Land Act* also apply.[758] None of these legal instruments, however, directly regulates old growth retention or old growth recruitment. The Province thus frames decision-making by omission – authority rests entirely with private landowners.[759]

There is a noteworthy disparity here between state law and Hul'qumi'num law. In the Hul'qumi'num legal tradition, people must apply the principles of respect and reciprocity in all interactions with living things,[760] including the forest.[761] These principles underlie what Hul'qumi'num legal scholar Sarah Morales categorizes as Family Law. Under Family Law, resource users must accept limits set by recognized authorities who are responsible for the long-term health of the resource.[762] Responsibility for forest care, rather than "ownership", frames forestry decision-making in the Hul'qumi'num legal tradition.[763]

Three corporate land owners currently dominate forestry in the Cowichan Watershed.[764] Two of these, TimberWest Forest Limited (TimberWest) and Island Timberlands[765], between them, own most of the private forest land in the Watershed, and have since the

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[756] Federally, for example, the *Fisheries Act*, *Migratory Birds Act*, and *Species at Risk Act* may each affect forestry operations.
[757] Managed Forest Council, *Other Federal and provincial Legislation*, https://www.mfcouncil.ca/legislation-policy/other-federal-provincial-legislation/, accessed January 8 2023.
[758] Province of British Columbia, *Riparian Areas Protection Regulation*, https://www.canlii.org/en/bc/laws/regu/bc-reg-178-2019/latest/bc-reg-178-2019.html, accessed January 9, 2023, Part 2 (1) (b).
[759] Recognizing regulatory limitations on forestry on PMFL, the Cowichan Basin Water Management Plan attributes responsibility for all aspects of forestry in the Watershed exclusively to forestry companies. Harper, *Cowichan Basin Water Management Plan.*
[760] I say "living things" to denote the environment in general. In the Hul'qumi'num legal tradition there is no clear distinction between animate and inanimate objects that both may "live" in a spiritual sense. Morales, 'Stl'ul Nup'; Thom, 'Reframing Indigenous Territories'.
[761] Morales, 'Snuw'uyulh'.
[762] *Ibid.*; Barsh, 'Coast Salish Property Law: An Alternative Paradigm for Environmental Relationships' *Hastings Environmental Law Journal* 12 (2005): 1.
[763] Morales and Thom in Cameron, Graben, and Napoleon, *Creating Indigenous Property*.
[764] Ekers et al., 'The Coloniality of Private Forest Lands'.
[765] Parfitt, *Restoring the Public Good on Private Forestlands*.

early 2000s.[766] TimberWest and Island Timberlands are not publicly-traded companies but are privately owned by three Canadian pension funds.[767] TimberWest and Island Timberlands characterize their Cowichan land holdings as investment vehicles.[768] The primary function of Cowichan Watershed forests over the study period, from the owners' perspectives, has been to serve as financial assets – delivering predictable returns from land sales as well as from timber production.[769]

TimberWest and Island Timberlands effectively merged their forestry operations on Vancouver Island in 2018, turning responsibility, but not ownership, over to Mosaic Forest Management (Mosaic). Mosaic manages the land as Private Managed Forest Land under the PMFLA, exercising responsibility for forest planning, operations, and sales.[770] Mosaic prides itself on exceeding the requirements of the Act by practicing third-party-certified sustainable forestry; demonstrating environmental leadership; and building Indigenous relations.[771] The company retains two forestry certifications: 1) the Sustainable Forestry Initiative (SFI), an independent organization that sets standards for sustainable forest management;[772] and 2) the Programme for the Endorsement of Forest Certification (PEFC), an independent non-profit that claims to "provide forest owners, from the large to the small, with a tool to demonstrate their responsible practices, while empowering consumers and companies to buy sustainably".[773] Mosaic also holds a silver level rating issued by the Canadian Council for Aboriginal Business.

The Sustainable Forestry Initiative sets a standard for sustainable forest use based on a set of 15 management objectives, none of which deals directly with old growth retention or

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[766] TimberWest owns land in the upper Watershed; Island Timberlands in the lower Watershed, including the Koksilah sub-basin. Parfitt, *Restoring the Public Good on Private Forestlands*. Manulife Investment Management (Manulife) is the diminutive of the three big forest owners in the Watershed, having sold most of its holdings to Island Timberlands. Ekers et al., 'The Coloniality of Private Forest Lands', 7. According to Van Isle News, the pension funds are: *British Columbia Investment Management Corporation,* the *Public Sector Pension Investment Board, and the Alberta Investment Management Corporation.* Van Isle News Staff, 'Who Owns Vancouver Island – Or A Lot of It?', *Van Isle News* (Vancouver Island) June 28, 2021, https://vanisle.news/who-owns-vancouver-island-or-a-lot-of-it/, accessed January 9 2023.

[767] Interview with C08, 5 October 2021. Manulife was formerly Hancock Forest Management. Ekers et al., 'The Coloniality of Private Forest Lands', 12.

[768] Ekers et al., 'The Coloniality of Private Forest Lands', 12. Manulife, *Manulife Investment Management Sustainable Investing Timberland 2022*, file:///C:/Users/Murray%20Ball/Downloads/Manulife-Investment-Management-Timber-SI-report.pdf, accessed January 9, 2023.

[769] This financial strategy is made very clear in the website soliciting investment in Manulife Investment Management, for example. Manulife, *Sustainable Investment Timberland 2022.*

[770] Mosaic presentation to (online) Youbou public meeting, 17 June, 2021.

[771] Mosaic Forest Management, https://www.mosaicforests.com/, accessed January 9, 2023.

[772] KPMG, *KPMG Forest Certification Report : TimberWest Forest Corporation—2017 SFI Forest Management Re-certification Audit*, file:///C:/Users/Murray%20Ball/Downloads/A035FC5C-756D-454C-87C91EF6E2AC2EED.pdf, accessed January 8, 2023.

[773] PEFC, *What is PEFC?* https://pefc.org/discover-pefc/what-is-pefc, accessed January 9, 2023.

old growth recruitment.[774] Each objective corresponds to performance measures and indicators that form an SFI matrix checklist. Mosaic described company activities supporting two of these objectives at a public (ZOOM) meeting about proposed logging at Youbou (on Lake Cowichan) on 17 June 2021. There was no mention of old growth in relation to the first objective, Forest Management Planning.[775] The second SFI objective that Mosaic reported on was Conservation of Biological Diversity. The detailed description of this objective does, at least, mention old growth forests. The objective is:

> "[t]o manage the quality and distribution of wildlife habitats and contribute to the conservation and biological diversity by developing and implementing stand- and landscape-level measures that promote a diversity of types of habitat and successional stages, and the conservation of forest plants and animals, including aquatic species, as well as threatened and endangered species, 'Forests with Exceptional Conservation Value', **old growth forests**, and ecologically important sites" (emphasis added).[776]

This description appears to call for development-of-measures-to-promote conservation of old growth forests at the stand and landscape levels. Of the activities that Mosaic lists to achieve this objective, only "conservation land sales" actually links to old growth conservation.[777] Through conservation land sales, Mosaic will consider selling land harboring old growth, to a conservation group at market value.

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[774] The SFI objectives are: 1) Forest management planning; 2)Forest health and productivity; 3) Protection and maintenance of water resources; 4) Conservation of biological diversity; 5) Management of visual quality and recreation benefits; 6) Protection of special sites; 7) Efficient use of forest resources; 8)Recognize and respect Indigenous Peoples' rights; 9) Legal and regulatory compliance; 10) Forestry research, science and technology; 11) Training and education; 12) Community involvement and landowner outreach; 13) Public land management responsibilities; 14) Communications and public reporting; and 15) Management review and continual improvement. KPMG, *KPMG Forest Certification Report*.

[775] Mosaic Forest Management, *Forest Management Planning*, performance measure 1.1 is "ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models". Mosaic listed activities in support of this measure that included: developing a Forest Stewardship Plan and Timber Supply Review (both normally used for harvesting on Crown land); long term harvest level and analysis; watershed management program; resource inventories; digital terrain modeling; sensitive soil mapping; growth modelling; harvest planning and scheduling; and geographic data collection. There was no indication that forest management planning for SFI certification addressed targets for old growth retention or recruitment.

[776] Mosaic presentation to (online) Youbou public meeting, 17 June, 2021.

[777] The other activities are: a Private Land Management Strategy (presumably created for compliance with the *Private Managed Forest Land Act* that doesn't address old growth); a wildlife management program; staff and contractor training; inventories (ecological, habitat types, and point features); and carbon reserves. Mosaic presentation to (online) Youbou public meeting, 17 June, 2021.

Mosaic Forest Management gave a presentation to the September 2020 meeting of the CWB, [778] outlining their approach to forestry and their work in the Koksilah sub-basin.[779] A CWB member from the Koksilah sub-watershed commented that Mosaic was cutting younger and younger trees and asked how the company could do more to balance age distribution. [780] Mosaic responded that there was a genetic rationale for harvesting younger trees. Mosaic did not mention old growth at any time in the meeting, let alone old growth retention or recruitment. A Cowichan Tribes biologist describes his impression of the Mosaic presentation as follows:

> "Mosaic did a presentation to the Watershed Board, basically saying forestry doesn't have an impact on watersheds, and, wow. I mean, even my jaw dropped, because they gave such an incredible shine to their work and to their company and to the positive things that they do for the environment and etc. etc., that, I'm not kidding, my jaw dropped."[781]

Neither Mosaic's in-house Sustainability Progress Report, released in 2021, nor its SFI re-certification audit of 2017, nor its presentation to the CWB makes any reference to old growth.[782] Like the federal and Provincial governments, the major forest owners of the Cowichan Watershed appear to deal with old growth retention and recruitment by omission. Apart from a willingness to consider purchase offers from conservation organizations, they have no decision-making process for old growth retention and recruitment.

There is essentially no mechanism for old growth retention and recruitment decision-making in the Private Managed Forest Land in the Cowichan Watershed. Though the Watershed is within the unceded traditional territory of the Quw'utsun Mustimuhw (the Indigenous Cowichan people), the Canadian state recognizes the land as private property, and under Provincial laws, private property owners have the exclusive right to make forestry decisions about old growth. The major landowners, three Canadian public pension funds, manage the land under the *Private Managed Forest Land Act*, but under the Act, they need not account for the status of old growth, and they have no management strategy or decision-making process for old growth retention or recruitment. In practice,

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[778] The September 2020 meeting of the CWB was held over ZOOM due to covid restrictions. It was the first CWB meeting by ZOOM to include a "gallery", meaning that members of the public were able to observe but not participate.

[779] This was the second time Mosaic presented to the CWB, the previous occurrence being a year earlier.

[780] The context for this question is an analysis by Ekers et al. (2021) that revealed Island Timber, who owns much of the land in the Koksilah drainage, has been harvesting trees at three times the rate that they themselves deem sustainable. The rate of harvesting means cutting younger and younger stands, driving down the average age of the forest.

[781] Interview with C09,

[782] Mosaic Forest Management, *Sustainability Progress Report 2021 - Responsible Stewardship: At the Heart of our Business*, https://static1.squarespace.com/static/5e7a7ad9d2a2ed0752ff8f54/t/6371a077d35f087529b5b051/1668391048063/Mosaic_SPR-2021-20022_web.pdf, accessed January 10, 2023.

neither federal or provincial state governments nor the institutional landowners/foresters in the Watershed, make decisions about old growth that account for Watershed ecology or consider Hul'qumi'num governance principles. Without a decision-making structure, there is no opportunity for Cowichan Tribes or the CWB to bring Hul'qumi'num governance principles to old growth decision-making. Both Cowichan Tribes and the CWB, however, work to challenge this governance gap, as I describe in the next section.[783]

3.7 Emergent Old Growth Retention and Recruitment Decision-Making

The planning that led to the formation of the Cowichan Watershed Board deliberately excluded any consideration of forestry practices and impacts.[784] The Province wished to avoid dealing with thorny forestry issues at the same time as dealing with thorny water management issues.[785] The first Coordinator of the CWB described his initial (and reluctant) acceptance of avoiding forestry issues in the following way:

> "I can tell you that … I was just trying to figure out the best way to create something that would be durable, and get that, and implement it in a meaningful way. And the forestry, I basically had accepted [that] Jeez, you know, we'll never change these bastards."[786]

The Coordinator nonetheless harboured hope that forestry could be brought into CWB decision-making, noting that, "we had Bruce Fraser as an initial member, and I had high hopes that maybe he could help us along the road. He's been fighting that battle for years and years, even as the chair of the Forest Practices Board, when he was doing that uphill. He was a good supporter for sure."[787]

Despite the Coordinator's hope, the archived minutes of the CWB indicate no direct engagement on forestry issues in the first five years of CWB activities. References to forestry begin in April 2015, when Cowichan Tribes reported meeting independently with the Minister of FLNRO regarding the impacts of log booming. Cowichan Tribes did not want the Minister to accept a study, conducted by a Vancouver Island logging company, that did not address the full range of impacts. I take the time and space here to trace the other references to forestry in the CWB archived minutes over the study period, as they not only reveal the ways in which forestry practices found a place in CWB conversations, but also reveal the ways in which forestry practices, including old growth retention and recruitment, were initially overlooked as the Board struggled with fish and flow crises.

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[783] Cowichan Watershed Board, *Cowichan Watershed Board Submission to the BC Old Growth Strategic Review Panel.*
[784] *Ibid.* See Chapter 4.
[785] Interview with C04, 18 March 2021.
[786] Interview with C02, 1 December 2020.
[787] Interview with C02, 1 December 2020.

The Board continued its interest in the hydrological impacts of forestry. In 2017, the Board hosted a presentation by a hydrology research scientist working for the Ministry of FLNRO, and with TimberWest. The presentation highlighted a knowledge gap respecting indicators of hydrological impacts associated with logging in the Watershed.[788] In 2018, the ED reported that Cowichan Tribes, the CVRD, and the CWB were meeting quarterly with the Ministry of FLNRO, mostly on other issues, but had discussed hydrological impacts of forestry.[789]

In 2019, the Province launched a review of forestry policy for Private Managed Forest Land. The CWB made a submission to the review, calling for systemic changes to forestry management on PMFL. The CWB recommended moving to an ecosystem-based management approach, accounting for climate change, and recognizing the jurisdictional overlap of Indigenous and state governments on unceded lands such as the Cowichan Watershed.

The CWB started to receive occasional requests to review small scale woodlot forestry plans. The CWB declined all such requests, citing capacity constraints, but in June 2020, the CWB accepted a request from the Municipality of North Cowichan to provide input on operation of the North Cowichan Municipal Forest Reserve. The Board listened to a presentation by North Cowichan, then spoke freely around the table for North Cowichan's benefit. Board members urged North Cowichan to consider adopting CWB principles of partnership in decision-making, transparency with the public, and whole-of-watershed thinking. Members spoke of working to a 150 year vision, halting clear cutting and restoring old forests. Members spoke of the need for a larger role for Cowichan Tribes in forest management.

The CWB was beginning to make its voice heard on forestry issues, calling for changes in forest governance that would put ecology and CWB governance principles at the center of forestry decision-making. Through these interactions, and the work of its TAC, the Board began to develop and share a vision of the kind of targets needed to manage the forests of the Cowichan Watershed. When the Provincial ministry of FLNRORD set up an independent panel to review old growth logging in the Province, the CWB responded with a written submission in January of 2020. [790] This was the second formal submission by the Board to a provincial forestry policy review in two years. The CWB submission recommended the creation of old growth retention and recruitment targets, and a

[788] The hydrologist's message was that an indicator commonly used to estimate streamflow impacts of logging, the Equivalent Clearcut Area, is not accurate in watersheds like the Cowichan, with its high volumes of snow and rain. Different metrics are needed to be able to predict logging impacts on water, and the Province is working with TimberWest to develop new indicators. Cowichan Watershed Board, *Cowichan Watershed Board meeting minutes June 2017*.

[789] Personal notes of Cowichan Watershed Board meeting 26 September 2022.

[790] Cowichan Watershed Board, 'Cowichan Watershed Board Submission to the BC Old Growth Strategic Review Panel'.

mechanism to apply such targets on Private Managed Forest Land.[791] It was a call for change in forest governance that could institutionalize ecological decision-making about old growth management.

The Province released a final report on its Old Growth Strategic Review in mid-September 2020.[792] The report addresses several of the governance issues raised by the CWB: recommending the creation of old growth retention targets and greater local input in old growth decision-making on Crown land.[793] It does not, however, address old growth recruitment, nor old growth retention on private land. The CWB partnership, (the CWB, Cowichan Tribes and the CVRD) remained the lone voice calling for retention and recruitment targets for old growth on Private Managed Forest Land.

The CWB, initially discouraged from engaging in forestry issues, invested in research that led its TAC to advocate for old growth retention and recruitment. The CWB now champions the idea of old growth targets and a governance mechanism to support old growth decision-making. The co-chairs and staff of the CWB build public awareness of the connections between forest management and watershed health. They work to bring the Province to the table – to engage in sustainable watershed planning that will include forest management issues as well as adhering to Hul'qumi'num governance principles.[794] There is a political and governance trajectory from which an ecological decision-making process may emerge for old growth retention and recruitment, and that trajectory follows the continued application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' by Cowichan Tribes and the CWB.

3.8 Ecological Decision-Making Summary

Weir operational decision-making began to change after the Regional Water Manager's decision to amend the Rule Curve (the prescription for operating the Lake Cowichan Weir) in 2013. Following the decision by the Environmental Appeal Board to give the CWB participant status, the Regional Water Manager invited the CWB to join its

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[791] Page 2 of CWB submission to old growth strategic review: "Protection of and recruitment for old forests [is required] in all watersheds, regardless of ownership" [including] "legislated requirements for old growth retention for private land". Cowichan Watershed Board.

[792] TJ Watt, 'BC government Releases Old Growth Strategic Review Panel's Report - Takes First Small Step Towards Potential Big Changes for Old-Growth', *TJ Watts Conservation Photographer* (2020), September 15, https://www.tjwatt.com/blog/2020/9/15/bc-government-releases-old-growth-strategic-review-panels-report-takes-first-small-step-towards-big-changes-for-old-growth, accessed January 9, 2023.

[793] Old Growth Review Panel, *A New Future For Old Forests: A Strategic Review of How British Columbia Manages for Old Forests Within its Ancient Ecosystems*, (2020) https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stewardship/old-growth-forests/strategic-review-20200430.pdf, accessed January 14, 2023.

