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INTERNATIONAL LAW APPLICATION TO TRANSBOUNDARY POLLUTION: SOLUTIONS TO MITIGATE MINING CONTAMINATION IN THE ELK–KOOTENAI RIVER WATERSHED

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ABSTRACT

The Elk Valley is home to five of the six largest mines in British Columbia, with ongoing plans for further expansion. These headwater coal mines have contributed to selenium pollution in the freshwater ecosystems of the transboundary Elk – Kootenai River watershed, evidenced in part by the $60 million fine imposed on Teck Resources Ltd. under Canada's *Fisheries Act* in 2021 for the 'deposit of deleterious substances'. Indigenous communities, including the Ktunaxa Nation, and various other organizations on both sides of the border, alongside governments in the United States, have been calling for higher standards of mining pollution control originating in Canada and for the International Joint Commission to make recommendations on this issue. Two agreements exist between the countries that may be relevant here, including the Boundary Waters Treaty (1909) and Columbia River Treaty (1964). In this article, these agreements describing the potential role of the International Joint Commission are analyzed, along with the outlining of the current process for this organization to make recommendations to resolve this ongoing, hot-button issue. The examples from case law and other international agreements pertaining to pollution are used to formulate a two-part conclusion in the form of (1) a short-term solution to effectively communicate and facilitate a resolution of transboundary mining pollution in the Elk – Kootenay River watershed; (2) a long-term solution to settle future disagreements regarding transboundary pollution between Canada and the United States.

Keywords: International law; Environmental law; Transboundary impacts; Mining pollution; International Joint Commission; United States; Canada

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International Law Application to Transboundary Pollution: Solutions to Mitigate Mining Contamination in The Elk–Kootenai River Watershed

1. INTRODUCTION

One year ago, the headlines read, "Teck Coal given record-breaking $60 million fine for contaminating BC rivers," as media outlets broke down the largest fine ever imposed under Canada's federal *Fisheries Act* (ss. 36(3)), prohibiting the deposit of deleterious substance.[1] The company, Teck Resources Ltd., hereafter referred to as "Teck", was found to have been polluting the Fording River in south-eastern British Columbia (BC) with selenium at concentrations well above BC's safety guidelines or the permissible limits granted by the Government of the Province of BC for almost a decade.[2] Teck's four coal mines in question are located in the rural Elk Valley, approximately 130 kilometres from the Canada-United States Roosville border crossing. From the upper Fording River watershed, where the highest selenium levels were found, water flows into the Elk-Kootenai River watershed, a drainage that straddles BC and Montana (USA) and is part of the larger Columbia River Basin that flows into the Pacific Ocean. While the BC Provincial Court handed Teck their $60 million fine, Teck has yet to answer to selenium pollution flowing into Montana, and it is unsure when or if they will.[3]

There are few agreements or cases that can be applied to this issue. One agreement, over a century old, is the Boundary Waters Treaty of 1909 ("BWT").[4] Under the BWT, the International Joint Commission ("IJC") was established to solve issues over transboundary water between Canada and the United States. Another treaty, which has been under negotiations to modernize for several years, applies only to this specific area at issue: the Columbia River Treaty ("CRT").[5] Here, we seek to determine if either of these agreements can apply to this issue; what is the possible role of the IJC? What has prior case law said on the subject of transboundary pollution and use of the IJC? If no solution is apparent through these means, are there other international laws or policies that can apply to this situation?

A solution is needed to address the contentious international aspect of this issue, but it is unclear whether existing international agreements help reaching a solution. After discussing the history of selenium pollution in the Elk Valley and Lake Koocanusa, what progress, if any, has been made so far

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1 Environment and Climate Change Canada, "Teck Coal ordered to pay $60 million under the Fisheries Act and must comply with a Direction requiring reduction measures," <https://bit.ly/3Jgx5Cc> [ECCC Investigation]; Bob Weber, "Teck Coal given record-breaking $60M fine for contaminating BC rivers," The Canadian Press (March 26, 2021), <https://globalnews.ca/news/7721674/coal-teck-fined-contaminating-bc-rivers/> [Weber]; Ainslie Cruickshank, "Teck fined $60 million for water pollution in BC's Elk Valley," The Narwhal (March 26, 2021), <https://bit.ly/3Ian3kV> [Cruickshank 2021]; *Fisheries Act*, RSC 1985, c F-14, s 1 [*Fisheries Act*]; *R v Teck Coal Limited*, 2021 BCPC 118 [*R v Teck*].

2 ECCC Investigation, *supra* note 1; Weber, *supra* note 1.

3 Ainslie Cruickshank, "Teck is fighting Montana pollution rules it doesn't have to follow. Why? Look to BC," The Narwhal (February 2, 2022), <https://thenarwhal.ca/teck-resources-selenium-fight-montana/> [Cruickshank, 2022].

4 The Boundary Waters Treaty of 1909, Canada & US, January 11, 1909, *International Joint Commission* [BWT].

5 Columbia River Treaty, Canada & US, January 17, 1961, came into force September 16, 1964 [*CRT*].

to solve this issue, and how issues of transboundary pollution have been solved in the past between Canada and the United States, we analyze different approaches to reaching a solution, such as through the BWT and IJC. The IJC has been called on in the past to help reach conclusions for similar issues and should be again here as we conclude it is the most effective existing agreement; however, evaluating the role of the IJC raises another problem: The BWT is not an effective agreement for dealing with transboundary pollution between Canada and the United States. It is recommended that the BWT undergoes amendments to better consider and resolve transboundary pollution issues.

2. BACKGROUND

2.1 Selenium Pollution from Coal Mines in the Elk Valley, BC

The Elk Valley has a rich, mining history. Coal mining has occurred in the Elk Valley since 1898, with Teck operating the Fording River mine and Greenhills mine since 1971 and 1981, respectively.[6] When the Fording River mine was built, settling ponds were built nearby as an attempt to minimize sediment deposits in the river resulting from the mine; however, fish, including the Westslope Cutthroat trout (*Oncorhynchus clarkii lewisi*), which is a species listed as a "species of special concern" under Canada's *Species at Risk Act*, eventually made their way into the ponds, signifying the inability to ensure the ponds remained disconnected from the Fording River.[7] In addition, waste rock from the mines can often precipitate dissolved calcium and selenium when exposed to oxygen or water.

Selenium is a naturally occuring, non-metal trace mineral that is found naturally in many living organisms, including humans, required in trace amounts for normal body function.[8] Selenium is often precipitated into water systems as a byproduct of surface mining operations due to overburden waste rock storage and exposure to gradual weathering over time, resulting in accumulations that can be toxic in high concentrations.[9] The element has a tendency to bioaccumulate in the food chain of freshwater ecosystems where inorganic selenium becomes bioavailable to higher tropic levels in its organic form after ingestion and interaction with primary producers (e.g., bacteria and phytoplankton).[10] For context, selenium concentrations in the Fording River have recently been as high as 208 micrograms per litre (µg/L;

6 *R v Teck*, *supra* note 1 at para 2.

7 *Ibid*, at para 5; *Species at Risk Act*, SC 2002, c 29 [*SARA*].

8 Krystyna Pyrzynska & Aleksandra Sentkowska, "Selenium in plant foods: Speciation analysis, bioavailability, and factors affecting composition" (2021) 61 (8) Critical Reviews in Food Science and Nutrition 1340-1352, <https://doi.org/10.1080/10408398.2020.1758027>.

