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Water for the Future: Why BC Needs an Immediate Moratorium on New Water Bottling Licences

An ELC Clinic submission prepared for:
Golden and District Water Protection Committee

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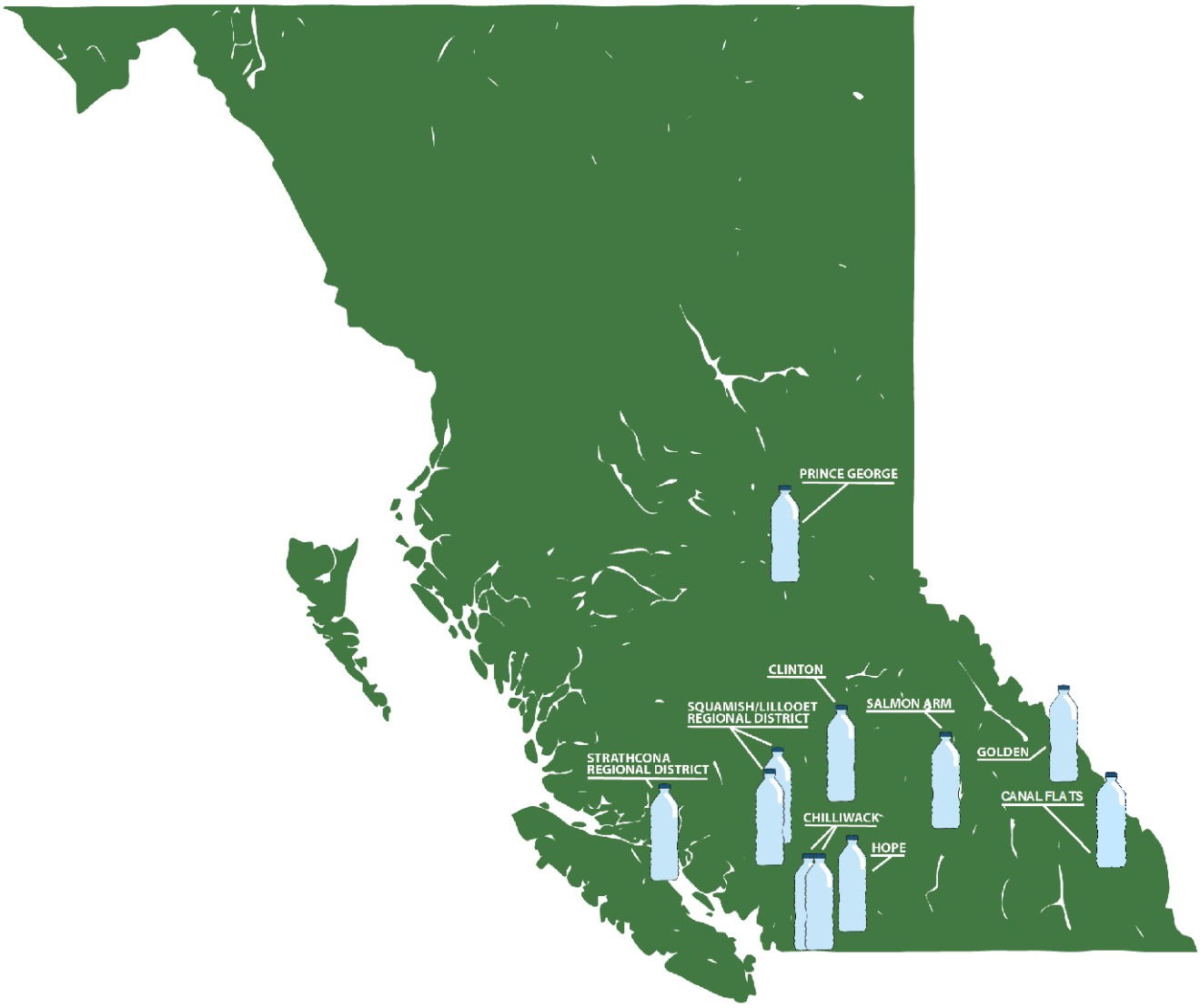
Groundwater Licence Applications[1] for Water Bottling in British Columbia



[1] While a search of the public and searchable Water Rights Database via the Water Licence Search Tool <https://j200.gov.bc.ca/pub/ams/Default.aspx?PossePresentation=AMSPublic&PosseObjectDef=o_ATIS_DocumentSearch&PosseMenuName=WS_Main> does not easily reveal records of all of the water licence applications listed on this map, information about these applications is available through the Water Rights Database, in the media or because the Province of BC has consulted a First Nation or local government about the application. Other analyses of the Water Rights Database show 10 approved licences and 16 licence applications for groundwater for commercial water bottling: Ben Parfitt, "Out of water?" Policy Note online *Canadian Centre for Policy Alternatives*: <https://www.policynote.ca/water-licences/>
Water Rights Databases: <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/water-licences-approvals/water-rights-databases>
Water Licence Search Tool: <https://j200.gov.bc.ca/pub/ams/Default.aspx?PossePresentation=AMSPublic&PosseObjectDef=o_ATIS_DocumentSearch&PosseMenuName=WS_Main>

Executive Summary

There is remarkable convergence between communities and governments in British Columbia (BC) on the importance of water. A recent poll revealed that 91% of residents agree that fresh water is our most precious resource, and 85% agree that "fresh water is a basic human right not to be denied or sold off by governments or corporations."[2] The Province of BC has acknowledged the immense value of water and the importance of its protection, aiming "to guarantee clean air, land and water for future generations,"[3] as well as enhance watershed security in a changing climate.[4] One provincial Ministry's service plan commits to "ensur[ing] environmentally-responsible natural resource management practices," and "fully implement[ing] the *Water Sustainability Act,*"[5] which includes implementing groundwater licensing for the first time in BC. These policy objectives operate within the longstanding pledge of BC water law to use water within watersheds, which includes prohibiting both the transfer of water between major watersheds and bulk water exports.[6] In addition, these commitments operate alongside the Province of BC's pledge to ban plastics as single use packaging, reduce plastics overall, and better deal with the entire life cycle of plastic products.[7]

The drive towards water sustainability in BC is happening at a time when Indigenous communities are entering into agreements with the Province of BC to develop collaborative watershed governance structures to manage water at a local scale and pursuant to consent- and ecosystem-based objectives.[8] The Province of BC is moving beyond the consultation and accommodation framework established under section 35 of the *Constitution Act, 1982* by committing to implement and align provincial laws with the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). The new provincial *Declaration on the Rights of Indigenous Peoples Act* (DRIPA) also explicitly enables consent-based agreements and the delegation of authority to Indigenous governing organizations.[9]

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[2] McAllister Opinion Research, "2018 BC Freshwater Public Opinion Insights Topline Report" (June 2018) at 14, online (pdf): <https://d3n8a8pro7vhmx.cloudfront.net/freshwateralliance/pages/2527/attachments/original/1608160893/2018_McAllister-CFA_BC_Fresh_Water_Opinion_Insights_v2020.pdf?1608160893> [perma.cc/N4NT-C9KN].

[3] Government of British Columbia, "CleanBC: Our nature. Our power. Our future." (December 2018) at 15, online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_2018-bc-climate-strategy.pdf> [perma.cc/N2NH-RXAK].

[4] Government of British Columbia, "CleanBC: Climate Preparedness and Adaptation Strategy: Draft Strategy and Phase 1 Actions for 2021-2022" (no date), online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/cpas_2021.pdf>.

[5] Ministry of Forests, Lands, Natural Resource Operations and Rural Development, "2018/19 – 2020/21 Service Plan," (February 2018) at 9, online (pdf): *Government of British Columbia* <https://www.bcbudget.gov.bc.ca/2018/sp/pdf/ministry/flnr.pdf> [perma.cc/49LG-9VB5].

[6] *Water Protection Act* RSBC 1996 c 484 ss 4-6.

[7] CleanBC: Plastics Action Plan, online https://cleanbc.gov.bc.ca/plastics.

[8] See, for example, the Nicola Watershed Pilot <https://news.gov.bc.ca/releases/2018ENV0012-000484> and the Koksilah Water Sustainability Plan Scoping Initiative <https://www.koksilahwater.ca>.

[9] *Declaration on the Rights of Indigenous Peoples Act* SBC 2019 c 44.

Two distinct problems are interrupting this water-rich policy and territorial governance context. The first is that there is limited information about watersheds in the province,[10] and water scarcity issues are accelerating across BC.[11] Some analysts have identified 63% of the population as living in water-stressed areas,[12] while many Indigenous communities have variable access to safe drinking water and no control over water use in their territories. Groundwater experts note that "the province lacks comprehensive aquifer mapping and classification, and significant knowledge gaps exist,"[13] and groundwater regulation of existing commercial uses is incomplete. The second problem is that applications for water bottling operations, which include applications aiming to export the bottled water, are on the rise. There are at least eight applications for new groundwater licences for water bottling purposes, and at least two of those are within arid areas of the province. In 2020 alone the water bottling industry in Canada extracted 2.611 billion litres of bottled water.[14] In BC, water bottling users pay just $2.25 per million litres – less than a penny per bottle – returning almost no revenue to the Province of BC for water management. At the same time, one of the most common forms of pollution found in garbage cleanups across Canada are bottles,[15] and over 120 million bottles were unaccounted for in BC over the past year.[16] It is clear that water bottling is at odds with BC's commitments to reduce single use plastics and improved water security. It is also now occurring at a scale that may infringe the legal commitment prohibiting the export of water. While there are important equity considerations for sharing water globally, there must be water justice for all BC communities at the same time as there is a public debate about whether ecosystems and the regulatory regime can handle water exports.

The purpose of this submission is to address the conflict (or connect the dots) between water security, Indigenous governance, and groundwater regulation as expressed by the spectre of expanding water bottling in BC by making recommendations to the Province of BC for aligning groundwater and watershed governance with existing policy and legal objectives, particularly those related to sustainable water use and the UNDRIP. The report focuses on groundwater extraction and the export of water, as well as plastics production and waste as they relate to the

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[10] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf>.
[11] *Ibid* at 8.
[12] T Gower and A Barroso, "Tapped Out: A Special Report on Water Scarcity and Water Solutions in British Columbia," (September 2019) at i, online (pdf): *Watershed Watch Salmon Society* <https://watershedwatch.ca/wp-content/uploads/2019/09/2019-09-24-Tapped-Out-RGB.pdf> [perma.cc/8Y7P-8D24].
[13] Tara Forstner, Tom Gleeson, Leigh Borrett, Diana M Allen, Mike Wei and Andarge Baye, "Mapping Aquifer Stress, Groundwater Recharge, Groundwater Use, and the Contribution of Groundwater to Environmental Flows for Unconfined Aquifers across British Columbia," (August 2018), online (pdf): *Water Science Series* <https://a100.gov.bc.ca/pub/acat/documents/r54468/WSS-2018-04GWfootprint_1532281350342_2278704448.pdf> [perma.cc/85QT-K8LN]; Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].
[14] Euromonitor International, "Market Sizes: Canada Bottled Water, Total Volume," (2020), online: *Euromonitor* <https://www-portal-euromonitor-com.ezproxy.library.uvic.ca/portal/statisticsevolution/index> [Accessed 29 March 2021].
[15] Loujain Kurdi "MEDIA BRIEFING: 2018 Plastic Polluters Brand Audit Canada Results," (9 October 2018), online: *GreenPeace Canada* <https://www.greenpeace.org/canada/en/qa/5378/media-briefing-2018-plastic-polluters-brand-audit-canada-results/>.
[16] Return-It, "2019 Annual Report: Deposits, Refunds, and Recovery Rates," (2019) at 29, online: *Return-It* <https://www.return-it.ca/ar2019/pdf/Encorp_AR2019_Section6.pdf>.

water bottling industry in BC. The principal recommendations are to enact a moratorium on all new licences for groundwater extraction for the purpose of water bottling, and to approve new water licences only through consent-based collaborative watershed governance processes directed by Indigenous communities and the Province of BC in partnership with local communities.

Part 1 sets out the **Context** of water use and regulation in BC, highlighting the importance of water to residents of BC yet the uncertainty of adequate groundwater in BC for allocation, as well as providing an overview of recent Province of BC commitments to furthering the protection of water. Part 1 also contains a review of the history of water regulation in BC, detailing the significant focus on water sustainability and Indigenous rights in recent changes in law and policy.

Part 2 follows with a deeper dive into problems with new groundwater licensing and water bottling in BC, including the lack of assessment of cumulative effects and climate change relating to groundwater extraction. In response to these and other weaknesses in the science-policy relationship, Part 2 concludes by noting that the Province of Ontario has imposed a moratorium on new and increased groundwater extraction permits for water bottling and is exploring legislative amendments for an area-based approach to water management and will engage with the public, stakeholders and Indigenous communities.[17] Incomplete groundwater regulation and insufficient watershed knowledge leads to three recommendations:

- Recommendation 1: Place a Moratorium on New Water Licences for Water Bottling
- Recommendation 2: Extend the Moratorium on New Water Licences for Water Bottling Purposes at least until Watershed-Based Governance is in Place
- Recommendation 3: Restrict Water Licences for Water Bottling Purposes to Short-Term Licences Only

Part 3 highlights the rapidly evolving context for **Indigenous Relationships with Water**, noting that Indigenous communities have not agreed to existing water allocation and management approaches, and the Province of BC has not co-developed meaningful consent-based governance processes. For the Province of BC to uphold its commitments to implementing UNDRIP and reconciliation in the context of water requires collaborative and consent-based decision-making structures:

- Recommendation 4: Obtain the Consent of Indigenous Governing Organizations Before Issuing New Water Licences

Part 4 summarizes the legal prohibition on **Bulk Water Export** in BC, which raises the issue of whether growth in water bottling for export is, in effect, water export. Legislators developed the BC water law on bulk water export in an era when the global trade in bottled water did not exist. This law now requires reconsideration as it creates an unintended loophole for the bulk export of bottled water that does not adequately reflect the cost to BC communities:

- Recommendation 5: Charge a Higher Water Rental for Water Extraction

[17] Government of Ontario, ERO 019-2319, "Proposal to extend the current moratorium on water bottling permits," (30 September 2020), online: *Environmental Registry of Ontario* <https://ero.ontario.ca/notice/019-2319>.

Appendix A details how a water bottling industry in BC results in significant contributions to plastic waste at all scales and is contrary to local, provincial, national, and international law and policy commitments.

Appendix B canvasses factors related to the value of the water bottling industry for local communities in BC, noting the many local government that have prohibited water bottling operations.

In conclusion, BC communities are in an exciting but fragile transition between provincial water management through water allocation, and watershed- and territory-based collaborative governance. Integrating groundwater into the water regulatory framework is incomplete, as is an understanding of the extent and distribution of groundwater in the province. Water bottling operations now look much more like a form of water export, and BC political and regulatory processes have not yet considered how such a growth industry should be treated in the context of existing commitments to collaborative governance relationships between Indigenous governing organizations and the Province of BC, sustainable water use and groundwater regulation. At minimum, the Province of BC must place a moratorium on approving new licences for water bottling until consent-based and watershed governance processes are established across BC.

