

ASHLEIGH DOUGILL*

**Fishing for Solutions: Pacific Northwest
Atlantic Salmon Fish Farming in the Wake of
the Cooke Aquaculture Net-Pen Collapse**

Introduction	260
I. Background and Historical Context	261
II. Atlantic Salmon Fish Farming Impact	263
A. Economic Dependence.....	264
B. Ecological and Environmental Impact.....	265
C. Impact on First Nations.....	267
III. The Laws of Net-Pen Aquaculture	267
A. Defining Aquaculture.....	268
B. Roles of Governing Bodies	269
1. Washington.....	269
2. British Columbia	271
3. Analysis	273
C. Invasive Species Management.....	273
D. First Nation Fishing Rights	277
IV. Regional Response to the Cooke Spill	280
A. Washington – Environmental Activism and Legislation.....	281
B. British Columbia – First Nations’ Treaty Rights	284
Conclusion.....	286

* Ashleigh Dougill is a J.D. candidate at the University of Oregon School of Law, anticipated to graduate in May 2020. She completed her undergraduate degree at the University of Oregon Clark Honors College with a B.A. in Cultural Anthropology and a minor in Spanish. Ms. Dougill would like to thank the editors and staff of the *Oregon Review of International Law* for their time and dedication to making her article the best it can be.

INTRODUCTION

On August 19, 2017, a net-pen fish farm belonging to international fishing company Cooke Aquaculture collapsed. The collapse released as many as 263,000 non-native Atlantic salmon into the Puget Sound, which significantly affected the surrounding environment and beyond.¹ In the months that followed, the state of Washington and the province of British Columbia (B.C.)—the two most directly affected regions in the Pacific Northwest—responded both legally and politically.²

Although the collapse had similar ecological and environmental impacts on Washington and B.C., each region's differing legal responses directly affected its ability to mitigate future fish spills.³ Both regions' aquaculture statutes and administrative frameworks reflect dissimilar levels of discretion and authority held by governing bodies, as well as different bodies of law for handling future collapses. B.C.'s broad regulations and lack of governmental oversight of net-pen aquaculture contrasts with Washington's specific regulations and governmental oversight of the industry. Ultimately, Washington State banned net-pen farming following the Cooke spill,⁴ while net-pen aquaculture is still legal in B.C.⁵ While B.C.'s leniency likely precludes any future ban on net-pen farming, the province can hold aquatic farmers accountable using legal activism involving First Nations and aboriginal fishing rights within treaties.

Part I of this Article contextualizes the presence of Atlantic salmon in the Pacific Northwest through a summary of the significant geography, background, and history of the region. Part II considers the impact of Atlantic salmon on the economies, ecologies, and First Nations of each region, then establishes the framework in which fish-farm laws developed. Part III describes and compares the fish-farm aquaculture laws in each region, then assesses their strengths and weaknesses. Finally, Part IV discusses Washington and B.C.'s different

¹ Lynda V. Mapes, *Fish Farm Caused Atlantic Salmon Spill Near San Juans, Then Tried to Hide How Bad It Was, State Says*, SEATTLE TIMES (Jan. 30, 2018), <https://www.seattletimes.com/seattle-news/fish-farm-caused-atlantic-salmon-spill-state-says-then-tried-to-hide-how-bad-it-was/>.

² See discussion *infra* Part IV (Regional Response to the Cooke Spill).

³ *Id.*

⁴ H.B. 2260, 65th Leg., Reg. Sess. (Wash. 2018).

⁵ See Amy Smart, *B.C. Fish Farms: A Tangled Net*, TIMES COLONIST (Dec. 3, 2017), <https://www.timescolonist.com/islander/b-c-fish-farms-a-tangled-net-1.23111384>.

responses to the collapse and how those responses may achieve positive change.

I

BACKGROUND AND HISTORICAL CONTEXT

The Pacific Northwest region comprises the northern part of the Pacific Coast, which includes the American states of Oregon, Washington, and Alaska, as well as the Canadian province of British Columbia.⁶ The Puget Sound (the Sound) is a large body of water located within the northern portion of Washington State.⁷ The Sound connects to the Pacific Ocean through the Strait of Juan Fuca and to Canadian waters through the Strait of Georgia.⁸ The Broughton Archipelago (the Archipelago) is a wilderness area in British Columbia, located at the southernmost point of Queen Charlotte Strait along the northeastern tip of Vancouver Island and to the west of Gilford Island.⁹ The Archipelago includes a number of small islands which are protected by the Archipelago Marine Provincial Park.¹⁰ The Sound and the Archipelago hold a majority of the Pacific Northwest's Atlantic salmon farms.¹¹

The First Nations' presence in the Pacific Northwest is important to consider because of aboriginal and treaty fishing rights.¹² Canada

⁶ *Pacific Coast Region, North America*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/place/Pacific-Coast> (last visited Jan. 14, 2020). Although Hawaii is often statistically and culturally included in the Pacific Northwest, it is not considered in the context of this article.

⁷ *Geographic Area: The Puget Sound Region*, PUGET SOUND HARBOR SAFETY COMM., <https://pshsc.org/geographic-area/> (last visited Jan. 14, 2020).

⁸ *See id.*

⁹ *Broughton Archipelago*, VANCOUVERISLAND, <http://vancouverisland.com/plan-your-trip/regions-and-towns/vancouver-island-bc-islands/broughton-archipelago/> (last visited Jan. 14, 2020).

¹⁰ *Id.*

¹¹ Compare Greg Rasmussen, *It's Wild Salmon Health vs. Money and Jobs as B.C.'s Fish Farm Fight Comes to a Head*, CBC NEWS (June 18, 2018), <https://www.cbc.ca/news/canada/british-columbia/fish-farming-bc-leases-1.4704626>, with *Commercial Pens of Atlantic Salmon FAQ*, DEPT. OF ECOLOGY STATE OF WASH., <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Aquaculture/State-guidance-for-net-pens/Commercial-pens-of-Atlantic-salmon-FAQ> (last visited Feb. 7, 2020).