9 Jacqueline R Gerson, and others, "Mercury and selenium loading in mountaintop mining impacted alkaline streams and riparian food webs" (2020) 150 (1) Biogeochemistry 109-122, <https://doi.org/10.1007/s10533-020-00690-7>.

10 Thomas R Cianciolo, and others, "Selenium bioaccumulation across trophic levels and along a longitudinal gradient in headwater streams" (2020) 39 (3) Environmental Toxicology and Chemistry 692-704, <https://doi.org/10.1002/etc.4660>; Dominic E Ponton, and others, "Selenium interactions with algae: Chemical processes at biological uptake sites, bioaccumulation, and intracellular metabolism" (2020) 9 (4) Plants 528, <https://doi.org/10.3390/plants9040528>.

February, 2021), more than twice their permitted discharge limit (90 µg/L) and significantly higher than BC's 'safe for aquatic life' limit of 2 µg/L;[11] yet just upstream of the mines, selenium concentrations typically rest around 1 µg/L.[12]

The issue of selenium pollution also has a history in the Elk Valley. Selenium was first discovered in the Fording River in 1995.[13] However, it was still close to a decade before scientific consensus found that high selenium concentrations could be harmful to the biotic environment. In 2012, Environment and Climate Change Canada ("ECCC") determined through water quality and fish sampling that the Upper Fording River had selenium levels within a range categorized as "adverse effects."[14] Studies on selenium, its concentrations, and preventative measures had been conducted for years prior through independent expert studies and by Teck's own employees.[15] In 1995, when it was discovered that soluble selenium was mobilizing due to the waste rock, there were "990 million cubic metres of waste rock placed in the Fording River and Greenhills mines."[16] That number increased to 2.2 billion cubic metres by 2008, 2.5 billion by 2011, and 2.62 billion by 2012.[17] Teck was also given approval for an amendment to their Fording River mine certificate (under the BC *Environmental Assessment Act*) in 2017 to increase the amount of waste rock stored at the facility, transferred from the Greenhills operation.[18] Though, 2012 is an important year, because in 2012, Teck admitted depositing a deleterious substance into the Fording River.

Teck's $60 million fine in 2021 under *Fisheries Act* was formulated only in relation to the year 2012. However, it was recognized that pollution occurred, at the very least, between a timeframe of 2009 to 2021.[19] Since 2012, Teck has also been charged two times under the *Environmental Management*

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11 British Columbia, AJ Downie, Director of Mining Authorizations, *Permit 107517* under the *Environmental Management Act*, <https://j200.gov.bc.ca/pub/ams/download.aspx?PosseObjectId=139003236>.

12 Weber, *supra* note 1; Cruickshank 2022, *supra* note 3; *R v Teck*, *supra* note 1 at para 8, 9 & 10; ECCC Investigation, *supra* note 1; Weber, *supra* note 1; Cruickshank 2021, *supra* note 1; Behnaz Rezaie, & Austin Anderson, "Sustainable resolutions for environmental threat of the acid mine drainage" (2020) 717 Science of the Total Environment 137211, <https://doi.org/10.1016/j.scitotenv.2020.137211> [Rezaie & Anderson]; Nosa O Egiebor & Ben Oni, "Acid rock drainage formation and treatment: a review" (2007) 2 (1) Asia-Pacific Journal of Chemical Engineering 47-62, <https://doi.org/10.1002/apj.57> [Egiebor & Oni]; K Rambabu, Fawzi Banat, Quan Minh Pham, Shih-Hsin Ho, Nan-Qi Ren, & Pau Loke Show, "Biological remediation of acid mine drainage: Review of past trends and current outlook" (2020) 2 Environmental Science and Ecotechnology 100024, <https://doi.org/10.1016/j.ese.2020.100024> [Rambabu et al].

13 *R v Teck*, *supra* note 1 at para 11.

14 Environment and Climate Change Canada, "Teck Coal Limited ordered to pay $60 million under the Fisheries Act and must comply with a Direction requiring pollution reduction measures" <https://bit.ly/3Jgx5Cc> accessed August 29, 2022.

15 *Ibid*, at para 12 & 13.

16 R v Teck, *supra* note 1 at para 11.

17 *Ibid*.

18 Ben R Collison, Patrick A Reid, Hannah Dvorski, Mauricio J Lopez, Alana Westwood, & Nikki Skuce, "Undermining environmental assessment laws: post-assessment amendments for mines in British Columbia, Canada, and potential impacts on water resources" (2022) 7 (1) FACETS 611-638, <https://www.facetsjournal.com/doi/full/10.1139/facets-2021-0106> [Collison et al].

19 R v Teck, *supra* note 1 at para 22.

Act,[20] and ordered by the Minister of Environment to create an Elk Valley Water Quality Plan.[21] These charges were laid because of continuous damage resulting from selenium and calcite from waste rock, harm to species in the Fording River and the larger watershed, and harm identified to the Ktunaxa Nation in their traditional territory by polluting their water supply.[22]

2.2 International Aspect of the Issue

The Ktunaxa Nation traditional territory spans across the Kootenay Region of BC, including the Elk Valley, Fording River and Lake Koocanusa, and through the states of Montana, Idaho, and Washington.[23] European settlement led to the creation of the present six Bands: four solely in BC and two within the United States.[24] In *R v Teck*, Vickie Thomas, the operational director of the Ktunaxa Nation Council Lands Sector, provided a statement in which she said, "Ktunaxa believe that they must care for all living things, and in doing so, we must ensure that the water is clean and pure as it is the giver of life."[25] Thomas followed by identifying concerns about water quality and the safety for Ktunaxa to consume contaminated fish and impair their fishing rights.[26] In her address to the court she also said this pollution had led to "alienation of [her] people from [their] lands and waters."[27] This harm identified by the Ktunaxa Nation in their traditional territory was cited as an aggravating factor in determining Teck's fine.[28] In 2013, Teck and the Ktunaxa Nation signed a joint management agreement to conserve 700 hectares of land Teck had just purchased; they agreed to manage the land for conservation purposes to protect fish and wildlife habitat.[29] This includes land on the Canada side of the Canada-United States border near the Elk-Kootenai watershed and Lake Koocanusa.

Lake Koocanusa, downstream of the Fording and Elk rivers, spans the Canada-US border between BC and Montana. In 2020, Montana's Department of Environmental Quality determined that 95 percent of selenium entering the lake came from the Elk River.[30] This assessment delivered by Kelly and Sullivan (2020) had been worked on since 2015 in partnership with BC officials, local Indigenous peoples and scientists.[31] This study proposed a selenium standard of 0.8 µg/L , and the level in Lake

[20] *Ibid*, at para 26; *Environment Management Act*, SBC 2003, c 54.
[21] British Columbia, Minister of Environment, *Ministerial Order No. M113* (April 15, 2013), under the *Environmental Management Act*, SBC 2003, c 54, s 89, 90.
[22] R v Teck, *supra* note 1 at para 23.
[23] *R v Teck*, *supra* note 1 at para 16; Ktunaxa Nation, "Who We Are," <https://www.ktunaxa.org/who-we-are/> accessed August 2, 2022 [Ktunaxa Nation].
[24] Ktunaxa Nation, *supra* note 23.
[25] *R v Teck*, *supra* note 1 at para 16 & 17.
[26] *Ibid*.
[27] Weber, *supra* note 1.
[28] *R v Teck*, *supra* note 1 at para 23.
[29] *Ibid*, at para 27.
[30] Cruickshank 2022, *supra* note 3; Myla Kelly & Lauren Sullivan, September 24, 2020, "Establishing Selenium Standards for Lake Koocanusa and Kootenai River that Protect Aquatic Life," Montana Department of Environmental Quality, <https://deq.mt.gov/files/DEQAdmin/BER/Documents/AGENDA/DEQ_SMS.pdf> [Kelly & Sullivan].
[31] Cruickshank 2022, *supra* note 3; Kelly & Sullivan, *supra* note 29.