Part 1. Context: Sustainable Water in British Columbia

BC residents and businesses rely on healthy water sources for clean and accessible drinking water, local government infrastructure, hydro power, tourism, recreation, and cultural relationships with water. Faced with the consequences of climate change, the importance of access to fresh water and managing future droughts will only grow.[18] There is remarkable convergence between communities and governments in British Columbia (BC) on the importance of water. BC residents recognize the significance of protecting water; a recent poll shows that 91% of residents agree that fresh water is our most precious resource, and 85% agree that "fresh water is a basic human right not to be denied or sold off by governments or corporations."[19]

The Province of BC has acknowledged the immense value of water and the importance of its protection. In the Clean BC plan, the Province committed to furthering the protection of BC's resources, "to guarantee clean air, land and water for future generations."[20] The service plan of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) has also committed to *proactively* and *collaboratively* managing natural hazards such as droughts, "ensure environmentally-responsible natural resource management practices,"[21] and "fully implement the *Water Sustainability Act.*"[22] These commitments operate alongside the Province of BC's pledge to ban plastics as single use packaging, reduce plastics overall, and better deal with the entire life cycle of plastic products.[23]

However, BC's water resources are finite and are vulnerable to the cumulative and compound risks and impacts of population growth, urbanization, industrialization, and climate change.[24] While

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[18] Government of British Columbia, "CleanBC: Climate Preparedness and Adaptation Strategy: Draft Strategy and Phase 1 Actions for 2021-2022" (no date), online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/cpas_2021.pdf>

[19] McAllister Opinion Research, "2018 BC Freshwater Public Opinion Insights Topline Report" (June 2018) at 14, online (pdf): <https://d3n8a8pro7vhmx.cloudfront.net/freshwateralliance/pages/2527/attachments/original/1608160893/2018_McAllister-CFA_BC_Fresh_Water_Opinion_Insights_v2020.pdf?1608160893> [perma.cc/N4NT-C9KN].

[20] Government of British Columbia, "CleanBC: Our nature. Our power. Our future." (December 2018) at 15, online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_2018-bc-climate-strategy.pdf> [perma.cc/N2NH-RXAK].

[21] Ministry of Forests, Lands, Natural Resource Operations and Rural Development, "2018/19 – 2020/21 Service Plan," (February 2018) at 9, online (pdf): *Government of British Columbia* <https://www.bcbudget.gov.bc.ca/2018/sp/pdf/ministry/flnr.pdf> [perma.cc/49LG-9VB5].

[22] Ministry of Forests, Lands, Natural Resource Operations and Rural Development, "2018/19 – 2020/21 Service Plan," (February 2018) at 9, online (pdf): *Government of British Columbia* <https://www.bcbudget.gov.bc.ca/2018/sp/pdf/ministry/flnr.pdf> [perma.cc/49LG-9VB5].

[23] CleanBC: Plastics Action Plan, online https://cleanbc.gov.bc.ca/plastics.

[24] Government of British Columbia, Ministry of Environment and Climate Change Strategy, "Preliminary Strategic Climate Risk Assessment for British Columbia (2019)" online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/prelim-strat-climate-risk-assessment.pdf>.

there is limited information about watersheds in the province,[25] water scarcity issues are accelerating across BC.[26] Some analysis points to 63% of the population living in water-stressed areas,[27] and many Indigenous communities have poor access to safe drinking water. Less than 6% of easily accessible groundwater is renewable within a lifetime, meaning the vast majority of accessible groundwater is effectively non-renewable.[28] With growing demand for water resources, the public has an interest in making sure that water is effectively managed; in a 2018 poll, 87% of residents believed that there would be serious challenges associated with water management within 10 years if the current management regime does not change.[29] The Province of BC is increasingly called upon to address water security by effectively regulating surface and groundwater through licensing, which includes defining which uses of water meet the objectives of sustainable water use.

First Nations leadership organizations have identified reforming decision making for water and the *Water Sustainability Act* (*WSA*) as priorities.[30] Water is an integral part of Indigenous authority, including aboriginal title and rights, and Indigenous organizations reject the Province of BC's unilateral assertion of jurisdiction over water.[31] In this context, an important legal shift is occurring in BC with the Province of BC's commitment to align BC law with UNDRIP.[32] While state law asserts ownership over all water for the Province of BC,[33] the provincial *DRIPA* affirms Indigenous governing bodies and enables consent-based and delegated decision making.[34]

Bringing these diverse factors together – sustainable water use, reduction in plastics, and Indigenous authority – puts the spotlight on the use of water for water bottling. The Province of BC continues to permit water bottling as an industrial use of water even though putting water in

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[25] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].

[26] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 8, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].

[27] T Gower and A Barroso, "Tapped Out: A Special Report on Water Scarcity and Water Solutions in British Columbia," (September 2019) at i, online (pdf): *Watershed Watch Salmon Society* <https://watershedwatch.ca/wp-content/uploads/2019/09/2019-09-24-Tapped-Out-RGB.pdf> [perma.cc/8Y7P-8D24].

[28] Tom Gleeson, Kevin M Befus, Scott Jasechko, Elco Luijendijk and M Bayani Cardenas, "The global volume and distribution of modern groundwater," (2015) 9:2 Nature Geoscience 161 at 161.

[29] McAllister Opinion Research, "2018 BC Freshwater Public Opinion Insights Topline Report," (June 2018) at 8, online (pdf): <https://d3n8a8pro7vhmx.cloudfront.net/freshwateralliance/pages/2527/attachments/original/1608160893/2018_McAllister-CFA_BC_Fresh_Water_Opinion_Insights_v2020.pdf?1608160893> [perma.cc/N4NT-C9KN].

[30] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[31] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 10 online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[32] United Nations General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples*, A/RES/61/295, UNGAOR, 61st Sess, Supp No 49 (2007) 1, online (pdf): *United Nations Documents* <https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf> [perma.cc/7HGV-QGMD] [Accessed 25 March 2021].

[33] *Water Sustainability Act*, SBC 2014 c 15 s 5.

[34] *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44, s 2.

single-use plastic bottles to be shipped to markets outside of the province and country is in conflict with the commitments to reducing plastics and ensuring the sustainable and beneficial use of water for ecosystems and residents in the province. In 2020, businesses in Canada produced 3.454 billion rigid plastic water bottles, effectively doubling plastic water bottle output in the space of 14 years.[35] This business uses predominantly raw materials rather than recycled plastics.[36] With bottles being one of the most common forms of pollution found in garbage cleanups across Canada,[37] over 120 million bottles went unaccounted for in BC just this year.[38] The single-use plastic bans that governments at all levels are implementing demonstrates the public's support for reducing plastic consumption.[39] Turning to water use for bottling, in 2020 alone the Canadian water bottling industry extracted over 2.6 billion litres of water for bottling.[40] In BC, industrial water bottling licencees pay just $2.25 per million litres, effectively returning almost no

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[35] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[36] Emily Chung, "What really happens to plastic drink bottles you toss in your recycling bin," CBC News (7 January 2020), online: CBC News <https://www.cbc.ca/news/technology/bottle-recycling-1.5416614>.

[36] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[37] Loujain Kurdi "MEDIA BRIEFING: 2018 Plastic Polluters Brand Audit Canada Results," (9 October 2018), online: *GreenPeace Canada* <https://www.greenpeace.org/canada/en/qa/5378/media-briefing-2018-plastic-polluters-brand-audit-canada-results/>.

[38] Return-It, "2019 Annual Report: Deposits, Refunds, and Recovery Rates," (2019) at 29, online: *Return-It* <https://www.return-it.ca/ar2019/pdf/Encorp_AR2019_Section6.pdf>.

[39] City of Vancouver, "Strategy Background: How we Got Here," at the "Bylaws" Dropdown, online: *City of Vancouver* <https://vancouver.ca/green-vancouver/background.aspx>; City of Surrey, by-law No R191, *Plastic Bags and Single Use Items By-law* (14 December 2020), online: *City of Surrey* <https://www.surrey.ca/sites/default/files/corporate-reports/RPT%202020-R191%20Plastic%20Bags%20and%20Single-Use%20Items%20Bylaw.pdf>; City of Nanaimo, by-law No 7283, *A Bylaw to Regulate the Use of Checkout Bags* (19 October 2020), online: *City of Nanaimo* <https://www.nanaimo.ca/bylaws/ViewBylaw/7283.pdf?DocumentId=28815>; City of Rossland, by-law No 2691, *Checkout bag regulation Bylaw* (2019), online: *City of Rossland* <http://www.rossland.ca/sites/default/files/city-hall_bylaws_checkout-bag-regulation-bylaw-no.-2691_2019-05-27.pdf>; Township of Esquimalt, by-law No 2953, *A Bylaw to Regulate the Provision of Checkout Bags* (2020), online (pdf): *Township of Esquimalt* <https://www.esquimalt.ca/sites/default/files/docs/municipal-hall/bylaws/Bylaw_2953_-_Checkout_bag_Regulation_Bylaw_2019_updated_October_2020.pdf>; City of Victoria, by-law No 20-025, *Checkout Bag Regulation Bylaw*, online (pdf): <https://www.victoria.ca/assets/Departments/Sustainability/Checkout%20Bag%20Regulation%20Bylaw%20No.%2020-025%20-%202018.pdf>; City of Richmond, by-law No 10000, *Single-Use Plastic and Other Items Bylaw*, online (pdf): <https://www.richmond.ca/__shared/assets/Proposed_Single-Use_Plastic_and_Other_Items_Bylaw_No54201.pdf>; District of Saanich, by-law No 9589, *Checkout Bag Regulation Bylaw*, online (pdf): *Saanich* <https://www.saanich.ca/assets/Local~Government/Documents/BBLL/Checkout%20Bag%20Regulation%20Bylaw,%20No.%209589,%20NEW%20with%20MOE%20approval.website%20watermark.pdf>; District of Tofino, by-law No 1277, *District of Tofino Single-Use Item Regulation Bylaw* (13 October 2020), online (pdf): *District of Tofino* <https://tofino.civicweb.net/filepro/document/94683/Single%20Use%20Item%20Regulation%20Bylaw%20No.%201277,%202020.pdf>; and District of Ucluelet, by-law No 1247, *A by-law to regulate distribution of single-use plastic items by business* (2019), online (pdf): *District of Ucluelet* <https://ucluelet.ca/images/Bylaw_1247_Single-use_Plastic_Regulation_Bylaw.pdf>.

[39] Ministry of the Environment, Conservation and Parks, "Discussion paper on reducing litter and waste in our communities," (6 March 2019), online (pdf): *Province of Ontario* <https://prod-environmental-registry.s3.amazonaws.com/2019-03/Reducing%20Litter%20and%20Waste%20in%20Our%20Communities%20Discussion%20Paper_0.pdf>.

[40] Euromonitor International, "Market Sizes: Canada Bottled Water, Total Volume," (2020), online: *Euromonitor* <https://www-portal-euromonitor-com.ezproxy.library.uvic.ca/portal/statisticsevolution/index> [Accessed 29 March 2021].

revenue to the Province of BC for water management. The cost paid for the resource – water – is less than a penny per bottle.

This submission is motivated by the multiple pending applications for new licences to extract groundwater for water bottling export from BC. After reviewing the law and evidence relating to groundwater regulation, the conclusion and recommendation is that the Province of BC place a moratorium on new licences for commercial water bottling, at least until watershed-based governance is in place, including consent-based regimes with Indigenous communities. Data generation and deliberation through collaborative local watershed governance processes is how to determine whether there is adequate water security to support commercial water bottling as a viable use, and whether local communities will benefit from exporting water in bottles.

Part 1 of this submission provides a brief overview of the history of water regulation in BC and the context surrounding commercial water bottling. Part 2 examines the *WSA*, knowledge gaps and opportunities. Part 3 highlights the relational value of water to Indigenous communities and in Indigenous law, and points to the impact of UNDRIP on water regulation. Part 4 revisits the policy and legal conversation from the 1990's that saw all provinces ban bulk water exports, considers the impact of free trade agreements on water, and points to the rise of the global water bottling industry as a new form of water export. Further context is provided in Appendix A, which explores in more depth the impacts of plastics in the water bottling industry, and Appendix B, which addresses how the extraction of water for water bottling is misaligned with the commitments and interests of communities and governments in BC. In conclusion, the incomplete state of groundwater regulation in BC, the lack of groundwater knowledge and insufficient collaborative authority with Indigenous communities underscores the need for a moratorium on further water licences for commercial water bottling until foundational governance infrastructure is put in place.

1.1 WATER REGULATION, WATER BOTTLING AND INDIGENOUS AUTHORITY: A HISTORICAL PERSPECTIVE

The 1909 *Water Act*[41] codified many water law principles that are still operational today within a context of unresolved Aboriginal and treaty rights to water, as well as Indigenous authority throughout BC. These state water law principles include the Crown's assertion of ownership and governance over water resources and the "first in time, first in right" (FITFIR) allocation doctrine, which prioritizes water users by date of licence seniority irrespective of the changing utility of the use.[42] Notable developments since 1909 include the 1996 *Water Protection Act* (*WPA*), which banned bulk water exports with the exception of in containers of 20 litres or less.[43] This exception was intended to allow travelers to cross the border in motor homes for vacation,[44] and upheld the general intent of the provision that BC was not open for water export.

Since the enactment of the *WPA*, the water bottling industry has grown exponentially. PepsiCo and Coca-Cola began bottling water in 1994 and 1999 respectively, introducing their products through established distribution chains and marketing.[45] In 2001, worldwide bottled water sales reached $67 billion.[46] These figures have been steadily climbing ever since, with sales projected to continue to grow 7% between 2012 and 2025, reaching $392.5 billion USD.[47] According to the Freshwater Alliance, bottled water exports from BC to the United States have increased 1,460% in the past decade.[48] In 2019, Canada exported $236.4 million worth of bottled water, soft drinks and ice.[49] Packaged in individual containers less than 20L in volume, bottled water has been readily commodified and exported, evading the bulk water export prohibitions in section 5 of the *WPA.*[50] Total export volumes, however, are tipping into bulk water export but packaged in smaller containers that the Legislature did not consider when enacting the 1996 prohibition.

The growth of the bottled water industry is occurring at a time when the Province of BC's regulatory relationship with groundwater is still in its infancy. While surface water has been subject to province-wide regulation since 1909, groundwater only joined the regulated hydrologic

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[41] *Water Act,* RSBC 1996, c 483.
[42] *Water Sustainability Act,* SBC 2014, c 15 at ss 5 and 22; Oliver M Brandes and Deborah Curran, "Changing Currents: A Case Study in the Evolution of Water Law in Western Canada," (2017) at 53, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2017/08/ChangingCurrentsChapter.pdf> [perma.cc/97FN-JYBD].
[43] *Water Protection Act*, RSBC 1996, c 484, s 5(c).
[44] "*Water Protection Act,"* 2nd reading, *House of Commons Debates,* 35-4, Vol 20, No 16 (1 June 1995) at 14832 (C Serwa).
[45] BCC Publishing, "Birth of the Bottled Water Industry" (September 2018), online: <https://blog.bccresearch.com/birth-of-the-bottled-water-industry> [perma.cc/8KAQ-V89X].
[46] BCC Publishing, "Birth of the Bottled Water Industry" (September 2018), online: <https://blog.bccresearch.com/birth-of-the-bottled-water-industry> [perma.cc/8KAQ-V89X].
[47] Statistica Consumer Market Outlook, "Bottled Water Report 2020," (November 2020) at 8, online: <https://www.statista.com/study/48820/bottled-water-report/>.
[48] Freshwater Alliance, "Landmark vote by B.C. municipalities and First Nations re bottled water," (November 2019), online: <https://www.freshwateralliance.ca/ubcm_bottling_resolution_2019>.
[49] Government of Canada, "Summary – Canadian Industry Statistics: Soft Drink and Ice Manufacturing – 31211," (February 2021), online: <https://www.ic.gc.ca/app/scr/app/cis/summary-sommaire/31211>.
[50] *Water Protection Act*, RSBC 1996, c 484, s 5(c).

cycle in 2016 with the enactment of the *WSA*, which requires all non-domestic users to obtain a licence to divert groundwater.[51] The *WSA* was intended to "ensure our water is properly regulated, protected and conserved for future generations."[52]

In the legislative debates on the new *WSA*, members of the legislature noted that the protection of water has seeped through the cracks in the past, acknowledging that the Province of BC has historically failed to prioritize an actionable and enforceable scheme which properly values water.[53] The *WSA* sets out a framework for the management, diversion, and use of both surface and groundwater through a licensing scheme based on the FITFIR principle stemming from the 1909 *Water Act*. Initially, existing non-domestic users of groundwater had until 2019 to apply for a licence to maintain their seniority within the provincial regulatory regime, however the Province of BC extended this deadline to 2022 due to the low number of applications and compliance with the new regulations.[54] The *WSA* also confers wide powers upon the cabinet to make regulations in a variety of areas, including respecting water sustainability plans,[55] licensing and use of water,[56] and measuring and reporting.[57]