¹² *See infra* Part III.D (First Nation Fishing Rights).

identifies its native people as First Nations, Inuit, and Métis.¹³ This Article addresses only First Nations, as the Broughton Archipelago is primarily home to those native people.¹⁴ The U.S. government uses the titles Native American and First Nation interchangeably, even though tribal members have recently voiced their preference for the latter.¹⁵

A number of First Nations claim historical and present territories within the Sound and Archipelago, as well as explicit or implicit hunting, fishing, and gathering rights.¹⁶ Pacific salmon were historically a staple food source for First Nations in this region, with many tribes continuing these traditions currently.¹⁷

Atlantic salmon, as their name suggests, are native to the Atlantic Ocean, particularly the eastern coast of the United States.¹⁸ Recreational fishers introduced Atlantic salmon to the Pacific Northwest as early as 1874, prompting a steady flow of Atlantic salmon in the region over the next century.¹⁹

Atlantic salmon aquaculture is a recent phenomenon in the Pacific Northwest. Fish farmers in the region began commercially producing Atlantic salmon in the 1950s, and they established net pens in Washington and B.C. by the 1970s.²⁰ Washington and B.C., with their colder waters and protected shallow bays, were a logical location for hopeful Atlantic salmon farmers to focus their efforts.

¹³ *B.C. First Nations & Indigenous People*, WELCOMEBC, <https://www.welcomebc.ca/Choose-B-C/Explore-British-Columbia/B-C-First-Nations-Indigenous-People> (last visited Jan. 14, 2020).

¹⁴ B.C. recognizes 198 distinct First Nations within the province, while Washington recognizes twenty-nine federal tribes. *See id.*; *Washington Tribes*, WASH. STATE DEPT. OF SOC. AND HEALTH SERV., <https://www.dshs.wa.gov/office-of-the-secretary/washington-tribes> (last visited Jan. 14, 2020).

¹⁵ Michael Yellow Bird, *What We Want to Be Called: Indigenous Peoples' Perspectives on Racial and Ethnic Identity Labels*, 23 AM. INDIAN Q. 1, 6 (1999).

¹⁶ These First Nations include but are not limited to: Lummi Nation, Samish Nation, and Swinomish Tribe in Washington, and Kwakwaka'wakw, 'Namgis, Kwikwasut'inuxw Haxwa'mis, and Mamalilikulla First Nations in British Columbia.

¹⁷ *See infra* Part II.C (Impact on First Nations).

¹⁸ *Atlantic Salmon (Salmo Salar)*, UNIV. OF R.I. ENV'T DATA CTR., <http://www.edc.uri.edu/restoration/html/gallery/fish/salmon.htm> (last visited Jan. 14, 2020).

¹⁹ *See* Colin E. Nash & F. William Waknitz, *Interactions of Atlantic Salmon in the Pacific Northwest: I. Salmon Enhancement and the Net-Pen Farming Industry*, 62 FISHERIES RES. 237, 239–41 (2003).

²⁰ *Id.* at 240.

Net pens are large, underwater nets or cages for capturing fish in salt or fresh water.²¹ Net pens allow controlled farming of large fish populations in coastal waters, usually only a few miles offshore.²² The pen itself consists of a mesh net or metal caging spread over a frame and held to the water bed with weights.²³ Net pens can fail for a number of reasons, such as storms, structural damage, or simply poor maintenance.²⁴

Larger fishing companies were quickly attracted to the profitable nature of Atlantic salmon in Washington and B.C.²⁵ Atlantic salmon grow quickly, are disease resistant, cost less to raise than other fish species, and can be available for harvest year-round. These assets make Atlantic salmon a profitable aquacultural choice.²⁶ Today, over ninety-nine percent of Atlantic salmon worldwide are found on fish farms.²⁷ There are currently eight Atlantic salmon net-pen farms in the Sound,²⁸ while the Archipelago contains at least twenty.²⁹ Contextualizing the history and background of Atlantic salmon in the Pacific Northwest is essential to understanding their importance and impact on the region.

II

ATLANTIC SALMON FISH FARMING IMPACT

Atlantic salmon aquaculture has affected the Pacific Northwest's economy, environment, and First Nations. Both Washington and B.C.

²¹ M. N. Kutty & D. Campbell, *Pen Culture (Enclosure Culture) as an Aquaculture System*, U.N. Doc. RAF/82/009, 1.1 Introduction (July, 1987), <http://www.fao.org/3/AC181E/AC181E01.htm#ch1.1>.

²² See *infra* Part II.B (Ecological and Environmental Impact).

²³ Lora Shinn, *Something Fishy: The Trouble with Atlantic Salmon in the Pacific Northwest*, NRDC (Jan. 3, 2018), <https://www.nrdc.org/stories/something-fishy-trouble-atlantic-salmon-pacific-northwest>.

²⁴ *Id.*

²⁵ See PETER A. BISSON, ASSESSMENT OF THE RISK OF INVASION OF NATIONAL FOREST STREAMS IN THE PACIFIC NORTHWEST BY FARMED ATLANTIC SALMON 3 (2006).

²⁶ Courtney Flatt, *Why Are Atlantic Salmon Being Farmed in the Northwest?*, NPR (Aug. 29, 2017), <https://www.npr.org/sections/thesalt/2017/08/29/546803147/why-are-atlantic-salmon-being-farmed-in-the-northwest>.

²⁷ *Id.*

²⁸ See *Puget Sound Net Pen Map*, WILD FISH CONSERVANCY NW., <http://wildfishconservancy.org/images/advocacy/PugetSoundNetPenMap2.jpg/view> (last visited Jan. 15, 2020).

²⁹ Dirk Meissner, *B.C. Fish Farms Given 4 Years to Prove Net Pens Don't Harm Wild Salmon*, CTV NEWS VANCOUVER (June 20, 2018), <https://bc.ctvnews.ca/b-c-fish-farms-given-4-years-to-prove-net-pens-don-t-harm-wild-salmon-1.3981922>.

have experienced the economic benefits of the Atlantic salmon aquaculture industry.³⁰ However, penned and escaped Atlantic salmon have raised environmental and ecological concerns in each region.³¹ First Nations also struggle to maintain fishing rights as Atlantic salmon affect Pacific salmon populations, and they lose tribal autonomy when corporations use traditional fishing grounds without tribal consent.³² These competing interests contribute to the legal frameworks surrounding aquaculture in each region, making it essential to understand these interests before considering both regions' different legal approaches to the Cooke spill.³³

A. Economic Dependence

B.C. is economically dependent on Atlantic salmon aquaculture. By 2007, B.C. was the fourth largest producer of farmed salmon in the world.³⁴ Atlantic salmon was B.C.'s top exported "agrifood and seafood" commodity in 2016, valued at approximately CAN\$524 million.³⁵ The global need for B.C. Atlantic salmon is also increasing. Between 2014 and 2016, the international and U.S. markets for B.C.'s farmed Atlantic salmon increased significantly.³⁶ Between 2015 and 2016, B.C. Atlantic salmon exports increased by almost eight percent.³⁷ Atlantic salmon aquaculture also provides approximately 6600 jobs to B.C. citizens.³⁸ Crucially, these jobs are usually located in remote communities that traditionally have fewer available employment opportunities, thus stimulating the economies of B.C.'s rural communities.³⁹ The province's economic dependence on Atlantic salmon has allowed fish farmers to advocate for more favorable laws and less government oversight, further shielding fish farmers from any real accountability.⁴⁰

³⁰ See *infra* Part II.A.