Koocanusa as of 2020 was 1 µg/L and slowly increasing.[32] After negotiation, Montana, BC and the Ktunaxa Nation Council agreed to a selenium standard of 0.85 µg/L in the Koocanusa reservoir and Montana officially adopted these new limits in December of 2020; however, because Teck's coal mines are located in Canada, they are not subject to Montana's state rules.[33] While BC approved the 0.85 µg/L standard, BC water quality guidelines, which are not legally binding, are still 2 µg/L.[34] Lawyers for Teck submitted a petition to the Board of Environmental Review in Montana opposing the new Montana standard, arguing it is illegal and targets their mining operations.[35] Several environmental organizations and Montana's Department of Environmental Quality wrote to the Board in support of the standard.[36] To date, the Board of Environmental Review has not reached a conclusion and the transboundary pollution conflict remains unresolved.

2.3 Historical Dealings of Transboundary Harm between Canada and the United States

No transboundary pollution issue between Canada and the United States can be assessed without reference to the *Trail Smelter* case.[37] This case is described as a "touchstone for international environmental law," and it is often the only case cited in instances of transboundary damage settled by applying international law principles on State liability for cross-border damage.[38] This case was over an issue of air pollution from a smelter in Trail, BC, causing damage to Washington State farmlands for 13 years.[39] Canada and the United States brought the matter before the IJC under Article 9 (looking for a recommendation but not a decision), and the IJC recommended the American farmers be paid $350,000 as compensation for the damages from air pollution.[40] The countries then submitted this case to a separate special arbitration tribunal in 1935, where Canada agreed to pay the damages recommended by the IJC that were supported by the tribunal. In 1941, during the tribunal's final decision, they stated that "no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."[41] This case established several international environmental law principles, including: the state has a duty to

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32 Cruickshank 2022, *supra* note 3; Kelly & Sullivan, *supra* note 29.
33 Cruickshank 2022, *supra* note 3.
34 *Ibid*.
35 Cruickshank 2022, *supra* note 3.
36 *Ibid*.
37 Arthur K Kuhn, "The Trail Smelter Arbitration—United States and Canada (1941)" (1938) 32 (4) The American Journal of International Law 785-788 [Trail Smelter Arbitration].
38 Rebecca Bratspies & Russell Miller, *Transboundary Harm in International Law*, 2006, Cambridge: Cambridge University Press, p.3 [Bratspies & Miller]; Jutta Brunnée, "Review of *Transboundary Harm in International Law*: *Lessons from the Trail Smelter Arbitration* by Rebecca M Bratspies, Russell A Miller" (2008) 102 (2) The American Journal of International Law 395-400, Cambridge: Cambridge University Press, p.395 [Brunnée].
39 Bratspies & Miller, *supra* note 38 at page 27.
40 Bratspies & Miller, *supra* note 38 at page 27 & 28; Brunnée, *supra* note 38 at page 395.
41 Trail Smelter Arbitration, *supra* note 37; Bratspies & Miller, *supra* note 38 at page 127.

prevent transboundary harm, and the "polluter pays" principle requiring the polluting state to pay for transboundary damage they cause.[42] Many international agreements have ever since adopted these principles; however, no agreements between Canada and the United Stated have included these principles. The existing agreements between Canada and the United States that may be relevant are discussed next.

2.4 Agreements Regarding Transboundary Pollution between Canada and the United States

The Boundary Waters Treaty, 1909

The BWT was signed between Canada and the United States to settle disputes between the two countries over the rights, obligations, and interests of each other regarding the use of boundary waters.[43] The Preliminary Article of the BWT defines "boundary waters" as "waters from main shore to main shore of the lakes and rivers and connecting waterways, or the portions thereof, along which the international boundary between the United States and Canada passes...,"[44] which, using this definition, would include the Elk-Kootenai watershed. Applying the BWT to pollution issues, the relevant article is Article IV, which prohibits pollution to boundary waters on either side if it would injury health or property of the other side.[45] This is recognized as the "first international pollution treaty in history" by some, but it should also be noted that the main priority is not to prohibit pollution, but to protect the rights of each country.[46]

Since its inception, the BWT has regulated and solved disputes regarding boundary waters between the two countries. This has largely been done through the IJC, which was formed as a permanent Commission under the BWT and is responsible for its implementation.[47] The IJC has many vital roles as established under the BWT. Article VII establishes that the IJC "shall have jurisdiction over and shall pass upon all cases involving the use or obstruction or diversion of the waters with respect to which under Article III or IV..."[48] This establishes, therefore, that the IJC is to control and decide on "uses or obstructions or diversions, temporary or permanent" of boundary waters on either side and construction, such as dams or pollution along any boundary waters.[49]

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42 Trail Smelter Arbitration, *supra* note 37; Bratspies & Miller, *supra* note 38 at page 3. -u-s-officials/> [Lavoie].
43 *Ibid*.
44 *Ibid*, preliminary article.
45 *Ibid*, art IV.
46 Commissioner Gordon Walker, QC, "The Boundary Waters Treaty 1909—A Peace Treaty?" (2015) 29 Canada—United States Law Journal 170 [Walker].
47 BWT, *supra* note 4, art VII.
48 BWT, *supra* note 4, art VIII.
49 BWT, *supra* note 4, arts III &IV.

The BWT and IJC have played essential roles in resolving issues of transboundary pollution between Canada and the United States for over a century (the *Trail Smelter* dispute, for example), and continue to do so.[50]

Columbia River Treaty, 1964

The CRT was ratified in 1964 as an agreement between Canada and the United States primarily as a transboundary water management agreement for the Columbia River Basin, specifically regarding development.[51] This is important to the region for two reasons: power generation and flood control, both were of upmost importance in the region.[52] The CRT was deemed necessary after several disastrous floods in the late 1940s and 1950s, including the Vanport City, Oregon flood which killed 50 people and resulted in over $102 million in damages (equivalent to over $900 million now).[53] The CRT allowed for rapid development of flood control systems that could also produce hydroelectricity.

While the CRT may have been important for flood control and has been positively viewed in some ways, local Indigenous peoples were excluded in the creation of the CRT and many local First Nations communities experienced loss because of flooding to create new reservoirs and facilities for hydropower. The building of dams under the CRT also changed the ecology of the rivers in the Columbia River system, blocked salmon from migrating and flooded cultural territory.[54] In 2018, Canada and the United States began negotiations to modernize the treaty by 2024, focused on addressing concerns about environmental impacts and Indigenous rights.[55] On January 10, 2022, Canada and the United States met for the 12th round of negotiations; the latest informal meeting was on May 17, 2022.[56] While the CRT does not explicitly relate to selenium pollution from coal mines in the Elk Valley, the Elk-Kootenai watershed is within the greater Columbia River watershed boundary, and given the contentious ongoing negotiations to amend it, it should be considered. Other international agreements and cases on transboundary pollution may be relevant to this issue, but our analysis will focus on these agreements and cases, which we believe to be the most pertinent international resources to discuss the case of transboundary selenium pollution mining operations in southern British Columbia.