[794] When asked at the February 2020 meeting of the CWB how they hoped to get PMFLA companies to engage in water sustainability planning, the Cowichan Tribes co-chair responded that the planning would include a review of the jurisdictional governance structure, and embed Cowichan principles and teachings. Chief Seymour speaking at CWB meeting. Personal notes from CWB meeting 24 February 2020.

advisory Ad Hoc Flow Committee. The CWB brought with it the expertise of its Fish and Flow Working Group and the influence of Hul'qumi'num governance principles.

The CWB influenced operational decisions by applying nutsamatkwsyaay'ustthqa' through shared learning, strategic partnerships, consensus decision-making, conflict resolution, and by holding parties accountable to their respective mandates. The Board used the same tools, along with Water Use Planning and fundraising, to effectively change decision-making for Weir licensing. Both operational and licensing decision-making shifted from isolated exercises by an individual Provincial administrator to consensus-based exercises among responsible parties following whole-of-watershed thinking. Cowichan Tribes and the CWB played important leadership roles in driving these changes through the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. The Province, initially on the sidelines, began to partially support these shifts through financial, administrative, and ministerial assistance toward the end of the study period.

Changes in Weir decision-making over the study period contrast sharply with the continuity of forestry decision-making on PMFL in the Watershed. Neither the Province nor the primary forest management company operating in the Watershed has a decision-making structure for old growth retention and recruitment, cumulative impacts at a watershed scale, nor whole-of-watershed ecological health. There is no opportunity for any other party to engage or to begin applying Hul'qumi'num principles to forestry decision-making.

4. Convening Responsibility

> "[M]any indigenous environmentalists argue that institutions should be structured to function as conveners, or orchestrators, of relationships that connect diverse parties (from humans to forests) as relatives with reciprocal responsibilities to one another [italic emphasis in original]."[795]

In previous sections I explore a turn towards ecological governance, facilitated by Cowichan Tribes and the CVRD through the CWB, by mapping two ecological governance functions – Target Creation and Ecological Decision-Making. In this section, I look at a third governance function, Convening Responsibility. I look at who takes responsibility for salmon and forest well-being, and the relationships that shape such responsibility over the study period. In this way, I map the practice of Convening Responsibility in the Cowichan Watershed.

The concept of Convening Responsibility, as a function of governance, comes from the work of Indigenous environmental scholar Kyle Whyte.[796] Whyte describes Convening

[795] Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions', 1.
[796] Whyte refers to *environmental governance* in a general sense. I use his terminology here, understanding it to include various forms of environmental governance distinguished in the literature such as *ecological governance, collaborative governance, and watershed governance.*

Responsibility as "a kind of facilitation for ensuring that parties recognize in themselves and others that they are relatives with mutual responsibilities."[797] From Whyte's perspective, responsibilities extend to humans and non-humans alike.[798] People have a responsibility to account for the direct and indirect effects of their actions on other organisms and on complex relationships in nature.[799]

In part 4.1 of this section, I provide a rationale for the selection of responsibilities that I choose to map. In part 4.2, I map the ways that various watershed actors take responsibility, and build relationships to convene responsibility, for salmon well-being in a review of salmon enhance projects conducted in the Cowichan Watershed over the study period. In part 4.3, I map the exercise of responsibility, and the convening of responsibility, for forest well-being. I add another layer to the responsibility map in part 4.4, by sketching the use of relationships to address conflicts of responsibility among Watershed actors.

Throughout this section, I highlight the influence of the Hul'qumi'num governance principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. In part 4.5, I summarize how Cowichan Tribes and the Province apply these principles (or not) to convene responsibility. In the case of Cowichan Tribes, I also consider how snuw'uyulh teachings, such as sh'tiiwun (translated as 'responsibility'), affect the application of nutsamatkwsyaay'ustthqa'.

4.1 Orienting the Map of Responsibility

I map the convening of responsibility in the Cowichan Watershed by examining four areas of responsibility. I use a multijurisdictional legal perspective and a standpoint in watershed ecology to identify those areas. In this part, I introduce my four choices in reference to both the Hul'qumi'num legal tradition and Canadian state law.

The idea of responsibility is important in Hul'qumi'num law. The Hul'qumi'num word sh-tiiwun (translated as "responsibility") is one of the fundamental teachings of snuw'uyulh and a legal principle in the Hul'qumi'num legal tradition.[800] People living by snuw'uyulh have an obligation to teach following generations about the duties of sh-tiiwun, including the responsibility to care for all beings with whom one has important relationships and kinship ties.[801] People also have a responsibility to build relationships

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[797] Whyte, 'Indigenous Environmental Movements and the Function of Governance Institutions', 9.
[798] Responsible parties include "relatives as diverse as humans, non-human beings such as plants, entities such as water, and collectives such as forests". *Ibid.*, 8.
[799] *Ibid.,* 8.
[800] Morales, 'Snuw'uyulh', iii. Hul'qumi'num legal scholar Sarah Morales characterizes snuw'uyulh as a state or condition upheld by "all the animating norms, customs and traditions that produce or maintain that state," Morales, 'Snuw'uyulh', 222.
[801] Morales, 'Snuw'uyulh', 154.

and to use relationships to work out mutually satisfactory solutions when faced with conflicting interests.[802] As Morales puts it,

> "Although there is a high respect for individual freedom within Hul'qumi'num communities, it is balanced by fundamental responsibilities and duties. Hul'qumi'num Mustimuhw have a deep respect for kinship or family. As noted, the respect for kinship encompasses extensive responsibilities and respect for others. The others include spouses, children, immediate blood relations, community relations, Coast Salish people in general and non-Coast Salish individuals. Even ancestors and plants and animals are included under this principle of responsibility."[803]

Salmon and cedar are among the non-humans to whom the duties of kinship and responsibility apply.[804] In the Hul'qumi'num legal tradition, people have a responsibility to ensure that activities like river flow management account for the well-being of salmon, and a responsibility to ensure that activities like forestry account for the well-being of the many important plants of the forest, such as cedar.[805]

River flow and forestry responsibilities take a different form in the laws of the Canadian state.[806] Under the federal Fisheries Act, as noted in Chapter 4, people managing river flows and forestry must take responsibility for direct impacts to fish and fish habitat or face punitive consequences. Only the Department of Fisheries and Oceans, however, has a responsibility to protect fish at the population level. As I outline in Chapter 4, there is no over-all responsibility in Provincial law for protecting salmon well-being or forest well-being in the Cowichan Watershed.

I draw on both Indigenous and state law to orient my exploration of Convening Responsibility. I choose responsibilities related to river flow and forestry management and closely aligned with the research standpoint. I look at: 1) taking responsibility for

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[802] Morales writes that in the Hul'qumi'num tradition, "Both parties had a responsibility to try and work together to come up with a mutually satisfactory solution to the problem [and] a responsibility to try to build and foster kinship relations", Morales, 'Snuw'uyulh', 235.
[803] *Ibid*.
[804] *Ibid.*, 130.
[805] The Quw'utsun people have close relationships with many forest plants used for many purposes. Troy Elliot, for example, cites the use of forest plants for food, medicines, and cultural uses. Cowichan Tribes, *Protecting Our Land video by Cowichan Tribes*, (n.d.), https://cowichantribes.com/laws/quwutsun-tumuhw, accessed January 31, 2023.
[806] In Chapter 4, I identify the *Fisheries Act* as the federal legislation most influential in governance of the Cowichan Watershed. Important areas where state legal responsibilities for the impacts of river flow and forestry management become unclear is in treaty and constitutional rights of Indigenous peoples, and the application of the federal United Nations Declaration on the Rights of Indigenous Peoples Act, and the provincial Declaration on the Rights of Indigenous Peoples Act. As noted in Chapter 4, on the unceded lands of the Cowichan Watershed, such responsibilities have yet to be fully defined. Cowichan Tribes is part of the Hul'qumi'num Treaty Group currently in the final stages of treaty negotiations that may affect the Cowichan Watershed.

salmon well-being; 2) taking responsibility for forest well-being; and 3) convening responsibility for salmon and forests by building relationships; and 4) using relationships to address conflicts. With this orientation, I return to a governance perspective to map Convening Responsibility in the Cowichan Watershed.[807]

4.2 Responsibility for Salmon Well-Being

Of the five species of salmon that historically spawn and reproduce in the Cowichan Watershed, Chinook is the most abundant. [808] Chinook salmon are also the most valued as a food source for the resident killer whales of the Salish Sea. Not surprisingly, DFO and the CWB often use Chinook as an indicator species for salmon well-being in the Cowichan Watershed.[809] Chinook salmon return to the Cowichan River in two runs – a spring run that was the most abundant in pre-colonial times, and a late-summer or fall run that now predominates.[810] Chinook runs reached tens of thousands per year throughout most of the historical period, with the exception of the decade preceding the formation of the CWB.[811] In the mid-2000s, people stepped up to try to stem the declining population trend.[812] By 2009, Chinook reached a dangerous nadir with only 500 returning to spawn.[813] Chinook numbers began to increase in 2010, exceeding 23,000 per year by the end of the study period.[814] Between 2010 and 2023, many people and organizations invested in salmon recovery, actively working to fill knowledge gaps and improve habitat conditions in the Watershed.[815] In this part, I look at how key actors took individual responsibility and how they began working together, using relationships to convene responsibility for salmon well-being in the Cowichan Watershed.

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[807] As I note above, with the possible exception of the *Fisheries Act*, Canadian law appears to have little to offer respecting the convening of relationships and responsibilities for fish and forestry well-being in the Cowichan Watershed. The Hul'qumi'num legal tradition, in contrast, appears very much concerned with convening such relationships and responsibilities but is largely inaccessible to researchers like me lacking familiarity with the law. I lack training in the practice of either legal tradition, and prefer to examine convening responsibility from a governance perspective.

[808] The four other salmon species are Coho, Chum, Pink, and Sockeye.

[809] Interview with C01, 16 November 2020.

[810] Interview with C01, 16 November 2020.

[811] DFO South Coast Salmon Bulletin, https://cowichanwatershedboard.ca/wp-content/uploads/2022/09/2022-Cowichan-Bulletin-1_September-17.pdf, viewed 26 February 2023.

[812] A two-year geoengineering project to stop landslides at Stolz Bluff on the Cowichan River is one example. The Pacific Salmon Commission, the Georgia Basin Living Rivers Program, and BC Highways funded the Stoltz Bluff project of 2004-2006 with help from Catalyst Paper and Timber West. 'Cowichan River Stoltz Bluff Stabilization'.

[813] Cowichan Watershed Board, *DFO South Coast Salmon Bulletin*, https://cowichanwatershedboard.ca/wp-content/uploads/2022/09/2022-Cowichan-Bulletin-1_September-17.pdf, accessed February 26, 2023.

[814] *Ibid*. Thanks to the monitoring work of DFO, Cowichan Tribes, and others, we also know that Coho numbers are better in the Cowichan River than in other catchments in the Salish Sea.

[815] DFO (2013) rated habitat conditions in the Cowichan Watershed as High Risk in 2013 in its report *Cowichan Watershed Health and Chinook Initiative*.

4.2.1 Salmon Responsibility and Cowichan Tribes

> "The difficulty is trying to figure out how do we sort out those relationships and those responsibilities, not only now, but for future generations."[816]

It is difficult to describe all of the ways that Cowichan Tribes takes responsibility for salmon well-being. What is evident from the historical record is that Cowichan Tribes continuously acts to care for salmon, working both on their own, and in partnership with others. As noted earlier in this Chapter, in 1905 Cowichan Tribes petitioned the British King to try to stop logging damage affecting salmon. In the 1970s, acting in violation of the federal Fisheries Act, Cowichan Tribes re-established a fishing weir on the River to re-apply traditional salmon management practices and increase fishing access.[817] In the 1980s, Cowichan Tribes lobbied for what we would now recognize as a conservation water license for the Cowichan River.[818] In 2004 Cowichan Tribes commissioned the Cowichan Restoration Plan.[819] Through the study period, Cowichan Tribes hosted the annual Cowichan River Clean-Up.[820] Many times Cowichan Tribes acted on its own initiative to care for salmon and take responsibility for their well-being. As one Cowichan Tribes member of the CWB describes it,

> "Oh, so how do you fill those gaps [of capacity]? Yeah. I guess that's an unfortunate trait in some ways for Cowichan [Tribes], in the sense that we just step up and hope that eventually something will happen to help… If we're not responding, neither is anybody."[821]

Always willing to take the lead, Cowichan Tribes also invested in bringing others along. Examples of Cowichan Tribes working in partnership for salmon are legion. Cowichan Tribes partners directly with federal and provincial government agencies, other Indigenous governments, regional government, and with local stewardship groups.[822] Cowichan Tribes partners with DFO, for example, to operate the Cowichan River Hatchery and a seasonal salmon monitoring fence on the Cowichan River.[823] Cowichan Tribes partners with Halalt First Nation on the Chemainus/Koksilah Twinned Watershed Salmon Sustainability Project.[824] Cowichan Tribes partners with the Provincial Ministries

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[816] Interview with C09, 14 October, 2021.
[817] Interview with C09, 14 October, 2021.
[818] Interview with C09, 14 October, 2021.
[819] See Chapter 4 for a description of this initiative.
[820] Cowichan Watershed Board, *Lower Cowichan River Cleanup*, (2022), https://cowichanwatershedboard.ca/news/lower-cowichan-river-cleanup-2022/, accessed March 12, 2023.
[821] Interview with C09, 14 October, 2021.
[822] Cowichan Tribes participated, as administrator or partner, in 12 of the 18 salmon enhancement projects reviewed for this study. Most of the other initiatives were in-house DFO projects.
[823] Interview with C09, 14 October, 2021.
[824] Compass Resource Management Ltd., *Government of Canada and Province of British Columbia Make a Significant Investment in Salmon Research and Restoration Projects*, (October, 2018).

of FLNRORD and WLRS on water sustainability planning for the Koksilah sub-basin.[825] Cowichan Tribes partners with the Somenos Marsh Wildlife Society on salmon habitat enhancement.[826] Cowichan Tribes partners with the CVRD on flood mitigation planning and sediment removal from the Cowichan River. Cowichan Tribes also partners indirectly with a wider set of actors engaged in salmon enhancement projects through the CWB.[827] The many partnerships of Cowichan Tribes help to build relationships among a range of Watershed actors taking responsibility for salmon well-being. The building of such relationships, from Whyte's perspective, is a form of Convening Responsibility.

Cowichan Tribes brings Hul'qumi'num governance principles to these partnerships and working relationships,[828] as described in previous sections, promoting whole-of watershed-thinking in accordance with mukw'stem'oslhilhukw'tul, and working together to be stronger as a whole for the Watershed in accordance with nutsamatkwsyaay'ustthqa'. Hul'qumi'num principles are central to the way in which Cowichan Tribes works, through partnerships, to convene responsibility.[829]

4.2.2 Salmon Responsibility, Local Stewardship and Non-Governmental Organizations

Local stewardship organizations in the Watershed take responsibility for salmon well-being through initiatives at a local scale. The Friends of the Cowichan,[830] for example, volunteer to help steward the fish from stranding in side channels in low flow conditions.[831] Stewardship organizations also take responsibility for salmon well-being in the Watershed by recruiting and working with partners. Examples of project partnerships initiated by local stewardship organizations include the Cowichan Estuary Nature Center

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[825] Koksilah Water, *Koksilah River watershed Water Sustainability Plan scoping initiative steering committee*, https://www.koksilahwater.ca/wspscoping, accessed March 13, 2023.
[826] Green Streams Program, https://www.somenosmarsh.com/our-work, viewed 13 March 2023.
[827] CWB brought together 12 partner organizations to support the $1.2M *Chemainus/Koksilah Twinned Watershed Salmon Sustainability Project*, and 28 partner organizations to support the $2.7M *Cowichan/Koksilah Watershed-to-Sea Project*. Cowichan Tribes partnered directly in the former project, and indirectly through the CWB in the latter. Compass Resource Management Ltd., *Government of Canada and Province of British Columbia Make a Significant Investment in Salmon Research and Restoration Projects.*
[828] Former Chief Seymour, for example, insisted on embedding Hul'qumi'num principles in the Cowichan Tribes partnership with the Province to conduct water sustainability planning for the Koksilah sub-basin. The CWB incorporated Hul'qumi'num principles in its governance manual under the leadership of former (and current) Chief Hwitsum, and Board staff strive to apply those principles in CWB initiatives, including facilitating salmon enhancement projects. Chief Seymour speaking at CWB meeting. Personal notes from CWB meeting 24 February 2020. Interview with C05, 24 September, 2021; interview with C01, 16 November 2020; interview with C02, 1 December 2020.
[829] The CWB is an example of a partnership between Cowichan Tribes and the CVRD that strives to work in accordance with Hul'qumi'num governance principles.
[830] https://cowichanwatershedboard.ca/wp-content/uploads/2019/04/Friends-of-the-Cowichan-to-Minister-of-FLNRO-13Jun2018.pdf, viewed 10 March 2023.
[831] Interview with C07, 30 September, 2021.

(CENC) partnership with Environment and Climate Change Canada,[832] CENC partnership with the Pacific Salmon Foundation,[833] Cowichan Lake and River Stewardship Society partnership with Cowichan Tribes and the British Columbia Conservation Foundation (BCCF),[834] and a Somenos Marsh Wildlife Society partnership with Cowichan Tribes.[835] The Cowichan Stewardship Roundtable facilitates networking and information sharing among local stewardship organizations and other Watershed actors.[836]

In the Cowichan Watershed, stewardship organizations initiate projects that take responsibility for salmon well-being at the local scale. They develop networking opportunities and draw support from federal, Indigenous and Provincial government agencies as well as from non-governmental organizations.[837] They build relationships and convene responsibility for salmon well-being on a project-by-project basis.

4.2.3 Salmon Responsibility and the Department of Fisheries and Oceans

The federal government exercises responsibility for salmon well-being in the Cowichan Watershed mainly through DFO.[838] The Department conducts research on salmon well-being through partnerships both at the regional scale of the Salish Sea and at the Cowichan Watershed scale.[839] Through such research partnerships, DFO exercises

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[832] Cowichan Estuary Restoration Centre. 'Watershed Restoration & Conservation Eco-Action Project Engaging Youth', (2019), https://www.cowichanestuary.ca/restoration-with-the-nature-centre/, accessed February 27, 2023.

[833] Kwan, 'Salmon Conservation Projects across B.C. Granted $227,000 « Pacific Salmon Foundation'.

[834] BC Conservation Foundation, *Current Projects*, https://bccf.com/fisheries/current-and-past-projects, accessed February 27, 2023.