³¹ See discussion *infra* Section II.B.

³² See discussion *infra* Section II.C.

³³ See discussion *infra* Section III (The Laws of Net-Pen Aquaculture).

³⁴ BRETT FREAKE ET AL., SALMON FARMING NEAR FIRST NATIONS IN BC: A STRUCTURED DECISION MAKING APPROACH 2 (2007).

³⁵ PROVINCE OF B.C., 2016 BRITISH COLUMBIA AGRIFOOD & SEAFOOD EXPORT HIGHLIGHTS 3 (2016).

³⁶ See *id.* at 4.

³⁷ *Id.* at 5.

³⁸ See Rasmussen, *supra* note 11.

³⁹ See *id.*

⁴⁰ See *infra* Part sIII.B.1, B.3.

Washington's 2016 value of Atlantic salmon exports was around \$4.5 million, a much smaller sum than B.C.'s export value.⁴¹ Even in the 1990s—the peak of Washington Atlantic Salmon aquaculture—B.C. produced ten times more Atlantic salmon.⁴² Fish farming profitability in Washington has continued to decline in recent years; the state now primarily relies on exports such as aircraft parts, soybeans, wheat, and corn.⁴³ In fact, exported Washington Atlantic salmon profits experienced a dramatic eighty-seven percent decrease between 2016 and 2017.⁴⁴ This statewide decrease is part of a greater trend among western states away from net-pen aquaculture: both Alaska and California have completely banned Atlantic salmon fish farming.⁴⁵

B. Ecological and Environmental Impact

Washington and B.C. are home to five major species of Pacific salmon: King, Sockeye, Coho, Pink, and Chum.⁴⁶ These fish are key to the ecological maintenance of the Pacific Northwest.⁴⁷ Atlantic salmon's presence affects wild Pacific salmon populations,⁴⁸ inspiring conservationists in both regions to defend Pacific salmon legally and politically.⁴⁹ Although both regions experience these environmental impacts, their individual legal frameworks produce quite different results for Atlantic salmon management and control.⁵⁰

Escaped Atlantic salmon compete with Pacific salmon for available resources while spreading disease. The Washington Department of

⁴¹ See U.S. Dep't of Com., *State Exports from Washington*, U.S. CENSUS, <https://www.census.gov/foreign-trade/statistics/state/data/wa.html> (last visited Jan. 15, 2020).

⁴² KEVIN H. AMOS & ANDREW APPLEBY, WASH. DEP'T OF FISH & WILDLIFE, *ATLANTIC SALMON IN WASHINGTON STATE: A FISH MANAGEMENT PERSPECTIVE* 1 (1999).

⁴³ See U.S. Dep't of Com., *supra* note 41.

⁴⁴ Although Atlantic Salmon sales experienced a slight increase between 2015 and 2016, proceeds fell dramatically in 2017. Interestingly, Washington proceeds from Pacific salmon exports have steadily increased during this time. U.S. Dep't of Com., *supra* note 41.

⁴⁵ Shinn, *supra* note 23.

⁴⁶ See *Pacific Salmon: Facts*, WWF, <https://www.worldwildlife.org/species/pacific-salmon> (last visited Jan. 14, 2020).

⁴⁷ See *id.*

⁴⁸ Kristina Miller et al., *Infectious Disease, Shifting Climates, and Opportunistic Predators: Cumulative Factors Potentially Impacting Wild Salmon Declines*, 7 *EVOLUTIONARY APPLICATIONS* 812, 825 (Mar. 6, 2014) (reviewing the impact of salmon farms on wild Pacific salmon throughout the Americas).

⁴⁹ See *infra* Part IV (Regional Response to the Cooke Spill).

⁵⁰ See *infra* Part III.C (Invasive Species Management).

Fish and Wildlife (WDFW) concluded that escaped Atlantic salmon were outcompeting native salmonid species in 1999,⁵¹ while research in the Archipelago determined a link between Atlantic salmon and sea lice in wild salmonid populations.⁵² Scientists also speculate that Atlantic salmon can interbreed with wild salmonids, creating new species with lower survival rates.⁵³

Open net pens also affect native salmonids by unintentionally distributing waste, parasites, bacteria, and diseases into nearby waters.⁵⁴ Juvenile Pacific salmon close to net pens are seventy-three times more likely to contract lethal sea lice than those far from net pens.⁵⁵ The chemicals used by companies to combat diseases may also harm wild salmonids.⁵⁶

Net pens also affect the general environment of both regions. Broken or neglected net pens can create debris that pollute surrounding waters.⁵⁷ Additionally, overfeeding in net pens can create organic waste buildup from uneaten food and fecal matter, which in turn can dangerously reduce water oxygen levels necessary for native aquatic species.⁵⁸

⁵¹ See AMOS & APPLEBY, *supra* note 42, at 7–10.

⁵² See Eva B. Thorstad et al., *Effects of Salmon Lice Lepeophtheirus Salmonis on Wild Sea Trout Salmo Trutta*, 7 AQUACULTURE ENV'T INTERACTIONS 91 (Aug. 20, 2015); Emiliano Di Cicco et al., *The Same Strain of Piscine Orthoreovirus (PRV-1) Is Involved with the Development of Different, but Related, Diseases in Atlantic and Pacific Salmon in British Columbia*, FACETS 44 (Apr. 23, 2018).

⁵³ See Matthew Berger, *Is Farmed Salmon Really Salmon?*, NAUTILUS (Nov. 26, 2015), <http://nautil.us/issue/30/identity/is-farmed-salmon-really-salmon> (discussing how interbreeding between Pacific salmon and escaped Atlantic salmon creates genetically weaker offspring). *But see* Ashley Braun, *Farmed and Dangerous? Pacific Salmon Confront Rogue Atlantic Cousins*, SCI. AM. (Aug. 28, 2017), <https://www.scientificamerican.com/article/farmed-and-dangerous-pacific-salmon-confront-rogue-atlantic-cousins> (stating that more research is necessary before concluding that Pacific and Atlantic salmon breeding creates genetically weaker offspring in certain regions).