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50 Some more case examples where the IJC were called on to solve transboundary pollution issues are expanded upon in the analysis section of this paper.

51 CRT, *supra* note 5, preamble.

52 Alice Cohen & Emma S Norman, "Renegotiating the Columbia River Treaty: Transboundary Governance and Indigenous Rights," (2018) 18 (4) Global Environmental Politics 4-24, p.11 [Cohen & Norman].

53 James M Hundley, "Whither an International Issue: The Columbia River Treaty, the Canada/US Border, and the Curious Case of Libby, MT" (2020) 35 (5) Journal of Borderlands Studies, 801-818 [Hundley].

54 Cohen & Norman, *supra* note 52, at page 15.

55 Bob Keating & Tom Popyk, "Calls to terminate Columbia River Treaty sparks concern after 2 years of negotiations," CBC News, 2018 [Keating & Popyk].

56 British Columbia, *Columbia River Treaty News*, <https://engage.gov.bc.ca/columbiarivertreaty/> accessed August 2, 2022.

3. ANALYSIS AND APPLICATION OF INTERNATIONAL LAW

3.1 The International Joint Commission Should be Called Upon for Recommendations

The IJC is already aware of the issue of selenium pollution and Montana's increasing concern about its effect on Lake Koocanusa.[57] In 2016, the BC Auditor General, Carol Bellringer, stated that the Ministry of Environment had been monitoring selenium levels in the Elk Valley for 20 years, but because there is no regulatory oversight, no necessary action has been taken to solve the problem.[58] In 2018, two US commissioners on the IJC released a letter to the US State Department stating Canada's three representatives would not endorse a report showing risk to aquatic and human life in Lake Koocanusa from selenium pollution. These US commissioners accused BC of negligence in addressing the issue of selenium pollution and said they are at risk of violating the BWT.[59] Additionally, Teck and the BC government are required to regularly perform water testing in the area, but this data is not made available to the public; these US representatives on the IJC criticized this testing process, stating that Teck and Canadian representatives were "suppressing science."[60] As such, the apparent lack of transparent, peer-reviewed scientific monitoring that is independent from Teck and the BC government is a significant concern in this case.[61] The IJC has knowledge of the selenium pollution issue and knows that there is ongoing conflict between Montana and BC (therefore, Canada and the US), yet they have not provided recommendations to solve the issue. However, the real issue is that the IJC has not been asked to provide recommendations.

While the IJC commissioners are aware of the issue and seemingly in dispute themselves, they cannot do anything under the treaty because the treaty is not self-activating. Canada and the United States must jointly decide to invoke the treaty if they think a project may affect such things as water levels, water flow, and water quality by sending the issue to the IJC for investigation.[62] Article X states that the two countries may *jointly* request a reference to the IJC on any matters they disagree on under the treaty over the "rights, obligations, or interests" of either countries or their citizens.[63] As mentioned, BC has yet to update its water quality guidelines to follow the selenium standard of 0.85 µg/L; BC will not likely take any action, or request

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57 Judith Lavoie, "Canada suppressing data on coal mine pollution, says US officials," The Narwhal (July 4, 2018), <https://thenarwhal.ca/canada-suppressing-data-on-coal-mine-pollution-say-u-s-officials/> [Lavoie].

58 *Ibid*.

59 *Ibid*; Chloe Williams, "From Canadian Coal Mines, Toxic Pollution That Knows No Borders," 2019, <https://e360.yale.edu/features/from-canadian-coal-mines-toxic-pollution-that-knows-no-borders> [Williams].

60 Lavoie, *supra* note 57.

61 Erin K Sexton, et al, "Canada's mines pose transboundary risks" (2020) 368 (6489) Science 376-377, <https://doi.org/10.1126/science.abb8819>.

62 Walker, *supra* note 46.

63 BWT, *supra* note 4, art X; Robert Wright, "The Boundary Waters Treaty: A Public Submission Process Would Increase Public Participation, Accountability, and Access to Justice" (2008) 54 Wayne L Rev 1609 [Wright].

the federal government to call upon the IJC for recommendations, if their selenium standard is not updated first.[64] However, the issue remains that if BC is to update their standard for Lake Koocanusa, it is still Canada that must request the IJC recommendations in partnership with the US. Though, since studies began analyzing selenium levels in the lake around 2015, there has been increasing concern from the US side and local Indigenous people and increasing tension between all sides because Canada has not been interested in calling on the IJC;[65] if the IJC is not called upon for recommendations, tensions between Canadian and American counterparts will likely only increase as they make their contradicting arguments to the wind.[66]

One aspect of the BWT that can be blamed for lack of calling on the IJC is the vague mention of pollution despite attempts of the IJC to adopt stronger recognition of environmental concerns. Currently, the BWT states that concerns over pollution is engaged under the agreement only when it could cause injury to the health or property of the other country.[67] This suggests not a general prohibition against pollution, but rather a protection of rights afforded to each country; pollution is not prohibited until it harms the other side.[68] It is understandable, then, why BC has been hesitant to adopt a water quality standard that would support the accusation of harmful pollution from a company in their jurisdiction and why Teck has been so adamant against Montana's new standard.

The BWT has continued to use this vague definition of pollution, but the IJC has slowly moved forward toward an ecosystem approach to addressing local concerns by creating the International Watersheds Initiative ("IWI").[69] The IWI is an approach of the IJC to resolving transboundary water issues through partnership with local communities affected by a given issue out of recognition those closest to issues will likely have more knowledge and understanding of how the specific ecosystem functions, and how it has been impacted.[70] Canada also developed the *International Boundary Waters Treaty Act* ("*BWT Act*"), recognizing First Nations treaty rights as affirmed under section 35 of the *Constitution Act*.[71] There is mention

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64 Cruickshank 2022, *supra* note 3.

65 Karen E Jenni, David L Naftz & Theresa S Presser, 2017, Conceptual modeling framework to support development of site-specific selenium criteria for Lake Koocanusa, Montana, U.S.A., and British Columbia, Canada: U.S. Geological Survey Open-File Report 2017–1130, 14 p., <https://doi.org/10.3133/ofr20171130>; Tristan Scott, "Canada Walks Back Position on IJC Reference for Kootenai Coal Mine Contamination," Flathead Beacon (May 20, 2022), <https://flatheadbeacon.com/2022/05/20/canada-walks-back-position-on-ijc-reference-for-kootenai-river-contamination/> [Scott]; Ainslie Cruickshank, "Canada flip-flops amid calls for international investigation into B.C. coal mine pollution," The Narwhal (May 26, 2022), <https://thenarwhal.ca/teck-coal-mining-ijc-ktunaxa/> [Cruickshank, May 2022].

66 Williams, *supra* note 59.

67 BWT, *supra* note 4, art IV.

68 Walker, *supra* note 46.

69 Walker, *supra* note 46; *International Watersheds Initiative*, International Joint Commission (IJC), online: <http://www.ijc.org/en_/IWI> [IWI].