[835] *Ibid*. Other stewardship organizations active in the Watershed include the Lake Cowichan Salmonid Enhancement Society, Cowichan Estuary Restoration and Conservation Association, the Cowichan Land Trust, Cowichan Valley Naturalist's Society, Freshwater Fisheries Society of BC, One Cowichan, Quamichan Stewards, Sidney Anglers, and the BC Wildlife Federation and the Cowichan Stewardship Roundtable. Cowichan Stewardship Roundtable, *Partners*, (n.d.), http://www.cowichanstewardship.com/partners.html, accessed March 13, 2023.

[836] *Ibid*.

[837] Non-government, non-profit organizations actively funding salmon enhancement projects in the Watershed include the British Columbia Conservation Fund, the Real Estate Foundation of BC, and the Habitat Conservation Trust Fund.

[838] One exception is funding the *Cowichan Watershed Resiliency Program,* aimed at supporting replacement of the Lake Cowichan Weir, by the federal Ministry of Infrastructure and Communities, and by Cowichan Tribes.

[839] Examples of DFO research in the Cowichan Watershed include the 2013 and 2016 Expert Reviews of Critical Limiting Factors (for salmon enhancement). At a higher organizational level, DFO also runs the Canadian Science Advisory Secretariat to provide departmental peer review guidance on critical limiting factor reports. Enders et al., 'Proceedings of the National Peer-Review for Guidance on the Identification of Critical Habitat in the Riparian Zone for Freshwater Species at Risk'. The DFO also conducts ongoing monitoring of salmon returns on the Koksilah and Cowichan Rivers in partnership with Cowichan Tribes and the Pacific Salmon Foundation; and life cycle and predation studies of Chinook and Coho salmon in partnership with Cowichan Tribes and the BCCF, again supported by the Pacific Salmon Commission's report *Salmon Sustainability Target*.

responsibility, and shares responsibility, for learning how to enhance salmon well-being in the Watershed.

Another way the DFO exercises responsibility for salmon well-being is by participating in the CWB, not only in the TAC and FFWG, but at the Board level as well. One initiative championed by the FFWG, spearheaded by the Board, and partially funded by DFO, is the Chemainus/Koksilah Twinned Watershed Salmon Sustainability Project. [840]

The Department of Fisheries and Oceans also provides funding for salmon enhancement projects through the Coastal Restoration Fund.[841] In 2019 it awarded $2.7M to the five-year Cowichan/Koksilah Watershed-to-Sea Project to improve habitat for Chinook salmon through sediment reduction, riparian habitat enhancement, and estuary restoration. The CWB facilitated the project application in accordance with nutsamatkwsyaay'ustthqa', working with 27 other partner organizations, including local stewardship groups and two Provincial Ministries.[842] Also in accordance with nutsamatkwsyaay'ustthqa', the most suitable party, Cowichan Tribes, holds the funds and administers the program.

The DFO exercises responsibility for salmon well-being in the Cowichan Watershed by conducting research; by funding habitat enhancement projects; by working in partnership with other organizations, and by actively participating at a technical level in the FFWG and TAC of the CWB. The Department helps to convene responsibility by working directly with Cowichan Tribes; and by occupying a Board position at the CWB.[843] Through working relationships with Cowichan Tribes and the CWB, the Department, to a limited extent, accommodates the Hul'qumi'num principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. When working in partnership, those principles affect the Department's exercise of responsibility, and its convening of responsibility, on a project-by-project basis. The Department also made an attempt to incorporate Hul'qumi'num governance principles when convening responsibility through regional policy implementation, described in the next part.

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[840] This project emerged as a partnership among the CWB, the DFO, and the Provincial Ministry of LWRS, with funding from the federal/provincial Salmon Restoration and Innovation Fund (BCSRIF). It is a three-year project, launched in 2021, to create a baseline of salmon and salmon habitat conditions in the Chemainus and Koksilah Rivers, and to monitor the impacts of restoration projects. The BCSRIF is supported 70% by the federal government and 30% by the Province of British Columbia, *Fish Fund*, https://www.dfo-mpo.gc.ca/fisheries-peches/initiatives/fish-fund-bc-fonds-peche-cb/index-eng.html, accessed March 2, 2023. By providing a baseline and monitoring, this project supports the science needed for improving salmon well-being. It also helps ensure that water sustainability planning for the Koksilah sub-basin has the tools needed to plan responsibly with respect to salmon well-being. Compass Resource Management Ltd., *Government of Canada and Province of British Columbia Make a Significant Investment in Salmon Research and Restoration Projects.*

[841] Government of Canada, 'Coastal Restoration Fund'.

[842] The Provincial Ministries of FLNRORD and Environment both endorsed the federally-funded *Cowichan/Koksilah Watershed to Sea* project, but neither provided funding.

[843] I examine the role of the CWB in convening responsibility in following paragraphs.

4.2.4 Fisheries and Oceans Wild Salmon Policy

In addition to research and funding, DFO also exercises and convenes responsibility for salmon well-being through the federal Wild Salmon Policy. Under the Policy, DFO develops tools for salmon conservation assessment, makes day-to-day decisions on fishery and ecosystem management, and conducts integrated planning for place-specific policy implementation.[844] In 2010, DFO began work with Cowichan Tribes on a Chinook salmon recovery planning process for the Cowichan and Koksilah Rivers.[845] The planning process engaged local watershed and stewardship organizations in planning exercises, proceeding in fits and starts over more than a decade. In 2017, DFO launched an integrated planning exercise to update the policy for the Cowichan Watershed.[846] The Department partnered with Cowichan Tribes, while also working closely with the CWB and the Cowichan Stewardship Roundtable. The resulting draft plan presents a vision of Watershed health and a set of implementation strategies for various Watershed actors.[847] The strategies require Watershed actors to take individual responsibility, in coordination with others. In this way, the planning exercise helps to structure responsibility for salmon well-being in accordance with the Hul'qumi'num principle of nutsamatkwsyaay'ustthqa'. Notably, the draft plan assigns overall implementation responsibility to the CWB, even though its integrated management and risk assessment structure is at odds with the representative partnership approach used by the CWB. A final version of the plan has not been published, and the CWB has not endorsed the draft plan, as it largely overlooks governance and implementation issues.[848] This is a mark of the plan's shortcomings. The planning exercise, nonetheless, illustrates Cowichan Tribes influence, through relationship building, in promoting nutsamatkwsyaay'ustthqa'. It also illustrates an

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[844] Government of Canada, *Wild Salmon Policy Implementation Plan Highlights, 2005 to 2017, Pacific Region, Fisheries and Oceans Canada*, (Department of Fisheries and Oceans, 2018), https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/wspi-ppsi-eng.html, accessed March 1, 2023.

[845] Ayers, *Piloting Integrated Watershed Management Using Chinook as a Key Indicator Species on the South Coast of BC*.

[846] Page 45 of Canada, *Canada's Policy for Conservation of Wild Pacific Salmon*. At a national level, DFO conducted a formal assessment of the Wild Salmon Policy (first introduced in 2005) in 2017, and introduced a new implementation plan in 2018. The Wild Salmon Policy includes a framework for place-based, integrated planning. The DFO worked with the Cowichan Stewardship Roundtable, the CWB, the CVRD, and Cowichan Tribes to develop an implementation plan for the Cowichan Watershed, released in draft form in 2017 in the form of the *Cowichan Watershed Health and Chinook Initiative*. Government of Canada, *Wild Salmon Policy Implementation Plan Highlights, 2005 to 201, Pacific Region, Fisheries and Oceans Canada*.

[847] The plan included strategies for Indigenous and state governments (including for regulatory staff from the Provincial Ministry of Environment), the CWB, industry, the Ad Hoc Flow Committee, environmental non-governmental organizations, and the Cowichan Stewardship Roundtable. Department of Fisheries and Oceans, *Cowichan Watershed Health and Chinook Initiative.*

[848] The process produced a draft management plan by 2021, but at the time of writing in 2022, implementation details remain unresolved. Department of Fisheries and Oceans, *Cowichan Watershed Health and Chinook Initiative;* Department of Fisheries and Oceans, *Wild Salmon Policy 2018 to 2022 Implementation Plan: Annual Report 2020 to 2021,* (n.d.), https://www.pac.dfo-mpo.gc.ca/fm-gp/salmon-saumon/wsp-pss/annual-annuel/2020-2021-eng.html, accessed November 5, 2022.

unsuccessful attempt by DFO to convene responsibility in accordance with Hul'qumi'num governance principles.

4.2.5 Salmon Responsibility and the Province of British Columbia

British Columbia regulates a range of activities that affect salmon.[849] It regulates sport fishing, for example, that directly affects salmon in the Cowichan River. It manages water use and river flow through water licensing. It regulates forestry on Private Managed Forest Land (at arms-length) through the PMFL Council. It empowers regional and municipal governments, that in turn manage land use activities indirectly affecting salmon. It has jurisdiction over land, water and forests, all of which affect the well-being of salmon. Residents of the Cowichan Watershed, however, lament the inadequacy of the Province's use of such authority for the benefit of salmon habitat and salmon populations. Local residents decry a failure of the Province to take a precautionary approach to sport fishing on the Cowichan River.[850] A Cowichan Tribes biologist worries about the inadequacy of municipal stormwater management respecting salmon.[851] A chorus of critics highlight the shortcomings of PMFL legislation.[852] Despite these missed opportunities, the Province is not entirely missing in action. In the remainder of this part, I outline three areas where it does take responsibility: 1) funding habitat enhancement programs; 2) working with the Ad Hoc Flow Committee and FFWG; and 3) supporting water sustainability planning under the *Water Sustainability Act*.

British Columbia finances the BC Salmon Restoration and Innovation Fund (BCSRIF) in partnership with DFO, providing 30% of the fund.[853] The Province also finances its own programs to improve watershed conditions and salmon habitat across the Province. The British Columbia Healthy Watershed Initiative (HWI), the Watersheds BC fund, and the Indigenous Watershed Initiative, [854] for example, provided partial funding to the Cowichan River Sediment Removal Project of 2018 – 2021.[855] These three funding

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[849] See Chapter 4 for an overview of Provincial legislation relevant to the Cowichan Watershed.
[850] Cowichan Watershed Board, *Friends of Cowichan to Minister of FLNRO.*
[851] Interview with C09, 14 October, 2021.
[852] See Chapter 4.
[853] The BCSRIF, along with the BCCF and the Pacific Salmon Foundation, contributed to the *Bottlenecks to Marine Survival* initiative,Bottlenecks to Marine Survival of Chinook, Coho & Steelhead in the Salish Sea & East Coast Vancouver Island Rivers. BC Conservation Foundation, *Current Projects*.
[854] Watersheds BC funds the Indigenous Watersheds Initiative to advance reconciliation through watershed projects led by Indigenous communities. Watersheds BC, *Indigenous Watersheds Initiative*, (n.d.), https://watershedsbc.ca/indigenous-watersheds-initiative/, accessed March 7, 2023.
[855] This is a project to remove 90,000 m^3 of sediment from the lower Cowichan River, repair a fish hatchery and dike, reopen side channels, and monitor water levels. The other partners included the BC Real Estate Foundation, the POLIS project on Ecological Governance, the First Nations Fisheries Council, and the BC Freshwater Legacy Initiative (an organization supported by the Real Estate Foundation of British Columbia, the Gordon and Betty Moore Foundation, and the Sitka Foundation). Healthy Watersheds, *Cowichan River and Koksilah River Sediment Removal*, https://healthywatersheds.ca/project/cowichan-river-and-koksilah-river-sediment-removal/, accessed February 27, 2023.

initiatives rely on third parties to select which projects receive financial aid.[856] With this approach, the Province effectively offloads relationship-building associated with funding partnerships. The Province is willing, nonetheless, to endorse federal funding applications by other Watershed actors. Without offering additional Provincial funding, the Ministries of FLNRORD and Environment, for example, both endorsed a CWB/Cowichan Tribes application for the Cowichan/Koksilah Watershed to Sea project that successfully tapped the federal Coastal Restoration Fund.[857]

The Province's hands-off approach to relationship-building through funding is consistent with its refusal to participate at the Board level of the CWB,[858] where it cites a perceived conflict of interest with its regulatory functions for water licensing.[859] Through absence, the Province misses the relationship-building and partnership connections central to Board activities, and misses the opportunity to help shape major Board initiatives, many of which help to convene responsibility.

The Province also struggles to build relationships within and among its own Ministries. A former Regional Water Manager highlighted her legal obligation to account for the health of aquatic ecosystems in the Cowichan Watershed under the WSA. Working within the FLNRORD ministerial structure, however, she noted her administrative disconnect from other branches of government dealing with land use impacts.[860] The re-structuring of FLNRORD into the ministry of WLRS in February 2022 sets new priorities and opens a path to more relationship-building by the Province, not least through its commitment to advancing reconciliation by working with Indigenous peoples on integrated land and water resource management.[861] Over the study period, however, the Province's weakness in relationship-building within and across Ministries hampered its ability to address land and water interconnections. The way in which the Province convenes responsibility for land use impacts affecting salmon well-being do not adhere to the Hul'qumi'num

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[856] The Real Estate Foundation of British Columbia administered the HWI fund, and a partnership among the POLIS Water Sustainability Project, First Nations Fisheries Council, and the BC Freshwater Legacy Initiative (an environmental non-profit organization) administers the Watersheds BC and Indigenous Watershed Initiative funds.

[857] Government of Canada, *Coastal Restoration Fund*.

[858] Interview with C01, 16 November 2020.

[859] The Water Stewardship Division of the Provincial Ministry of LWRS (and previously the Ministry of FLNRORD) participates in the FFWG regarding river flow management, but no Provincial representative actively participates as a Board member. Interview with C02, 1 December 2020.

[860] "Under current laws, the province is responsible for considering environmental flow needs and the health of aquatic ecosystems in every decision that we make, under the *Water Sustainability Act*. And we would be accountable". "Under the *Water Sustainability Act* there's a big disconnect between who's making water decisions and who's making land use decisions and the impacts that the two have on each other. So I think it's very well recognized, but I don't think that we're anywhere near reaching a point where we can effectively make decisions on either kind of resource and consider the other". Interview with C12, 17 January 2022.

[861] Ministry of Water, Land and Resource Stewardship, https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/water-land-and-resource-stewardship, viewed 14 March 2023.

principle of mukw'stem'oslhilhukw'tul. Neither do they adhere to the principle of nutsamatkwsyaay'ustthqa'.[862]

Where the Province may contribute to relationship-building and convening responsibility for salmon well-being is in the realm of planning. As noted above, the Province launched water sustainability planning for the Koksilah Sub-Basin in 2020.[863] The Province partnered with Cowichan Tribes for the scoping phase, making space for Hul'qumi'num governance principles.[864] Unfortunately, the process is not sufficiently advanced at the time of writing to understand how it will ultimately affect who exercises responsibility for salmon well-being, and through what relationships.

The Province governs activities affecting salmon well-being in the Cowichan Watershed through a siloed legislative and ministerial structure. It relies on DFO to take responsibility for salmon at the population level. It struggles to apply responsibilities for aquatic ecosystem health, recognized in the WSA, to parallel legislative and ministerial structures governing land use. It struggles to build relationships supportive of salmon well-being internally among Ministries. It doesn't try to build relationships with other organizations by participating in the CWB, or by working directly with partners receiving watershed funding. The Province does provide funding to salmon enhancement initiatives, focused mainly on salmon habitat; has taken steps to re-organize its ministerial structure; and it is beginning to work directly with Indigenous governments on water sustainability planning in a way that may change its approach to convening responsibility. Through the study period, however, the Province has not applied Hul'qumi'num principles and has left the convening of responsibility for salmon well-being to others.

4.2.6 Salmon Responsibility and the Cowichan Watershed Board

The CWB is ambitious, and it signals its ambitions with a set of aspirational Targets and a clear vision of a healthier Watershed.[865] It drives that ambition with a governance approach built on Hul'qumi'num governance principles. A former Executive Director of the Water Protection and Sustainability division in the Ministry of Environment, who followed the work of the CWB over her career, recognizes the transformative role of CWB with respect to responsibility:

> "Just watch and observe how those Cowichan Watershed Board meetings are being conducted. What's the learning that's being done, the goals that are being

[862] One critique of FLNRORD was that "land use policies are managed by both HQ policy units and Regional Offices, leading to confusion [and] poor communication". FLNRO, *POLIS BRIEFING NOTE: Organizing Government for Success*, https://poliswaterproject.org/files/2021/04/FLNRO-ReORG-POLIS-Brief-March-FINAL.pdf, accessed March 14, 2023, 5.
[863] Koksilah Water, *Planning Process*, (n.d.), https://www.koksilahwater.ca/wspscoping, accessed October 28, 2022.
[864] Chief Seymour speaking at CWB meeting. Personal notes from CWB meeting 24 February 2020. Interview with C12, 17 January 2022.
[865] See section 5.1 for a full illustration of the workings of the CWB.

> done, the dreams that have been set. That's how [responsibilities are] being shaped. Meeting by meeting, story by story, walk through the watershed by walk through the watershed."[866]

What the former Executive Director doesn't point out is the role of partnership relationships in how the CWB convenes responsibility. I describe a range of CWB partnerships and working relationships in parts 3.3 and 3.4 above. That work directly affects who takes responsibility for flow management impacts to salmon well-being, and through what relationships. The CWB also convenes responsibility for salmon by building partnership relations to advance its Fish, Flow, Riparian Habitat, and Water Quality Targets. The strength of CWB relationships is evident in its ability to sign up many partners in support of habitat and watershed resiliency projects.[867]

In addition to building and facilitating partner relationships, the CWB provides leadership, identifies and fills knowledge gaps, develops consensus, initiates projects, and holds organizations accountable to their mandates, as highlighted in previous parts. All of this work is about taking responsibility, and convening responsibility, not just for salmon well-being, but for overall Watershed health and for future generations. It's also work that reflects the CWB commitment to the Hul'qumi'num governance principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

4.2.7 Summary of Convening Responsibility for Salmon

Cowichan Tribes stands out among those who take responsibility for salmon well-being, participating in virtually every initiative to enhance salmon well-being over the study period, stepping in when no other organization or government agency would, leading habitat restoration work in the Watershed. Cowichan Tribes also works to convene responsibility by building relationships and using the relationships to resolve conflicts of responsibility (as described in part 4.4 below). Cowichan Tribes invests in the CWB governance partnership with the CVRD, and the CWB plays a key role in coordinating and expanding partnerships, filling knowledge gaps and educating others. The CWB further convenes responsibility by resolving conflicts through its partner relationships. Local stewardship organizations take responsibility and convene responsibility at a local scale on a project-by-project basis.

The federal government, through DFO, takes responsibility for salmon protection and for salmon population management through its own administrative system, and helps

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[866] Interview with C10, 22 October 2021.