⁵⁴ NAT'L MARINE FISHERIES SERV., NOAA TECHNICAL MEMORANDUM NMFS-NWFSC-49, THE NET-PEN SALMON FARMING INDUSTRY IN THE PACIFIC NORTHWEST x (2001); Shinn, *supra* note 23; Miller et al., *supra* note 48, at 425. *See also* Di Cicco et al., *supra* note 52, at 44.

⁵⁵ See Amy Carroll, *What Are Sea Lice?*, ALA. DEP'T OF FISH & GAME (Aug. 2008), http://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneeds.view_article&articles_id=388.

⁵⁶ NAT'L MARINE FISHERIES SERV., *supra* note 54, at xi, 47 (stating that "therapeutic compounds" have been used to manage B.C. sea lice).

⁵⁷ Smart, *supra* note 5.

⁵⁸ NAT'L MARINE FISHERIES SERV., *supra* note 54, at x.

C. Impact on First Nations

First Nations' relationships with Atlantic salmon are complex. When a Nation negotiates a tenure with fish-farm companies, the Nation may experience economic growth and prosperity as a result.⁵⁹ However, governmental officials deprive First Nations of autonomy by negotiating fish-farm tenures in traditional tribal waters within the Archipelago and the Sound without First Nations' consent.⁶⁰ Considering the strong influence of both fish farmers and First Nations in B.C., this dynamic is particularly strained, which ultimately results in political protests and negotiations.⁶¹

Given that the Pacific salmon is a traditional dietary staple for a number of coastal First Nations, courts interpret legally accepted fishing rights to require native salmonid population presence and preservation.⁶² As previously discussed, Atlantic salmon adversely affect native Pacific salmon populations. Therefore, the presence of Atlantic salmon in Washington and B.C. directly impairs First Nations' federally recognized fishing rights. In B.C., this negative impact is resulting in negotiations between First Nations and the provincial government to attempt to reach common ground on the issue.⁶³ These impacts on the economy, environment, and life of First Nations in each region contribute to the legal frameworks surrounding aquaculture, making them essential to understand before considering each region's different legal approaches to the Cooke spill.

III

THE LAWS OF NET-PEN AQUACULTURE

Washington and B.C. federal, state, and provincial laws differ significantly on the governance and regulation of Atlantic salmon

⁵⁹ Bellamy Pailthorp, *Cooke Aquaculture Sued Over Net-Pen Collapse*, KNKX (Nov. 14, 2017), <https://www.knkx.org/post/cooke-aquaculture-sued-over-net-pen-collapse>.

⁶⁰ Heather Smith, *Salmon Rebellion*, SIERRA (Jan. 22, 2018), <https://www.sierraclub.org/sierra/salmon-rebellion>; Jon Hernandez, *72 Hours to Vacate: First Nation Gives Eviction Notice to Salmon Farm*, CBC (Aug. 20, 2016), <https://www.cbc.ca/news/canada/british-columbia/72-hours-to-vacate-first-nation-gives-eviction-notice-to-salmon-farm-1.3728860>.

⁶¹ *See id.*

⁶² Peter J. Aschenbrenner, *State Power and the Indian Treaty Right to Fish*, 59 CAL. L. REV. 485, 489 (1971); *R. v. Sparrow*, [1990] 1 S.C.R. 1075 (Can.) (recognizing an Aboriginal right to native fish).

⁶³ *See infra* Part IV.B (British Columbia – First Nations' Treaty Rights).

aquaculture. B.C.'s broader legal language, along with its heavier focus on consolidated federal control, provides more discretion for private aquaculturists and the Department of Fisheries and Oceans (DFO) Minister than is present in Washington. These different legal frameworks ultimately controlled each region's legal response to the Cooke spill. Whereas Washington banned net-pen aquaculture,⁶⁴ B.C. has maintained its status quo.

The two regions also use different approaches for protecting native salmonids that are affected by Atlantic salmon. Washington's invasive species list and corresponding federal and state environmental regulations attempt to curb Atlantic salmon aquaculture and foster Pacific salmon population growth. In contrast, B.C. First Nations protect native fish species and restrict Atlantic salmon aquaculture through treaty and aboriginal rights. So, while B.C.'s laws surrounding aquaculture will not realistically result in an immediate net-pen ban, Canada's strong First Nation laws could ultimately control Atlantic salmon by protecting native salmonids.

A. Defining Aquaculture

In the United States, both state and federal law provide aquaculture definitions. The National Aquaculture Act of 1980 defines aquaculture as "the propagation and rearing of aquatic species in controlled or selected environments."⁶⁵ The Revised Code of Washington (WRC) provides a more specific definition of aquaculture: "[t]he process of growing, farming, or cultivating private sector cultured aquatic products in marine or freshwater and includes management by an aquatic farmer."⁶⁶ Under WRC, an aquatic farmer is an individual in the private sector who engages in the aquaculture business on his land or on land that he has a present right of possession to.⁶⁷ Additionally, WRC's list of most common "private sector cultured aquatic products" specifically includes Atlantic Salmon.⁶⁸

Canada does not define aquaculture at a federal level, leaving each province to provide its own definition. The British Columbia Fisheries Act (1996) defines aquaculture as "the growing and cultivation of aquatic plants . . . or fish, for commercial purposes, in any water

⁶⁴ H.B. 2260, 65th Leg., Reg. Sess. (Wash. 2018).

⁶⁵ National Aquaculture Act of 1980, 16 U.S.C. § 2802(1) (2018).

⁶⁶ WASH. REV. CODE § 15.85.020(1) (2018).

⁶⁷ § 15.85.020(2).

⁶⁸ § 15.85.020(3).

environment”⁶⁹ Under this Act, fish means “the whole or any part of a aquatic animal.”⁷⁰ The Act does not specifically mention Atlantic or Pacific salmon.

The lack of any Canadian federal definition of aquaculture implies a lack of federal regulation or management (or at least a major deference to provincial laws). The B.C. definition of aquaculture is also more ambiguous than the language used in the WRC. Washington’s definition of aquaculture emphasizes the private nature of fish farms and lists commonly cultivated species, while the broad language of B.C.’s definition leaves it more open to interpretation. Canada’s vague statutory language and lack of federal definitions imply deference to fish farmers’ ability to self-regulate. In contrast, U.S. state and federal definitions provide a framework for government regulation and control of aquaculture.