70 IWI, *supra* note 69.

71 Walker, *supra* note 46; *International Boundary Waters Treaty Act*, RSC 1985, c I-17, s 21 [*BWT Act*]; *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11 [*Constitution*].

in the *BWT Act* of environmental concerns specifically over the "bulk removal" of water within section 12, but other than this there are only vague mentions of environmental concerns as aggravating factors under section 36(2).[72] For example, section 36(2)(a) states that an offence causing "damage or risk of damage to the environment" is an aggravating factor; section 36(2)(c) states if the damage was "extensive, persistent or irreparable," it is also an aggravating factor.[73] While it may appear promising, these provisions offer several issues: they are only listed as aggravating factors for an offence under the BWT, and environmental damage or harm does not trigger an offence on its own; these factors are still vague, with no standard or definition to suggest what constitutes environmental damage, or what is meant by "extensive, persistent or irreparable" (s. 36(2)). Therefore, while the IJC attempts to move forward and modernize, the BWT still only consists of one vague article on pollution, and the *BWT Act* only introduces vague mentions of environmental harm that are solely aggravating factors and not triggering factors. The BWT has existed for over a century now in its current form, while the law and world it operates around have changed drastically.[74]

If the IJC were called upon for recommendations, they would likely consider both Indigenous rights and concerns over environmental harm, given their evolution to an ecosystem-based approach.[75] Even back in 1975, when called upon to evaluate the effects of the Garrison Diversion on Canadian waters, the IJC demonstrated their ability to modernize by considering risks of irreversible damage to the environment and adopting the precautionary approach.[76] The IJC is not the issue; what needs improvements is the triggering of the BWT and the considerations under the treaty that should result in consulting the IJC. Under the current treaty, neither Indigenous concern nor environmental harm is reason enough, and consulting the IJC is only necessary if there is harm to the health or property of people. Additionally, while the IJC can enforce the BWT, jurisdictions cannot force each other to respect recommendations or decisions of the IJC;[77] both countries seem to prefer only using the IJC for recommendations, so they may refuse to accept the recommendations provided if it does not fit with political agendas, economic objectives, or other environmental and social factors. There needs to be more power afforded to the IJC to execute the BWT and provide recommendations regardless of whether both Canada and the United States call upon them. Providing self-execution to the IJC could solve many problems such as the case of transboundary pollution in Lake Koocanusa, or in the case of Devils Lake where the IJC was asked to "survey fish pathogens and parasites in Devils Lake, the Sheyenne and Red

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72 *BWT Act*, *supra* note 71, s 12 & 36(2).

73 *Ibid*, s 36(2)(a) & 36(2)(c).

74 Noah D Hall, "The Centennial of the Boundary Waters Treaty: A Century of United States-Canadian Transboundary Water Management" (2008) 54 Wayne L Rev 1417 [Hall].

75 IWI, *supra* note 69.

76 Andrea Signorelli, "Devils Lake Outlet and the Need for Canada and the United States to Pursue a New Bilateral Understanding in the Management of Transboundary Waters" (2011) 34 Manitoba Law Journal 183 [Signorelli].

77 Signorelli, *supra* note 76.

Rivers, and Lake Winnipeg in order to better understand their potential risk of transference from Devils Lake to downstream systems."[78] In the Lake Koocanusa case, even allowing a single party to invoke the IJC rather than needing a joint agreement to request the IJC's recommendations would result in the IJC being involved.

3.2 Case Law: Calling on the IJC to make Recommendations would Facilitate Solutions

Looking back to *Trail Smelter*, calling on the IJC for recommendations can facilitate discussions between Canada and the United States, leading to a solution, whether through arbitration or not. The arbitration tribunal, who decided the case, adopted the damages recommended by the IJC. The IJC recommendations also helped facilitate discussions in the tribunal that established key international principles of transboundary pollution and international law. Notably, the tribunal concluded that in the debate over following domestic law or international law, in a matter of transboundary pollution, the domestic law should be in conformity with general international rules.[79] Additionally, they stated that it was Canada's responsibility to ensure the smelter's conduct adhered to international law obligations.[80] In the Lake Koocanusa case, this would suggest a responsibility of Canada to ensure Teck is not polluting Montana waters. The tribunal reached these conclusions with helpful recommendations from the IJC, and summarized their reasoning with what is now known as the *Trail Smelter* principles: the state has a duty to prevent transboundary harm, and the polluter pays principle recognizing polluting states should pay compensation for transboundary harm they cause.[81] If these principles are to be followed in the case of selenium pollution in Lake Koocanusa, they both support that Canada needs to take action to prevent pollution flowing from Teck's mines and provide compensation for any damage already caused.

While the *Trail Smelter* principles were important to set precedence through the issue of transboundary pollution in international law, and demonstrated the benefits of calling on the IJC for recommendations, the established principles have potentially vague application as the arbitration tribunal stated other things that contradict those principles. For example, by saying that only when a "case is of serious consequence and the injury is established by *clear and convincing evidence*" can a state intervene, they suggest that producers still have the right to do what is necessary to maximize production and economic benefit.[82] Therefore, while some key international pollution principles have come from this case, there have also been many critical views of *Trail Smelter* for its failure to impose an

[78] Signorelli, *supra* note 76; International Joint Commission, "IJC releases report on fish parasites and pathogens in Devils Lake, the Sheyenne and Red Rivers, and Lake Winnipeg" (October 27, 2011), <https://www.ijc.org/en/ijc-releases-report-fish-parasites-and-pathogens-devils-lake-sheyenne-and-red-rivers-and-lake>.

[79] Hall, *supra* note 74.

[80] *Ibid*.

[81] Bratspies & Miller, *supra* note 38 at page 3.

[82] Trail Smelter Arbitration, *supra* note 37; Bratspies & Miller, *supra* note 38 at page 18.

obligation to prevent damage.[83] Because of this, it is difficult to apply to cases of transboundary pollution currently unless clear evidence of damage has occurred; it introduced an obligation to pay for pollution but not to prevent it from the outset. The threshold of transboundary environmental effects "of a serious consequence" is inherently ambiguous.[84] Because of this, *Trail Smelter* could be used to support Canada paying for damages to the United Stated because of Teck pollution, but the case can also be used as support for the use of the IJC.

The eventual fine required to be paid by Canada in *Trail Smelter*, and the international pollution principles that came from the case, stemmed from the research and recommendations of the IJC. The IJC's investigation was conducted by scientists from both countries who presented scientific impacts on the pollution.[85] While it did take some time to reach a final decision even after the IJC provided their recommendations, these recommendations facilitated the final discussions and tribunal decisions. Since *Trail Smelter*, the IJC has continued to help solve disputes between Canada and the United States and examples show how the IJC has attempted to modernize while the BWT has not.