The *WSA* provides multiple regulatory and planning opportunities for sustainably using water in BC. Section 15 stipulates that the decision maker *must* consider the environmental flow needs of a stream,[58] although the requirement to consider environmental flows does not apply to existing groundwater uses.[59] The *WSA* also introduced water sustainability plans that can address conflicts between users of water and the environment, and address ecosystem restoration needs.[60] Water sustainability plans can be designed to consider the specific needs of a particular watershed community and consider risks to water quality or aquatic ecosystem health.[61] Used alongside the collaborative decision making enabled in *DRIPA*, they also offer the potential to be one tool to express Indigenous interests and laws, and to align Indigenous and state authority in a watershed.[62]

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[51] *Water Sustainability Act,* SBC 2014, c 15 at ss 6 and 140; *Water Sustainability Regulation* B.C. Reg. 36/2016 at s 55.
[52] Mary Polak, "B.C.'s Water Sustainability act includes drought management actions," (June 2015), online: *BC Government News* <https://news.gov.bc.ca/factsheets/opinion-editorial-bcs-water-sustainability-act-includes-drought-management-actions>.
[53] "Bill 18 – Water Sustainability Act," 2nd reading, *House of Commons Debate* 40-2, Vol 9 No 7 (1 April 2014) at 2661 (S Chandra Herbert).
[54] OIC 27/2019 BC Gaz II, Vol 62 No 4 (*Water Sustainability Act*).
[55] *Water Sustainability Act,* SBC 2014, c 15, s 132.
[56] *Water Sustainability Act,* SBC 2014, c 15, s 127.
[57] *Water Sustainability Act,* SBC 2014, c 15, s 131.
[58] *Water Sustainability Act,* SBC 2014, c 15, s 15;
[59] *Water Sustainability Regulation* BC Reg 36/2016 at s 55(4).
[60] *Water Sustainability Act,* SBC 2014, c 15, s 64-85. See Deborah Curran and Oliver M. Brandes, "Water Sustainability Plans: Potential, Options, and Essential Content," (2019) at 1, online (pdf): *POLIS Water* Project <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf> [perma.cc/WF9C-5J2Y].
[61] *Water Sustainability Act,* SBC 2014, c 15, s 65; See Deborah Curran and Oliver M. Brandes, "Water Sustainability Plans: Potential, Options, and Essential Content," (2019) at i, online (pdf): *POLIS Water* Project <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf> [perma.cc/WF9C-5J2Y].
[62] Haoyu Nie and Deborah Curran, "Incorporating Indigenous into, or Operating in Parallel with, Decision Making under the *Water Sustainability Act*" (Victoria: Environmental Law Center, 2020), online (pdf): *Environmental Law Centre* <https://elc.uvic.ca/publications/indigenous-interests-and-the-wsa/>.

It is within this provincial context of newly aligned and incomplete surface and groundwater regulation with a multi-pronged commitment to operationalizing Indigenous authority in relation to state decision making that the exponential global growth of the water bottling industry is affecting BC communities.

1.2 WATER BOTTLING AS A REGULATED ACTIVITY

In order to take water in BC, users must have a licence,[63] which entitles the licence holder to use the water for a specific purpose.[64] Uses of water are set out in the *Water Sustainability Regulations*, where "fresh water bottling" is listed as a designated (permitted) industrial purpose.[65]

Unlike other major water uses, such as domestic and some agriculture, a portion of which is returned to the water cycle, water extracted for the purpose of water bottling and export does not remain in the watershed.[66] Water captured in bottles is removed entirely from a watershed and no longer available as part of the regional hydrologic cycle. Except for the households and communities that rely on trucked water, water bottling is an inessential use of water sold as a commodity. With the availability and affordability of municipal tap water,[67] water bottling is unnecessary in the BC context and permits licence holders to directly commodify BC water without watershed planning or community input as to water use priorities.

In addition, water bottling plants offer little added value to provincial water management functions. As stated above, the Province of BC charges a water rental of $2.25 per million litres of water extracted,[68] which essentially offers a free primary input for the water bottling operation. For example, what has been known as the Nestlé water bottling plant in Hope extracts 300 million litres of water annually[69] at a cost of $675 and provides 75 jobs.[70]

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[63] *Water Sustainability Act,* SBC 2014, c 15, s 6.
[64] *Water Sustainability Act,* SBC 2014, c 15, s 9.
[65] *Water Sustainability Regulations*, B.C. Reg 36/2016, Schedule A.
[66] Susan Rutherford, "*Groundwater Use in Canada*" (November 2004) at 16, online (pdf): *West Coast Environmental Law* <https://www.wcel.org/sites/default/files/publications/Groundwater%20Use%20in%20Canada.pdf> [perma.cc/2W6T-QGSF].
[67] As Helle Marcussen *et al* note, "Bottled water is 240 to 10000 times more expensive than tapwater." See Helle Marcussen et al, "Composition, Flavour, Chemical Food Safety, and Consumer Preferences of Bottled Water," (2013) 12 *Comprehensive Reviews in Food Science and Food Safety* 333 at 333 (Wiley).
[68] CBC News, "Nestlé BC water deal too cheap, says NDP," (20 February 2015), online: *CBC News* <https://www.cbc.ca/news/canada/british-columbia/nestlé-b-c-water-deal-too-cheap-says-ndp-1.2964709>.
[69] District of Hope, "Hope Imagine 2040: Discussion Guide," (September-October 2015) at 14, online (pdf): *District of Hope* https://hope.ca/sites/default/files/ideasjam_-_discussion_guide_v.8_final.pdf [perma.cc/74RZ-RWRM]. Media have reported that Nestlé has sold its Canadian bottled water facilities to Ice River Springs: CBC, "Nestle sells Pure Life bottled water business as changes to Ontario groundwater rules loom" July 2 2020 online: <https://www.cbc.ca/news/business/nestle-pure-life-1.5635472>. However, the Hope facility is still listed on its website: <https://www.corporate.nestle.ca/en/ask-nestle/water/answers/nestle-waters-british-columbia-overview>.
[70] John Fortoloczky (District of Hope Chief Administrative Officer), online: <https://wsabc.ca/the-wild-west-of-groundwater-billion-dollar-nestle-extracting-b-c-s-drinking-water-for-free/> [perma.cc/X8P8-LD55].

Over the past several years, applications for water licences for commercial bottling have attracted public debate in several communities. In 2019, the Union of BC Municipalities endorsed a resolution unanimously passed by the Association of Vancouver Island and Coastal Communities[71] calling on the Province to "immediately cease the licensing and extraction of groundwater for commercial water bottling and/or bulk exports from aquifers."[72] Currently, the BC Water Licence database lists six pending applications for new groundwater licences for water bottling purposes in BC,[73] and community and Indigenous organizations report at least five more that are not readily apparent in the database. For example, in the Town of Golden, an applicant is seeking to divert water from a local aquifer for commercial water bottling purposes.[74] The Town of Golden demonstrated their interest in maintaining local control over water through a unanimous vote to require all groundwater users within the boundaries of the municipality to connect to the town water distribution system and charge rental fees accordingly.[75] Near Clinton, which has a desert-like climate, First Nations are opposing an application for a water licence for commercial water bottling for a number of reasons, in particular the limited hydrological data on which the application is based.[76]

Provincial and Local Government Prohibitions on Water Bottling

Ontario

The government of Ontario has taken a unified provincial approach to managing its water to ensure sustainability and conservation for future generations that acknowledges the need for regional specificity.[77] Ontario is in the process of "proposing regulatory changes for managing water takings to protect the long-term sustainability of surface water and groundwater and to ensure these important resources are responsibly managed and safeguarded now and for future generations."[78] Ontario has an ongoing moratorium on new or increased permits to take groundwater for the purposes of water bottling.[79] It is exploring legislative

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[71] Association of Vancouver Island and Coastal Communities, Resolution 15, *Groundwater Extraction* (2019) at 43, online (pdf): <https://avicc.ca/wp-content/uploads/2019/04/Program-and-Resolutions-2019.pdf> [perma.cc/TM8T-DDFD].
[72] Union of BC Municipalities, Resolution B154, *Groundwater Extraction* (2019), online: *Union of BC Municipalities* <https://www.ubcm.ca/resolutions/ResolutionDetail.aspx?id=5672&index=5&year=2019&no=&resTitle=&spons=&res=&prov=&fed=&other=&conv=&exec=&comm=&sortCol=year&sortDir=asc> [perma.cc/BP7V-YMKM].
[73]This information was gathered using the BC Water Licences Query Tool: <https://j200.gov.bc.ca/pub/ams/Default.aspx?PossePresentation=AMSPublic&PosseObjectDef=o_ATIS_DocumentSearch&PosseMenuName=WS_Main.>
[74] BC Local News, "Investment group plans to build water bottling facility in Golden," (22 August 2019), online: *BC Local News* <https://www.bclocalnews.com/news/investment-group-plans-to-build-water-bottling-facility-in-golden/> [perma.cc/BU7T-A6WM].
[75] Town of Golden, "Minutes of the Regular Open Council Meeting held March 16 2021 at 1:15 p.m." (16 March 2021) at 4, online: <https://golden.civicweb.net/Portal/MeetingInformation.aspx?Id=1145>.
[76] Information on file with the Environmental Law Centre.
[77] Ministry of the Environment, Conservation and Parks, "Updating Ontario's Water Management Framework," *Environmental Registry of Ontario* (18 June 2020), online: *Ontario Newsroom* <https://ero.ontario.ca/notice/019-1340>.
[78] Ministry of the Environment, Conservation and Parks, "Updating Ontario's Water Management Framework," *Environmental Registry of Ontario* (18 June 2020), online: *Ontario Newsroom* <https://ero.ontario.ca/notice/019-1340> [Accessed 1 April 2021].
[79] Government of Ontario, ERO 019-2319, "Proposal to extend the current moratorium on water bottling permits," (30 September 2020), online: *Environmental Registry of Ontario* <https://ero.ontario.ca/notice/019-2319> [Accessed 1 April 2021].

amendments for an area-based approach to water management and will engage with the public, stakeholders and Indigenous communities.[80]

Local Government Bylaws Across BC Addressing Water Bottling

Many BC local governments are being proactive in prohibiting water bottling operations or requiring that any such operations connect to the local government water service. For example, after significant public opposition to a groundwater licence application for water bottling in Merville on Vancouver Island, all three local governments in the Comox Valley Regional District changed their bylaws to prohibit the bottling of groundwater.[81] An example of action by one of these communities is the Village of Cumberland's recently introduced zoning amendment bylaw that would "[p]rohibit water and beverage bottling in all zones, except where the source is the municipal water supply[.]"[82]

Most recently, the City of Salmon Arm, in response to a groundwater licence application for commercial water bottling, passed a resolution indicating that it "does not support the extraction of freshwater resources from surface or groundwater for the purposes of commercial bottled or bulk water sales" and asked staff to report on options for using land use bylaws to prohibit the commercial bottling of groundwater in all zones.[83]

The Town of Golden is also in the process of enacting similar bylaws, recently unanimously voting to proceed with new bylaws and amendments to existing bylaws that would require all users of groundwater within municipal boundaries to connect to the town water distribution system and pay rental to the town.[84]

Aberfoyle, Ontario

One example of the incongruency of the bottled water industry to community interests is the case in Aberfoyle, Ontario. In 2016, Nestlé outbid the local municipality, which was hoping to purchase the land as a source of drinking water, as a "supplemental well for future business growth."[85] This is of significant concern to the Six Nations of the Grand River First Nation, a portion of whose 11,000 members are without access to potable running water despite living on the very aquifer from which what has been known as the Nestlé water bottling plant is extracting.[86]

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[80] Government of Ontario, ERO 019-2319, "Proposal to extend the current moratorium on water bottling permits," (30 September 2020), online: *Environmental Registry of Ontario* <https://ero.ontario.ca/notice/019-2319>.
[81] Twelve communities on Vancouver Island had already prohibited water bottling by bylaw or through policy, and after the controversy in Merville the Strathcona Regional District, City of Campbell River, Town of Qualicum Beach, City of Powell River, District of Squamish and Columbia Shuswap Regional District all enacted prohibitions. Bruce Gibbons, personal communication May 13 and June 16 2021 (on file with the Environmental Law Centre).
[82] The Village of Cumberland, "Public Hearing March 2, 2021" at "Summary of Amendments – For Convenience" at number 3, online: *The Village of Cumberland* <https://cumberland.ca/meetings/01-2021-ph/> [https://perma.cc/7RQL-VV5H].
[83] City of Salmon Arm, "Minutes of the Regular Council Meeting of May 25 2021" at pp 11 and 355 online (pdf) <http://www.salmonarm.ca/AgendaCenter/ViewFile/Item/155?fileID=687>.
[84] Town of Golden, "Minutes of the Regular Open Council Meeting held March 16 2021 at 1:15 p.m." (16 March 2021) at 4, online: <https://golden.civicweb.net/Portal/MeetingInformation.aspx?Id=1145> [https://perma.cc/B2MV-FPUC].
[85] Keith Leslie, "Nestle outbids small Ont. municipality to buy well for bottled water," *CTV News* (22 September 2016), online: <https://www.ctvnews.ca/business/nestle-outbids-small-ont-municipality-to-buy-well-for-bottled-water-1.3083687> [https://perma.cc/SW8B-7VKJ].
[86] Keith Leslie, "Nestle outbids small Ont. municipality to buy well for bottled water," *CTV News* (22 September 2016), online: <https://www.ctvnews.ca/business/nestle-outbids-small-ont-municipality-to-buy-well-for-bottled-water-1.3083687> [https://perma.cc/SW8B-7VKJ].

In the new hydrological context under the *WSA* that links groundwater and surface water, and where the Province of BC has committed to implementing UNDRIP,[87] issuing new water licences for water bottling is premature. The rational next step to aligning the Province of BC's efforts to promote sustainable and collaborative water management is to place a moratorium on new water bottling licences until watershed-based governance is in place.

Recommendation 1: Place a Moratorium on New Water Licences for Water Bottling

A moratorium on all new licences for water bottling is necessary until, at minimum, the Province of BC generates a more complete understanding of the cumulative impacts of groundwater extraction. Several jurisdictions experiencing water stress, particularly groundwater stress, have enacted moratoria on new licences for water bottling, including the Province of Ontario. Placing a moratorium on new water bottling licences allows BC to generate better knowledge about existing water extraction and aquifer recharge, have a better understanding of existing groundwater use as the groundwater licensing process progresses, and develop distributed water governance mechanisms, such as through WSPs that capture local hydrological and hydrogeological conditions and Indigenous authority.

As explored throughout this submission, the WSA offers many tools to sustainably manage BC's water and fill in information gaps. These tools have potential to work alongside the implementation of *DRIPA,*[88] reducing conflict and promoting Indigenous self-determination. Banning new water bottling licences will also create space for public debate about the commodification of water and the implications of international trade agreements. Finally, banning water bottling is consistent with the Province of BC's efforts to reduce the use of single-use plastics and conserve the environment of BC.

[87] *United Nations Declaration on the Rights of Indigenous Peoples*, UNGAOR, 61st Sess, Supp No 49, UN Doc A/RES/61/295 (2 October 2007).
[88] *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44.

Part 2. Groundwater Licensing and Water Bottling

As with most countries in the world, around 30% of Canada's water use is groundwater. BC reliance on groundwater follows that trend, however there is increasing evidence that a significant portion of that use is from stressed aquifers. There is incomplete information about groundwater use and recharge, which the new groundwater licensing regime for existing licences will map onto because all valid applications will be "grandfathered" into the FITFIR water allocation system originally applied to surface water. Without meaningful cumulative effects assessment for aquifers, it is increasingly important that new tools under the *WSA* such as water sustainability plans that enable watershed governance are employed before the Province issues new water licences for water bottling.