B. Roles of Governing Bodies

1. Washington

Multiple federal agencies control U.S. aquaculture by managing fish-farm creation, regulating their environmental impact, and setting commercial standards for fish. The main federal agency bodies are the Food and Drug Administration (FDA) of the Department of Health and Human Services (DHHS), the Environmental Protection Agency (EPA), and the Department of Agriculture (USDA).⁷¹ Net-pen fish farms comply with federal regulations, including the Magnuson-Stevens Fishery Conservation & Management Act, the Endangered Species Act, the National Environmental Policy Act, and the Clean Water Act.⁷² At a state level, the Washington Departments of Ecology (WDE), Natural Resources (WDNR), Health (WDH), Agriculture (WDA), and Fish and Wildlife (WDFW) oversee Washington aquaculture.⁷³

⁶⁹ Fisheries Act, R.S.B.C. 1979, c 137, art 1 (Can.).

⁷⁰ *Id.*

⁷¹ *Farmed Atlantic Salmon*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/species/farmed-atlantic-salmon> (last visited Jan. 21, 2020).

⁷² *Id.*

⁷³ WASH. DEP’T OF ECOLOGY, Ch. 16 Aquaculture, *in* SHORELINE MASTER PROGRAMMER’S HANDBOOK, at app. 1 (Dec. 2015).

The WDFW requires registration of all Washington aquaculturalists.⁷⁴ This registration is nontransferable, must be renewed annually, and provides each fish farm with a public registration number.⁷⁵ Not only must Atlantic salmon fish farmers apply for additional state and federal permits that require a strict level of scrutiny but the farmers must also comply with various regulatory standards.⁷⁶

Aquatic farmers seeking to lease state waters must also apply for an aquatic use permit and aquatic lands lease through the WDNR, the terms of which are negotiated on a case-by-case basis.⁷⁷ However, if the waters of interest border First Nation territory, aquatic farmers may also need to negotiate with tribal representatives.⁷⁸ A lease application must include a survey and the limits of the proposed farm, and the maximum term of a lease is thirty years.⁷⁹ Significantly, the Washington Administrative Code (WAC) and WRC sections covering aquatic leases emphasize shellfish cultivation while adding only “other aquaculture” as an apparent afterthought.⁸⁰

Before a company can open a net-pen facility in Washington, it must meet state statutory requirements.⁸¹ Once opened, aquatic farms must pass annual disease inspections, which are administered by WDFW agents.⁸² These agents may take any action they deem necessary to mitigate a disease outbreak, including the destruction of an entire stock.⁸³ The WDA sets additional requirements for salmon

⁷⁴ WASH. ADMIN. CODE § 220-370-010(1) (2019).

⁷⁵ WASH. REV. CODE § 77.115.040; WASH. ADMIN. CODE §§ 220-370-010(2)–(3).

⁷⁶ See generally Section Ten Rivers and Harbors Act Permit (Federal Water Pollution Control Act, 33 U.S.C. §§ 404, 1251 (2002)); Section 404 Clean Water Act Permit (Rivers and Harbors Appropriation Act of 1899, 33 U.S.C. §§ 403–404 (1899)); National Pollutant Discharge Elimination System Permit Program (WASH. ADMIN. CODE § 173-221A-110); Washington’s Coastal Zone Management Program (*Washington Coastal Zone Management*, DEP’T OF ECOLOGY WASH., <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Coastal-zone-management> (last visited Feb. 4, 2020)).

⁷⁷ WASH. REV. CODE § 79.105; *Leasing and Land Transactions*, WASH. DEP’T OF NAT. RES., <https://www.dnr.wa.gov/programs-and-services/aquatics/leasing-and-land-transactions> (last visited Jan. 20, 2020).

⁷⁸ See *Leasing and Land Transactions*, *supra* note 77.

⁷⁹ WASH. REV. CODE § 79.96.010.

⁸⁰ See WASH. DEP’T OF NAT. RES., AQUACULTURE LEASING STATUTORY AND REGULATORY FRAMEWORK, https://www.dnr.wa.gov/publications/aqr_aqua_rcw_wacs.pdf?hkhyxx.

⁸¹ WASH. ADMIN. CODE § 220-370-020.

⁸² WASH. REV. CODE § 77.115.010; WASH. ADMIN. CODE § 220-370-130.

⁸³ WASH. ADMIN. CODE § 220-370-030.

processing plants.⁸⁴ Finally, Washington law specifically allows for the development of an Atlantic salmon watch program if funding is available.⁸⁵

2. British Columbia

Canadian federal and provincial governments share legal jurisdiction over aquaculture. The federal government regulates the fish market, handles environmental concerns regarding native fish, and oversees research and development.⁸⁶ Over seventeen federal departments and agencies share this position; however, the DFO is the main governing body.⁸⁷ At a provincial level, the B.C. Ministry of Forests, Lands and Natural Resource Operations (FLNRO) manages fish-farm leases,⁸⁸ while the B.C. Ministry of Agriculture and Lands helps manage the seafood industry.⁸⁹

Canada uses three regulatory frameworks for aquaculture management: one in B.C., one in Prince Edward Island, and one for all remaining provinces and territories.⁹⁰ In B.C., the provincial government issues tenures and manages the fish farm's location.⁹¹ Meanwhile, the federal government issues and oversees all other licenses, oversees daily farm activities, and regulates food safety primarily through the DFO.⁹² The federal and B.C. governments share the responsibilities of site approval, fish transfers, and drug and

⁸⁴ See WASH. REV. CODE §§ 69.07, 15.85; WASH. ADMIN. CODE § 16-603-010.

⁸⁵ WASH. ADMIN. CODE § 220-370-140.

⁸⁶ U.N. Food & Agric. Org., Fisheries & Aquaculture Dep't, National Aquaculture Legislation Overview: Canada, http://www.fao.org/fishery/legalframework/nalo_canada/en (last visited Jan. 19, 2020).

⁸⁷ *Id.* Other agencies include Health Canada, Agriculture and Agri-food Canada, Pest Management Regulatory Agency, Transport Canada, and Canadian Food Inspection Agency. *Id.*

⁸⁸ *Land Use – Aquaculture*, GOV'T OF B.C., <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/crown-land/crown-land-uses/aquaculture> (last visited Feb. 9, 2020).

⁸⁹ U.N. Food & Agric. Org., Fisheries & Aquaculture Dep't, *supra* note 86.