Past cases the IJC have been involved in demonstrate the ability of the IJC to help facilitate solutions and show their willingness to adopt more modern principles over time. In 1944 a study and recommendations by the IJC eventually led to the creation of the CRT.[86] In 1975, the IJC was asked for recommendations and evaluations on the effect of the Garrison Diversion on Canadian waters.[87] The IJC's conclusion in the 1975 Garrison Diversion case was that a project involving water transfer between basins should not proceed "unless and until Governments agree that methods had been proven that would eliminate the risk of biota and disease were no longer of concern" and that the project does not proceed until then.[88] The IJC adopted a precautionary approach after concluding that the risk of irreversible damage caused by foreign biota was inconclusive as it was impossible to measure all effects.[89] Ultimately, these IJC recommendations were not adopted; however, these recommendations illustrate the IJC's adaptability and openness to adopt modern principles. While not explicitly using the precautionary principle, the conclusion that a project should not proceed unless a "risk" is "no longer of concern" is following the principle. Regardless, the recommendations still facilitated further discussion between the countries. Notably, the issue and ideas in the Garrison Diversion Project were discussed in the later Devils Lake Outlet case mentioned above.[90] More

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83 Bratspies & Miller, *supra* note 38 at page 126.
84 *Ibid*, at page 129.
85 Bratspies & Miller, *supra* note 38 at page 28.
86 Hall, *supra* note 74; International Joint Commission, "History of the IJC," <https://ijc.org/en/who/history > accessed August 2, 2022 [IJC History].
87 Signorelli, *supra* note 76.
88 IJC History, *supra* note 86*; E*mbassy of Canada in Washington, *Canada's Statement to the International Joint Commission* (Washington: Embassy of Canada, 2005), <http://www.canadainternational.gc.ca/washington>, as cited in Signorelli, *supra* note 76.
89 Signorelli, *supra* note 76.
90 *Ibid*.

recently, and regarding an issue close to Lake Koocanusa, the IJC provided recommendations for a proposed mine in the Elk Valley, stating that it should not be approved until there were no potential impacts on the trout fishery in the Flathead River.[91]

While IJC recommendations and investigations are not required to be followed, the suggestions made by the IJC are respected and historically have at the very least, facilitated further discussion between Canada and the United States over a given dispute. However, this discussion also illustrates that, while the IJC is attempting to modernize, the BWT remains unchanged. Ironically, the CRT, another transboundary treaty relevant to the area at issue, which was created and signed as a direct result of discussions and cooperation of the IJC,[92] is already undergoing amendments despite being created 50 years after the BWT.

3.3 The Columbia River Treaty is not Applicable to the Situation but Supports Reform of the Boundary Waters Treaty

Unfortunately, the CRT is not applicable to this case; however, amending of the CRT supports possibly amending the BWT, and the CRT may be applicable once amendments are finished. The CRT is a specific treaty governing flood control, infrastructure, electricity and energy production and does not address the issue of pollution. While Lake Koocanusa is within the Columbia River system, and the Libby Dam (southern end of the lake) was created through this treaty, there is no provision in the treaty that can help solve the conflict over selenium pollution in Lake Koocanusa. Before the CRT was formed, flooding was largely only an issue in the United States. The creation of the CRT demonstrates that there can be international solutions to issues once viewed as solely domestic ones.[93] Given the ongoing negotiations to amend the treaty, notably to address concerns about environmental impacts and Indigenous rights, the amended product could apply to pollution issues in Lake Koocanusa upon the 2024 release, or, at the very least, support amending the BWT.[94] Of course, there is no certainty as to what the amendments will include.

When the CRT was first created, many important factors were not considered, and issues are now apparent with the approach taken to damning the rivers and preventing flooding. For example, grizzly bears were separated onto either side of newly formed lakes, which resulted in two weaker breeding populations, and bull trout numbers are continually dropping because these lakes are not natural and do not have the necessary nutrients to sustain all life.[95] One of these lakes is Lake Koocanusa, formed

91 IJC History, *supra* note 86.
92 Hall, *supra* note 74.
93 Hundley, *supra* note 53.
94 Keating & Popyk, *supra* note 55.
95 Hundley, *supra* note 53; Vaughn L Paragamian & Jody P Walters, "Bull trout (Salvelinus confluents) movements in a transboundary river" (2011) 26 (1) Journal of Freshwater Ecology 65-76, <https://doi.org/10.1080/02705060.2011.553854> [Paragamian & Walters]; Ryan P Kovach, et al, "Long-term population dynamics and conservation risk of migratory bull trout in the upper

by the damning of the Kootenai River. It is possible that if environmental concerns are to be included in CRT amendments, any environmental issue within a body of water formed by the damning of waterways through the CRT could fall under the control of the newly amended CRT.

A notable goal of amending the CRT is to ensure that Indigenous Nations in the Columbia Basin have their interests reflected in the treaty.[96] This could also provide support the CRT having some jurisdiction over Lake Koocanusa and other water bodies formed by dams in the Columbia River system in cases of pollution because the Ktunaxa, for example, could hopefully raise concerns about pollution within the Columbia River system under the CRT. As already mentioned, the damning of the Kootenai River, which formed the Koocanusa reservoir, resulted in the harm of several species which were of importance to First Nations, including kokanee salmon and bull trout.[97] CRT amendments are occurring, in part, out of recognition of harm caused to local Indigenous peoples and their traditional territory, including their food and water supply.

While amendments are focused on including considerations of both Indigenous rights and environmental concerns, it is not clear what these amendments will look like, and it remains unclear if they will aid in preventing or controlling selenium pollution. Even if they addressed pollution in water bodies formed by damning waterways in the Columbia River system, selenium pollution is unrelated to infrastructure, which the CRT controls. A key takeaway from an analysis of the CRT's possible role in this issue should be that if a 1964 treaty can undergo significant amendments to include both Indigenous rights and environmental concerns, why can a 1909 treaty, which clearly needs to be modernized, not undergo similar amendments as well?

3.4 What can We Learn and Apply from Other International Agreements?

There are no other applicable treaties that can be directly used to solve the transboundary selenium pollution because Canada and/or the United States is not a party to any agreements that could be relevant. However, while no treaties apply directly to the issue at hand, there are several that can be looked to for possible suggestive amendments to the BWT, including the *1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses* ("UN Watercourses Convention"),[98] the *1992 United Nations Economic Commission for Europe Convention on the Protection and Use of Transboundary Watercourses and International Lakes* ("UNECE Water

Columbia River basin" (2018) 75 (11) Canadian Journal of Fisheries and Aquatic Sciences 1960-1968, <https://doi.org/10.1139/cjfas-2017-0466> [Kovach et al].

96 BC Government, "Canada, US continue Columbia River Treaty talks," BC Gov News, January 12, 2022, <https://news.gov.bc.ca/releases/2022EMLI0002-000041>.

97 Hundley, *supra* note 53; Randy Ericksen, et al, 2009, "Status of Kokanee Populations in the Kootenai River in Idaho and Montana and South Arm Kootenay Lake, British Columbia," *Contract report prepared for the Kootenai Tribe of Idaho 30p*.

98 *Convention on the Law of the Non-navigational Uses of International Watercourses*, United Nations, 21 May 1997, UN GA 51 229 No 49 (entered into force 17 August 2014) [UN Watercourses Convention].

Convention"),[99] the *Berlin Rules on Water Resources* ("Berlin Rules"),[100] and the *United Nations Declaration on the Rights of Indigenous Peoples* ("UNDRIP").[101]

The International Court of Justice ("ICJ"), the official "judicial organ" of the United Nations tasked with settling international legal disputes submitted to it could,[102] in theory, be requested to decide on the issue. However, similar to the IJC, cases have to be referred to the ICJ by the parties involved,[103] so both countries would have to agree to refer the case. Given that a court decision would be binding, it is unlikely either country would prefer this outcome over coming to an agreement together. Therefore, the ICJ has no real power or ability to help solve this problem. For this reason, we have chosen not to look at ICJ cases in this paper and instead we focus on illustrating key principles that could be taken from the above agreements when considering what amendments could be included in the BWT to make it more effective at resolving transboundary pollution issues between Canada and the United States.