[867] As noted in a previous part, CWB brought together 12 partner organizations to support the $1.2M *Chemainus/Koksilah Twinned Watershed Salmon Sustainability Project*, and 28 partner organizations to support the $2.7M *Cowichan/Koksilah Watershed-to-Sea Project*. Cowichan Tribes also partnered in the former project. Region, 'Government of Canada and Province of British Columbia Make a Significant Investment in Salmon Research and Restoration Projects'. *Government of Canada, BC Salmon Restoration Fund Project Overviews.*

convene responsibility in a limited way through funding partnerships and participation in the CWB. The Department of Fisheries and Oceans attempted, for example, to work with Cowichan Tribes and the CWB on a made-in-Cowichan framework for their Wild Salmon Policy, but the attempt did not fully align with Hul'qumi'num principles and failed to garner sufficient support.

The Province contributes limited financial support to salmon habitat enhancement and watershed health initiatives, but doesn't take responsibility for salmon well-being at a population level. The Province doesn't invest in relationship building respecting salmon well-being and doesn't help to convene responsibility for salmon.

Of all of these Watershed actors, only Cowichan Tribes and the CWB work effectively to convene responsibility for salmon well-being. They accomplish amazing things with limited resources by working with partners and applying mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

4.3 Responsibility for Forest Well-Being

There are fewer landmarks on the map of forest responsibility than on the map of salmon responsibility. There is no trail of partnership-driven forest enhancement projects, no federal agency tasked with forest sustainability, and no publicly accessible data about forest conditions on PMFL. Cowichan Tribes has no access to the lands and forests that dominate the Watershed.[868] The CWB has no Target for forest health. In previous sections, I establish that no one takes responsibility for forest well-being by retaining or recruiting old growth in the Cowichan Watershed. The map of actors taking responsibility for forest well-being is largely blank, but that doesn't mean no one is working to convene such responsibility.

The Koksilah Watershed Working Group (the Group), formed in 2015 to build community knowledge and capacity and to bring a community perspective to land use decisions affecting the Koksilah/Xwulqw'selu sub-basin, is one example. [869] Through its work, it effectively convenes responsibility for watershed health at a community scale. In a submission to the Provincial review of the PMFLA, the Group addressed obstacles to fulfilling community responsibilities to future generations with respect to river flow and forestry management:

> "As residents of a salmon-producing watershed, we have a responsibility to manage freshwater quality, quantity, and timing of flow to the best of our abilities for the benefit of current and future generations. The lack of accountability of

[868] Access to PMFL is restricted. Interview with C06, 29 September 2021, interview with C09, 14 October, 2021.
[869] Koksilah Watershed Working Group, *Home,* (n.d.) https://sites.google.com/a/cowichanstation.org/koksilah-watershed-working-group/home, accessed March 16, 2023.

> private forest landowners to their surrounding communities, as noted above, compromises our ability to fulfill this important responsibility."[870]

To address these obstacles, the Group helps build relationships as well as knowledge, working with many other Watershed organizations and funders to conduct an ecosystem-based assessment of the Koksilah sub-basin.[871] Through this work, the Group is helping to convene responsibility in a way that accounts for a watershed health perspective.

The efforts of the Koksilah Working Group resonate with the CWB push for the Province to create old growth targets, noted in the previous section. Organizations at the local and watershed scales are beginning to reshape responsibility for forest well-being in the Watershed by increasing their knowledge and their capacity to work together. They are building relationships with Watershed forests and with each other. They are also raising public awareness about forest responsibility. Through water sustainability planning for the Koksilah sub-basin, they may have an opportunity to build, and leverage, relationships with state government agencies and industry who currently take little responsibility for forest ecological well-being.

4.4 Using Relationships to Address Conflict

In previous parts of this section, I map three areas of responsibility drawn from state and Indigenous law: 1) taking responsibility for salmon well-being; 2) taking responsibility for forest well-being; and 3) convening responsibility for salmon and forests by building relationships. In this part, I map a fourth area of responsibility – using relationships to address conflict. I look at conflicts between Cowichan Tribes and the CVRD, and at conflicts between CWB and both federal and provincial state governments.

4.4.1 Cowichan Tribes Conflict with CVRD

One example of using relationships to address conflict is the Cowichan Tribes partnership with CVRD for flood mitigation planning on the Cowichan River. Historical diking in the upper flood plain of the Cowichan River, built to reduce flood impacts to the City of Duncan, compounds flood impacts on downstream Cowichan Tribes reserve land.[872] Less flooding for the City in the upper flood plain results in heavier flooding for reserve land in the lower flood plain. The dikes are a source of conflict between the CVRD and Cowichan Tribes. When the CVRD approached Cowichan Tribes about undertaking flood planning and potentially raising the dikes, Cowichan Tribes agreed to work with them despite an antipathy to further diking.[873] Cowichan Tribes did not want more diking

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[870] Koksilah Watershed Working Group, https://sites.google.com/a/cowichanstation.org/koksilah-watershed-working-group/home, accessed March 16, 2023.
[871] The report, released in three phases in 2019 and 2020, is available at: https://sites.google.com/a/cowichanstation.org/koksilah-watershed-working-group/kwg-reports/watershed-report-1
[872] Interview with C09, 14 October, 2021.
[873] Interview with C09, 14 October 2021.

but wanted to use the opportunity to engage the CVRD, to build a relationship, and to use the relationship to share nutsamatkwsyaay'ustthqa'. As a Cowichan Tribes member of the CWB put it,

> "There were many of us who are like, oh, God, we don't need any more dikes, but this is what we have to do to move this whole issue forward. This is what we have to do [to]… further relationships. The necessary conversation, the idea that we should be all thinking and working as one, could only happen around diking."[874]

From a Cowichan Tribes perspective, the partnership relationship helped to shift the CVRD view of responsibility from protecting municipalities to managing flooding for the benefit of the Watershed as a whole.[875] This was a step toward resolving the conflict over diking. It was also a step toward addressing a related conflict over financial responsibility.

Cowichan Tribes was frustrated that the CVRD Board often interpreted financial responsibility as strictly adhering to the line items in the regional government budget.[876] After working together on flood planning, CVRD Board members started to support Cowichan Tribes financing initiatives geared to the health of the watershed as a whole:

> "We jointly made the 2009 Flood Management Plan, and then we had that flood, end of the year in 2009. Since that period, we had a couple of events where … the CVRD … helped to come up with funds. Because of the memorandums and the decisions that were made then, the … fiscally oriented presence on the CVRD Board now is very split."[877]

As a former member of the Cowichan Lake and River Stewardship Society put it: "When I go back and look at some of the historic things, some of the initial politics of the CVRD directors were very self-centered. It seems to be evolving into an [increasingly sophisticated] institution, based on my limited time frame in it."[878]

By working with the CVRD, Cowichan Tribes built relationships and leveraged the relationships to address conflicts. They addressed conflicts over diking, by educating the CVRD about flood mitigation connections and the benefits of thinking about the Watershed as a whole. They addressed conflicts over finances, again by highlighting

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[874] Interview with C09, 14 October, 2021.
[875] Interview with C09, 14 October, 2021.
[876] Interview with C09, 14 October, 2021. Page 10 of the Provincial publication *Primer on Regional Districts in British Columbia*, draws attention to the BC *Local Government Act* requirement that "that each service be separately accounted for in the budget and accounts of the Regional District". Province of British Columbia, *Local Government Act*, (2015), https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/r15001_00, accessed March 15, 2023.
[877] Interview with C09, 14 October, 2021.
[878] Interview with C08, 5 October, 2021.

watershed inter-connections and the benefits of thinking about the Watershed as a whole. Cowichan Tribes also used the relationship to educate themselves – about how to support the CVRD in taking greater responsibility:

> "So that's where the relationship component kind of becomes fundamental, because once you develop a relationship and an understanding, then you kind of realize how people aren't necessarily completely out to lunch. Or these are the limitations of CVRD and their capability, so what do we do about that? Help them."[879]

4.4.2 CWB Conflict with DFO

> "Responsibility, in many ways, kind of only comes about when you still have the Stewardship Round Table, you still have Cowichan Tribes and … you still have the Watershed Board … because someone … has to hold the Agency's [DFO's] feet to the fire, to actually do something." [880]

The CWB strives to find and use the best information available, drawing from science and from local and Indigenous knowledge.[881] This approach at times conflicts with state government approaches. One example is the reluctance of the federal fisheries regulator, DFO, to value local and Indigenous knowledge in fishery decisions.

This reluctance manifests as a resistance to taking a precautionary approach to Chinook fishing quotas affecting spawning returns to the Salish Sea and Cowichan River; a failure to reduce the administrative burden for annual sediment removal operations in the Cowichan River despite local knowledge of its efficacy; and difficulty acknowledging the previous existence and devastation of an early-run Chinook population in the Cowichan River.[882] There had been no observations or measurements of the early-run Chinook in the historical period. They were already depleted by logging impacts before DFO started monitoring salmon returns on the Cowichan River.[883] Without data showing their existence, DFO would not account for their needs in flow management of the Cowichan River, despite knowledge held by Cowichan Tribes elders that the early-run Chinook had once been the dominant run in the River. In each of these cases, DFO dismissed Indigenous knowledge that conflicts with its administrative inertia, characterized by insufficient data to provide scientific certainty, insufficient administrative capacity to incorporate the knowledge in decision-making, or insufficient impetus to adapt its administrative procedure. A Cowichan Tribes member of the CWB expressed frustration over the conflicts in this way:

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[879] Interview with C09, 14 October, 2021.
[880] Interview with C09, 14 October 2021.
[881] Interview with C01, 16 November 2020.
[882] Interview with C09, 14 October, 2021.
[883] Interview with C01, 16 November 2020.

> "Yes, it's important to have studies, and it's important to do research, but, you know, like when it comes to Chinook, if there are five bullets in a Chinook, why do you have to determine which was the first bullet or which bullet actually caused imminent death? Why can't you just keep the Chinook from getting shot in the first place?"[884]

Discussions made possible through the Cowichan Tribes and CWB relationship with DFO on the TAC and FFWG began to address these issues. Again, in the words of the Cowichan Tribes biologist:

> "Fisheries just had to figure out exactly what the problem was with Chinook… I said, okay, how about the fact that we're fishing 70% of these fish before they come back? Exploitation rates shouldn't exceed, say, 30, and we're at 70. You don't think that's part of the problem? And everybody would just go quiet."[885]

Over the study period, Cowichan Tribes and the CWB began to see incremental movement on the part of DFO. The Chinook fishing quotas were significantly reduced, and DFO began monitoring early-run Chinook. The Cowichan Tribes biologist attributed these shifts to shared learning and the gradual acceptance of responsibility on the part of DFO:

> "Well, now [the DFO perspective] has kind of shifted. And I'm not quite way out in left field anymore… I would say… the knowledge has been building for years, particularly… engineering staff, but also Area Directors. There's… responsibility… with a really small 'r', until we can migrate people to be understanding."[886]

Through the working relationships of the FFWG, DFO began to respond to local and Indigenous knowledge in fisheries management affecting the Cowichan River. It is a step towards resolving the conflict between the science-based but bureaucratic and risk-averse (from an administrative perspective) approach of DFO, and the more responsive combination of science and local and Indigenous knowledge used by the Cowichan Tribes and the CWB – a conflict about the responsibility to act on the best information available.

4.4.3 CWB Conflict with the Province

The CWB vision, Targets, and Governance Manual effectively hold the Board accountable to the ecological well-being of the Watershed. The Province, on the other hand, lacks such clear accountability tools. The Province has no vision of Watershed health, promotes forest exploitation through the PMFLA, and exercises conflicting policy

[884] Interview with C09, 14 October, 2021.
[885] Interview with C09, 14 October 2021.
[886] Interview with C09, 14 October 2021.

approaches through siloed Ministries and administrative structures.[887] The CWB and the Province have a conflict of accountability over their respective commitments to whole-of-watershed health and well-being. Unfortunately, as noted above, the Province has not invested in a strong relationship with the CWB that would provide a venue for addressing this conflict.

I describe in previous parts the Province's unwillingness to accept responsibility for a conservation water license, or to convene responsibility by sitting on the CWB, or by developing relationships through salmon enhancement funding. One member of the CWB describes their frustration with the Province's reluctance to engage: "And they've certainly been quite a help, but it's been very, very difficult to… hold the Province's… feet to the fire on how to deal with some of these issues."[888]

Frustrated with the Provincial level of accountability, the CWB tried to engage the Province in other ways. Following enactment of the *Water Sustainability Act* in 2014, the Board lobbied the Province to launch water sustainability planning in the Cowichan Watershed, but without success. As the former ED of the CWB explained,

> "When I started this work … we had a proposal to the province, quite well thought out, it costs us thousands of bucks to put it together, and I delivered it to the Ministers and to senior bureaucrats on … implementing the new tools under the *Water Sustainability Act*… The co-chairs and I hammered away at that for two years and got nowhere, like absolutely nowhere."[889]

In frustration, the CWB made a tactical decision to leverage its relationship with Cowichan Tribes to try win the Province's engagement. As the former ED said,

> "It became obvious to me, that in order to get traction, our role would be to support Cowichan Tribes. And the Watershed Board would go and say, you need to work with Cowichan Tribes to get this done in their territory. We support that and we'll help in any way we can, but you have an obligation to do that." [890]

Cowichan Tribes negotiated a partnership agreement to co-lead a water sustainability planning process with the Province for the Koksilah sub-basin in 2020, four years after the CWB began lobbying for such a project.[891] The Province was under pressure by then, from a severe water shortage in the Koksilah that led to application of section 88 of the WSA for the first time,[892] and perhaps more significantly, by the passage of the

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[887] I describe the disconnect among Provincial Ministries respecting river flow management and land use impacts in part3.0.
[888] Interview with C09, 14 October 2021.
[889] Interview with C01, 16 November 2020.
[890] Interview with C01, 16 November 2020.
[891] I describe the launch of the planning exercise in part 4.2 above.
[892] Section 88 allows the Minister to order cessation of water withdrawals and water use in extreme circumstances. See Chapter 4.

Declaration on the Rights of Indigenous Peoples Act (DRIPA).[893] The former ED of the CWB captures the political moment as follows: "The timing was right with UNDRIP and DRIPA and reconciliation and all that good stuff, which is great stuff, but it's all about how to get things done"[894]

Cowichan Tribes succeeded not only in launching the planning process, but in doing it in a way that embeds the Hul'qumi'num governance approach in a government-to-government arrangement with the Province. As the current Chief of Cowichan Tribes put it: "We wanted … to approach the Provincial government with respect to implementation of the *Water Sustainability Act*… We're saying, okay, we're willing to use your tools, but we're wanting to bring our authorities to play."

In this case, Cowichan Tribes succeeded where the CWB did not. Despite considerable effort, the CWB was not able to leverage its relatively weak relationship with the Province to begin to address the long-standing conflict of accountability for Watershed health.

Towards the end of the study period, there was, nonetheless, a sense among CWB members that relations with the Province were beginning to improve. One member of the Board attributes the change to an increasing number of CWB projects engaging Provincial agencies:

> "It's been really good lately, in the sense that … there's been … a greater focus on establishing relationships and presence on the Provincial level, like with more phone calls, more projects, more things to work through. I find it's great because they're young people and they're smart... We even have more positive response."[895]

The CWB attempts to build and use relationships with the Province to address a conflict of accountability for Watershed health were consistently thwarted by the Province. Only at the end of the study period, as the Province begins a direct partnership with Cowichan Tribes, is there evidence that the Province may be warming to CWB overtures.

4.5 Hul'qumi'num Governance Principles and Convening Responsibility

The mapping of Convening Responsibility reveals differences in how Watershed actors apply the Hul'qumi'num governance principles. In this part, I highlight some of those differences beginning with observations about how Cowichan Tribes applies

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[893] Government of Canada, *Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c 44*, (2019), https://www.canlii.org/en/bc/laws/stat/sbc-2019-c-44/latest/sbc-2019-c-44.html, accessed June 2, 2023.
[894] Interview with C01, 16 November 2020.
[895] Interview with C09, 14 October 2021.

nutsamatkwsyaay'ustthqa'. A former (and current) Chief of Cowichan Tribes explains one way that she applies the principle when working with the CWB:

> "A couple of years ago, we started this clarification with respect to authorities around the table and went through the rigour of talking to each party and saying, when you come to the Cowichan Watershed Board… where are your allegiances? How do we make sure we're tracking the authorities to the table so that we can hold each other accountable based on those authorities?"[896]

A key tenet of nutsamatkwsyaay'ustthqa' as practiced by Cowichan Tribes is to hold actors accountable based on their respective authorities. By presenting nutsamatkwsyaay'ustthqa' in this way, Cowichan Tribes is placing it in the context of accountability and responsibility, key aspects of the snuw'uyulh teaching of sh'tiiwun.[897] The Cowichan Tribes Chief structures her use of nutsamatkwsyaay'ustthqa' in accordance with sh'tiiwun.

Hul'qumi'num legal scholar Sarah Morales points out that the seven teachings of snuw'uyulh don't stand alone. Each is tempered by the other teachings of snuw'uyulh, prescribing acceptable conduct depending on the context and situation.[898] Another snuw'uyulh teaching used to qualify nutsamatkwsyaay'ustthqa' by a different member of Cowichan Tribes, in a different setting, is hw'uywulh (sharing/helping). I note above how Cowichan Tribes used a partnership relationship with the CVRD to address a conflict over finances. Through the relationship, Cowichan Tribes learned about CVRD limitations and chose to deal with the conflict by helping the CVRD.[899] This strengthened their relationship and improved their ability to work together for the Watershed. In this case, the principle of hw'uywulh influenced the way in which nutsamatkwsyaay'ustthqa' was used in practice.

The final example of other snuw'uyulh principles tempering the application of nutsamatkwsyaay'ustthqa' reflects the principle of si'emstuhw (respect). I note two examples of Cowichan Tribes agreeing to participate as partners in projects they did not whole-heartedly support in order to strengthen relationships. The first example is the decision to partner with the CVRD on flood mitigation planning, as discussed in a previous part. The other example is the decision to participate in implementation planning for the DFO Wild Salmon Policy. Cowichan Tribes agreed to both despite reservations about underlying assumptions. In each case, Cowichan Tribes upheld their commitment to nutsamatkwsyaay'ustthqa', trusting that by demonstrating respect for the partners' initiatives, they would garner greater respect in return.

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[896] Interview with C05, 24 September 2021.
[897] Morales, 'Snuw'uyulh', 17.
[898] *Ibid.*, 233-234.
[899] Interview with C09, 14 October, 2021.