2.1 GROUNDWATER IN BC

Groundwater is a critical resource around the globe, particularly as it provides drinking water to at least half of the world's population.[89] Maintaining groundwater quantity and quality is essential for the health of communities and ecosystems, as recent studies have revealed that unsustainable rates of groundwater extraction threatens water and food security, both locally and globally.[90] The negative effects stemming from groundwater depletion are not only felt by humans, but can extend to ecological systems and aquatic habitat as well. Groundwater "maintains flows in streams and other water bodies during dry periods," preserving water temperatures for BC's cool-water salmon species.[91] Given the central role groundwater plays in maintaining societies and ecosystems, its depletion has been recognized by scholars as "arguably one of humanity's greatest sustainability challenges."[92]

In BC, a significant portion of the population and economic processes rely on groundwater. One in four residents depend on groundwater for their domestic water needs, and groundwater also

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[89] UNESCO World Water Assessment Program, "United Nations World Water Development Report 2015: Water for a Sustainable World – Facts and Figures," (2015) at 2, online (pdf): <http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/images/WWDR2015Facts_Figures_ENG_web.pdf> [perma.cc/CY7J-8P2T].

[90] J C Castilla-Rho, R Rojas, M S Andersen, C Holley and G Mariethoz, "Sustainable groundwater management:How long and what will it take?" (2019) 58 Global Environmental Change 101972.

[91] T Gower and A Barroso, "Tapped Out: A Special Report on Water Scarcity and Water Solutions in British Columbia," (September 2019) at 8, online (pdf): *Watershed Watch Salmon Society* <https://watershedwatch.ca/wp-content/uploads/2019/09/2019-09-24-Tapped-Out-RGB.pdf> [perma.cc/8Y7P-8D24].

[92] J C Castilla-Rho, R Rojas, M S Andersen, C Holley and G Mariethoz, "Sustainable groundwater management:How long and what will it take?" (2019) 58 Global Environmental Change 101972.

supports key economic sectors including agriculture, manufacturing, energy, and industry.[93] Across BC, it is estimated that 562 million cubic metres of groundwater are used annually.[94] BC is often viewed as a province with an abundance of water, however, the small amount of research on groundwater sustainability – the ratio of aquifer withdrawal to recharge - indicates that BC's aquifers are becoming stressed. A 2018 study found that 20% of the unconfined aquifers in the province are likely stressed,[95] and 20% of the observation wells in the province are experiencing moderate to large declines in water levels.[96] The Ministry of Environment has reported that 5,000 water sources in the province have identified water shortages or restrictions.[97] For example, in Langley, BC, the water levels of the Hopington Aquifer have been declining at a rate of 30cm per year for the past decade.[98]

Despite widespread dependence on groundwater,[99] there remains a dearth of essential knowledge regarding groundwater both in BC and throughout Canada. The Canadian Council of Ministers of the Environment (CCME) released a report identifying the many knowledge gaps, including groundwater sustainability, mapping, data, a lack of knowledge regarding cumulative effects of extraction, uncertainties relating to the interaction between groundwater and surface water, and the potential effects of climate change.[100]

Similar concerns for groundwater in BC have been expressed, in particular that "the province lacks comprehensive aquifer mapping and classification, and significant knowledge gaps exist."[101] BC

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[93] Oliver M Brandes, Savannah Carr-Wilson, Deborah Curran and Rosie Sims, "Awash with Opportunity: Ensuring the sustainability of British Columbia's new water law," (November 2015) at 13, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2015/11/Awash-FINAL-WebVersion-compressed.pdf> [perma.cc/2ND2-GU5W].
[94] Tara Forstner, Tom Gleeson, Leigh Borrett, Diana M Allen, Mike Wei and Andarge Baye, "Mapping Aquifer Stress, Groundwater Recharge, Groundwater Use, and the Contribution of Groundwater to Environmental Flows for Unconfined Aquifers across British Columbia," (August 2018) at ii, online (pdf): <https://a100.gov.bc.ca/pub/acat/documents/r54468/WSS-2018-04GWfootprint_1532281350342_2278704448.pdf>.
[95] Tara Forstner, Tom Gleeson, Leigh Borrett, Diana M Allen, Mike Wei and Andarge Baye, "Mapping Aquifer Stress, Groundwater Recharge, Groundwater Use, and the Contribution of Groundwater to Environmental Flows for Unconfined Aquifers across British Columbia," (August 2018), online (pdf): *Water Science Series* <https://a100.gov.bc.ca/pub/acat/documents/r54468/WSS-2018-04GWfootprint_1532281350342_2278704448.pdf> [perma.cc/85QT-K8LN].
[96] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 5, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/HC46-3G9K].
[97] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 10, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/HC46-3G9K].
[98] Juncheng Hu, "Groundwater Predictive Model on the Effect of Land Use Impacts on the Hopington Aquifer in Langley, BC," (2019) at 3, online (pdf): <http://lfs-mlws.sites.olt.ubc.ca/files/2019/09/Hu-J-2019-Groundwater-Predictive-Model-on-the-Effects-of-Land-Use-on-the-Hopington-Aquifer-in-Langley-BC.pdf> [perma.cc/G4N6-B87Y].
[99] Oliver M Brandes, Savannah Carr-Wilson, Deborah Curran and Rosie Sims, "Awash with Opportunity: Ensuring the sustainability of British Columbia's new water law," (November 2015) at 13, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2015/11/Awash-FINAL-WebVersion-compressed.pdf> [perma.cc/2ND2-GU5W].
[100] Canadian Council of Ministers of the Environment, Water Agenda Development Committee "Review and Assessment of Canadian Groundwater Resources, Management, Current Research Mechanisms and Priorities," (2010) at 3, online (pdf): <https://ccme.ca/en/res/reviewandassessmentofcdngroundwaterresourcese.pdf> [perma.cc/8JB9-TKCM].
[101] Tara Forstner, Tom Gleeson, Leigh Borrett, Diana M Allen, Mike Wei and Andarge Baye, "Mapping Aquifer Stress, Groundwater Recharge, Groundwater Use, and the Contribution of Groundwater to Environmental Flows for Unconfined Aquifers across British Columbia," (August 2018), online (pdf): *Water Science Series*

also lacks a groundwater extraction monitoring system. The Province of BC knows how much water licence holders are authorized to use but does not know how much water is being extracted. The Province of BC is therefore unable to assess the cumulative effects of groundwater extraction, including the potential for secondary impacts such as land subsidence.[102] Finally, there is little data on the contribution of groundwater to surface water flows, which results in a poor understanding of environmental flows required to maintain watershed health.[103]

In summary, in most areas of the province, the characteristics of local and regional groundwater resources are only understood in a general sense. Investigation into specific threats to groundwater from industrial activities and surface contamination is limited. There are few comprehensive local or regional water management plans that take into consideration growing local population and demand. Climate change may affect surface water resources and increase the need for groundwater access for local residents. These data limitations and anticipated climate change impacts mean that decisions on issuing commercial licences for groundwater extraction can be made while lacking essential information and planning.

2.2 WEAK GROUNDWATER REGULATION AND POTENTIAL OF WATER SUSTAINABILITY PLANS

For the first time, provincial law through the *WSA* imposes a licensing requirement for the extraction of groundwater for non-domestic purposes. The purpose of the licensing scheme is to provide information to the government regarding groundwater extraction to facilitate better management of the resource.[104] Prior to enactment of the *WSA*, comments during the legislative debates suggested that "regulations are going to be where this act becomes strong or fails to protect our water again,"[105] emphasizing the importance of effective modernized regulations.

When assessing groundwater licence applications, the *WSA* does not require consideration of the cumulative impacts of extraction, and thus there is no mandatory analysis or understanding of the cumulative effects of continued extraction.[106] Section 15 of the *WSA* requires that the decision

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<https://a100.gov.bc.ca/pub/acat/documents/r54468/WSS-2018-04GWfootprint_1532281350342_2278704448.pdf> [perma.cc/85QT-K8LN]; Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].

[102] Devin Galloway, David R. Jones and S.E. Ingebritsen, *Land Subsidence in the United States* Circular 1182 (Denver, CO: United State Geological Services, 1999).

[103] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].

[104] BC Government News, "Groundwater licence application fee waiver extended," (March 2017), online: *BC Government News* <https://news.gov.bc.ca/releases/2017ENV0018-000546>.

[105] Bill 18 – Water Sustainability Act", 2nd reading, *House of Commons Debate* 40-2, Vol 9 No 7 (1 April 2014) at 2662 (S Chandra Herbert).

[106] Oliver M Brandes and Rosie Simms, "Top 5 Water Challenges that will Define British Columbia's Future," (September 2016) at 11, online (pdf): *POLIS Water Project* <https://poliswaterproject.org/files/2016/09/POLIS-Top5-final-web.pdf> [perma.cc/9ARR-H6BD].

maker consider environmental flow needs for new user applications,[107] however applications for existing groundwater uses are exempted from this evaluation.[108] For the review of applications for new groundwater uses, there is little information available regarding environmental flows and the interaction between groundwater and surface water, making full and meaningful evaluation challenging.[109]

In contrast to this hydrologically disconnected approach to groundwater regulation, the *WSA* introduced water sustainability plans (WSPs), a comprehensive watershed planning tool that can operate alongside Indigenous governance and incorporate adaptive water management of individual watersheds or regions.[110] Under section 65 of the *WSA*, the minister may order the development of a WSP if the minister considers that a plan for the area will assist in preventing or addressing conflicts between users, or risks to water quality and ecosystem health.[111] The tool enables a consultative planning process between local stakeholders and Indigenous and state authorities to create a long-term plan for a local watershed or region, with the potential for incorporating co-governance arrangements between the state and Indigenous governing organizations.[112] Once in place, WSPs are able to change existing water entitlements and their priorities, allowing for an adaptive approach in response to changes in climate, human and economic activity.[113] There is extensive untapped potential in WSPs, as they have the ability to create context-specific regulation for water and establish a framework for the recognition of territorially-appropriate Indigenous authority.[114] While none currently exist in BC, the Province has committed to exploring their development with five First Nations in the Nicola Valley and Cowichan Tribes.[115]

With the weak state of groundwater knowledge in BC and a regulatory regime that inadequately assesses environmental flows and aquifer sustainability, there is little rationale to support water

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[107] *Water Sustainability Act,* SBC 2014, c 15, s 15.
[108] *Water Sustainability Regulation*, B.C. Reg 36/2016 s 55(4).
[109] For a discussion of the challenges with evaluating groundwater-surface water interactions, see *Halstead v Warner Water Manager* Decision No. 2017-WAT-007a online: *BC Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2017wat007a.pdf>.
[110] *Water Sustainability Act,* SBC 2014, c 15, s 64-85; Deborah Curran and Oliver Brandes, "Water Sustainability Plans: Potential, Options and Essential Content" (October 2019) online (pdf): *Polis Water Project and Environmental Law Centre* <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf>.
[111] *Water Sustainability Act,* SBC 2014, c 15, s 65.
[112] Deborah Curran and Oliver M. Brandes, "Water Sustainability Plans: Potential, Options, and Essential Content," (2019) at 1, online (pdf): *POLIS Water* Project <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf> [perma.cc/WF9C-5J2Y]; *Water Sustainability Act,* SBC 2014, c 15, s 73.
[113] Deborah Curran and Oliver M. Brandes, "Water Sustainability Plans: Potential, Options, and Essential Content," (2019) at 1, online (pdf): *POLIS Water* Project <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf> [perma.cc/WF9C-5J2Y]; *Water Sustainability Act,* SBC 2014, c 15, s 78(1).
[114] Deborah Curran and Oliver M. Brandes, "Water Sustainability Plans: Potential, Options, and Essential Content," (2019) at 3, online (pdf): *POLIS Water* Project <https://poliswaterproject.org/files/2019/10/POLIS-WSP2019-6e1-web.pdf> [perma.cc/WF9C-5J2Y].
[115] See the Nicola Watershed Pilot Memorandum of Understanding; online https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/nicola_watershed_pilot_mou_-_signed_2018.pdf and Letter of Agreement between Cowichan Tribes and the Province of BC for the Koksilah Watershed; Robert Barron, "Cowichan Tribes, province sign agreement to develop plan for Koksilah watershed", (12 Feburary 2020), online: *BC Local News* <https://www.bclocalnews.com/news/cowichan-tribes-province-sign-agreement-to-develop-plan-for-koksilah-watershed/> [perma.cc/U9N3-WRD2].

bottling as a low value use. Placing a moratorium on new licences for water bottling aligns with the Province's goal of "ensur[ing] our water is properly regulated, protected and conserved for future generations."[116] At this time, there is insufficient hydrological information regarding groundwater, a lack of knowledge regarding cumulative effects of extraction, and the potential future effects of climate change.[117] This information is critical to the proper management and sustainability of water resources because groundwater is effectively non-renewable,[118] and unlike many other uses, water bottling permanently removes water from the watershed.[119] The potential of WSPs to address conflicts between users and the environment through long-term planning and begin to address some of these shortcomings provides a clear mechanism for collaborative watershed-based governance in BC.

Recommendation 2: Extend the Moratorium on New Water Licences for Water Bottling Purposes at least until Watershed-Based Governance is in Place

A moratorium on new licences for water bottling must be in place until there is watershed- or territory-based governance such as through a WSP that is jointly governed and implemented with the consent of the Indigenous communities in a territory. Due to the diversity of ecosystems, Indigenous governing organizations, and stakeholders throughout the province, context-specific plans that comprehensively consider the needs and capacity of aquifers, the local climate, and Indigenous governance are required. This may be achieved through WSPs or delegating governance to community organizations.[120] The delegation of governance would allow the Province of BC to maintain authority and oversight over water management but have the advantage of working alongside organizations that are connected to a region and collaboratively governed with Indigenous communities so that they are well-placed to work with local communities. Delegation would allow the Province to address capacity issues and make use of important community resources that are already present.

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[116] Mary Polak, "B.C.'s Water Sustainability act includes drought management actions," (June 2015), online: *BC Government News* <https://news.gov.bc.ca/factsheets/opinion-editorial-bcs-water-sustainability-act-includes-drought-management-actions>.

[117] Canadian Council of Ministers of the Environment, Water Agenda Development Committee "Review and Assessment of Canadian Groundwater Resources, Management, Current Research Mechanisms and Priorities," (2010) at 3, online (pdf): <https://ccme.ca/en/res/reviewandassessmentofcdngroundwaterresourcese.pdf> [perma.cc/8JB9-TKCM].

[118] Tom Gleeson, Kevin M Befus, Scott Jasechko, Elco Luijendijk and M Bayani Cardenas, "The global volume and distribution of modern groundwater," (2015) 9:2 Nature Geoscience 161 at 161.

[119] Susan Rutherford, "*Groundwater Use in Canada*" (November 2004) at 16, online (pdf): *West Coast Environmental Law* <https://www.wcel.org/sites/default/files/publications/Groundwater%20Use%20in%20Canada.pdf> [perma.cc/2W6T-QGSF].

[120] *Water Sustainability Act,* SBC 2014, c 15, s 126(d).

Recommendation 3: Restrict Water Licences for Water Bottling Purposes to Short-Term Licences

In any case, we recommend that new water licences are issued for short-term periods only, such as for five-year terms. The practice of including an expiry date on industrial water authorization is becoming commonplace and is the norm in BC for other industrial authorizations for the use of water for oil and gas activities and hydropower. As the climate is predicted to change more rapidly and human society continues to develop, a short-term licence will allow the Province of BC to continually evaluate the circumstances surrounding the issuance of the licence. This regular evaluation allows the Province to meaningfully assess whether extraction and recharge are sustainable, and whether that use of water is of value in a community.