1997 UN Watercourses Convention

The 1997 UN Watercourses Convention cannot be applied to the Lake Koocanusa dispute because neither Canada nor the United States is a party to the Convention, but it can be looked to for possible BWT amendments. It is unclear why neither country is a party to Convention; perhaps it is because the UN Watercourses Convention provides more weight to countries with a greater population and economic activity, which contradicts the equality provided in the BWT.[104] Or, perhaps Canada and the United States take issue with the greater access to shared waters. It is unfortunate that the countries are not parties, and the principles within the Convention cannot apply, but equality between the two countries in the BWT is also an important aspect that should remain; as it stands, Commissioners in the BWT reach decisions based on consensus, requiring at least one Commissioner from the other country to be in the quorum.[105] Regardless, some of the key principles and provisions from the UN Watercourses Convention should be considered in a BWT amendment process, especially the cooperative nature of the Convention which is based on the idea of limited territorial sovereignty.[106]

Under the UN Watercourses Convention, specific definitions are provided for key terms that are likely to arise in cases, which aids in solving

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99 *Convention on the Protection and Use of Transboundary Watercourses and International Lakes*, United Nations Economic Commission for Europe, 17 March 1992 (entered into force 6 October 1996) [UNECE Water Convention].

100 *Berlin Rules on Water Resources*, "Berlin Conference (2004): Water Resources Law," International Law Association, 21 August 2004 [Berlin Rules].

101 *United Nations Declaration in the Rights of Indigenous Peoples*, adopted by the UN General Assembly, 2 October 2007, A/RES/61/295 No 68 [UNDRIP].

102 International Court of Justice, "The Court," online: <https://www.icj-cij.org/en/court> accessed August 2, 2022; United Nations, *Statute of the International Court of Justice*, 18 April 1946, art 1, <https://legal.un.org/avl/pdf/ha/sicj/icj_statute_e.pdf> [Statute of ICJ].

103 Statute of ICJ, *supra* note 102 at art 36(1).

104 Walker, *supra* note 46.

105 *Ibid*.

106 Signorelli, *supra* note 76.

transboundary disputes; the BWT can draw on these. First, under Article 21, a pollutant is considered anything that could alter the quality of downstream waters.[107] One of the criticisms of the BWT has been its vague provisions, notably article IV where pollution is mentioned. A definition such as this one provided in the UN Watercourses Convention would greatly benefit the BWT, making it more applicable to transboundary pollution issues, as the lack of an explicit definition of pollution under the BWT has made it difficult to assess conflicts correctly.[108] Additionally, Article 7 of the Convention adopts the polluter pays principle.[109] The BWT does not include the polluter pays principle, yet the IJC appears to already recognize the principle; adopting it into the BWT would create less conflict between the BWT and IJC and provide more guidance for the IJC to make recommendations.

While many other articles in the Convention could be relevant to the BWT, two of the most important amongst the rest are Articles 8 and 9. These articles state there is a general duty for States to cooperate with one another and watercourse States will regularly exchange data and information related to the condition of a watercourse.[110] This would positively apply to the selenium pollution issue and could dissolve the conflict between Canadian and American IJC Commissioners due to accusations of the Canadian side withholding information and preventing this issue.[111] Lastly, it should be noted that Article 21 of the Convention presents several provisions for the prevention and reduction of pollution; for example, Article 21(2) explicitly states that a watercourse State shall "prevent, reduce and control the pollution of an international watercourse that may cause significant harm to other watercourse States or to their environment."[112] These are simple provisions recognizing the duty to prevent and reduce pollution causing harm to other States that could easily be adopted into an amended BWT.

1992 UNECE Water Convention

Like the UN Watercourses Convention, the UNECE Water Convention cannot be directly applied to this situation, as neither Canada nor the United States is a party to it, but it does provide more examples of general provisions that an amended BWT should include to effectively address transboundary pollution issues. The UNECE Water Convention efficiently describes the detailed duties of each party to the Convention under Article 2; for example, Article 2, section 2(a) states that parties shall take all appropriate measures "to prevent, control and reduce pollution of waters causing or likely to cause transboundary impact."[113] While this is a general obligation for parties, it does more than the BWT to identify the obligations of parties regarding pollution as there is a specific definition provided for "transboundary

[107] UN Watercourses Convention, *supra* note 98 at art 21; Signorelli, *supra* note 76.
[108] Signorelli, *supra* note 76.
[109] UN Watercourses Convention, *supra* note 98 at art 7.
[110] UN Watercourses Convention, *supra* note 98 at art 8 & 9.
[111] Lavoie, *supra* note 57.
[112] UN Watercourses Convention, *supra* note 98, art 21(2).
[113] UNECE Water Convention, *supra* note 99, art 2, s 2(a).

impact" under Article 1.[114] Also of note is section 5, which specifically states the parties in the Convention will apply both the precautionary principle and polluter-pays principle.[115] As a transboundary water agreement, these principles should be essential in the BWT; as mentioned, the IJC has adopted both principles in decisions and recommendations, so again, by making these amendments to the BWT there will be less conflict between the BWT and how the IJC has evolved.

Lastly, another key aspect the BWT could integrate is Article 5 of the UNECE Water Convention, which encourages cooperative research and development between States; for example, under (d), parties should cooperate to research and develop a technique for "phasing out and/or substituting substances likely to have a transboundary impact."[116] A provision like this would facilitate better cooperation between Canada and the United States and encourage more use of the IJC.

Berlin Rules

The Berlin Rules is a summary of international laws currently in existence that apply to freshwater resources adopted by the International Law Association; a useful resource summarizing key provisions governing transboundary waters and pollution in particular that could be of interest for BWT amendments. Chapter III of the Berlin Rules should be of particular interest to BWT amendments as it consists of provisions on internationally shared waters.[117] First, under Article 10, States that share an international water basin have the right to participate in the management of its waters "in an equitable, reasonable, and sustainable manner."[118] This is another simple provision that would be a useful addition to the BWT and aid in preventing issues such as selenium pollution in Lake Koocanusa because of the focus on sustainably managing the waters and equal right to do so. Article 11 requires basin States to cooperate in good faith over the management of transboundary waters.[119] As suggested in commentary on the Berlin Rules, this provision speaks for itself as it would be impossible for States to share transboundary water resources sustainably without this type of obligation.[120] The BWT could use more recognition of an obligation of good faith between Canada and the United States to ensure shared resources are handled sustainably. Next, Article 12 requires the management of waters in an international basin in an "equitable and reasonable manner having due regard for the obligation not to cause significant harm to other basin States."[121] Again, a principle that would hopefully facilitate greater respect for shared water resources if incorporated into the BWT.

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114 *Ibid*, art 1.
115 *Ibid*, art 2, s 5.
116 UNECE Water Convention, *supra* note 99 at art 5(d).
117 Berlin Rules, *supra* note 100 at page 18.
118 *Ibid*, art 10(1) at page 18.
119 Berlin Rules, *supra* note 100, art 11 at page 19.
120 *Ibid*, at page 20.
121 *Ibid*, art 12 at page 20.