The lines I sketch between nutsamatkwsyaay'ustthqa' and various principles of snuw'uyulh must be faint of necessity, as I am an outside observer with a limited ability to see or understand the Hul'qumi'num legal and governance tradition. The overall pattern on the map, nonetheless, seems clear – when Cowichan Tribes uses the principle of nutsamatkwsyaay'ustthqa' to convene responsibility, it does so with finesse and purpose using the teachings of snuw'uyulh.

There is virtually no trace of state government use of nutsamatkwsyaay'ustthqa' on the map of convening responsibility. The federal government, through DFO, tried to develop a Cowichan-specific implementation plan for its Wild Salmon Policy by bringing parties together and acknowledging the leadership roles of Cowichan Tribes and the CWB. The attempt did not succeed, however, in winning a commitment to a common goal – a key element of nutsamatkwsyaay'ustthqa'. By adhering to an integrated management framework, the attempt also failed to fully embrace mukw'stem'oslhilhukw'tul. DFO demonstrates an awareness of Hul'qumi'num governance principles, but does not successfully apply the principles in practice. The Province does even less, making no attempt to build or use relationships or to apply nutsamatkwsyaay'ustthqa' to convene responsibility.

4.6 Convening Responsibility Summary

Four Watershed actors work actively to convene responsibility for salmon well-being or forest well-being over the study period, with significant differences in their relative effectiveness. Local stewardship groups successfully build relationships and leverage those relationships to shape who takes responsibility for salmon habitat at a local scale. They also build relationships and local knowledge drawing attention to the need to re-convene responsibility for forest well-being.

The federal DFO exercises a great deal of responsibility but does little to convene responsibility for salmon well-being. It accepts responsibility through research and stock management activities. It convenes responsibility, to a degree, through funding partnerships and through active participation in the CWB at the Board level. The Department nonetheless struggles to effectively leverage its relationships and struggles to apply nutsamatkwsyaay'ustthqa' and mukw'stem'oslhilhukw'tul.

The CWB does much more, taking and convening responsibility by building and using partnerships to fill knowledge gaps and resolve conflicts. It provides leadership, coordinates, facilitates, educates, and holds organizations to account – convening responsibility for salmon well-being in accordance with nutsamatkwsyaay'ustthqa' and mukw'stem'oslhilhukw'tul. It has established a trajectory for re-shaping responsibility for forest well-being, but struggles to establish the necessary relationships.

Cowichan Tribes stands out as the most influential convenor of responsibility for salmon well-being, leading by example and engagement, creating partnerships, championing recovery initiatives, building and using relationships to resolve conflicts. Cowichan

Tribes thus convenes responsibility using nutsamatkwsyaay'ustthqa'. It applies the principle in accordance with the Hul'qumi'num governance and legal tradition, reflecting snuw'uyulh teachings (also referred to as legal principles) including sh'tiiwun (responsibility), hw'uywulh (sharing/helping), and si'emstuhw (respect).

The Province takes limited responsibility for salmon well-being through habitat restoration and watershed health funding initiatives but does not build or use relationships to convene responsibility for salmon or forests. The Province neither takes nor convenes responsibility for forest well-being from an ecological, whole-of-watershed perspective. The Province inhibits conflict resolution and does not apply mukw'stem'oslhilhukw'tul or nutsamatkwsyaay'ustthqa'.

5. Findings Summary

In this Chapter, I describe how the Hul'qumi'num governance principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' affect governance of the Cowichan Watershed between 2010 and 2023. Using a framework of three watershed governance functions, I trace who uses the principles, in what way, and to what effect. I also highlight the influence of the Provincial Government of British Columbia in both the exercise of the governance functions and the application of the Hul'qumi'num principles. I provide a high-level summary of my findings in this part.

The mapping of Target Creation identifies a clear intention by Cowichan Tribes to extend its use of Hul'qumi'num principles to the newly formed CWB. It also identifies a very receptive CVRD Coordinator who found that the principles resonated with his own training as an ecologist and environmental planner. The principles were embedded in CWB initiatives from its inception, and Target Creation, with its whole-of-Watershed vision and collaborative process, is evidence of their successful application.

The map of Ecological Decision-Making reveals not only an alignment of intention and outcome with Hul'qumi'num governance principles, but also some of the methods used by Cowichan Tribes and by the CWB to apply nutsamatkwsyaay'ustthqa'. The CWB built working partnerships to address various needs for better decision-making. It created the TAC and the FFWG, tasked with determining environmental flow needs for salmon in the Cowichan River. It helped establish and lead the Weir Partners and worked with many other partners and partnerships to organize, learn, educate, fundraise, lobby and resolve conflict. Through these methods, the CWB effectively restructured decision-making practice for Weir operations and licensing in accordance with mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. Decision-making became more inclusive, better informed, and strategically oriented to watershed aspirations. Some organizations partnering with CWB also tried on nutsamatkwsyaay'ustthqa' in a limited way. The Weir Partners used the accountability method demonstrated by Cowichan Tribes to address who will take responsibility for holding a conservation water license. The DFO tried to bring Watershed actors together to design a made-in-Cowichan implementation plan for the Wild Salmon Policy. The Province, in contrast, observed and

at times leant support to CWB initiatives, without working in partnership, and without adopting or employing Hul'qumi'num governance principles.

The map of Convening Responsibility shows which governments take responsibility for salmon and forest well-being, which Watershed actors work to build relationships that convene responsibility, and who uses such relationships to resolve conflicts of responsibility. Cowichan Tribes and DFO take responsibility for salmon well-being, and, along with the CWB and local stewardship organizations, they also build relationships to convene salmon responsibility. The number of salmon enhancement projects conducted over the study period is impressive and reflects the successful application of nutsamatkwsyaay'ustthqa' through an ever-growing network of collaborative partnerships, each of which nearly always includes Cowichan Tribes. In contrast, though some projects receive Provincial funding, the Province doesn't engage in any such projects at the level of partner. No government (state or Indigenous) exercises responsibility for the overall ecological well-being of forests in the Watershed, or successfully builds relationships to convene forest responsibility.

Cowichan Tribes and the CWB use nutsamatkwsyaay'ustthqa' to bring parties together to commit to a common cause. They do this in part by building working partnerships and developing relationships, in part by continual investment in community and decision-maker education, in part by holding parties to account, and by using conflict resolution to find common ground. In this way, building relationships and resolving conflicts are part of nutsamatkwsyaay'ustthqa' as applied by Cowichan Tribes and the CWB. They are also part of the snuw'uyulh teaching of sh'tiiwun. The mapping of Watershed actors using relationships to resolve conflicts of responsibility reveals the way that sh'tiiwun and other snuw'uyulh teachings influence the application of nutsamatkwsyaay'ustthqa'. By mapping Convening Responsibility, we find that despite the efforts of the CWB, only Cowichan Tribes fully understands how the principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' work within the framework of snuw'uyulh law.

In Chapter 6, I build on these findings to analyze the ways in which the province supports and inhibits the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' and what that means for ecological watershed governance theory, for the future governance of the Cowichan Watershed, and for the Province's responsibilities in enabling the full expression of Indigenous governance principles in watershed-scale governance.

Chapter 6: Analysis

1. Introduction

In the colonial context of British Columbia, the Province asserts jurisdiction over the "resources" of surface water and forests.[900] Having sidelined the Hul'qumi'num legal and governance tradition in the Cowichan Watershed, the Province exercises its authority over river flow and forestry management through the *Water Sustainability Act* and the *Private Managed Forest Land Act* respectively. But the Provincial government is not a unified whole. Siloed administrative agencies answer to similarly siloed Ministerial structures in a hierarchical structure. Different Ministries implement competing policies, and answer to different legislation, all wrought at the political level by the elected government of the day. The challenge of working with such a Government, at a watershed scale, using Indigenous governance principles, is significant if not monumental. In this Chapter, I describe what I have learned about that challenge, what it means for my theoretical framework and for watershed-scale governance, and what it means for the Government of British Columbia.

Cowichan Tribes and the CWB changed governance at the watershed scale using the Hul'qumi'num governance principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. In part 1 of this chapter, I summarize what the case study shows about how that works in practice: how Cowichan Tribes and the CWB bring people together through partnerships to address strategic objectives, working independently of, but coordinating with state regulatory and administrative systems where possible, to advance Watershed Targets and the health of the Watershed as a whole.

In part 2, I consider the ways that the Province impedes the application of Hul'qumi'num principles: adhering to a legislative and regulatory system that doesn't account for Watershed health or multi-jurisdictional governance; blocking initiatives and innovation through institutional inertia; avoiding responsibility and opportunities to engage, learn, and build relationships.

In part 3, I outline how the Province enables the application of Hul'qumi'num governance principles: making space for others by its own failure to engage; providing a foothold for deliberative decision-making in Weir operations; making legislative changes that create opportunities for different governance approaches; providing timely, if limited, funding; and initiating a cultural shift in provincial administration to align with DRIPA.

In part 4, I use the analysis presented in parts 1 through 3 to re-visit the theoretical underpinnings of the research. I highlight the value of Hul'qumi'num governance

[900] See section 2 of Chapter 4.

principles in addressing gaps in ecological governance literature, and the benefits of adopting Convening Responsibility as a function of ecological governance.

In part 5, I address the research question of how can the Province support the functioning of ecological watershed governance in a way that fully expresses Indigenous governance principles? I recommend legislative changes to remove obstacles to the application of Indigenous governance principles in watershed-scale governance. The WSA needs to support the creation of long-term deliberative forums with delegated authority that embrace Indigenous leadership and Indigenous governance principles. The Act needs to let go of the effective Ministerial veto over the scope and recommendations of water sustainability planning exercises. The Province needs to introduce legislation that will assert authority over large Private Managed Forest Land holdings for the public benefit. I summarize my analysis in part 6.

Throughout this Chapter, I continue to work from a standpoint in watershed ecology, building on a research framework of ecological and environmental governance functions, and my findings from the machinations of governance in the Cowichan watershed. Thanks to the dedicated efforts of Cowichan Tribes and the CWB over the past 12 years, there is much to learn.

2. How Hul'qumi'num Principles Affect Governance at the Watershed Scale

> "Those [Hul'qumi'num] principles in my mind, as a non-indigenous person that's involved in kind of playing around fish and water for a long time, for me now, are touchstones. Whenever we're engaged in an issue, or thinking about taking a position on something, or trying to facilitate an outcome, I think about them. I think about them. And they help me."[901]

Governance of the Cowichan Watershed shifted dramatically in the period from 2010 to 2023. It began to function in accordance with the precepts of ecological governance and the Hul'qumi'num principles championed, and applied, by Cowichan Tribes and the CWB. Watershed actors rallied around a Watershed vision expressed as CWB Targets. The practice of decision-making for Cowichan River flows broadened in process and scope from an isolated exercise conducted between industry and the Regional Water Manager, to the deliberations of an activist advisory committee working in collaboration with the CWB Fish and Flow Working Group. The process of license decision-making became more flexible by accepting a "place-holder" application for a conservation license. Licensing, in practice, also benefitted from the "winning conditions" of a community consensus about flow needs; detailed feasibility, engineering, design, and funding arrangements for a new Weir; and the resolution of troublesome conflicts about potential human impacts. Decision-making practices for forestry did not change

[901] Comments of a former ED of the CWB, interview with C01, 16 November 2020.

significantly, but the Province and Cowichan Tribes launched a water sustainability planning partnership with sufficient scope to include forests and forestry in upcoming planning. The CWB developed an expanding network of partnerships, changing who, in practice, takes responsibility for Watershed health. These changes represent a shift towards ecological governance and a healthier Watershed – a change that owes much to the Hul'qumi'num principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

The principle of mukw'stem'oslhilhukw'tul is about recognizing inter-connections among all things. Cowichan Tribes uses it in a watershed governance context to embrace not only connections to water, but connections to watershed ecology (including people); connections to past, current, and future generations; and connections to multiple levels of government. The principle, in application, delivers whole-of-watershed thinking, a concept that resonates with the discipline of ecology and with ecological resilience theory.[902]

The principle of nuts'umat is about making a commitment to work respectfully together for common purpose. In the case of nutsamatkwsyaay'ustthqa' the common purpose is "to advance whole-of-watershed health and reconciliation".[903] Cowichan Tribes uses the principle of nutsamatkwsyaay'ustthqa' to hold authorities accountable to their mandates and to resolve conflicts. A former (and current) Chief of Cowichan Tribes explains why the principles are important for governance partnerships:

> "The Province, municipalities, [and] federal… find their alliances more quickly than they do with Indigenous people, so there's always a concern that … our authorities would be … overridden or usurped. Nuts'umat was a strong piece to say to my Peoples in Cowichan, 'We're going to come forward with our authorities. We're not going to have it overridden. And we're going to have a solid place in terms of decision making, as it affects our Watershed.'"[904]

Cowichan Tribes brought these two Hul'qumi'num principles to the CWB, applying them with finesse in accordance with snuw'uyulh, working independently as well as within the CWB. Cowichan Tribes shared the principles at first through example, later agreeing to include them formally in the CWB Governance Manual, though not without reservations.[905] The CWB struggles to find its own way to apply the principles. As a former ED of CWB put it:

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[902] Cosens and Stow, 'Resilience and Water Governance: Addressing Fragmentation and Uncertainty in Water Allocation and Water Quality Law'.
[903] This translation differs slightly from the version included in the CWB Governance Manual. It is taken from a more recent governance workshop, specifically *Setting the Course* workshop 2023. Cowichan Watershed Board, *Meeting Minutes*, (February, 2023), https://cowichanwatershedboard.ca/wp-content/uploads/2023/03/CWB-DRAFT-MEETING-MINUTES-Feb-2023-v3.pdf, accessed March 29, 2023.
[904] Interview with C05, 21 September 2021.
[905] Interview with C05, 21 September 2021.

> "[Applying mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'] is a different perspective. And … I'm not doing a good enough job as Executive Director. Even on the Cowichan Tribes side, I think, the people that were in the room during these [governance] workshops realize what a stretch it is for people like me to try to get their heads around this. And I think there is some acknowledgement of our willingness to try and to stumble around and make mistakes and not get it."[906]

Despite this difficulty, CWB uses the principles to review Targets, strengthen Ecological Decision-Making and Convene Responsibility. The CWB applies nutsamatkwsyaay'ustthqa' primarily by developing working partnerships and using the partnerships to advance the Board's aspirational Targets. The CWB partnerships fill knowledge gaps, raise funds, educate others, and launch strategic initiatives. An example of filling knowledge gaps is the FFWG study of flow requirements for all life stages of salmon in the Cowichan River. One strategic use of partner relations is to allow the agency most suited to a challenge to take responsibility for it. An example is relying on the administrative capacity of the CVRD and Cowichan Tribes to manage provincial and federal grants related to Weir replacement and salmon enhancement. Using relationships strategically, the CWB acts as facilitator, not always as leader. Another strategic example is leveraging and coordinating partnership relations for timely interventions, such as gathering supporters for major grant applications on short notice. A former ED of CWB describes this ability as:

> "The Board can be nimble, can realize opportunities really quickly, and it can bring the best of our partners, whether it's our foundational partners, Cowichan Tribes and CVRD, or our operational partners that support our working groups. We can bring the best of what they have to offer to bear on an issue or an opportunity. And we can usually do that pretty quickly."[907]

The CWB strives to apply Hul'qumi'num principles even though lacking a full understanding the Hul'qumi'num legal and governance tradition. In the process, it inspires others. The Weir Partners, for example, made up of Cowichan Tribes, CWB, CVRD, and industry, successfully brought people together using a whole-of-watershed approach to advance the project of raising the Lake Cowichan Weir. Though with questionable success, DFO also tried to bring people together for common purpose using a whole-of-watershed vision to develop a bespoke Cowichan Watershed strategy for the federal Wild Salmon Policy.

The principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' guide the engagement of Cowichan Tribes and the CWB in their work to advance Targets and improve socio-ecological conditions in the Cowichan Watershed. By applying these

[906] Interview with C01, 16 November 2020.
[907] Interview with C01, 16 November, 2020.

principles in the context of a government-to-government partnership with the CVRD, Cowichan Tribes and the CWB change governance at the watershed scale. They do this by working within federal and Provincial legal and regulatory regimes while building a network of partnership relations. They influence federal and Provincial governments in the process. They shift governance practice to better account for a whole-of-watershed outlook, to recognize the authority of Cowichan Tribes, to strengthen ecological governance functions, to change who takes responsibility, and to better utilize the abilities and authorities of many actors working collaboratively. They accomplish remarkable things.

3. How the Province Impedes Hul'qumi'num Governance Principles

I describe, in Chapter 5, a few instances where Provincial intransigence blocks initiatives to improve whole-of-Watershed health. The Province refused to consider the concept of a conservation water license in the 1990s; refused to consider the alteration of existing licenses to accommodate an increase in Weir height in 2011; refused to sit on the Cowichan Watershed Board over the full study period. Such intransigence not only blocks initiative, but also blocks the application of Hul'qumi'num governance principles. In this part, I explore what the research findings reveal about the roots of this intransigence and other ways that the Province impedes the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. I draw lessons from the Province's contrasting approaches to river flow and forestry management. I consider the constraints of existing policy and administrative structures. I highlight the Province's unfamiliarity with, and reluctance to invest in, alternative Hul'qumi'num governance approaches.

The Province offers lax oversight of forestry in the Cowichan Watershed through the *Private Managed Forest Land Act*.[908] The company managing forestry on much of the Watershed lands, Mosaic Forest Management, maintains third-party forestry certification and answers to the Private Managed Forest Council, but does not account for old growth retention and recruitment, cumulative impacts, or the health of the Watershed as a whole. Critics, including Provincial government auditors, complain that land managed under the PMFLA fails to serve the greater public good.[909] In practice, there is no regulatory mechanism available to the Province to hold PMFL accountable to whole-of-watershed health. This stands in contrast to the Province's administrative mechanism for managing river flow through water licensing, where the Comptroller of Water Rights and Regional Water Managers have the authority to unilaterally amend water licenses for public benefit. This contrast in administrative structure between two constitutional areas of Provincial jurisdiction, water and forests, sets up a conflict between branches of the

[908] See Chapter 4 for a description of the PMFLA.

[909] John Doyle, *Removing Private Land from Tree Farm Licences 6, 19 & 25: Protecting the Public Interest?*, (Office of the Auditor General of British Columbia, 2008); Inc and Gordon, *Review of the Port Alberni Forest Industry*; Parfitt, *Restoring the Public Good on Private Forestlands*.

Provincial government managing forestry and water licensing. The conflicting approaches hamper the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' not only to forestry issues but to river flow management as well.