Part 3. Indigenous Peoples Relationships with Water and Authority

While the environmental and economic values of water is widely acknowledged by settlers and the state governments in BC, Indigenous people often focus on relationships with water and its cultural importance. The Syilx Nation Siwɬkʷ Declaration illustrates the qualities of these relationships, stating "Water is life. Water is our relation. Water bonds us to our ancestry, our descendants and our land."[121] These relationships create rights and responsibilities to care for *siwɬkʷ*.[122] Many Indigenous peoples understand water as a "special gift from the Creator,"[123] which "belongs to all living things – to all of the flora and fauna in the world."[124] Indigenous communities have emphasized that water should not be commercialized.[125] At the 2001 Water for People and Nature conference, Arthur Manuel affirmed his community's position on water rights, "condemn[ing] any and all treatments of water like a commodity that can be bought, sold, and traded in global and domestic economies. Water for our peoples is profoundly sacred[.]"[126] These relationships with water contrast with provincial regulatory design that largely treats water as an economic resource that can be extracted, processed, sold and shipped around the world as a product despite a lack of knowledge of the long-term or cumulative effects of water use. Water governance is also integrally tied to Indigenous legal orders and aboriginal rights and title.[127]

Section 35 of Canada's *Constitution Act, 1982* recognizes and affirms aboriginal and treaty rights.[128] Although Canadian courts have not acknowledged a specific right to water within the section 35 framework, water may be a condition precedent for the exercise of existing aboriginal or treaty rights, such as the right to fish. In addition, pursuant to the doctrine of the honour of the Crown, the Province has a duty to consult with First Nations and accommodate their legal and cultural practices as a way towards reconciling Indigenous and state interests.[129] The Province of

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[121] Syilx Nation, "Syilx Nation Siwɬkʷ Declaration" (31 July 2014) at 1, online (pdf): <https://www.syilx.org/wordpress/wp-content/uploads/2012/11/Okanagan-Nation-Water-Declaration_Final_CEC_Adopted_July_31_2014.pdf> [perma.cc/GB53-P5XE].

[122] Okanagan Nation Alliance, "We Will Protect the Water: A Syilx Strategy to Protect and Restore Siwikʷ" (2021) online (pdf): <https://www.syilx.org/wp/wp-content/uploads/2021/06/Syilx-siwɬkʷ-Strategy.pdf>.

[123] Arthur Manuel and Grand Chief Ronald M Derrickson, *Unsettling Canada: A National Wake-Up Call* (Toronto: Between the Lines, 2015) at 140-141.

[124] Arthur Manuel and Grand Chief Ronald M Derrickson, *Unsettling Canada: A National Wake-Up Call* (Toronto: Between the Lines, 2015) at 140.

[125] *Chief Richard Harry in his own right and on behalf of the Xwémalhkwu First Nation v Assistant Regional Water Manager and Bear River Contracting Ltd*, 74 CELR (3d) 218, 2013 CarswellBC 431 (EAB) (Decision Nos 2011-WAT-005(c)) and 2011-WAT-006(c)) at paras 26, 59, 64, online: *Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2011wat005c_006c.pdf> [https://perma.cc/KRX3-SQQD].

[126] Arthur Manuel and Grand Chief Ronald M Derrickson, *Unsettling Canada: A National Wake-Up Call* (Toronto: Between the Lines, 2015) at 140-141.

[127] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[128] *The Constitution Act*, *1982,* being schedule B to the *Canada Act* 1982 (UK), 1982, c 11, s 35.

[129] *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73, [2004] SCR 511at para 16.

BC performs the duty to consult and accommodate when considering water licensing applications that may infringe an aboriginal or treaty right.[130] If the Province of BC fails to adequately consult, courts may cancel new licences on a case-by-case basis.[131] Going beyond this constitutional context for reconciliation, provincial decision makers in BC have committed to a more fulsome process for working with UNDRIP and Indigenous authority.

3.1 UNDRIP AND THE DECLARATION ACT

The UNDRIP resolution affirms a range of inherent rights of Indigenous peoples, including control over their lands, territories and resources, and the right to self-government and self-determination.[132] It calls on governments to obtain "free and informed consent" from Indigenous peoples prior to approving any projects or developments that may affect their lands, territories, water, and other resources:

> *States shall consult and cooperate in good faith with indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources.*[133]
>
> Article 32(2) of UNDRIP

Ministry service plans and other policy documents acknowledge reconciliation as a foundational commitment to the work of all Ministries.[134] Premier Horgan's Ministerial Mandate Letter echoes these values, specifically noting that the Minister of FLNRORD is "responsible for moving forward on the calls to action [of the Truth and Reconciliation Commission] and reviewing policies, programs and legislation to determine how to bring the principles of the [UN] Declaration into action in British Columbia."[135] Premier's Horgan's letter prioritizes working collaboratively

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[130] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 12, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[131] See, for example, Chief Sharleen Gale v Assistant Regional Water Manager Decision No. 2012-WAT-013(c) online: *BC Environmental Appeal Board* http://www.eab.gov.bc.ca/water/2012wat013c.pdf.

[132] *United Nations Declaration on the Rights of Indigenous Peoples*, UNGAOR, 61st Sess, Supp No 49, UN Doc A/RES/61/295 (2 October 2007).

[133] *United Nations Declaration on the Rights of Indigenous Peoples*, UNGAOR, 61st Sess, Supp No 49, UN Doc A/RES/61/295 (2 October 2007), art 32(2) [emphasis added], online (pdf): <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/512/07/PDF/N0651207.pdf?OpenElement>.

[134] Ministry of Forests, Lands, Natural Resource Operations and Rural Development, "2019/20 – 2021/22 Service Plan," (February 2019) at 1, online (pdf): <https://www.bcbudget.gov.bc.ca/2019/sp/pdf/ministry/flnr.pdf> [perma.cc/ZE5H-9UG8].

[135] Premier John Horgan, "Ministerial Mandate Letter for the Honourable Doug Donaldson, Minister of Forests, Lands, Natural Resource Operations and Rural Development," (July 2018) at 2, online (pdf):

alongside First Nations and communities to manage BC's ecosystems and water resources in a sustainable manner.

To provide specific legal mechanisms through which to operationalize these commitments, in November 2019 the Province of BC enacted *DRIPA*, the purposes of which are to affirm and apply UNDRIP to the laws of BC and develop relationships with Indigenous governing bodies.[136] The new law further mandates that the government take all measures necessary to ensure the laws of BC are consistent with UNDRIP, in consultation and cooperation with Indigenous peoples in BC.[137] Finally, *DRIPA* provides a mechanism for members of cabinet to enter into consent-based agreements with Indigenous governing bodies, as well as delegate specified decision-making authority to those bodies.

This new framework for operationalizing UNDRIP and enhancing Indigenous authority has implications for decisions made under the *WSA* about water. Most specifically, working with Indigenous governance systems and relationships with water requires a shift away from water valued predominantly as a commodity to a regime with long-term planning, understanding of cumulative impacts, and acknowledgement of Indigenous water rights.

3.2 THE *WATER SUSTAINABILITY ACT* AND INDIGENOUS AUTHORITY

In order to meaningfully incorporate the principles of UNDRIP into BC legislation as mandated by the *Declaration Act*, decision making under the *WSA* requires significant reform.[138] The *WSA* maintains many of its historic colonial features that undermine Indigenous rights and authority. The *WSA* does not recognize Indigenous rights to water; the Provincial Government asserts ownership over all water in the province.[139] This position conflicts with Indigenous peoples' ongoing relationship to and responsibility for water, and "right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources."[140] In addition, the *WSA* and the Province of BC have failed to establish consent-based engagement frameworks with First Nations for water use and allocation.[141] As a result, Indigenous peoples are

<https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/premier-cabinet-mlas/minister-letter/donaldson-mandate.pdf> [Accessed 29 March 2021]

[136] *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44 s 2.

[137] *Declaration on the Rights of Indigenous Peoples Act*, SBC 2019, c 44, s 3.

[138] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 5, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[139] *Water Sustainability Act,* SBC 2014, c 15, s 5.

[140] *United Nations Declaration on the Rights of Indigenous Peoples*, UNGAOR, 61st Sess, Supp No 49, UN Doc A/RES/61/295 (2 October 2007), art 32(2) [emphasis added], online (pdf): <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/512/07/PDF/N0651207.pdf?OpenElement> Article 32.

[141] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 6, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

excluded from decision making, and Indigenous rights and interests are jeopardized by a piecemeal engagement and lack of consent.[142]

Furthermore, the FITFIR priority regime fails to acknowledge the original use of water in BC by Indigenous people, which overlooks the importance of water to the exercise of aboriginal and treaty rights, community health, culture, economy, and identity.[143] Extracting groundwater from unceded territories for the purposes of water bottling fails to consider the foundational importance of water to Indigenous communities and disregards its relational value as part of many Indigenous peoples' identity that cannot be commodified and sold.

Permitting new water licences under the current operation of the *WSA* contradicts provincial legislation mandating the alignment of provincial laws with UNDRIP. Extracting groundwater and commodifying it while Indigenous communities' rights and interests are unresolved is incompatible with the principles at the heart of UNDRIP and *DRIPA.* In order to meaningfully implement UNDRIP and transition to shared watershed governance with Indigenous governing organizations, consent from First Nations is needed before the Province of BC issues any new water licences.

Recommendation 4: Obtain the Consent of Indigenous Governing Organizations Before Issuing New Water Licences

In the context of UNDRIP and *DRIPA*, in addition to placing a moratorium on new water licences for water bottling, the Province of BC cannot issue new licences until there are meaningful frameworks in place for collaborative governance between the Province and First Nations, as enabled by sections 6 and 7 of *DRIPA*. Collaborative consent is "an ongoing process of committed engagement between Indigenous and non-Indigenous governments – acting as equal partners, each with their asserted authority – to secure mutual consent on proposed paths forward related to matters of common concern and all aspects of governance."[144] This approach is founded on a relationship of reciprocal respect between Indigenous and state governing parties, committing to achieving outcomes that are mutually acceptable.[145]

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[142] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 9, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[143] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 5, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[144] Merrell-Ann Phare, Rosie Simms, Oliver M Brandes and Michael Miltenberger, "Collaborative Consent and Water in British Columbia: Towards Watershed Co-Governance," (September 2017) at 1, online (pdf): <https://poliswaterproject.org/files/2017/09/POLIS-CC-6b-web.pdf> [perma.cc/H4Y7-RUTG].

[145] Merrell-Ann Phare, Rosie Simms, Oliver M Brandes and Michael Miltenberger, "Collaborative Consent and Water in British Columbia: Towards Watershed Co-Governance," (September 2017) at 1, online (pdf): <https://poliswaterproject.org/files/2017/09/POLIS-CC-6b-web.pdf> [perma.cc/H4Y7-RUTG].

A consent framework relating to the *WSA* requires co-governance and free, prior and informed consent prior to approving any projects or authorization that will affect Indigenous land or resources. In the context of water bottling applications, it requires communication and joint decision making made by both the Province and any affected First Nations, allowing them to determine whether the proposed use will impact their rights. This is consistent with recommendations made by the First Nations Fisheries Council of BC that further recommends that licence applications could be evaluated once per year on a territory- or watershed-wide basis.[146]

Indigenous Communities and Water Governance: Opposition to Water Bottling Operations vs. Collaborative Watershed Planning

Bonaparte Nation vs. Nicola Valley Collaborative Governance

The Bonaparte First Nation near Clinton, BC is currently responding to a licence application for a commercial water bottling facility.[147] The Province is engaging with the Nation through the standard consultation activities developed pursuant to section 35 of the *Constitution Act, 1982*, and not according to a government-to-government collaborative governance agreement. This licence-specific consultation is in sharp contrast to the process that is underway in the Nicola Valley where the provincial government has a memorandum of understanding with five First Nations to work together on a collaborative watershed governance basis.[148]

Xwémalhkwu First Nation

Xwémalhkwu First Nation unsuccessfully challenged a water bottling licence,[149] on the basis that, as emphasized by Chief Richard Harry, he had seen no "impact statements that would have informed him as to the anticipated long-term implications for the FN of the . . . removal of water for sale."[150] Moreover, Xwémalhkwu First Nation members argued that the idea of the commercialization of water was inconsistent with their laws and worldviews.[151]

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[146] First Nations Fisheries Council of British Columbia, "*Declaration on the Rights of Indigenous Peoples Act* and High Priority *Water Sustainability Act* Reforms," (September 2020) at 12, online (pdf): <https://www.fnfisheriescouncil.ca/wp-content/uploads/2020/12/DRIPA-WSA-paper.pdf> [perma.cc/LJ26-XXQS].

[147] Information on file with the Environmental Law Centre.

[148] *Nicola Watershed Pilot Memorandum of Understanding*, 23 March 2018, online (pdf): <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/nicola_watershed_pilot_mou_-_signed_2018.pdf> [https://perma.cc/JH4C-N2PK].

[149] *Chief Richard Harry in his own right and on behalf of the Xwémalhkwu First Nation v Assistant Regional Water Manager and Bear River Contracting Ltd*, 74 CELR (3d) 218, 2013 CarswellBC 431 (EAB) (Decision Nos 2011-WAT-005(c)) and 2011-WAT-006(c)), online: *Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2011wat005c_006c.pdf>.

[150] *Chief Richard Harry in his own right and on behalf of the Xwémalhkwu First Nation v Assistant Regional Water Manager and Bear River Contracting Ltd*, 74 CELR (3d) 218, 2013 CarswellBC 431 (EAB) (Decision Nos 2011-WAT-005(c)) and 2011-WAT-006(c)), para 59 online: *Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2011wat005c_006c.pdf>.

[151] *Chief Richard Harry in his own right and on behalf of the Xwémalhkwu First Nation v Assistant Regional Water Manager and Bear River Contracting Ltd*, 74 CELR (3d) 218, 2013 CarswellBC 431 (EAB) (Decision Nos 2011-WAT-005(c)) and 2011-WAT-006(c)) at paras 26, 59, 64, online: *Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2011wat005c_006c.pdf>.

Stó:lo Nation

Nestlé takes approximately 300 million litres of groundwater per year from the Kawkawa Lake subwatershed in Hope,[152] despite continued concern by Stó:lo Nation, on whose traditional territory Nestlé draws water. Stó:lo Nation communities Chawathil and Union Bar report wanting to "know how their rights and title to this particular resource was taken."[153] Community members have expressed concern over climate change, the impact of drought and low flows on the community's drinking water supply. Nestlé has held the position that aquifers are "unaffected by the droughts".[154] It applied for a groundwater licence in 2018 after operating in the area for over 18 years.[155]

Six Nations of the Grand River First Nation

In Ontario, the majority of members of the Six Nations of the Grand River First Nation do not have access to clean running water in their homes and rely on water deliveries or buying water themselves.[156] At the same time, what has been known as the Nestlé water bottling plant is extracting water for bottling from aquifers in their territory.[157]

[152] District of Hope, "Hope Imagine 2040: Discussion Guide," (September-October 2015) at 14, online: *District of Hope* <https://hope.ca/sites/default/files/ideasjam_-_discussion_guide_v.8_final.pdf>.
[153] Larry Commodore, "Whose Water? A B.C. First Nation Perspective" *Huffington Post* (1 November 2013), online: *Huffington Post* <https://www.huffingtonpost.ca/larry-commodore/bc-water-first-nation_b_3820544.html> [https://perma.cc/7RZ3-T3FC]; Also see District of Hope, "Hope Imagine 2040: Discussion Guide," (September-October 2015) at 14, online: *District of Hope* <https://hope.ca/sites/default/files/ideasjam_-_discussion_guide_v.8_final.pdf>.
[154] Lauerman as cited in District of Hope, "Regular Council Minutes," (2018) at 2, online (pdf): *Distirct of Hope* <https://hope.ca/sites/default/files/2018_12_10_regular_council_minutes_website.docx.pdf>
[155] Nestlé Waters Hope, *Connections*, (2018) 1 *Connections* 1 at 2, online (pdf): <https://www.nestle-waters.ca/sites/g/files/pydnoa616/files/2019-12/issue%201%20hope%20newsletter_nov29_final_send.pdf> [https://perma.cc/P7LD-W3KL].
[156] Keith Leslie, "Nestle outbids small Ont. municipality to buy well for bottled water," *CTV News* (22 September 2016), online: <https://www.ctvnews.ca/business/nestle-outbids-small-ont-municipality-to-buy-well-for-bottled-water-1.3083687> [https://perma.cc/SW8B-7VKJ].
[157] Alexandra Shimo, "While Nestle extracts millions of litres from their land, residents have no drinking water" *The Guardian* (October 4 2018) online: <https://www.theguardian.com/global/2018/oct/04/ontario-six-nations-nestle-running-water>.