⁹⁰ *Aquaculture: Laws, Regulations and Policies*, FISHERIES AND OCEANS CAN., <http://www.dfo-mpo.gc.ca/aquaculture/management-gestion/regs-eng.htm> (last visited Jan. 19, 2020).

⁹¹ *Infographic: How Fish Farming Is Regulated in Canada*, FISHERIES AND OCEANS CAN., <http://www.dfo-mpo.gc.ca/aquaculture/publications/docs/aquaculture-infographic-eng.pdf> (last visited Jan. 19, 2020).

⁹² *Id.*

pesticide use approval.⁹³ However, federal authority prevails in the face of any disagreement.⁹⁴

In the context of aquaculture, the DFO accomplishes most of its duties through the Fisheries Act (1985).⁹⁵ The Fisheries Act provides authority to the Pacific Aquaculture Regulations and the Fishery (General) Regulations, which the DFO enacts in B.C. through the British Columbia Aquaculture Regulatory Program.⁹⁶ The DFO Minister has broad discretion to issue aquaculture licenses or condition their issuance; the only stated legal requirement is a fee payment.⁹⁷ Although these regulations state that the Minister must deny an application based on a failure to pay the required fee, it does not require (or even expressly permit) the Minister to deny an application for any other reason.⁹⁸

In order to construct a net pen in Crown-controlled B.C. coastal waters, an aquatic farmer may apply to the FLNRO for a temporary license, a license of occupation, or a lease. Since the maximum term for a temporary license is two years, and the tenure holder must allow public access to the area, these licenses are uncommon with aquatic farmers.⁹⁹ Aquacultural lease terms range between ten and thirty years and are issued for long-term aquatic farmers who propose significant changes to the location.¹⁰⁰ While lease tenants enjoy certain tax exemptions and property rights, the application process for aquaculture leases is more demanding.¹⁰¹ A license of occupation is the most common form of aquacultural tenure.¹⁰² These license terms also range from ten to thirty years and have fewer requirements than a lease.¹⁰³ However, holders of a license of occupation may pay higher rent rates and fees.¹⁰⁴

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ See Fisheries Act, R.S.C. 1985, c F-14 (Can.).

⁹⁶ See *British Columbia Aquaculture Regulatory Program*, FISHERIES AND OCEANS CAN., <http://www.dfo-mpo.gc.ca/acts-lois/standards/BC-aquaculture-CB-eng.htm> (last visited Jan 19, 2020).

⁹⁷ Pacific Aquaculture Regulations, SOR/2010-270(3)(1) and (4)(a)-(q) (Can.); Fishery (General) Regulations, SOR/93-333(22)(1) (Can.).

⁹⁸ See SOR/2010-270(3)(4); SOR/93-333(51).

⁹⁹ MINISTRY OF FORESTS LANDS AND NAT. RES. OPERATIONS, LAND USE OPERATIONAL POLICY AQUACULTURE 4 (May 26, 2011).

¹⁰⁰ *Id.* at 5.

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.* at 7.

3. Analysis

The governmental bodies that control net-pen aquaculture in Washington and B.C., and the rules and regulations used by each, differ significantly. Although Canadian federal law prevails in B.C. aquacultural matters, Canada does not provide a working federal definition of aquaculture. This implies a lax approach to federal regulation and legal implementation in Canada compared to the United States. The distribution of control in each region also reflects this idea. While Washington relies on a number of different governing bodies to regulate aquaculture, the DFO and its one Minister primarily control B.C. aquaculture. The Minister enjoys broad discretion to grant and condition licenses, while the United States and Washington require multiple licenses to consider a fish farm functional. The Canadian Fisheries Act's permissive legal language also allows fish farmers to obtain an aquaculture license more easily than in Washington, since the only express reason for denial in Canada is the failure to pay licensing fees. Finally, net-pen aquaculture is at the forefront of B.C. fishing laws, while Washington regulations focus on shellfish. These differing emphases and levels of governmental oversight contextualize how Washington managed to ban fish farming in the wake of the Cooke collapse while B.C. continued to support it.

Both regions control the leasing or licensing of land for net pens. However, B.C. legal language facilitates this process for Atlantic salmon aquatic farmers by minimizing the requirements for a license of occupation. In contrast, Washington requires multiple federal and state permits, as well as a complete and detailed application form, in order to open a net-pen facility. These dissimilar levels of discretion and authority also shaped each region's legal response to the Cooke spill.

C. Invasive Species Management

In Washington, the WDFW maintains an aquatic invasive species list to facilitate the regulation and control of these species.¹⁰⁵ Invasive species are “nonnative species of the animal kingdom that are not naturally occurring in Washington . . . and that pose an invasive risk of harming or threatening the state's environmental, economic, or human

¹⁰⁵ *Search for Aquatic Invasive Species*, WASH. DEP'T OF FISH & WILDLIFE, <https://wdfw.wa.gov/species-habitats/invasive/species> (last visited Jan. 17, 2020).

resources.”¹⁰⁶ Washington considers Atlantic salmon a regulated invasive species, meaning that it is classified and regulated based on its degree of risk, required management action, and available resources.¹⁰⁷ The WDFW further categorizes Atlantic salmon as a type A species, meaning that it is a “nonnative aquatic animal species that pose[s] a low to moderate invasive risk that can be managed based on intended use or geographic scope of introduction, have a beneficial use, and [is] a priority for department-led or department-approved management of the species’ beneficial use and invasive risks.”¹⁰⁸ The Department may modify the list after consulting with the invasive species council.¹⁰⁹ The Department must also establish standards for species’ risk levels, considering their beneficial uses, environmental impacts, and “effects on the preservation of native species, salmon, recovery, and threatened or endangered species.”¹¹⁰

In addition to an invasive species list, state and federal statutes provide a framework for managing escaped Atlantic salmon, maintaining clean, disease-free waters, and promoting Pacific salmon populations.¹¹¹ Washington requires aquatic farmers to have an escape prevention plan, an escape reporting plan, and a recapture plan in order to open a net-pen facility.¹¹² The WDFW’s director may also specifically develop an Atlantic salmon watch program and educational programs for aquatic farmers if funding allows.¹¹³

The Endangered Species Act (ESA), and the WDFW’s state-level equivalent, lists endangered or threatened species and prohibits their capture.¹¹⁴ Once listed, the government must protect the species’ population and existing habitat; this would include managing escaped Atlantic salmon if they were deemed a threat to endangered native salmonids.¹¹⁵ Washington lists Sockeye, Coho, and Chum as state

¹⁰⁶ WASH. REV. CODE § 77.135.030(1).