The Berlin Rules also establish the factors that should be considered when determining what is "equitable and reasonable use" and these factors support the prioritization of using transboundary water to "satisfy vital human needs" and the populations "dependent on the waters of the international drainage basin."[122] While there are other factors listed, these stand out. First, prioritizing water use to satisfy vital human needs suggests that this should come first if it is needed as drinking water. In the case of selenium pollution, the Ktunaxa Nation arguably had some of their water resources polluted.[123] This provision of the Berlin Rules could be aligned with the goals and provisions of UNDRIP, detailed more below, which promote sustainability and health, and should be looked to as a provision to adopt in the BWT. The factor requiring consideration of the population dependent on the water resource also supports this.

United Nations Declaration on the Rights of Indigenous Peoples

On June 21, 2021, Bill C-15, known as "An Act respecting the United Nations Declaration on the Rights of Indigenous Peoples" ("UNDRIP"), received royal assent.[124] Through this Act, Canada recognized UNDRIP and committed to implementing it in legislation. Some possible provisions under UNDRIP that should be recognized are, first, Article 8(2), which provides that States will prevent or provide redress for any action depriving Indigenous peoples of "their integrity as distinct peoples," or "any action dispossessing them of resources."[125] Studies have already illustrated the negative effects of selenium pollution on both the water quality and fish stocks in the Elk River system and Koocanusa watershed, both of which are resources of the Ktunaxa Nation.[126] Articles such as this should be adopted into the BWT to ensure that not only is UNDRIP respected but that Indigenous peoples are afforded the equality they have been promised.

There are several other UNDRIP Articles that should be looked to. Article 18 exemplifies the equality promised to Indigenous peoples stating, "Indigenous peoples have the right to participate in decision-making matters affecting their rights."[127] Under the current circumstances of the selenium pollution issue, if this is to be truly respected by Canada, this should suggest that the Ktunaxa Nation, whose traditional territory spans both sides of the Canada-US border around Lake Koocanusa, should have the right to participate alongside Canada and the United States under the BWT now that UNDRIP has been recognized, meaning they could also request the IJC get involved. Under Article 26, Indigenous peoples have the right to use or occupy the lands and resources of their traditional territories, and States shall give legal recognition and protection to these lands and resources.[128] The

[122] *Ibid*, art 13(2)(c) & 14 at page 21.
[123] *R v Teck*, *supra* note 1 at para 16 & 17.
[124] Bill C-15, *An Act respecting the United Nations Declaration on the Rights of Indigenous Peoples*, 2nd sess, 43rd Part, 2021 (assented to 21 June 2021).
[125] UNDRIP, *supra* note 101, art 8(2).
[126] Ktunaxa Nation, *supra* note 22.
[127] UNDRIP, supra note 101 at art 18.
[128] *Ibid*, art 26.

Ktunaxa Nation traditional territory covers the entirety of Lake Koocanusa.[129] While the United States has not adopted UNDRIP, if Canada is to respect their commitment to UNDRIP, this should include the entirety of the Ktunaxa Nation traditional territory if they impact this territory through pollution in Lake Koocanusa. Regardless, the Ktunaxa Nation supported the Lake Koocanusa selenium standard of 0.85 µg/L;[130] if they are to have equal decision-making power and their traditional territory be respected, this standard should be adopted on the Canadian side of the border, and they should have the option of requesting the IJC make recommendations.

4. CONCLUSION: A TWO-PART SOLUTION

Based on this analysis, two conclusions are reached regarding a solution to the issue of selenium pollution in Lake Koocanusa. These conclusions consist of (1) a short-term solution: hopefully facilitating discussions to conclude the Lake Koocanusa conflict and possibly a greater level of oversight and transparency in monitoring and data availability for selenium levels by calling on the IJC for recommendations; and (2) a long-term solution: necessary to solve future disagreements regarding transboundary pollution between Canada and the United States.

4.1 Short-Term Solution

First, specific to how a solution can be reached swiftly in the current case, the IJC needs to be called upon to provide recommendations. Given the recent studies on selenium in the Elk-Kootenai watershed,[131] and the growing concern from Montana and American commissioners on the IJC,[132] Canada and the US requesting recommendations is most likely to facilitate the necessary discussions to reach a solution. Clearly there is disagreement between the two countries with regards to how to address this problem and whether it is a problem at all, and recommendations from IJC would help facilitate a solution. Case law has shown that the IJC provides thorough and respected recommendations and the IJC has been modernizing itself. The IJC is likely equipped to handle environmental concerns and Indigenous rights matters. There are prominent examples of how solutions have been reached after IJC recommendations, such as in the case of *Trail Smelter*.

A recognizable issue, though, is that both countries need to be open to requesting recommendations from the IJC, but Canada is withholding. However, given Canada's recognition of s.35 *Constitution* rights under the *BWT Act*, their recognition of UNDRIP, and because both BC and the Ktunaxa Nation (who possess s.35 rights), have recognized and agreed to the selenium concentration standard of 0.85 µg/L, Canada should jointly call upon the IJC for recommendations.

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[129] Ktunaxa Nation, *supra* note 23.
[130] Cruickshank 2022, *supra* note 3; Kelly & Sullivan, *supra* note 30.
[131] Weber, *supra* note 1; Cruickshank 2022, *supra* note 3; Rezaie & Anderson, *supra* note 8; Egiebor & Oni, *supra* note 8; Rambabu et al, *supra* note 8; Kelly & Sullivan, *supra* note 30.
[132] Cruickshank 2022, *supra* note 3.

4.2 Long-Term Solution

Second, and most important for the future of transboundary water disputes between the countries, the BWT needs to be amended. At the very least, amendments need to include updating the treaty to include environmental concerns and Indigenous rights, and the IJC needs to have more power, even if this means the ability to self-execute or only require one party request recommendations rather than both. Key amendments need to include specific definitions of pollution. While Canada and the United States are not parties to the *1997 UN Watercourses Convention* or the *1992 UN Water Convention*, they can take key principles from these Conventions, along with the Berlin Rules and UNDRIP, to amend the BWT. Additionally, there should be a possibility for the IJC to be activated from any interested party rather than both parties jointly, such as in the 1997 Convention. While this is a tall order, it has been called for already.[133]

We see the CRT going through substantial amendments, yet a treaty from 1909 remains unaltered. The CRT amendments show that an amendment process can and should include environmental concerns and Indigenous rights. The IJC is already beginning to reflect these concerns, but the BWT needs to provide them with the ability to be more involved in transboundary water disputes.

Canada handing down the largest fine under the *Fisheries Act* in Canadian history may have made for good press, but in the context of Canada-United States transboundary pollution agreements, this fine (pale in comparison to Teck's multi-billion dollar per year revenue stream) did little but bring the flaws of the century-old BWT to the surface.[134] The BWT does not need to become a transboundary pollution treaty, but if it is all Canada and the United States are going to have between them to address transboundary pollution, it needs to be amended.

[133] Signorelli, *supra* note 76.

[134] Teck, "Teck reports unaudited annual and fourth quarter results for 2021" (February 23, 2022), <https://www.teck.com/news/news-releases/2022/teck-reports-unaudited-annual-and-fourth-quarter-results-for-2021>.

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Authors' Contributions (in accordance with ICMJE criteria for authorship)

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Contributed to data analysis & interpretation	Yes	No
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