Part 4. Water Export: International Trade in BC's Bottled Water

The Canadian public has expressed a high level of concern for and in fact has rejected bulk water export for most of the past century.[158] Between 1996 and 2002, a movement towards banning bulk water exports swept across Canada, with the majority of the provinces enacting laws to ban bulk water export.[159] The federal government has long expressed opposition to bulk water exports, stating that "Canadians value their freshwater resources and want their governments to take action to protect them."[160] In 1996, BC banned bulk water exports with the enactment of the *Water Protection Act* (*WPA*), with a stated purpose of "foster[ing] sustainable use of British Columbia's water resources in continuation of the objectives of conserving and protecting the environment."[161] Section 5 of the *WPA* prohibits removing water from BC with the exception of water in containers of 20 litre capacity or less that has been packaged in the province.[162] The purpose of this specific provision was to allow travelers to cross the border in mobile homes for vacation,[163] not to encourage commercial water bottling for export.

When these law reform activities across Canada addressed bulk water exports, water bottling was a fledgling industry and did not move or export significant quantities of water. That industry has since grown exponentially. Extraction rates have reached 2.6 billion litres per year in Canada with at least 60% of the withdrawal by companies that distribute globally (see Appendix B). Although transported in small format containers, cumulatively moving millions or billions of litres is water export. Water export also attracts attention under international trade agreements and has a significant carbon footprint as each bottle is estimated to travel between 330 and 1,000 kilometres from bottling plant to retailer.[164]

4.1 INTERNATIONAL TRADE CONSIDERATIONS AND NAFTA

Once the Province permits the capture of water into bottles for sale, the water becomes a "good" under international trade agreements, such as the Canada-United States-Mexico Agreement

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[158] Karen Bakker, *Eau Canada: the future of Canada's water*, (Vancouver: UBC Press, 2007) at 32.
[159] British Columbia and Alberta in 1996; Newfoundland and Ontario in 1999; Manitoba and Nova Scotia in 2000; Quebec and Saskatchewan in 2001; and PEI in 2002.
[160] David Johansen, "Bulk Water Removals, Water Exports and the NAFTA," (January 2002), online: *Library of Parliament* <http://www.publications.gc.ca/Collection-R/LoPBdP/BP/prb0041-e.htm>.
[161] *Water Protection Act*, R.S.B.C. 1996, c. 484, s. 2.
[162] *Water Protection Act*, RSBC 1996, c 484, s 5(c).
[163] "*Water Protection Act"*, 2nd reading, *House of Commons Debates,* 35-4, Vol 20, No 16 (1 June 1995) at 14832 (C Serwa).
[164] Tamim Younos, "Bottled Water: Global Impacts and Potential," (2014) 30 Handbook of Environmental Chemistry 213.

(CUSMA),[165] and becomes subject to international trade rules.[166] Under Article 2.11, CUSMA, Canada may not adopt or maintain any prohibition or restriction on the export of any good destined for the territory of another party.[167] Water in its natural state is not covered by international trade agreements, and only becomes a "good" and subject to these agreements once it is commodified.[168] CUSMA, like the North American Free Trade Agreement before it, has a side letter between the parties that confirms that: "Unless water, in any form, has entered into commerce and become a good or product, it is not covered by the provisions of the Agreement. Nothing in the Agreement would oblige a Party to exploit its water for commercial use, including its withdrawal, extraction, or diversion for export in bulk."[169] So while nothing in CUMSA or other international trade agreements requires that water be commodified, "once the water tap has been turned on" for bottled water exports, "it stays on."[170]

4.2 AN OUTDATED EXCEPTION IN THE *WATER PROTECTION ACT*

While the *WPA* bans bulk water export, section 5 created an exception that is now a loophole – permitting water to be taken out of BC in containers of 20 litres or less – that no longer achieves the goal of banning water exports, due to the scale, both in monetary value and global reach, of the water bottling industry.[171] Permitting the removal of water from BC in containers of 20 litres or less allows, in effect, the export of water. The *WPA* did not contemplate the magnitude of the growth in the bottled water industry since the enactment of the *WPA.*[172] Today, the water bottling industry is worth billions of dollars annually,[173] and the louder call[174] for the luxury good of small volume bottled water will continue to increase the demand and volume of extraction and export

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[165] *Canada-United States-Mexico Agreement,* 30 November 2018 (entered into force 1 July 2020).

[166] Article 105, CUSMA provides that "goods means a merchandise, product, article, or material".
Victoria Coffin, David W Poulton, Casey Vander Ploeg, "Out water and NAFTA: implications for the use of market-based instruments for water resources management" (July 2011) at 20, online: *Canada West Foundation Environment Research Series* <https://www-deslibris-ca.ezproxy.library.uvic.ca/ID/229244> [Accessed 30 March 20201].

[167] *North American Free Trade Agreement*, Canada, Mexico, and the United States, 17 December 1992, art 309 (entered into force 1 January 1994).

[168] Victoria Coffin, David W Poulton, Casey Vander Ploeg, "Out water and NAFTA: implications for the use of market-based instruments for water resources management" (July 2011) at 18, online: *Canada West Foundation Environment Research Series* <https://www-deslibris-ca.ezproxy.library.uvic.ca/ID/229244> [Accessed 30 March 2021].

[169] See https://www.international.gc.ca/trade-commerce/assets/pdfs/agreements-accords/cusma-aceum/letter-water.pdf.

[170] Tony Clarke, "Turning on Canada's Tap? Why We Need a Pan Canadian Policy and Strategy Now on Bulk Water Exports to the US," (2008) at 6, online: *Polaris Institute* <https://www-deslibris-ca.ezproxy.library.uvic.ca/ID/252794>.

[171] *Water Protection Act*, RSBC 1996, c 484, s 5(c).

[172] BCC Publishing, "Birth of the Bottled Water Industry" (September 2018), online: <https://blog.bccresearch.com/birth-of-the-bottled-water-industry> [perma.cc/8KAQ-V89X].

[173] BCC Publishing, "Birth of the Bottled Water Industry" (September 2018), online: <https://blog.bccresearch.com/birth-of-the-bottled-water-industry> [perma.cc/8KAQ-V89X].

[174] Statistica Consumer Market Outlook, "Bottled Water Report 2020," (November 2020) at 8, online: <https://www.statista.com/study/48820/bottled-water-report/>.

of bottled water out of BC. In addition, once the Province of BC grants authorizations for water bottling, international trade rules present a constraint that limits Canada's control over the domestic use or export of bottled water.[175]

Some water bottling applicants appeal to environmental justice and equity arguments. British Columbians have an abundance of clean water and therefore should share it with others in the global community who do not have access to clean water. This argument is premature on three grounds. First, there are many Indigenous communities in BC who do not have water security. Second, and as discussed above, the Province of BC does not have the appropriate regulatory infrastructure to maintain water security for BC communities. Significant additional hydrological information and water-related planning is needed. Finally, permitting the export of water should occur in a transparent manner that is supported by regulation. The debate about whether the Province of BC should permit the export of water must occur transparently and in public fora.

Section 5 of the *WPA* is now outdated and operates contrary to the purposes of the *WPA* as it no longer prevents water exports as one of the policy pillars supporting the sustainable use of BC's water. The Province of BC currently does not have enough information about groundwater extraction and its cumulative effects to permit additional export of bottled water, especially in the context of climate instability, local water insecurity and insufficient collaborative governance agreements with Indigenous communities. This information deficit and nascent acknowledgement of Indigenous authority makes it impossible to determine whether the continued export of water is sustainable, and thus risks enhanced water stress and conflict with Indigenous communities.

It is appropriate to reiterate recommendation 2 here – to extend the moratorium on new water licences for water bottling purposes at least until watershed governance is in place. Addressing the appropriateness of water export can only be done if current and future watershed needs are well understood and taken care of. Extending the moratorium on new authorizations for water bottling purposes until territory- or watershed-specific WSPs or alternate structures for community governance are in place will provide the needed attention to the hydrological and governance status in each region. A moratorium until watershed-specific plans are in place would ensure that the *WPA* is able to achieve its goal of fostering sustainable use of BC's water, promote proactive management of our water resources, and ensure that we are not committing to expanding the export of bottled water when it may be incompatible with our socioeconomic, environmental, and governance needs.

At minimum, in the context of water bottling for export, a more fine-grained water rental system is needed in BC. Water rents of maximum $2.25 for every million litres in BC are inadequate to meet collaborative watershed management mandates.[176] This rate does not even pay for the costs of managing permits, let alone the costs of conducting the necessary work to better understand cumulative effects. In comparison, Ontario charges water bottling companies $503.71 for every

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[175] Victoria Coffin, David W Poulton, Casey Vander Ploeg, "Out water and NAFTA: implications for the use of market-based instruments for water resources management" (July 2011) at 20, online: *Canada West Foundation Environment Research Series* <https://www-deslibris-ca.ezproxy.library.uvic.ca/ID/229244> [Accessed 30 March 20201].
[176] CBC News, "Nestlé BC water deal too cheap, says NDP," *CBC News* (20 February 2015), online: *CBC News* <https://www.cbc.ca/news/canada/british-columbia/nestlé-b-c-water-deal-too-cheap-says-ndp-1.2964709> [https://perma.cc/Z84D-MN8N].

million litres of groundwater taken for the purposes of water bottling.[177] While Indigenous communities have, time and again, emphasized that water should not be commercialized,[178] if BC chooses to permit commercial water bottling and trade of water, the rental rates must reflect the cost of active collaborative watershed management that will help protect the resource for future community needs.

Recommendation 5: Charge a Higher Water Rental for Water Extraction

[177] Ministry of the Environment, Conservation and Parks (Government of Ontario), "Ontario Strengthening Protections for Water Resources," *Ontario Newsroom* (8 June 2017), online: *Ontario Newsroom* <https://news.ontario.ca/en/release/45113/ontario-strengthening-protections-for-water-resources> [https://perma.cc/8X4Y-GZJU].

[178] *Chief Richard Harry in his own right and on behalf of the Xwémalhkwu First Nation v Assistant Regional Water Manager and Bear River Contracting Ltd*, 74 CELR (3d) 218, 2013 CarswellBC 431 (EAB) (Decision Nos 2011-WAT-005(c)) and 2011-WAT-006(c)) at paras 26, 59, 64, online: *Environmental Appeal Board* <http://www.eab.gov.bc.ca/water/2011wat005c_006c.pdf> [https://perma.cc/KRX3-SQQD].

Part 5. Conclusion

The enactment of the *WSA* in 2016 fostered optimism that water management and governance would emerge into the 21st century, particularly with the regulation of non-domestic users of groundwater. However, in the five years of *WSA* implementation there is still a failure to define sustainable water use, better understand hydrology across the province, ensure allocation decisions are informed by both Indigenous knowledge and western science, develop supporting regulations, and execute shared authority between Indigenous governing organization, the Province of BC and local communities. There is incomplete groundwater regulation, and weak connection between water regulation, climate change, and water security objectives.

Concerns about water bottling and the increase in applications for licences for water bottling operations are a symptom of these systemic challenges. While water bottling is problematic on many fronts, at the heart of the debate is how water is valued locally and who has a say in making decisions about its use. Extracting groundwater for the purpose of water bottling ignores the foundational importance of water to Indigenous and settler communities and disregards water's relational value as part of the identity of many Indigenous peoples that cannot be commodified and sold. Reconciliation is not possible without explicit attention to better water protection and collaborative governance. Indeed, reconciliation is a condition precedent for sustainable water management and water security.

Whether in large containers or small, BC laws have not explicitly permitted water exports. Water bottling licences enable water export, which is in opposition to water uses that communities support and the policy underpinning the BC water law regime. Water law from 1996 banning bulk water exports but permitting water exports in small format containers needs to be updated, but until that time a moratorium on new licences for water bottling is warranted.

After reviewing the state of the law and evidence relating to groundwater regulation, the primary recommendation is that the Province of BC place a moratorium on new licences for water bottling, at least until watershed-based governance is in place as local governance processes can determine whether water security can be maintained and local communities will benefit from water bottling. These local governance processes must stem from government-to-government consent-based agreements about water.

- **Recommendation 1: Place a Moratorium on New Water Licences for Water Bottling**
- **Recommendation 2: Extend the Moratorium on New Water Licences for Water Bottling Purposes at least until Watershed-Based Governance is in Place**
- **Recommendation 3: Restrict Water Licences for Water Bottling Purposes to Short-Term Licences Only**
- **Recommendation 4: Obtain the Consent of Indigenous Governing Organizations Before Issuing New Water Licences**
- **Recommendation 5: Charge a Higher Water Rental for Water Extraction**

Appendix A: Plastics

Plastic bottles are the flashpoint[179] for single-use plastic bans in BC as they are a substantial contributor to plastic waste and key contributors to GHG emissions. This appendix details the impacts of the plastics generated by the water bottling industry.

Water Bottles are a Significant Contributor to Plastic Waste in BC

The number of plastic water bottles created by the water bottling industry continues to grow substantially. In 2020, businesses in Canada produced 3,453.7 million rigid plastic water bottles, a number that was almost double the 1,855.9 million rigid plastic bottles Canadian companies were producing for the same purpose in 2006.[180] This means Canadian companies effectively doubled the number of plastic water bottles they produce in the space of 14 years.[181]

A significant number of these bottles end up as litter. In 2018, plastic pollution surveys in Canada, including the Great Canadian Shoreline Cleanup, found that plastic bottles are the second to third most often found plastic pollution and plastic bottle caps are the fourth to fifth most common forms of plastic pollution.[182] Moreover, a significant number of bottles are ending up in BC's landfills. Return-It's 2019 recovery rate for plastic containers was 74.6%, which meant 120,891,370 water bottles went unaccounted for in BC just that year.[183] Further, countries to which companies

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[179] Maude Barlow, "What good is a single-use plastics ban if it doesn't include water bottles?" Canadian Observer (9 October 2020), online: <https://www.nationalobserver.com/2020/10/09/opinion/what-good-single-use-plastics-ban-if-it-doesnt-include-water-bottles> [https://perma.cc/7WGB-W6QJ]; Emily Chung, "What really happens to plastic drink bottles you toss in your recycling bin," CBC News (7 January 2020), online: CBC News <https://www.cbc.ca/news/technology/bottle-recycling-1.5416614> [https://perma.cc/manage/create?folder=114521]. For more information on banning single use plastics and marine plastic pollution, see Kiran Gill, Meaghan Partridge, Alex McCardle, Erin Gray, and Calvin Sandborn, *The Case for Reform: British Columbia Must Regulate Single-Use Plastics* (Victoria: Environmental Law Centre, October 2019), online (pdf): <https://elc.uvic.ca/wordpress/wp-content/uploads/2019/10/The-Case-for-Reform-BC-Must-Regulate-Single-Use-Plastics.pdf> [https://perma.cc/8FTW-MYYC]; Meaghan Partridge and Calvin Sandborn, *Seven reforms to address marine plastic pollution* (Victoria: Environmental Law Centre, April 2017) online (pdf): *Environmental Law Centre* <https://elc.uvic.ca/wordpress/wp-content/uploads/2017/08/2017-01-11-MarinePlastics_2017Oct23.pdf> [https://perma.cc/U2HG-WTQ3]; Meaghan Partridge, Nick Acker, Renata Colwell, and Calvin Sandborn, *A National Strategy to Combat Marine Plastic Pollution: A Blueprint for Federal Action* (Victoria: Environmental Law Centre, April 2018) online (pdf): *Environmental Law Centre* <https://elc.uvic.ca/wordpress/wp-content/uploads/2018/04/2017-01-11_National-Marine-Plastics-Strategy-FINAL.pdf> [https://perma.cc/6BP8-2EYP]; Jenny Y.C. Lee, Alex McCardle, Erin Gray, and Calvin Sandborn, *Enhancing Plastic Recycling in Canada* (Victoria: Environmental Law Centre, 2020), online (pdf): *Environmental Law Centre* <https://elc.uvic.ca/wordpress/wp-content/uploads/2020/08/2019-03-06-Enhancing-Plastic-Recycling-in-Canada-FINAL-FOR-WEBSITE-AND-PUBLIC.pdf> [https://perma.cc/T3NT-NTRN].