¹⁰⁷ *Id.* § 77.135.030(2).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* § 77.135.030(1).

¹¹⁰ *Id.* § 77.135.030(5).

¹¹¹ *See supra* Part III.B.1 (Washington); WASH. ADMIN. CODE § 220-370.

¹¹² WASH. ADMIN. CODE § 220-370-110, -120.

¹¹³ WASH. ADMIN. CODE § 220-370-140, -150.

¹¹⁴ Endangered Species Act of 1973, 16 U.S.C. § 1531(7), (9) (1973).

¹¹⁵ *Id.*

candidates for the endangered species list, while the same fish are listed as threatened on a federal level.¹¹⁶

In Canada, FLNRO and the Minister of the Environment control invasive species and protect at-risk native species through the Wildlife Act.¹¹⁷ “Alien” or “exotic” species are any animals that are not native to a particular region and threaten the health and safety of citizens or the environment.¹¹⁸ An aquatic invasive species individual is “a single live member of a controlled alien species . . . at any developmental stage”¹¹⁹ that alters natural characteristics of the ecosystem in which it is found.¹²⁰ Each region determines its own alien/exotic and invasive species and handles the species based on its given label.¹²¹ Although B.C. does not categorize Atlantic salmon as invasive, it does label the species as exotic with a “secure” population.¹²²

Neither B.C. nor any other Canadian province lists Atlantic salmon as an invasive species. FLNRO states that a lack of scientific evidence on the topic means that it cannot definitively prove Atlantic salmon’s negative impact on native species, and so it cannot classify the species as a threat.¹²³ The Canada Gazette’s “Regulatory Impact Analysis Statement” proposes federal regulations banning the “unauthorized introduction of aquatic species where they are non-indigenous.”¹²⁴ The statement includes a list of species that the author believes would fall

¹¹⁶ *Threatened and Endangered Species*, WASH. DEP’T OF FISH & WILDLIFE, <https://wdfw.wa.gov/species-habitats/at-risk/listed> (search “salmon” in common or scientific name box).

¹¹⁷ Canada Wildlife Act, R.S.C. 1985, c W-9, sec 3.

¹¹⁸ *Controlled Alien Species*, GOV’T OF B.C., <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/cas> (last visited Jan. 17, 2020).

¹¹⁹ Wildlife Act, B.C. Reg. 94/2009 Pt. 1 sec. 1(1) (Can.).

¹²⁰ *Conservation Status, B.C. List.*, GOV’T OF B.C., <http://www.env.gov.bc.ca/atrisk/help/status.htm> (last visited Jan. 18, 2020).

¹²¹ Wildlife Act, B.C. Reg. 94/2009 Pt. 2 and 3 (Can.).

¹²² *Reports & References for Salmo Salar (Atlantic Salmon)*, B.C. SPECIES AND ECOSYSTEMS EXPLORER, <http://a100.gov.bc.ca/pub/eswp/reports.do?elcode=AFCHA04060> (last visited Jan. 15, 2020); *A to Z species index*, GOV’T OF CAN., https://wildlife-species.canada.ca/species-risk-registry/sar/index/default_e.cfm (last visited Jan. 18, 2020).

¹²³ See Andrew Findlay, *Why Does British Columbia Still Allow Atlantic Salmon Farming?*, MOUNTAIN CULTURE MAG. (Sept. 2018), <https://mountainculturegroup.com/fish-farming-british-columbia/>.

¹²⁴ *Aquatic Invasive Species Regulations: Regulatory Impact Analysis Statement*, CAN. GAZETTE (Dec. 6, 2014), <http://www.gazette.gc.ca/rp-pr/p1/2014/2014-12-06/html/reg1-eng.html>.

into this category, including Atlantic salmon.¹²⁵ Although such analyses and proposals exist in Canadian legal literature, none of the Canadian provincial governments have implemented such a program.

Invasive species management is relatively new in B.C.; the province developed its first Invasive Species Strategy in 2012 and is still struggling to find and maintain funding.¹²⁶ As a result, B.C.'s invasive species list is limited.¹²⁷ Moreover, because B.C.'s invasive species management still struggles to find and maintain funding, it also lacks funding to research whether other invasive species possibly exist within the province.¹²⁸ Consequently, exotic or invasive aquatic species regulation falls to the DFO to accomplish through the licenses it issues, or to the farmers themselves to self-monitor. In an effort to combat this lack of accountability, the province formed the B.C. Inter-Ministry Invasive Species Working Group (IMISWG) in 2005.¹²⁹ However, IMISWG is primarily focused on preventing the introduction of new invasive species into B.C. rather than mitigating damages and identifying invasive species that are already present. B.C.'s lack of substantive invasive species management further limited the province's legal response to the Cooke spill.

Washington's established framework and funding presence for categorizing and maintaining invasive and endangered species lists directly contrasts the lack of funding and relatively new invasive species program in B.C. The WAC and the ESA restrict Atlantic salmon aquatic farmers' ecological impact, specifically mentioning an Atlantic salmon watch program. On the other hand, Canada's DFO is still implementing adequate aquatic species regulations, and it lacks the scientific evidence to consider whether Atlantic salmon are a threat to native species. Washington's existing legal language, addressing invasive species challenges and its funding for invasive species management, further influenced the state's fish-farming ban in the wake of the Cooke collapse.

¹²⁵ *Id.* (The author proposes including "aquatic invasive species," which include Atlantic salmon).

¹²⁶ *Invasive Species Strategy for British Columbia*, INVASIVE SPECIES COUNCIL OF B.C. 9 (2012).

¹²⁷ *Id.*

¹²⁸ *Id.*; *Invasive Species Strategy for British Columbia 2018-2022*, INVASIVE SPECIES COUNCIL OF B.C. 9 (2017).

¹²⁹ *The BC Inter-Ministry Invasive Species Working Group: Who We Are and What We Do*, INVASIVE SPECIES COUNCIL OF B.C., <https://bcinvasives.ca/news-events/recent-highlights/the-bc-inter-ministry-invasive-species-working-group-who-we-are-and-what-we> (last visited Jan. 18, 2020).