The discipline of ecology tells us that what happens on the land affects what happens in the water. Land and water must be addressed together to sustain Watershed ecology and align Watershed governance with the principle that everything is interconnected (mukw'stem'oslhilhukw'tul). This is not something the Province has (yet) accomplished on its own. Nutsamatkwsyaay'ustthqa' could help, but only if there is a way to bring authorities for both flow and forestry to the same discussion table. The promise of water sustainability planning under the WSA, where a water sustainability plan endorsed by Provincial Cabinet may take precedent over other legislation, may provide such a forum in the future. Over the study period, however, the Provincial regulatory and administrative structure that prioritizes private gain over public good for Cowichan forests has not created a Watershed forestry advisory forum or a shared forestry and river forum.

The absence of a representative advisory forum for Watershed forestry management contrasts with the effective forum that the FFWG and Ad Hoc Advisory Committee create for River flow management. Similarly, the absence of a Provincial accountability mechanism for forest well-being on PMFL contrasts with the role of water licensing in River flow management. The lack of a deliberative forum, and lack of an accountability mechanism, both impede the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' respecting forestry.

The contrast between river flow and forestry management highlights a serious discrepancy in the Provincial regulatory regime with respect to forestry on private land. This is not the only regulatory flaw in Provincial law, when looking from the perspective of watershed ecology, and it is far from surprising in a colonial state built on resource exploitation. It may be a manageable problem when there is a willingness to work toward resolving such discrepancies. Any remedy, however, has to first overcome the Province's tendency, when challenged, to avoid risk and fall back on existing policy and administrative paths. Such administrative inertia is an obstacle to applying Hul'qumi'num governance principles.

An example of administrative inertia is the Province's decision in 2004 to limit the scope of water management planning for the Cowichan Basin by excluding forestry and water quality. It was easier for the Province to default to existing forestry and water quality policies than to face additional challenges in the course of water management planning. This choice was an obstacle to mukw'stem'oslhilhukw'tul at the time and remains an obstacle in 2023. By defaulting to established policy and administrative processes, the Province effectively locks in intractable conflicts and thwarts the application of both

mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. As a former Cowichan Tribes member of the CWB said:

> "Policy in many ways is almost just a simple kind of default, that basically means you're not going to do anything other than the status quo. And the big reasons why we have so many issues is that status quo has been the problem. And it's been the problem for a century or more."[910]

One of the ways that Cowichan Tribes and the CWB apply nutsamatkwsyaay'ustthqa' is by bringing the best knowledge available to decision-making. The process of accessing and producing the knowledge is an exercise in shared learning that builds trust in relationships.[911] As a former CVRD Co-Chair of the CWB put it: "When people sit month after month... listening to the same information [they] will often come to the same conclusion… And learning together is a powerful tool to bring people together for a common goal."[912]

The decision of the Province to not participate as a member of the CWB is a missed opportunity for shared learning and relationship-building, an important element of nutsamatkwsyaay'ustthqa'. One of the lessons it misses is how Cowichan Tribes and the CWB apply Hul'qumi'num governance principles in practice. As the former Coordinator of the CWB noted, neither the Province nor CVRD would have adopted a consensus approach to Weir operational decision-making if not for Cowichan Tribes and the CWB applying nutsamatkwsyaay'ustthqa'. Consensus decision-making changed the trajectory of Weir operations, making them more accountable to the Watershed-as-a-whole. The Province and CVRD, however, were simply not aware of the potential benefits of taking a governance approach guided by nutsamatkwsyaay'ustthqa'.

A former Cowichan Tribes Chief, recounting the CVRD response to a pitch for adopting nuts'umat, illuminates how ignorance blocks the acceptance and application of Hul'qumi'num governance principles:

> "There wasn't great big open arms [for] this Hul'qumi'num woman… standing in front of them, saying, 'we can operate in a different way' and 'we have a principle that you don't know about'. Because they like to think they know everything, or their systems are the best."[913]

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[910] Interview with C05, 24 September 2021.

[911] This is a lesson that senior Ministerial representatives learned through observation of the CWB and applied elsewhere. A former Executive Director in the Ministry of Environment described applying this lesson in the Nicola Watershed: "We agreed that this is a learning process, and we embedded that learning and growing and making-mistake process right into … our Terms of Reference… It's about how decisions are made, skill sets, mindsets, relationships, trust." Interview with C10, 22 October 2021.

[912] Interview with C03, 17 February 2021.

[913] Interview with C05, 21 September 2021.

While this example refers more to the CVRD than to the Province, it reveals the reality that ignorance of Hul'qumi'num governance practices is an obstacle to applying mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. By failing to participate in the CWB, the Province misses the opportunity to learn about the potential of Hul'qumi'num principles to address governance challenges in the Watershed. It misses the opportunity to see the principles at work – aligning Watershed actors with a common vision, resolving conflicts, and holding authorities to account. It limits the Province's ability to understand how the principles may be useful, and the likelihood of supporting their application.

A second lesson the Province misses by not participating in the CWB is the importance of Cowichan Tribes leadership in the successful application of Hul'qumi'num governance principles. Cowichan Tribes leadership may be easily overlooked. A Cowichan Tribes member cites the importance of not occupying all the leadership space in a partnership arrangement: "Sometimes, … in some places, it's … smarter to be … subdued about the leadership role that Cowichan [Tribes] plays, in part because other people like to think they are leading the way."[914]

Cowichan Tribes takes care to lead in a way that is supportive of its working partners. A former ED of the CWB captures this care in this way:

> "We're lucky as hell… to have a First Nation that is willing to… demonstrate the leadership that we can acknowledge and accept. [They] are incredibly patient and willing to work with the rest of us. I think that's the winning combination and that's why I'm very excited about the work we do."[915]

By managing their partnership relationship carefully, Cowichan Tribes has won respect for its leadership role. The CWB supports the application of Hul'qumi'num governance principles by demonstrating respect for Cowichan Tribes leadership. In the words of a Board member: "[A big part of] what the Watershed Board is doing, is acknowledging Cowichan [Tribes] as kind of a distinct player and driver of this process."[916]

Cowichan Tribes leadership brought the successful application of Hul'qumi'num governance principles, through the CWB, to the ecological governance functions reviewed in this study. The principles shaped Target Creation, Ecological Decision-Making and Convening Responsibility. Cowichan Tribes invested in the CWB, teaching the Board about using mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' through example and engagement. Cowichan Tribes led initiatives to change water licensing, to enhance salmon well-being, and to introduce a discussion about connections to forest well-being. These initiatives were picked up and advanced by the CWB, again using Hul'qumi'num principles. In these ways, Cowichan Tribes leadership drove, and continues to drive, the successful application of Hul'qumi'num governance principles in

[914] Interview with C09, 14 October 2021.
[915] Interview with C01, 16 November 2020.
[916] Interview with C09, 14 October 2021.

the Cowichan Watershed. The Province's limited appreciation of, and support for that leadership, like its lack of awareness and support for the principles themselves, is an impediment to their application. By not accepting a seat at the CWB, the Province fails to learn about, and fully appreciate, Hul'qumi'num governance principles and the value of Cowichan Tribes leadership.

The Province's lack of appreciation for Hul'qumi'num governance principles, and for the corresponding value of Cowichan Tribes leadership in watershed-scale governance, can manifest as a failure to build leadership capacity. In the words of a former ED of CWB: "In BC, the leadership has to come from First Nations. And so it's not enough for First Nations to have the resources to engage, they have to have the resources to lead."[917]

Cowichan Tribes needs resources to lead watershed-scale governance, on its own and in partnership through the CWB. Leadership capacity is an issue for both Cowichan Tribes and the CWB. The total staffing budget for the CWB in 2021, for example, was under $65,000.[918] With its tendency to rely on existing regulatory and administrative structures, the Province has been reluctant to invest in new watershed-scale governance initiatives. The former ED explains the resourcing challenge:

> "The work the watershed Board does, its really no one's job… and there's no money to do it. This whole-of-watershed perspective is so important… It's great that the community … [is] going to do it using a partnership model, using principles provided to us by the indigenous people... But there's no money to do that."[919]

As noted in Chapter 5, the Province of British Columbia financed the Healthy Watershed Initiative in 2020 and 2021 to the tune of $27M and $30M, respectively, but doled out funds on a project-by-project basis.[920] The Province committed $100M to similar initiatives through the Water Security Fund in its 2023 budget, but not for the kind of core funding needed by the CWB. The Province's refusal to provide core funding to the CWB[921] is a missed opportunity to enhance Cowichan Tribes leadership and thereby support the application of Hul'qumi'num governance principles. In the bigger picture, it is a missed opportunity to begin finding a path to watershed-scale governance that will accommodate both Canadian state and Indigenous Hul'qumi'num legal traditions.

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[917] Interview with C01, 16 November 2020.
[918] CWB Annual Report 2021, https://cowichanwatershedboard.ca/wp-content/uploads/2022/10/CWB_2021_AnnualReport_Final.pdf, viewed 19 April 2023.
[919] Interview with C01, 16 November 2020.
[920] Watershed strategy co-developed with First Nations, https://news.gov.bc.ca/releases/2023WLRS0008-000267, viewed 19 April 2023.
[921] The Province refused to fund the CWB at its formation and in 2010, as highlighted in Chapter 5. A Cowichan Tribes member of the CWB expressed her frustration over funding in this way: "We've done the meetings, we've done the collaboration … and … one of our stumbling blocks or barriers … is Provincial and Federal governments. You know – funding." Interview with C06, 29 September 2021.

The Province has difficulty making space for the application of Hul'qumi'num governance principles in the Cowichan Watershed. The structure of the Provincial regulatory and administrative regime doesn't match the kinds of challenges facing watershed-scale governance in British Columbia. Neither does it match the governance approach of Cowichan Tribes and the Hul'qumi'num legal and governance tradition. The Province has no advisory forum or accountability mechanism for forest well-being, salmon well-being or for whole-of-watershed health. The Province has no internal means for bridging its siloed policy and regulatory structures. Different Ministries, with different policy priorities, and answering to different legislation, manage water licensing, municipal and regional government, and forestry on private land. No single part of the administration, below the elected Cabinet level, can respond, on its own, to the challenge of mukw'stem'oslhilhukw'tul – to take responsibility for the health of a watershed-as-a-whole. The inertia of existing policies and administrative regimes stands in the way of innovation and adaptation. By failing to engage as a Board member, to participate in shared learning, or to build partner relationships, the Province fails to develop a full understanding of Hul'qumi'num governance, or of the value of Indigenous leadership. The Province fails to understand the value of investing in leadership capacity at the watershed scale. All of these missed opportunities impede efforts (by others) to apply mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' in the Cowichan Watershed.

4. How the Province Enables Hul'qumi'num Governance Principles

In this part, I analyze what my map of governance functions reveals about the ways that the Province actually contributes to the application of Hul'qumi'num governance principles in the Cowichan Watershed. There is no evidence of the Province applying Hul'qumi'num governance principles directly, but there are signs, over the study period, of the Province creating opportunities for others to apply the principles. Perhaps its most significant contribution has been to get out of the way:

> "One of the interesting things about British Columbia, unlike other provinces, is there's no model for local watershed governance. In Ontario you have Conservation Authorities and in Alberta you have the WPACs. Here it's organic. It comes from the community upwards. And I think there are some real advantages to that."[922]

By refusing a seat on the Cowichan Watershed Board, and refusing to fund the CWB, the Province, perhaps inadvertently, extended a degree of independence to the CWB that is rare for watershed governance in Canada.[923] The Province's recalcitrance provided the opportunity for Cowichan Tribes and the CVRD to create the CWB. By forming a partnership co-chaired by the Chief of Cowichan Tribes and the Chair of the CVRD, the new organization bridges the two governments at the highest organizational level. The

[922] Interview with C01, 16 November 2020.
[923] Interview with C01, 16 November 2020.

partnership provides an opportunity for direct engagement between representatives who can speak for all branches of their respective governments, something not feasible for a Provincial representative. The CVRD partnership with Cowichan Tribes was thus more conducive to the introduction and application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' than an arrangement involving the Province may have been. As it turned out, the need to educate the CVRD, to win its confidence and its acceptance of Cowichan Tribes leadership, was a significant challenge on its own. By getting out of the way, the Province gave Cowichan Tribes an opening to win that support, develop a partnership relationship, and bring Hul'qumi'num principles to state-sanctioned governance at the watershed scale. Having established the CWB relationship, Cowichan Tribes and the CVRD were well positioned to then influence, and to take advantage of, changes in Provincial laws, policies, Ministerial structures, and funding opportunities affecting the Watershed.

Though the Province declined a partnership relationship, it participated in the CWB at a technical level within the FFWG, and the Regional Water Manager accepted CWB membership in the Ad Hoc Flow Committee. These engagements established working relationships related strictly to flow management but, nonetheless, provided an avenue for Hul'qumi'num governance principles to find expression in Weir operational decision-making. This was an important foothold leading to the formation of the Weir Partners and subsequent changes in Weir license decision-making practice. Over the study period, Cowichan Tribes, the CWB, and the Weir Partners began to engage the Province at multiple administrative and political levels. This increasing range and frequency of engagement facilitated connections with the Province outside of the Board table. It indirectly increased the Province's exposure to, and experience with CWB leadership and the principle of nutsamatkwsyaay'ustthqa'. The Province noted the relative successes of Weir operational and licensing decision-making,[924] taking steps to "resource, enable and empower" the Weir Partners in 2022.[925] By providing such support, the Province helped to enable the application of Hul'qumi'num governance principles, though the Province's increasing engagement was more a response to the activism of Cowichan Tribes, the CWB, and the Weir Partners than a recognition of Cowichan Tribes and CWB governance approach. It was also a response to changes in Provincial legislation and a new Provincial commitment to reconciliation.

With the introduction of the *Water Sustainability Act*, the Province moved from an instrumental approach in water licensing to an approach codifying environmental flows and supporting water sustainability planning.[926] This shift created two opportunities pursued by Cowichan Tribes and the CWB. The first was to push for a conservation

[924] Interview with C10, 22 October, 2021.
[925] See Chapter 5, part 3.4.
[926] Province of British Columbia, *Water Sustainability Act*, (2014), https://www.canlii.org/en/bc/laws/stat/sbc-2014-c-15/latest/sbc-2014-c-15.html, accessed April 20, 2023.

water license for environmental flows for the Lake Cowichan Weir. The second was to push for water sustainability planning to address whole-of-watershed health in the Koksilah Sub-Basin. The WSA provided an opening for watershed-scale leadership, using Hul'qumi'num governance principles, that eventually drew the Province in, despite its reluctance to engage.

Another significant legislative change was the enactment, toward the end of the study period, of the *Declaration on the Rights of Indigenous Peoples Act*.[927] The DRIPA Action Plan that followed, in March 2022, promises to open more doors for the potential application of Indigenous governance principles.[928] Action 2.6, for example, calls for co-development of "strategic-level policies, programs and initiatives to advance collaborative stewardship of the environment, land and resources, that address cumulative effects and respects Indigenous Knowledge".[929] It's an Action that would benefit in scope and process from the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

Action 2.7 tasks the Province with "[collaborating] with First Nations to develop and implement strategies, plans and initiatives for sustainable water management, and to identify policy or legislative reforms supporting Indigenous water stewardship, including shared decision-making".[930] This Action clearly dovetails with the intent of water sustainability planning under the WSA, though the focus on water, rather than watersheds, raises the same issue of planning scope that limited the Cowichan Basin Water Management Plan of 2007. This Action would benefit from applying the principle of mukw'stem'oslhilhukw'tul, looking from a watershed ecology perspective. It would also benefit from applying nutsamatkwsyaay'ustthqa' to meet its ambition of collaboration with Cowichan Tribes.

Action 2.9 obliges the Province to "develop new strategies to protect and revitalize wild salmon populations in B.C. with First Nations and the federal government, including the development and implementation of a cohesive B.C. Wild Pacific Salmon Strategy". This sounds like the Province catching up to Cowichan Tribes on taking responsibility for salmon well-being, and again would benefit from the scope of mukw'stem'oslhilhukw'tul and the process of nutsamatkwsyaay'ustthqa'.

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[927] The Province enacted the Declaration on the Rights of Indigenous Peoples Act in November 2019.

[928] Province of British Columbia, *DRIPA Action Plan 2022-2027*, (n.d.), https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/indigenous-relations-reconciliation/declaration_act_action_plan.pdf, accessed April 20, 2023.

[929] *Ibid.*, 15. The action also states "This will be achieved through collaborative stewardship forums, guardian programs, land use planning initiatives, and other innovative and evolving partnerships that support integrated land and resource management."

[930] *Ibid*. This action item also tasks the Province with co-developing "the Watershed Security Strategy with First Nations and initiate implementation of the Strategy at a local watershed scale", a task well in hand in April of 2023.

Finally, Action 2.10 calls for "[R]eform [of] forest legislation, regulations and policy to reflect a shared strategic vision with First Nations that upholds the rights and objectives of the UN Declaration". This ambition fits with the Cowichan Tribes desire to include forestry on private land in whole-of-watershed planning. It is not clear that the "rights" focus aligns with mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', but the development of such a strategy would benefit from the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', looking from a standpoint in watershed ecology.

A final point on legislative change over the study period concerns the Intentions Paper on modernizing Forest Policy in British Columbia (the Paper), released by the Province in June 2021. The Paper is a prelude to policy and regulatory reform ahead.[931] One of its indicated intentions is to apply all recommendations of the Old Growth Strategic Review (the Review). This raises a red flag for the application of mukw'stem'oslhilhukw'tul, because the Review did not accept CWB recommendations to set targets for old growth retention and recruitment on PMFL and to create a Provincial mechanism to enforce such targets on PMFL.[932] The Intentions Paper also offers no intention to follow up on the review of the PMFLA, that CWB also contributed to, and that the Province has never completed.[933] When it comes to reviewing forestry policy affecting the private lands of the Cowichan Watershed, someone will have to "hold the Province's feet to the fire".[934] Mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' offer the tools to do just that.

The Province made legislative changes over the study period that would clearly benefit from the application of Hul'qumi'num governance principles, and may open new opportunities for Cowichan Tribes and the CWB to work with the Province using those principles. Water sustainability planning for the Koksilah Sub-Basin is one such opportunity getting under way at the end of the study period. Implementing the DRIPA Action Plan is another. While it is too early to say how these opportunities will play out, their existence heralds more than a legislative shift on the Province's part. A former ED in the Ministry of Environment explains how the Province's commitment to reconciliation also creates new opportunities by challenging the Province's Ministerial siloes and risk-averse culture – shaking up administrative inertia:

> "This government's focus on reconciliation has all-of-a-sudden empowered public servants... [to make] a culture shift … that's more experimental. We have to be

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[931] Province of British Columbia, *Modernizing Forest Policy in British Columbia*, (n.d.), https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/competitive-forest-industry/modernizing_forestry_in_bc_report.pdf, accessed April 20, 2023.
[932] Old Grwoth Review Panel, *A New Future for Old Forests*.
[933] Province of British Columbia, *Old Growth Strategic Review*, (n.d.), https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/old-growth-forests/strategic-review-of-old-growth-forest-management, accessed April 20, 2023. The recommendations were released in 2020 in the publication
[934] This is the terminology used by a Cowichan Tribes biologist and quoted in Chapter 5.