[180] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[181] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[182] Loujain Kurdi "MEDIA BRIEFING: 2018 Plastic Polluters Brand Audit Canada Results," (9 October 2018), online: *GreenPeace Canada* <https://www.greenpeace.org/canada/en/qa/5378/media-briefing-2018-plastic-polluters-brand-audit-canada-results/> [https://perma.cc/3NVK-8S5V].

[183] Return-It, "2019 Annual Report: Deposits, Refunds, and Recovery Rates," (2019) at 29, online: *Return-It* <https://www.return-it.ca/ar2019/pdf/Encorp_AR2019_Section6.pdf> [https://perma.cc/A47D-MKCP].

export water bottles from Canada have even lower recovery rates. The United States, for example, has recovery rates of only 29.1% and 29.3% for PET and HDPE bottles, respectively.[184]

Additionally, most plastic bottles are single use by design and use. As a Government of Canada's 2019 publication on the plastic industry and waste reports, "few products containing plastics are designed with their Canadian use phase and therefore their Canadian end-of-life in mind."[185] Data released by the province of BC confirms this finding, showing that 40% of plastic in BC is only used once, meaning it is neither repurposed nor recycled.[186] Moreover, the Canadian average for the percentage of recycled plastic in water bottles is only 19%.[187] Data on individual corporations shows that they continue to rely on virgin plastics in the creation of their water bottles: Nestlé's water bottles are only 5%, Pepsi U.S.'s water bottles are only 9%, and Coca-Cola's water bottles are only 11% recycled content.[188]

Finally, water bottles can leach microplastics into the water they hold.[189]

International, Domestic, Provincial, and Local Policies and Laws Concerning Plastics

Water bottling in BC takes place in a Canadian context that is moving away from creating and using plastic water bottles. Canada has participated in numerous international organizations to reduce plastic waste.[190] Canada is also party to a number of binding international agreements on

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[184] Numbers current to 2018 and can be found at United States Environmental Protection Agency, "Plastics: Material – Specific Data," online: *Environmental Protection Agency* <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data> [https://perma.cc/MGW7-QJK3].

[185] Environment and Climate Change Canada, *Economic Study of the Canadian Plastic Industry, Market and Waste*, (Gatineau: Environment and Climate Change Canada 2019) at 6, online: *Government of Canada* <http://publications.gc.ca/collections/collection_2019/eccc/En4-366-1-2019-eng.pdf> [Accessed 1 April 2021].

[186] Clean BC, *Plastics Action Plan: Policy Consultation Paper*, (2019) at 3, online (pdf): *Clean BC* <https://cleanbc.gov.bc.ca/app/uploads/sites/436/2019/08/CleanBC_PlasticsActionPlan_ConsultationPaper_07252019_B.pdf> [https://perma.cc/75JV-CEK3].

[187] Emily Chung, "What really happens to plastic drink bottles you toss in your recycling bin," CBC News (7 January 2020), online: CBC News <https://www.cbc.ca/news/technology/bottle-recycling-1.5416614> [https://perma.cc/manage/create?folder=114521].

[187] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[188] Emily Chung, "What really happens to plastic drink bottles you toss in your recycling bin," CBC News (7 January 2020), online: CBC News <https://www.cbc.ca/news/technology/bottle-recycling-1.5416614> [https://perma.cc/manage/create?folder=114521].

[188] Passport, "Packaging – Beverages: Euromonitor from trade sources/national statistics," at Category: Bottled Water (Euromonitor International).

[189] Jana Weisser et al, "From the Well to the Bottle: Identifying Sources of Microplastics in Mineral Water," (2021) 13:6 *Water* 841 at 841, online: <https://www.mdpi.com/2073-4441/13/6/841/htm> [https://perma.cc/ZQ47-P8TJ].

[190] Environment and Climate Change Canada, "Zero Plastic Waste: Canada's Actions" (2 December 2020), online: Government of Canada <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/zero-plastic-waste/canada-action.html> [Accessed 1 April 2021]; Arctic Council, Desktop Study on marine Litter Including Microplastics in the Arctic, (7 May 2019), online (pdf): *Artic Council* <https://oaarchive.arctic-council.org/bitstream/handle/11374/2389/Desktop%20Study%20on%20marine%20litter.pdf?sequence=1&isAllowed=y> [https://perma.cc/F27Q-QTC8]; Commission for Environmental Cooperation, "Building Community Solutions to Marine Litter," (18 October 2017), online (pdf): Commission for Environmental Cooperation <http://www.cec.org/building-community-solutions-to-marine-litter-1/> [https://perma.cc/H365-4HBY]; Food and Agriculture Organizations of the United Nations, Code of Conduct on Responsible Fishing, online (pdf): Food and Agriculture Organization of the United

limiting the creation of plastic waste, including *The United Nations Convention on the Law of the Sea*,[191] *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal,*[192] *The International Convention for the Prevention of Pollution from Ships,*[193] and *The London Convention and Protocol to prevent marine pollution by dumping at sea*.[194] These documents make clear that there is a strong international legal context supporting the movement away from the production of plastics.

Canada also has a strong array of national policies and guidelines on banning single use plastics,[195] and has introduced legislation to ban some single-use plastics as early as 2021 under the *Canadian*

Nations <http://www.fao.org/3/v9878e/V9878E.pdf> [https://perma.cc/ZC64-68TM]; Global Ghost Gear Initiative, "Members," online: <https://www.ghostgear.org/members> [https://perma.cc/3B5V-732V]; G7 2017 Italia, "Environment Ministerial Meeting" [G7 Action Plan to Combat Marine Litter], online: *G7 Italia* <http://www.g7italy.it/en/environment-ministerial-meeting/> [https://perma.cc/7ST3-ALZY]; Government of Japan, "Communiqué G7 Toyama Environment Ministers' Meeting," [G7 Toyama Framework on Material Cycles], (15-16 May 2016), online (pdf): <http://www.env.go.jp/earth/g7toyama_emm/english/pdf/160516_G7EMM%20Communique_FINAL.pdf> [https://perma.cc/9PVW-CXLM]; G20, "G20 Action Plan on Marine Litter," (18 July 2017), online (pdf): <http://www.g20.utoronto.ca/2017/2017-g20-marine-litter-en.pdf> [https://perma.cc/3K9Y-LBNF]; United Nations, "Clean Seas Campaign," online: *Clean Seas* <https://www.cleanseas.org> [https://perma.cc/JVE6-RHJD]; Resolutions of the United Nations Environment Assembly (see UNEA, "Welcome to the UNEA," online: <https://www.unep.org/environmentassembly/> [https://perma.cc/WHC3-WFYS]; UNEP, "Global Partnership on Marine Litter," online: <https://www.unep.org/explore-topics/oceans-seas/what-we-do/addressing-land-based-pollution/global-partnership-marine> [https://perma.cc/3S4X-DK2V]; United Nations Department of Economic and Social Affairs, Sustainable Development Goals, online: <https://sdgs.un.org/goals> [https://perma.cc/WF7C-97CA].

[191] UNGA, *United Nations Convention on the Law of the Sea*, 1833 UNTS 397, 21 ILM 1261, 10 December 1982, online: <https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf> [https://perma.cc/CZZ6-WDRE].

[192] UNCHR, *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, (5 March 1991), E/CN.4/RES/1991/47, online (pdf): *Basel* <https://www.basel.int/Portals/4/Basel%20Convention/docs/text/BaselConventionText-e.pdf> [https://perma.cc/YH22-QARX].

[193] International Maritime Organization, *Protocol of 1978 relating to the International Convention for the prevention of pollution from ships, 1973,* 17 February 1978, 1340 UNTS 61 (entered into force 2 October 1983).

[194] *The London Convention and Protocol to prevent marine pollution by dumping at sea,* 1046 UNTS 120, online: <https://treaties.un.org/doc/Publication/UNTS/Volume%201046/volume-1046-I-15749-English.pdf> [https://perma.cc/HZ7Q-9HZC].

[195] Bill C-28 *an Act to amend the Canadian Environmental Protection Act, 1999, to make related amendments to the Food and Drugs Act and to repeal the Perfluorooctane Sulfonate Virtual Elimination Act* (Introduced and first reading 2021 04 13), online <https://www.parl.ca/LegisInfo/BillDetails.aspx?Language=E&billId=11225029>; Environment and Climate Change Canada, "Canada One Step Closer to Zero Plastic Waste by 2030," *Government of Canada News Releases* (7 October 2020), online: *Government of Canada* <https://www.canada.ca/en/environment-climate-change/news/2020/10/canada-one-step-closer-to-zero-plastic-waste-by-2030.html> [Accessed 1 April 2021]; Environment and Climate Change Canada, *Canada's Plastics Science Agenda* (2019), online (pdf): *Government of Canada* <https://www.canada.ca/content/dam/eccc/documents/pdf/science-technology/plastics-science-agenda.pdf> [Accessed 1 April 2021]; Government of Canada, *Ocean Plastics Charter*, online (pdf): *Government of Canada* <https://www.canada.ca/content/dam/eccc/documents/pdf/pollution-waste/ocean-plastics/Ocean%20Plastics%20Charter_EN.pdf> [Accessed 1 April 2021]; Environment and Climate Change Canada, *Proposed Integrated Management Approach to Plastic Products: Discussion Paper* (2019), online (pdf): *Government of Canada* <https://www.canada.ca/content/dam/eccc/documents/pdf/cepa/proposed-approach-plastic-management-eng.pdf> [Accessed 1 April 2021]; Government of Canada, *Science Assessment of Plastic Pollution* (2020), online (pdf): *Government of Canada* <https://www.canada.ca/content/dam/eccc/documents/pdf/pded/plastic-pollution/Science-assessment-plastic-pollution.pdf> [Accessed 1 April 2021].

Environmental Protection Act, 1999.[196] This will include a ban on a number of plastic items and could include beverage bottles.[197]

The Province of BC has a strong Plastics Action Plan that identifies that "waste prevention is the highest priority"[198] in reducing plastics. The Province is also looking into ways to facilitate easier avenues for municipalities to ban single use plastics.[199] The Province already has an Extended Producer Responsibility Policy, implemented through the Recycling Regulation,[200] which "requires industry to take responsibility for the entire life cycle of the products and the materials that they produce, including collection and recycling of beverage containers."[201] The Province also recently released a Multi-Materials BC Packaging and Paper Product Extended Producer Responsibility Plan.[202]

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[196] Canada, "A proposed integrated management approach to plastic products to prevent waste pollution: Discussion paper," (2019) at 8, online (pdf): <https://www.canada.ca/content/dam/eccc/documents/pdf/cepa/proposed-approach-plastic-management-eng.pdf> [Accessed 1 April 2021]; Environment and Climate Change Canada, "Canada one step closer to reducing plastic waste by 2030," (7 October 2020), online: *Canada News Releases* <https://www.canada.ca/en/environment-climate-change/news/2020/10/canada-one-step-closer-to-zero-plastic-waste-by-2030.html> [Accessed 1 April 2021].

[197] Canada, "A proposed integrated management approach to plastic products to prevent waste pollution: Discussion paper," (2019) at 8, online (pdf): <https://www.canada.ca/content/dam/eccc/documents/pdf/cepa/proposed-approach-plastic-management-eng.pdf> [Accessed 1 April 2021]; Environment and Climate Change Canada, "Canada one step closer to reducing plastic waste by 2030," (7 October 2020), online: *Canada News Releases* <https://www.canada.ca/en/environment-climate-change/news/2020/10/canada-one-step-closer-to-zero-plastic-waste-by-2030.html> [Accessed 1 April 2021].

[198] Clean BC, *Plastics Action Plan: Policy Consultation Paper*, (2019) at 3, online (pdf): *Clean BC* <https://cleanbc.gov.bc.ca/app/uploads/sites/436/2019/08/CleanBC_PlasticsActionPlan_ConsultationPaper_07252019_B.pdf> [https://perma.cc/75JV-CEK3].

[199] "Environment Minister George Heyman says B.C. continues to work on regulations allowing local governments to place bans on single-use plastics without the need for provincial approval. . . He says the aim is to reduce plastic use overall, expand the deposit-refund system and call on manufacturers to take more responsibility for their products' end of life. The Canadian Press, "B.C. approves single-use plastics bans in Surrey, Nanaimo, Rossland and Esquimalt," *CBC News* (12 Feb 2021), online: *CBC News* <https://www.cbc.ca/news/canada/british-columbia/bylaws-banning-single-use-plastic-bag-bans-approved-in-4-b-c-communities-1.5912949> [https://perma.cc/P7MD-G529]; Also see Clean BC, *Plastics Action Plan: Policy Consultation Paper*, (2019) at 5, online (pdf): *Clean BC* <https://cleanbc.gov.bc.ca/app/uploads/sites/436/2019/08/CleanBC_PlasticsActionPlan_ConsultationPaper_07252019_B.pdf> [https://perma.cc/75JV-CEK3].

[200] *Recycling Regulation*, BC Reg 449/2004, online: <https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/449_2004> [https://perma.cc/QUH8-2HAC].

[201] Ministry of Environment, "Ministry of Environment Meting Information Note," (16 August 2013) at 2, online: <http://docs.openinfo.gov.bc.ca/D44357714A_Response_Package_MOE-2014-00008.PDF> [https://perma.cc/59YR-7DYY].

[202] Recycle BC, "Packaging and Paper Product Extended Producer Responsibility Plan," (16 July 2019), online: *RecycleBC* <https://recyclebc.ca/wp-content/uploads/2019/07/RecycleBCStewardshipPlan_16July2019.pdf> [https://perma.cc/3KX9-DW6D].

From a local scale, the Provincial Government has approved a significant number of municipalities' single-use plastics and/or plastic bags bylaws, including Surrey,[203] Nanaimo,[204] Rossland,[205] Esquimalt,[206] Victoria,[207] Richmond,[208] Saanich,[209] Tofino,[210] and Ucluelet.[211] The City of Vancouver has also enacted single-use plastics bans.[212]

This overwhelming multi-jurisdictional commitment and action on reducing single-use plastics, which include plastic bottles, makes new authorizations for the use of water for water bottling unreasonable. New water bottling capacity is contrary to multiple current federal, provincial and local government policy commitments and activities.

Other provinces have discussed options for banning single use plastics and water bottling. For example, the province of Ontario recently released a Discussion Paper on litter that examined banning single-use plastics,[213] and recommended continuing a moratorium on new permits to take groundwater for the purposes of water bottling.[214] These measures in Ontario provide a direct precedent for both banning single-use plastics and enacting a moratorium on any new and expanded water bottling facilities in BC.

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[203] City of Surrey, by-law No R191, *Plastic Bags and Single Use Items By-law* (14 December 2020), online: *City of Surrey* <https://www.surrey.ca/sites/default/files/corporate-reports/RPT%202020-R191%20Plastic%20Bags%20and%20Single-Use%20Items%20Bylaw.pdf> [https://perma.cc/T4T2-C84A].

[204] City of Nanaimo, by-law No 7283, *A Bylaw to Regulate the Use of Checkout Bags* (19 October 2020), online: *City of Nanaimo* <https://www.nanaimo.ca/bylaws/ViewBylaw/7283.pdf?DocumentId=28815> [https://perma.cc/QEU6-4KEM].

[205] City of Rossland, by-law No 2691, *Checkout bag regulation Bylaw* (2019), online: *City of Rossland* <http://www.rossland.ca/sites/default/files/city-hall_bylaws_checkout-bag-regulation-bylaw-no.-2691_2019-05-27.pdf> [https://perma.cc/U8M4-CMSP].

[206] Township of Esquimalt, by-law No 2953, *A Bylaw to Regulate the Provision of Checkout Bags* (2020), online (pdf): *Township of Esquimalt* <https://www.esquimalt.ca/sites/default/files/docs/municipal-hall/bylaws/Bylaw_2953_-_Checkout_bag_Regulation_Bylaw_2019_updated_October_2020.pdf> [https://perma.cc/4T7X-BGZZ].