> adaptive… comfortable working in the realm of uncertainty… more focused on people… and more collaborative and jumping across silo lines ... We had a government mandate …[and] corporate government plans that spoke to these kinds of shifts."[935]

In the case of the Province's partnership with Cowichan Tribes for Koksilah Sub-Basin planning, the legislative change and shift in administrative culture may make unprecedented space for the application of Hul'qumi'num governance principles. A former Regional Director of Resource Management in the Ministry of FLNRORD has an encouraging word:

> "I absolutely would concur with those [Hul'qumi'num] principles. I think the way we move is to build structure and relationships to take those principles and then move them into an implementation framework. And the only way we're going to succeed is to really work with each other."[936]

The Province enables the application of Hul'qumi'num principles in five important ways. The first is to get out of the way of watershed-scale governance initiatives led by Cowichan Tribes and the CWB. The second is to create opportunities for engagement at a technical level, such as through the Ad Hoc Flow Committee and FFWG. The third is to create opportunities for shared governance through legislative changes. The fourth is to provide limited, but timely, funding in support of Cowichan Tribes, CWB, and Weir Partner initiatives, contributing in a small way to governance capacity. Finally, the fifth way the Province helps to enable the application of Hul'qumi'num principles is by encouraging a cultural shift towards more initiative, adaptation, and risk-taking among administrative staff across Ministries in support of reconciliation.

5. Implications for the Provincial Government

In this part I outline the implications of my findings regarding the structure of the WSA and the PMFLA. I also outline implications for the Province's role in multi-jurisdictional ecological watershed governance.

5.1 Changes to the Water Sustainability Act

My findings reveal that the structure of the WSA limits the application of Hul'qumi'num governance principles in water licensing and water sustainability planning. I draw your attention to three sections of the Act in particular. The first, Section 15, deals with the obligation of the Regional Water Manager (or other designated decision-maker) to account for environmental flow needs in licensing decisions.[937] Part 15 (1) of the Act

[935] Interview with C10, 22 October 2023.
[936] Interview with C11, 16 November 2021.
[937] The Comptroller, Regional Water Manager, and Engineer are decision makers under the Act. *Water Sustainability Act*.

stipulates that "[e]xcept in relation to an application exempted under the regulations, the decision maker must consider the environmental flow needs of a stream in deciding an application",[938] and part 15 (2) (b), gives the decision-maker sole responsibility for determining what the environmental flow needs of the stream actually are. This reliance on a single decision-maker contrasts with the approach taken by the FFWG to determine seasonal flow requirements for salmon in the Cowichan River by bringing science, local knowledge and Indigenous knowledge to bear in a process guided by mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. The WSA provides no formal forum or process that can accommodate Hul'qumi'num principles or ensure comparable rigor and accountability in decision-making. The Province must make changes to this Section of the Act to enable the full expression of both mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

A second potential obstacle in the structure of the WSA is the power vested in the Minister in Section 67 to limit the scope of issues addressed in water sustainability planning and the scope of recommendations developed in a planning process – including recommendations for regulatory change. This amounts to a veto power that constrains the Ecological Decision Making and Convening Responsibility functions of ecological governance as well as the application of both mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

The third obvious shortcoming of the WSA relates to the powers of the Lieutenant Governor in Council (the Provincial Cabinet) to constrain land uses. Section 78 allows the Lieutenant Governor in Council to restrict or prohibit specified land or natural resource uses, or activities related to those uses, or specified "works" operating on the land.[939] While this is a powerful tool that can back up recommendations from water sustainability planning should the Province decide to use it, it is a tool that lacks the finesse of nutsamatkwsyaay'ustthqa' as applied by Cowichan Tribes. It is a power that is unlikely to be used in the absence of a proposal with wide public support, and the WSA offers no way to develop such support other than through relatively short-term water sustainability planning. This decision-making structure is problematic when dealing with contentious issues that require a long-term investment in relationship-building, knowledge production, and conflict resolution. The Province must invest in long-term decision-making forums to enable mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' to work effectively and to make section 78 politically viable.

The "fix" of raising the Weir to mitigate long-term logging and climate warming impacts on Watershed hydrology has taken ten years and counting. Licensing a higher Weir is relatively low-hanging fruit among thorny Watershed problems subject to Provincial jurisdiction, one that met relatively little public, and no corporate resistance (up to the time of writing). One might expect that regulating forestry on private land, for the benefit

[938] *Ibid.*
[939] *Ibid.*

of watershed health and the public good, may be a more challenging prospect. It may not be sorted through a single water sustainability planning exercise constrained by limited information and a politically-determined scope under the WSA. There is a case to be made for a long-term partnership forum for sorting out complex issues in ecological watershed governance – a process where mukw'stem'oslhilhukw'tul, nutsamatkwsyaay'ustthqa', and sh-tiiwun may be allowed to work their magic.

Such a forum would accommodate the Indigenous resurgence strategy of engagement and the ecological governance imperative of legitimacy. It takes time to govern in a way that is both inclusive and responsive. There is no provision in the WSA for such a forum or process. The WSA lacks a structure to support ongoing and long-term application of Hul'qumi'num governance principles. The Province needs to address this shortcoming to enable the full expression of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'.

I describe in Chapter 5 how the Regional Water Manager sidelined an established, informal advisory group in the 1990s, reverting to a rigid and prescriptive approach to decision-making using the Rule Curve. Political pressure in the form of backlash from angry property owners precipitated the change. The re-constituted Ad Hoc Flow Committee in 2023, though linked to the FFWG, remains susceptible to such reversals. If water licensing were guided by mukw'stem'oslhilhukw'tul, nutsamatkwsyaay'ustthqa', and sh-tiiwun, through an effective multi-jurisdictional governance forum, the risk of such governance backsliding could be substantially reduced.

The current structure of the WSA blocks the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' under Sections 15 and 67 and fails to provide a long-term deliberative forum needed to utilize section 78. By failing to enable the full application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', the Province fails to enable multi-jurisdictional governance that can effectively coordinate Indigenous and state governments at the regional, provincial and federal levels. The Province not only fails to enable multi-jurisdictional governance, but shuts out the Indigenous leadership and governance principles that have a successful track record for multi-jurisdictional governance.[940] The Province has much to gain by changing the structure of the WSA.

5.2 Changes to the Private Managed Forest Land Act

The final point I wish to make in this section concerns the structure of the PMFLA. The Act provides no mechanism for sharing decision-making about forestry management. It

[940] My findings are one example of successful multi-jurisdictional governance in the Cowichan Watershed under the leadership of Cowichan Tribes and Hul'qumi'num governance principles. A former Chief of Cowichan Tribes describes another example as: "We had to bring Cowichan, Chemainus, Halalt, Penelakut, Lyackson, all separate Indian Act bands under the Indian Act. And I brought them together under nuts'umat … this is the model of bringing the authority you have. We're not going to usurp anybody's authority. We're going to make a commitment. In that case, it was to protect a cultured significant area, and we protected 1700 hectares of land that has alleged overlaps." Interview with C05, 24 September 2021.

provides no advisory niche for Cowichan Tribes, or the CWB, or for a multi-jurisdictional entity to engage in discussions regarding forest land management. There is no opportunity to introduce Hul'qumi'num governance principles. The implication is that the Province needs to re-think the PMFLA in its entirety. One approach that could align forest management decision-making with river flow management decision-making would be to introduce new legislation that would assert Provincial authority over forestry practices on large PMFL holdings, provide administrative capability to ensure such forestry serves the public good, and help create a multi-jurisdictional, watershed-scale advisory group.

To align Provincial forest regulation with mukw'stem'oslhilhukw'tul, the Province must create a legislative mechanism that brings forestry practice on PMFL into a multi-jurisdictional decision-making or advisory forum or entity. To align with nutsamatkwsyaay'ustthqa' (and possibly other Hul'qumi'num principles like sh-tiiwun) that forum must be led or co-led by Cowichan Tribes and include the CWB.

The governance principles of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' are particular to the Hul'qumi'num legal and governance tradition. The need for changes in Provincial legislation for PMFL that they reveal, however, such as creating a mechanism for the Province to invest in multi-jurisdictional decision-making forums, may well serve Provincial/Indigenous forestry co-governance across the Province.

6. Implications for Watershed Governance Theory

6.1 Theory on State Roles in Watershed Governance

In this part, I compare the insights about Provincial Government roles noted above with the theoretical roles of state governments discussed in Section 6 of Chapter 2. One of the theoretical roles for state governments is to work together with watershed governance entities on three distinct governance functions: 1) watershed-scale planning; 2) setting ecological limits; and 3) aligning state policies and legislation with watershed priorities. In theory, the state will engage in a support role for these governance functions, turning leadership over to a WGE. The Province of British Columbia made incremental movements toward each of these roles by enacting the WSA. The Act introduces a mechanism for setting ecological limits in situations of water shortage (section 88) and it creates a mechanism for watershed-scale planning and legislative alignment in water sustainability planning.

Ecological watershed governance theory tasks WGEs, not the state, with the roles of building relationships and educating communities. The Province lived up to this theory in the case of the CWB by doing neither. What my findings suggest, however, is that the Hul'qumi'num principle of nutsamatkwsyaay'ustthqa' requires more from the state than standing on the sidelines. Under nutsamatkwsyaay'ustthqa', tempered by sh'tiiwun, all governance actors have a responsibility to build relationships and to use relationships to resolve conflicts. My findings reveal very little effort by the Province to meet this

responsibility. The contrast between changes in river flow governance and lack of change in forestry governance over the study period reflect the difference that relationships can make. The CWB was able to build relationships around river flow management that changed decision-making practice and resolved conflicts. Without an opportunity to engage, the CWB could not do the same for forestry on private land. This contrast highlights the importance of those relationships. It suggests that had the Province invested in relationships as well, more change would have been possible, in both river flow and forestry management. Hul'qumi'num governance principles challenge the established watershed governance theory that assigns the role of building and using relationships only to WGEs. In this regard, the research findings indicate that Indigenous governance principles help to illuminate necessary additional roles for state governments.

On the two theoretical roles of state government where the state may act alone, investing in co-governance with Indigenous partners and providing governance capacity, the Province earns another low score. Respecting co-governance, the Province did not engage in the governance partnership of the CWB, though after implementing DRIPA, it did form a partnership with Cowichan Tribes to conduct water sustainability planning. The difficulty here is that water sustainability planning has a defined and relatively short timeline, and the analysis above clearly shows that for Hul'qumi'num governance principles to be effective, they require a long-term forum for engagement. They also require a formal structure to support long-term engagement to prevent administrative backsliding. These observations support calls in watershed governance literature for Indigenous and state governments to co-create legal structures for ongoing watershed-scale governance.[941]

Regarding the theoretical state role of providing governance capacity, once again there is evidence of incremental movement by the Province and evidence from the CWB and Cowichan Tribes that it is not nearly enough. It is clear that watershed-scale governance works when it incorporates Hul'qumi'num governance principles under Cowichan Tribes leadership, and the Province needs to step up to support that leadership at a watershed scale.

Overall, the research corroborates the theoretical roles of state governments in watershed-scale governance discussed in Chapter 2. Those theoretical roles are pan-Indigenous in nature, however, and I note at least one instance where they do not fully satisfy the Hul'qumi'num principle of nutsamatkwsyaay'ustthqa'. The Province must engage, along with WGEs and other governance actors to build relationships and use relationships for resolving conflict. Such alignment with nutsamatkwsyaay'ustthqa' would significantly improve social and ecological outcomes.

[941] Brandes et al., *Illumination*; Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

6.2 Theory on Ecological Governance

The literature on ecological governance champions development of regional-scale deliberative forums in tune with socio-ecological needs and capable of bridging multiple levels of government.[942] Successful examples of this ambition are difficult to find.[943] The experiences with integrated resource management and governance, and watershed collaborative governance, as I point out in Chapter 2, have largely failed to deliver. Stakeholder and integrated management approaches founder on vested interests.[944] The CWB governance model, of a partnership between regional and Indigenous government representatives committed to working together toward a shared vision using mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', is a rare example of a successful ecological governance framework. It is a melding of ecological and Indigenous governance at a watershed scale. It is a bridging organization that successfully influences all levels of government while advancing ecological governance functions and Targets.[945]

One element of success in the Cowichan Watershed is the application of an ecological governance framework, where elected representatives of senior government partners, rather than "stakeholders", guide governance activities. This is a lesson captured in the literature on watershed governance and validated in the experience of the CWB. A related lesson revealed in this research is that Indigenous governance approaches have tools to overcome obstacles that frequently trip up state-led governance approaches – obstacles such as reliance on established hierarchical administrative structures, institutional inertia, and a tendency to entrench established private interests and long-standing conflicts affecting overall socioecological well-being.

The leadership of Cowichan Tribes drives the successful application of Hul'qumi'num principles, demonstrating how to build relations and use relations to uphold accountability, and how to do so in accordance with snuw'uyulh. Hul'qumi'num governance principles, applied through Hul'qumi'num leadership, strengthen ecological governance in the multi-level governance context of the Cowichan Watershed. The lesson for the discipline of ecological governance is that there are Indigenous approaches to watershed-scale governance capable of overcoming the failures of deliberation, accountability, and multi-level-governance highlighted in the literature.

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[942] Woolley, *Ecological Governance*.
[943] *Ibid.*
[944] Kallis, Kiparsky, and Norgaard, 'Collaborative Governance and Adaptive Management: Lessons from California's CALFED Water Program'.
[945] There is a body of literature on the roles of bridging organizations. The literature spans resilience theory, integrated resource management and collaborative governance. See, for example Hahn et al., 'Trust-Building, Knowledge Generation and Organizational Innovations: The Role of a Bridging Organization for Adaptive Comanagement of a Wetland Landscape around Kristianstad, Sweden', *Human Ecology* 34, (2006): 573-592; Berkes, 'Evolution of Co-Management'.

A clear example of Indigenous governance tools filling a gap in the ecological governance literature, and in state government practice, is the application of mukw'stem'oslhilhukw'tul, nutsamatkwsyaay'ustthqa', and sh-tiiwun to the environmental governance function of Convening Responsibility. Cowichan Tribes uses these principles to build relationships and the relationships to resolve conflicts, re-arranging who takes responsibility for Watershed health in the process. The convening of responsibility in this way introduces a completely new governance function, absent in state governance approaches, and in ecological governance literature. It is a function that deals with accountability conflicts and bridges multiple levels of government in a constructive way, building relationships of trust and increasing the likelihood of successful collaboration. It is a function that works when applied in accordance with Hul'qumi'num governance principles. It is a function that deserves a place in watershed ecological governance theory and practice.

7. Limitations of Research

This research explores a question not previously addressed in the academy and I hope that those engaged in watershed governance theory and practice in colonial states will find the results useful. I must caution, however, that the research has limitations. I describe two clear limitations below.

The first limitation, addressed in Chapter 3, is my unfamiliarity with Indigenous legal and governance concepts. I lack a proper understanding of snuw'uyulh teachings and other elements of the Hul'qumi'num legal and governance tradition. While I have done my best to follow the evidence, my maps of governance functions and Indigenous principles will be imperfect.

The second limitation I wish to highlight is my deliberate narrowing of the research path. I set research boundaries by focusing on two contentious issues (river flow and forestry) and by choosing to follow a representative framework of governance functions and Hul'qumi'num governance principles. The boundaries make my journey possible at the cost of potentially overlooking significant factors shaping the application of Indigenous principles. One example of this limitation is my choice to focus on old growth retention and recruitment when mapping forestry decision-making.

Loss of old growth is not the only concern about forestry management surfacing in my interviews. To some Cowichan Tribes members of the CWB, the issue of access to forests for traditional use is equally important. As one Cowichan Tribes member put it,

> "You're going to make me cry right now because … once it's gone, it's gone. The medicine that my mom and I used to go pick just up the road from here, having to go further and further up into the mountain to try to find it, it's bad. It's like the [only] place that we can find them is in a provincial park … and I have to go with

> her because of fear that she may get arrested for taking plants out of a provincial park".[946]

Another Cowichan Tribes member described the difficulties of accessing forests in the context that land "ownership" is not part of the Hul'qumi'num legal tradition:

> "People say, oh, well, hey, I bought up E&N lands and now I own 70% of your watershed, and it's all for private forestry. I can do whatever I want. Sorry, you guys can't hunt here. You can't fish here… We've locked the gates, if you want to walk, you can walk 30 miles over to the next bridge. Or they can tell, okay, this is private land, no, you have to leave. And they do".[947]

The conflict between private land ownership and Hul'qumi'num laws of access[948] cannot be ignored in thinking about how to apply Hul'qumi'num governance principles to forest management in the Cowichan Watershed, but it is not an issue addressed in my map of ecological decision-making. By focusing on old growth, I leave the mapping of forest access to a future research project. I flag the issue here as something that will arise in forest management that follows mukw'stem'oslhilhukw'tul and recognizes socio-ecological connections. Access for traditional use is a connection issue and a socio-ecological issue from the perspective of resilience theory where humans are seen as part of the environment. By choosing not to include it in my mapping work, I fail to give a full picture of its significance to watershed governance. Despite such limitations, I hope that my work will be usefully indicative of the challenges we face in reconciling Indigenous and state watershed governance, and that no one will mis-read my work as comprehensive.

8. Analysis Summary

From the viewpoint of watershed ecology, Cowichan Tribes and the CWB successfully advanced ecological governance in the Cowichan Watershed. My findings attribute this remarkable achievement to a state-indigenous governance partnership that applies Hul'qumi'num governance principles under the leadership of Cowichan Tribes. The CWB partnership succeeded despite Provincial Government intransigence, administrative inertia, sporadic support, and legislative roadblocks. The Province made way for the CWB by getting out of the way, inviting the CWB to participate in the informal Ad Hoc Flow Committee, enacting the *Water Sustainability Act* and the *Declaration on the Rights of Indigenous Peoples Act*, embracing an administrative culture shift towards reconciliation, and offering occasional financial support, mainly to the Weir Partners.