[207] City of Victoria, by-law No 20-025, *Checkout Bag Regulation Bylaw*, online (pdf): <https://www.victoria.ca/assets/Departments/Sustainability/Checkout%20Bag%20Regulation%20Bylaw%20No.%2020-025%20-%202018.pdf> [https://perma.cc/AB84-6TW3].

[208] City of Richmond, by-law No 10000, *Single-Use Plastic and Other Items Bylaw*, online (pdf): <https://www.richmond.ca/__shared/assets/Proposed_Single-Use_Plastic_and_Other_Items_Bylaw_No54201.pdf> [https://perma.cc/M6LK-V6VY].

[209] District of Saanich, by-law No 9589, *Checkout Bag Regulation Bylaw*, online (pdf): *Saanich* <https://www.saanich.ca/assets/Local~Government/Documents/BBLL/Checkout%20Bag%20Regulation%20Bylaw,%20No.%209589,%20NEW%20with%20MOE%20approval.website%20watermark.pdf> [https://perma.cc/XT2Z-9YZM].

[210] District of Tofino, by-law No 1277, *District of Tofino Single-Use Item Regulation Bylaw* (13 October 2020), online (pdf): *District of Tofino* <https://tofino.civicweb.net/filepro/document/94683/Single%20Use%20Item%20Regulation%20Bylaw%20No.%201277,%202020.pdf> [https://perma.cc/ZA7B-YVWV].

[211] District of Ucluelet, by-law No 1247, *A by-law to regulate distribution of single-use plastic items by business* (2019), online (pdf): *District of Ucluelet* <https://ucluelet.ca/images/Bylaw_1247_Single-use_Plastic_Regulation_Bylaw.pdf> [https://perma.cc/37B6-G95S].

[212] City of Vancouver, "Strategy Background: How we Got Here," at the "Bylaws" Dropdown, online: *City of Vancouver* <https://vancouver.ca/green-vancouver/background.aspx> [https://perma.cc/2CYF-43WQ].

[213] Ministry of the Environment, Conservation and Parks, "Discussion paper on reducing litter and waste in our communities," (6 March 2019), online (pdf): *Province of Ontario* <https://prod-environmental-registry.s3.amazonaws.com/2019-03/Reducing%20Litter%20and%20Waste%20in%20Our%20Communities%20Discussion%20Paper_0.pdf> [https://perma.cc/D9RN-86NV].

[214] Government of Ontario, "Proposal to extend the current moratorium on water bottling permits," (30 September 2020), online: *Environmental Registry of Ontario* <https://ero.ontario.ca/notice/019-2319> [Accessed 1 April 2021].

The growth of the water bottling industry is inconsistent with international, national, provincial, and local initiatives and commitments to ban or limit the use of single-use plastics. Depending on local governments to enact prohibitions on single-use plastics does not solve the problem, as it is regulatorily inefficient, does not stop the creation of water bottles, and simply outsources the problem. The Province of BC has recognized the need to fix plastics pollution at the production level. Placing a moratorium on water bottling authorizations would be a significant step towards this goal.

Appendix B: The Water Bottling Industry and BC's Policy Commitments

The Auditor General for Local Government has noted that the issues of "underpricing, over-use, inefficient use, and wasting water" are gaining increased recognition.[215] This is because water has considerable value as an essential resource to communities in BC. Community relationships to water are expressed in its numerous uses as clean, accessible drinking water, for the generation of hydro power, as natural assets and infrastructure of local governments, aesthetic values in the tourism industry, recreation, its spiritual and sacred values, and the for the maintenance of the hydroecology of BC. These values will only increase in importance as fresh water becomes more significant for the mitigation of and adaptation to climate change. Moreover, there is a decreasing reliance on bottled water as the primary source of drinking water for households in Canada.[216] Households that primarily rely on bottled water for drinking water have gone down from 24% in 2009, to 20% in 2017, whereas households that primarily rely on tap water as their drinking water source has grown from 66% to 72% in that same period.[217]

The following section provides some detail about the water bottling industry in BC and how its current operations fail to align with the interests of BC communities.

The Industry and Its Energy Impacts

The water bottling industry is a high profit sector with low capital requirements and low capital intensity,[218] which is also a significant source of GHG emissions. The major players in the water bottling industry in Canada include Nestlé Canada Inc. (36.9%) Pepsico (22.5%), The Coca-Cola Company (20.3%), Primo Water (13.2%), and other companies (7.1%).[219] In terms of the segmentation of their products and services, 74.5% of the industry produces single-serve bottles of still water, 2.9% creates single-serve bottles of sparkling water, 9% produce bulk bottled water, and 13.6% produce ice.[220]

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[215] Auditor General for Local Government, "Primer on Drinking Water Management in British Columbia," (2018) at 7 online (pdf): <https://eocp.ca/wp-content/uploads/2019/01/Primer-on-Drinking-Water-for-Local-Government-Elected-Officials-December-2018.pdf> [https://perma.cc/TS6M-A7SP].

[216] Statistics Canada, "Households and the environment survey, primary type of drinking water consumed," (11 March 2021), online: *Statistics Canada* <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3810027501> [https://perma.cc/RL82-TPQZ].

[217] Statistics Canada, "Households and the environment survey, primary type of drinking water consumed," (11 March 2021), online: *Statistics Canada* <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3810027501> [https://perma.cc/RL82-TPQZ].

[218] Carlos Mieles, "Canada Industry (NAICS) Report 31211 BCA: Bottled Water Production in Canada," (February 2021), online: *IBIS World* <https://my.ibisworld.com/ca/en/industry/31211bca/industry-at-a-glance> [Accessed 1 April 2021].

[219] Carlos Mieles, "Canada Industry (NAICS) Report 31211 BCA: Bottled Water Production in Canada," (February 2021), online: *IBIS World* <https://my.ibisworld.com/ca/en/industry/31211bca/industry-at-a-glance> [Accessed 1 April 2021].

[220] Carlos Mieles, "Canada Industry (NAICS) Report 31211 BCA: Bottled Water Production in Canada," (February 2021), online: *IBIS World* <https://my.ibisworld.com/ca/en/industry/31211bca/industry-at-a-glance> [Accessed 1 April 2021].

Significant amounts of energy are required to produce water bottles, including for production, transport, packaging, chilling, use, and disposal.[221] As almost all plastic bottles for water are made from virgin polymers,[222] which create a dependence on oil and natural gas to produce.[223] This means plastic bottles use a significant amount of energy. While the total amount of energy required to produce bottled water is dependent on a considerable number of factors,[224] based on numbers included in a study done by Gleick and Cooley on the energy implications of bottled water,[225] the production of all of Canada's bottled water (2.611 billion litres of bottled water in 2020 alone)[226] takes an energy equivalent of approximately 2.53-4.27 million barrels of oil.

Water Security and Climate Change

In several high population and/or arid areas, surface water in BC is already fully allocated,[227] and data on the allocation of groundwater is unreliable. Furthermore, there is very little scientific understanding of how these withdrawals have and will continue to impact aquifers.[228] Consequently, it is not surprising that 87% of residents in BC believe that, within 10 years, water management will be a serious issue in BC.[229] Climate change has a specifically local dimension, as geographers note, "[t]here is a growing recognition that, while climate change and resource development interactions will unfold at global and larger regional scales, their interplay within specific social-ecological systems will be diverse and highly case- and region-specific."[230] These

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[221] P H Gleik and H S Cooley, "Energy implications of bottled water," (2009) 4 *Environ Research Lett*ers 1 at 2, online (pdf): <https://iopscience.iop.org/article/10.1088/1748-9326/4/1/014009/pdf> [Accessed 1 April 2021].
[222] P H Gleik and H S Cooley, "Energy implications of bottled water," (2009) 4 *Environ Research Lett*ers 1 at 2, online (pdf): <https://iopscience.iop.org/article/10.1088/1748-9326/4/1/014009/pdf> [Accessed 1 April 2021].
[223] Environment and Climate Change Canada, *Economic Study of the Canadian Plastic Industry, Market and Waste*, (Gatineau: Environment and Climate Change Canada 2019) at 4, online: *Government of Canada* <http://publications.gc.ca/collections/collection_2019/eccc/En4-366-1-2019-eng.pdf> [Accessed 1 April 2021].
[224] See P H Gleik and H S Cooley, "Energy implications of bottled water," (2009) 4 *Environ Research Lett*ers 1 at 3, online (pdf): <https://iopscience.iop.org/article/10.1088/1748-9326/4/1/014009/pdf> [Accessed 1 April 2021].
[224] Euromonitor International, "Market Sizes: Canada Bottled Water, Total Volume," (2020), online: *Euromonitor* <https://www-portal-euromonitor-com.ezproxy.library.uvic.ca/portal/statisticsevolution/index> [Accessed 29 March 2021].
[225] This number is calculated using the ratio of 33 billion litres of bottled water in the United States requiring an energy input equivalent of 32 to 54 million barrels of oil. See P H Gleik and H S Cooley, "Energy implications of bottled water," (2009) 4 *Environ Research Lett*ers 1 at 6, online (pdf): <https://iopscience.iop.org/article/10.1088/1748-9326/4/1/014009/pdf> [Accessed 1 April 2021].
[226] Euromonitor International, "Market Sizes: Canada Bottled Water, Total Volume," (2020), online: *Euromonitor* <https://www-portal-euromonitor-com.ezproxy.library.uvic.ca/portal/statisticsevolution/index> [Accessed 29 March 2021].
[227] Diana M. Allen, "Climate change impacts on valley-bottom aquifers in mountain regions: case studies from British Columbia, Canada," in Holger Treidel, Jose Luis Martin-Bordes, and Jason J Gurdak, eds *Climate Change Effects on Groundwater Resources* (London: CRC Press, 2011) 249 at 252.
[228] Canadian Council of Ministers of the Environment, Water Agenda Development Committee "Review and Assessment of Canadian Groundwater Resources, Management, Current Research Mechanisms and Priorities," (2010) at 3, online (pdf): <https://ccme.ca/en/res/reviewandassessmentofcdngroundwaterresourcese.pdf> [perma.cc/8JB9-TKCM].
[229] McAllister Opinion Research, "2018 BC Freshwater Public Opinion Insights Topline Report," (June 2018) at 8, online (pdf): <https://d3n8a8pro7vhmx.cloudfront.net/freshwateralliance/pages/2527/attachments/original/1608160893/2018_McAllister-CFA_BC_Fresh_Water_Opinion_Insights_v2020.pdf?1608160893> [perma.cc/N4NT-C9KN].
[230] Ian M. Picketts, Margot W. Parkes, and Stephen J. Dery, "Climate change and resource development impacts in watersheds: Insights from the Nechako River Basin, Canada," (2017) 61:2 *The Canadian Geographer* 198 at 197.

climate change threats to water security thus place a disproportionate burden on rural communities as well as Indigenous communities in BC, whose relationship with water and Indigenous foods; Indigenous legal orders and cultures; and community health are already being significantly adversely affected.[231]

Indigenous communities, in particular, "carry a disproportionate burden of impacts[,]" as climate change will impact water quality, impacts to traditional food gathering and hunting, [232] Moreover, as water scarcity grows, Indigenous and rural communities vulnerability increases, as "socioeconomic [factors] will invariably affect water demand, particularly in heavily-populated valley-bottom areas."[233]

For example, the Nechako River Watershed is reported to be experiencing rapid climate change which has meant that streamflow levels are decreasing in the summer.[234] This is resulting in increases in water temperature and changes to water chemistry and quality,[235] all of which have additional ecosystem impacts.

Local Impacts

The local job creation benefits of water bottling plants are being questioned. Bloomberg Businessweek reported that:[236]

> …Nestlé has come to dominate a controversial industry, spring by spring, often going into economically depressed municipalities with the promise of jobs and new infrastructure in exchange for tax breaks and access to a resource that's scarce for millions... There are the usual costs of doing business, including transportation, infrastructure, and salaries. But Nestlé pays little for the product it bottles—sometimes a municipal rate and other times just a nominal extraction fee.[237]

Currently, BC has set the rental rate of water extraction for water bottling uses at $2.25 for every million litres.[238] As a point of comparison, Ontario charges water bottling companies $503.71 for

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[231] Ian M. Picketts, Margot W. Parkes, and Stephen J. Dery, "Climate change and resource development impacts in watersheds: Insights from the Nechako River Basin, Canada," (2017) 61:2 *The Canadian Geographer* 198 at 204
[232] Ian M. Picketts, Margot W. Parkes, and Stephen J. Dery, "Climate change and resource development impacts in watersheds: Insights from the Nechako River Basin, Canada," (2017) 61:2 *The Canadian Geographer* 198 at 204.
[233] Diana M. Allen, "Climate change impacts on valley-bottom aquifers in mountain regions: case studies from British Columbia, Canada," in Holger Treidel, Jose Luis Martin-Bordes, and Jason J Gurdak, eds *Climate Change Effects on Groundwater Resources* (London: CRC Press, 2011) 249 at 262.
[234] Ian M. Picketts, Margot W. Parkes, and Stephen J. Dery, "Climate change and resource development impacts in watersheds: Insights from the Nechako River Basin, Canada," (2017) 61:2 *The Canadian Geographer* 198 at 202.
[235] Ian M. Picketts, Margot W. Parkes, and Stephen J. Dery, "Climate change and resource development impacts in watersheds: Insights from the Nechako River Basin, Canada," (2017) 61:2 *The Canadian Geographer* 198 at 203.
[236] See, for example, CBC News, "Bottled water company to create new jobs in Smith Falls," online: *CBC News* <https://www.cbc.ca/news/canada/ottawa/bottled-water-company-to-create-new-jobs-in-smiths-falls-1.832455> [https://perma.cc/FMV5-DFH2].
[237] Caroline Winter, "Nestlé Makes Billions Bottling Water It Pays Nearly Nothing For," *Bloomberg Businessweek* (21 September 2017), online: *Bloomberg Businessweek* <https://www.bloomberg.com/news/features/2017-09-21/nestl-makes-billions-bottling-water-it-pays-nearly-nothing-for> [https://perma.cc/44VD-98KA].
[238] CBC News, "Nestlé BC water deal too cheap, says NDP," *CBC News* (20 February 2015), online: *CBC News* <https://www.cbc.ca/news/canada/british-columbia/nestlé-b-c-water-deal-too-cheap-says-ndp-1.2964709> [https://perma.cc/X4HR-WSZG].

every million litres of groundwater.[239] The low rental rate in BC does not encourage efficiency in the industry. For example, Nestlé's water bottling plant, located in Hope, reports that it takes 1.2 litres of water to produce one litre of bottled water.[240]

After reviewing the state of the law and evidence relating to groundwater regulation, the primary recommendation is that the Province of BC place a moratorium on new licences for water bottling, at least until watershed-based governance is in place as local governance processes can determine whether water security can be maintained and local communities will benefit from water bottling. These local governance processes must stem from government-to-government consent-based agreements about water.

- **Recommendation 1: Place a Moratorium on New Water Licences for Water Bottling**
- **Recommendation 2: Extend the Moratorium on New Water Licences for Water Bottling Purposes at least until Watershed-Based Governance is in Place**
- **Recommendation 3: Restrict Water Licences for Water Bottling Purposes to Short-Term Licences Only**
- **Recommendation 4: Obtain the Consent of Indigenous Governing Organizations Before Issuing New Water Licences**
- **Recommendation 5: Charge a Higher Water Rental for Water Extraction**

[239] Ministry of the Environment, Conservation and Parks (Government of Ontario), "Ontario Strengthening Protections for Water Resources," *Ontario Newsroom* (8 June 2017), online: *Ontario Newsroom* <https://news.ontario.ca/en/release/45113/ontario-strengthening-protections-for-water-resources> [https://perma.cc/XAP4-NW57].

[240] Nestlé, "Our operations in British Columbia," online: *Nestlé* <https://www.corporate.nestle.ca/en/ask-nestle/water/answers/nestle-waters-british-columbia-overview> [https://perma.cc/7SBC-RKMU].