The success of the CWB, measured in relation to ecological governance functions, sheds new light on the emergent discipline of ecological watershed governance. It suggests that the legal and governance systems of Indigenous peoples may be better tuned to ecological

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[946] Interview with C06, 29 September 2021.
[947] Interview with C09, 14 October 2021.
[948] Thom, 'Reframing Indigenous Territories'.

watershed governance than non-Indigenous literature on watershed governance. It highlights the suitability of Convening Responsibility as a function of watershed ecological governance.

This case study shows that DRIPA, together with the WSA, may offer unique opportunities for the Province to work with Indigenous governments using Indigenous principles – creating niches and forums from which to work toward Provincial legislative alignment with Indigenous governance principles. Such engagements may lead not only to changes in governance practice at the watershed scale, but also to improvements in governance outcomes as seen from a viewpoint in watershed ecology. The difficulties of relying only on this kind of engagement, however, are that it doesn't directly address significant gaps in state law such as the failure to assert authority over forest management on large holdings of private land for the greater public good, or support the kind of long-term relationship-building needed to address difficult problems.

A move toward greater regulation of forestry on private managed forest land with entrenched corporate interests may be difficult at a political level. It may not be an easy first step in the project of aligning Provincial forestry laws with Indigenous governance principles. It is the kind of change that would benefit from the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' in the way that the Fish and Flow Working Group eventually succeeded in getting DFO to take responsibility for monitoring the spring run of Chinook salmon on the Cowichan River, or the way that the Weir Partners succeeded in circumventing Provincial recalcitrance over Weir licensing. The catch is, that it would be difficult to apply mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' to forestry on private land without first creating a regulatory niche and deliberative forum. Which comes first, regulatory change creating a deliberative forum, or a deliberative forum applying Indigenous principles to manifest regulatory change?

Taking all of these observations into account, this study suggests that it may be time for the Province to work with Indigenous governments across the Province to rewrite the *Water Sustainability Act* as the *Watershed Sustainability Act*.[949] The new legislation would include a mechanism to establish (and fund) formal, long-term, multi-level watershed governance entities, such as the CWB, that provide a forum for ecological governance. The entities would incorporate Indigenous co-leadership and Indigenous governance principles, provide advice on water licensing and land use decisions (including forestry) affecting watershed ecological conditions, and lead watershed sustainability planning exercises.

Such an initiative may benefit by incorporating the theoretical roles of state government discussed in Chapter 2. The first three of these roles involve working together with a

[949] A former Chief of Cowichan Tribes notes that the Province did not do a good job of consulting with Indigenous peoples in writing the *Water Sustainability Act*. Interview with C05, 24 September 2021.

watershed governance entity to: 1) conduct watershed-scale planning; 2) set ecological limits; and 3) align state policies and legislation with watershed priorities. This case study suggests this may be feasible when co-led by Indigenous governments using Indigenous governance principles. This study clearly supports the other two theoretical state roles of: 4) investing in co-governance with Indigenous partners; and 5) providing governance capacity. This study also indicates that to satisfy Hul'qumi'num governance principles, the state must contribute to a role that current watershed governance theory tags only to WGEs: building relationships. Should the Province decide to develop a *Watershed Sustainability Act*, it would do well to begin with these theoretical roles as a discussion starter, but it must engage with the diverse legal and governance traditions of Indigenous peoples. The Province needs to embrace the leadership of Indigenous governments on a regional or watershed-by-watershed basis. The Province also needs to step up funding to support Indigenous leadership capacity at the watershed scale.

The implications of this research project for the Province of British Columbia are that it must invest resources, authority, and participation in long-term, multi-jurisdictional, watershed governance entities structured as deliberation forums co-led by Indigenous governments. It must realize its responsibility for regulating forestry on large private land holdings for the public good. The Province needs to work with Indigenous governments to create a *Watershed Sustainability Act* that addresses both water and land governance using watershed or regional boundaries. It must amend aspects of the WSA and PMFLA that effectively block the application of Hul'qumi'num and other Indigenous legal and governance traditions.

Chapter 7: Conclusion

1. Introduction

This research project begins with a focus on the environment and the apparent failures of our current governance structures to address a continuing decline in the condition of ecological systems that support life on earth – including human life. My experiences working for state governments in the fields of environmental and water resource management, coupled with volunteer work in source water protection and Indigenous oral history, piqued my interest in the convergence of watershed-scale governance and the revitalization of Indigenous law in Canada. In this Chapter, I provide an overview of the research that began with my engagement with the Indigenous Water Law Project at the University of Victoria,[950] the research results, and research implications.

In the remainder of this section, I revisit key points from Chapters 1 through 4 of the dissertation that define the research approach. In section 2, I provide an overview of research findings and analysis (Chapters 5 and 6). I conclude, in Section 3, with an overview of the research implications and the research significance.

In the first chapter of the dissertation, I introduce three historical movements that underly the contemporary interest in governing at the scale of the watershed: 1) instrumentalism originating in 1800s Europe; 2) "new governance" associated with neoliberal globalization beginning in the late 1900s; and 3) experiments in environmental governance beginning in the 1970s with roots in resilience thinking. I outline the challenge of reconciling these movements while also reconciling state and Indigenous governance in colonial states. I pose the question: how can colonial state governments enable watershed-scale governance that fully manifests Indigenous governance principles?

In Chapter 2, I turn to academic literature to develop a theoretical approach for the research. I explore a range of literatures on watershed management and watershed governance, as well as literature on ecological governance. I briefly survey the literature on Indigenous governance before landing on the Indigenous environmental governance works of Kyle Whyte and literature on revitalizing Indigenous legal and governance traditions.

I draw from all of these sources to examine the theoretical nature and purposes of watershed governance in the colonial context in the first quarter of the 21st century. Watershed governance is necessarily multi-jurisdictional in nature, necessarily political, and necessarily the site of conflicting values and worldviews. I suggest that its purpose is to serve the well-being of the watershed environment (including people) by hosting a regional level of shared governance more accountable to ecological conditions. I make

[950] The Indigenous Water Law Project, led by Val Napoleon and Deborah Curran, engaged three British Columbia First Nations to work with them to re-vitalize Indigenous law related to water in their respective legal traditions. One of the First Nations in the program was Cowichan Tribes.

the case that watershed governance in our times is best understood as a project of ecological watershed co-governance.

I lay out a research program for a case study of the Cowichan Watershed and the Cowichan Watershed Board in Chapter 3. I bound my inquiry in two ways, first with a focus on two contentious issues – river flow management and forestry management. The second way is by adopting a research framework of three governance functions and two Indigenous governance principles. The Indigenous governance principles are from the Hul'qumi'num legal and governance tradition, put forward by Cowichan Tribes specifically for use in the CWB. I borrow tools from the research methodology of institutional ethnography, adopting a deliberate standpoint, or research viewpoint, situated in watershed ecology. I focus on the active period of the CWB from 2010 to the time of writing in the spring of 2023.

In Chapter 4, I introduce the setting of the Cowichan Watershed and its unique governing challenges. I describe the ecological state of the watershed and key drivers of ecological change – logging and climate warming. I describe the jurisdictional and legal contours, reviewing the historical displacement of the Hul'qumi'num legal tradition, and outlining federal and provincial laws related to river flow and forestry management. I introduce state-sponsored watershed-scale planning initiatives and watershed governance actors that shape governance at the watershed scale.

In Chapter 5, I present the case study findings based on interviews with CWB participants, observation of CWB meetings, and an extensive review of publicly available documentation. In Chapter 6, I return to the research question and analyze what the findings reveal about how Hul'qumi'num governance principles affect watershed governance over the study period; how the Province impedes and enables the application of Hul'qumi'num governance principles; and the implications both for the Province and for watershed governance theory. I provide an overview of these findings and analysis in the next section.

2. Overview of Findings and Analysis

2.1 Target Creation

Both the Chief of Cowichan Tribes and the CVRD coordinator invested in the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' at the creation of the CWB, committing to whole-of-watershed thinking, consensus decision-making and shared governance responsibility. They found synergy between the Hul'qumi'num governance principles and the coordinator's training in ecology and experience in environmental planning. They combined the two approaches in developing a set of aspirational Targets for the Watershed, working from the Cowichan Basin Water Management Plan and empowering an expert advisory committee. The creation of Targets, coupled with a commitment under nutsamatkwsyaay'ustthqa' to advance the Targets, aligned with ecological governance theory. That theory tasks watershed-scale governance with

delivering ecological outcomes. The Targets include not only socio-ecological aspirations, but also a political aspiration aligned with nutsamatkwsyaay'ustthqa', getting all governance actors onto the same page through the Watershed Knowledge Target. The CWB did not establish a Target for forestry but did recommend that the Province create targets for old growth retention and recruitment.

2.2 Ecological Decision-Making

My findings attribute changes in decision-making practice for operating and licensing the Lake Cowichan Weir largely to the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' by Cowichan Tribes and the CWB. Operational decision-making moved from an insular process between industry and the Regional Water Manager, constrained by narrow prescription, to an informal, consensus-based, deliberative process among Provincial, Federal, and Indigenous government agencies influenced by the Fish and Flow Working Group of the CWB. Licensing decision-making moved from the Province's in-house and risk-averse approach to a widely supported initiative of the Weir Partners acting largely outside of the Provincial administrative realm. The changes in both operational and licensing decision-making reflect the successful application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' in both leveraging and circumventing the Province's authority over water use and licensing. The ability to leverage Provincial authority hinged on the Province's willingness to engage with the CWB at a technical level, inviting their participation in the informal Ad Hoc Flow Committee established by the Regional Water Manager. The Regional Water Manager made this decision following a ruling by the British Columbia Environmental Appeal Board that the CWB had a valid interest in participating in flow management decisions.

The advances in Weir operation and licensing decision-making, from a watershed ecology perspective, contrasts sharply with the intransigence of forestry decision-making. Over the study period, none of the Private Managed Forest Land Council, state government agencies, nor the Mosaic forestry management company exercised any kind of decision-making process or forum for old growth retention and recruitment or for cumulative effects of forestry practices on Watershed ecology. There was no niche for Cowichan Tribes or the CWB to engage, and no opportunity to introduce Hul'qumi'num governance principles to forestry decision-making at any level.

The map of Ecological Decision Making reveals the central role of watershed-scale leadership exercised by Cowichan Tribes. Cowichan Tribes led both the application of Indigenous principles and the advancement of ecological governance functions. The map also reveals some of the ways by which Cowichan Tribes applies mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. One way is to identify the jurisdictional authority of different governance actors and then to hold those powers accountable to Watershed Targets. My map reveals that Cowichan Tribes exercises mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' with subtlety in accordance

with snuw'uyulh legal principles, being careful to treat others with respect and to build consensus.

The CWB also works diligently to abide by mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', applying whole-of-watershed thinking and building and leveraging partnerships to advance Watershed Targets. Others, including DFO and the Weir Partners follow the principles to varying degrees of success in their engagements with Cowichan Tribes.

The map of Ecological Decision Making shows the importance of Cowichan Tribes leadership in the successful application of Hul'qumi'num governance principles when offered even a modest niche conducive to shared deliberation.

2.3 Convening Responsibility

I identify and map four areas of responsibility related to river flow and forestry management in the Cowichan Watershed in a review of state and Indigenous law: 1) who takes responsibility for salmon well-being; and 2) who takes responsibility for forest well-being; 3) who convenes responsibility by building relationships; and 4) who convenes responsibility by using relationships to resolve conflict.

Cowichan Tribes leads once again with respect to responsibility for salmon well-being, participating in every salmon enhancement project, apart from internal DFO exercises, and leading most of them. Local stewardship groups, DFO, and environmental non-governmental organizations also take responsibility for salmon well-being in the Watershed. The Province of British Columbia makes limited contributions through targeted funding programs. When it comes to convening responsibility, however, only Cowichan Tribes and the CWB stand out as significant governance actors, once again leading the way with the application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. The Province avoids relationship building and conflict resolution, contributing mainly by getting out of the way of others.

The map of responsibility for forest well-being is grim. No government takes responsibility for old growth retention and recruitment or for cumulative impacts to watershed ecology. Industry follows a forest certification program that fails to fully recognize these issues.

No government agency actively convenes responsibility for forest well-being (by building relationships or by resolving conflict). The CWB was unsuccessful in developing a working relationship with the Province at the Board table and resorted to lobbying the Province to address hydrological issues related to forestry. The CWB also asked the Province, without success, to establish old growth retention and recruitment targets for private forest land backed up by an enforcement mechanism.

The map of responsibility for forest well-being contrasts with the map of responsibility for salmon well-being in the Watershed. It highlights the absence of any regulatory or

advisory niche for Cowichan Tribes or the CWB to begin building relationships or to bring alternative governance principles into play.

3. Research Implications

Bringing together ecological governance, Indigenous governance, and state governance is a huge challenge. The study of Target Creation, Ecological Decision-Making, and Convening Responsibility in the Cowichan Watershed, nonetheless, shows that it is possible with a dedicated advisory forum, a long-term commitment, the application of Hul'qumi'num governance principles, and Indigenous leadership.

When the CWB applies mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa' together, we see a new approach to governance previously untried in colonial (or other) nation-states. It is a successful approach in terms of finding common ground, improving decision-making and increasing accountability to the environment, including to people. It is an approach that requires Indigenous knowledge, experience, and leadership.[951] The combination of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa', applied in accordance with snuw'uyulh under the leadership of Cowichan Tribes, delivers watershed governance in a way that recognizes and accepts the overlapping authorities of many levels of government. In such governance, the Province of British Columbia need not fret about surrendering its constitutional authority, but it must learn to build relationships, support Indigenous leadership at a watershed scale, and actively work to remove obstacles to the application of Indigenous governance principles.

This case study demonstrates that watershed-scale governance led by Indigenous governance principles produces superior outcomes to state-led governance when measured by ecological performance and public support. This study demonstrates that state governments can learn to support the application of Indigenous governance approaches rooted in Indigenous legal traditions when Indigenous governments are offered the opportunity to lead. This study also demonstrates that Hul'qumi'num governance principles fit well with multi-jurisdictional and ecological governance at a watershed scale.

The Province of British Columbia must make significant changes to enable the full expression and manifestation of such governance principles with respect to river flow and forestry management. The Province must ensure that legislation and regulations affecting land and water use, including on large private land holdings, have a statutory obligation to serve the greater public good. The Province must, at a minimum, also re-write sections 15 and 67 of the WSA and the entirety of the PMFLA, that are legislative obstacles to the

[951] As Maori researchers Tipa and Weich observed in the New Zealand colonial setting, making space for Indigenous governance approaches requires a Provincial investment in long-term governance capacity at a watershed scale. Gail Tipa and Richard Weich, 'Comanagement of Natural Resources: Issues of Definition from an Indigenous Community Perspective', *The Journal of Applied Behavioral Science* 42, no. 3 (n.d.): 288.

application of mukw'stem'oslhilhukw'tul and nutsamatkwsyaay'ustthqa'. This research project also supports the observation made in other literature,[952] that the Province of British Columbia must help create and fund multi-jurisdictional governance forums that embed Indigenous leadership, as well as Indigenous governance principles, at a watershed scale. The Province could choose to address these issues by working with Indigenous peoples in British Columbia to create a *Watershed Sustainability Act* to replace the *Water Sustainability Act.*

Bringing state and Indigenous legal traditions together in shared governance will not be a one-off event but very likely an ongoing process requiring relationship building, deliberation, accountability, and conflict resolution. The Province needs to step up to help enable such interactions. State-sponsored ecological watershed co-governance entities may provide a suitable forum when Indigenous governance principles lead. Our planet will thank us for the effort.

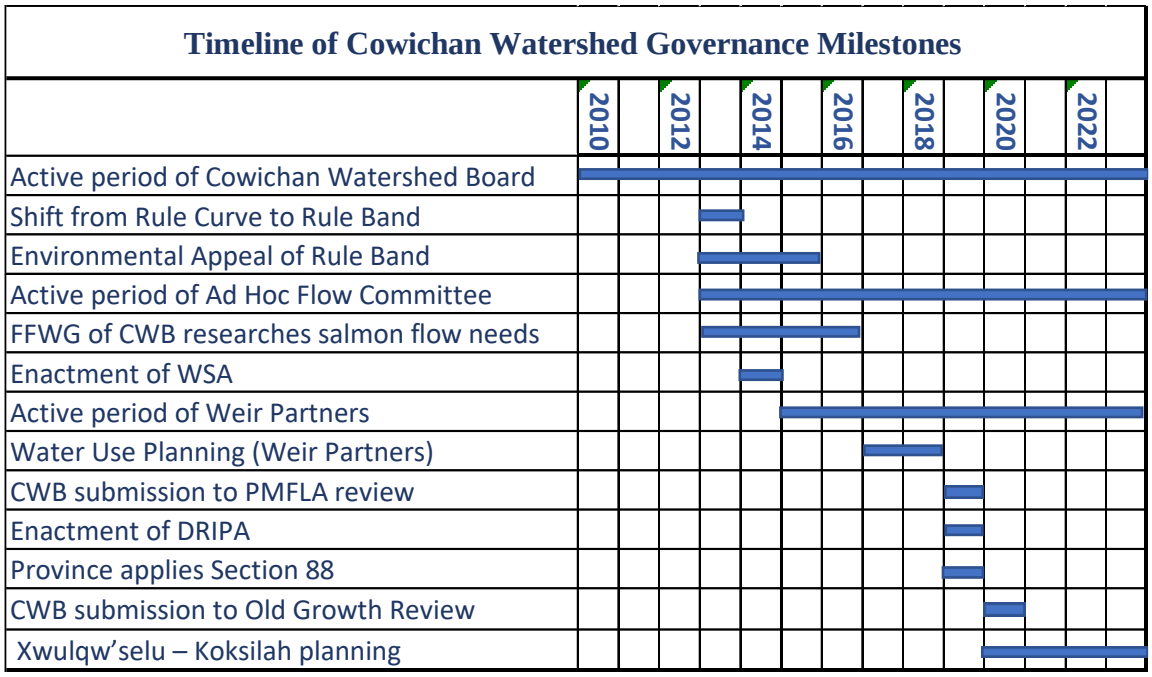
4. Research Significance

This research offers important lessons for our time, as the human community pushes planetary limits, and we experience social and ecological peril in the face of climate warming. Lessons from the Cowichan Watershed, on the success of ecological watershed governance when Indigenous principles lead, will be of use to Indigenous and colonial governments moving towards reconciliation, and to the broader struggle, around the globe, to realize effective watershed-scale governance. The Cowichan experience is particularly important to colonial states, like Canada, moving toward reconciliation and attempting to bridge state and Indigenous legal and governance traditions.

[952] For example, see Merrell-Ann et al., 'Collaborative Consent and British Columbia`s Water'.

Appendix

Governance Milestone Timeline



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