D. First Nation Fishing Rights

The United States and Canada recognize First Nations as sovereign, self-governing entities.¹³⁰ If either country's federal government classifies an entity as a tribe, that tribe becomes eligible for certain programs and services, as well as treaty rights' enforcement.¹³¹ A tribe usually establishes property title and certain corresponding rights through a land claim treaty between that tribe and a federal government representative.¹³² A treaty ordinarily establishes the geographical limitations of a tribe's reserved land (reservation or reserve) and specifies certain activities (such as hunting, fishing, or collecting certain plants) that must be allowed to continue within that area.¹³³

Each country also recognizes the common law concept of aboriginal title, meaning that native people have rights based on traditional activities that (1) were practiced before Western contact, (2) are important to the culture of the First Nation community, and (3) have continued in present day.¹³⁴ While aboriginal title is sufficient for Canadian First Nations to maintain hunting, fishing, or gathering rights,¹³⁵ U.S. native peoples most easily use the existence of a reservation to claim such rights.¹³⁶ The legal standard and burden of proof for establishing such traditional activities' presence is also higher in the United States than Canada.¹³⁷

On an international level, the United States and Canada demonstrated that they were initially reluctant to commit to their indigenous populations. Both countries originally voted against the

¹³⁰ *Tribal Governments*, USLEGAL, <https://system.uslegal.com/tribal-governments/> (last visited Jan. 20, 2020).

¹³¹ Brian L. Lewis, *So Close, Yet So Far Away: A Comparative Analysis of Indian Status in Canada and the United States*, 18 WILLAMETTE J. INT'L L. & DISP. RESOL. 38, 39 (Winter 2010).

¹³² FELIX S. COHEN & ERIN HANSON, HANDBOOK OF FEDERAL INDIAN LAW 44 (Univ. of N. M. Press, 2nd ed. 1971); *Reserves*, INDIGENOUS FOUNDATIONS, <https://indigenousfoundations.arts.ubc.ca/reserves/> (last visited Jan. 20, 2020).

¹³³ COHEN & HANSON, *supra* note 132, at 44.

¹³⁴ *Sac & Fox Tribe of Indians v. United States*, 383 F.2d 991 (Ct. Cl. 1967); *Native Vill. of Eyak v. Blank*, 688 F.3d 619 (9th Cir. 2012).

¹³⁵ *Aboriginal Title*, INDIGENOUS FOUND., https://indigenousfoundations.arts.ubc.ca/aboriginal_title/ (last visited Jan. 20, 2020).

¹³⁶ Daniel G. Kelly, Jr., *The Rights of American Natives in Lands They Have Occupied Since Time Immemorial*, 75 COLUM. L. REV. 655, 661, 665 (Apr. 1975). U.S. native peoples may also claim off-reservation rights, implied rights, and other types of rights that do not necessarily rely on a specific reservation.

¹³⁷ *Id.*

2007 United Declaration on the Rights of Indigenous Peoples (UNDRIP).¹³⁸ UNDRIP established universal “minimum standards for the survival, dignity and well-being of the indigenous peoples of the world.”¹³⁹ Canada formally endorsed the Declaration in November of 2010,¹⁴⁰ while the United States (the last country to formally endorse the Declaration) lent its support in December of 2010.¹⁴¹

U.S. courts disagree on how to interpret treaty-recognized traditions.¹⁴² However, courts do agree that fishing rights expressly included in a treaty grant tribal members special water access to fish.¹⁴³ Additionally, U.S. courts agree that recognition of the aboriginal title doctrine requires a First Nation to prove “actual, exclusive and continuous use and occupancy for a long time of the claimed area” in order to establish such a right.¹⁴⁴

As part of the Stevens Treaties of 1854–55, Governor Stevens promised Washington tribes access to traditional fishing grounds and the maintenance of sufficient native fish stocks.¹⁴⁵ In short, the Stevens Treaties reserved tribes’ right to fish, and the state government and federal government still have the responsibility of protecting these fish species.¹⁴⁶

Although legal precedent may protect U.S. tribes’ aboriginal and treaty-recognized fishing rights, a tribes’ ability to stop certain

¹³⁸ *United Nations Declaration on the Rights of Indigenous Peoples*, UN, <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html> (last visited Jan. 20, 2020).

¹³⁹ G.A. Res. 61/295, *United Nations Declaration on the Rights of Indigenous Peoples*, art. 43 (Sept. 13, 2007).

¹⁴⁰ *Canada – Fully Endorses United Nations Declaration on the Rights of Indigenous Peoples*, MĀORI L. REV. (June 2016), <http://maorilawreview.co.nz/2016/06/canada-fully-endorses-united-nations-declaration-on-the-rights-of-indigenous-peoples/>.

¹⁴¹ *Victory!: U.S. Endorses UN Declaration on the Rights of Indigenous Peoples*, CULTURAL SURVIVAL, <https://www.culturalsurvival.org/news/victory-us-endorses-un-declaration-rights-indigenous-peoples> (last visited Jan. 20, 2020).

¹⁴² See *Winters v. United States*, 207 U.S. 564 (1908); *United States v. Dion*, 476 U.S. 734 (1986); *Washington v. United States*, 138 S. Ct. 1832 (2017).

¹⁴³ JOSEPH P. KALT & JOSEPH WILLIAM SINGER, *MYTHS AND REALITIES OF TRIBAL SOVEREIGNTY: THE LAW AND ECONOMICS OF INDIAN SELF-RULE* 13 (2004).

¹⁴⁴ *Sac & Fox Tribe of Indians v. United States*, 383 F.2d 991 (Ct. Cl. 1967); *Native Vill. of Eyak v. Blank*, 688 F.3d 619 (9th Cir. 2012).

¹⁴⁵ Vincent Mulier, *Recognizing the Full Scope of the Right to Take Fish Under the Stevens Treaties: The History of Fishing Rights Litigation in the Pacific Northwest*, 31 AM. INDIAN L. REV. 41 (2006).

¹⁴⁶ Short Cressman & Burgess PLLC, 17th Annual Tribal Client Service Seminar for Tribal Leaders, Tribal Environmental Program Managers & In-House Counsel 9 (Mar. 31, 2016); *Washington v. EPA*, 752 F.2d 1465, 1466 (9th Cir. 1985).

government-approved activities in order to protect their treaty or aboriginal rights is historically limited.¹⁴⁷ In a recent case, *Washington v. United States*, the Supreme Court required certain Washington dam removals in order to maintain minimum instream flows for salmon runs and consequently also maintain required salmon populations for Stevens Treaty tribes.¹⁴⁸ Maintaining an adequate environment for salmon spawning is vital to maintaining salmon populations and consequently to the rights of tribes who claimed a treaty-recognized or aboriginal right to the native salmon.¹⁴⁹ In short, although *Washington* is promising for the future of tribal autonomy in Washington and the United States, the decision is too recent to adequately assess its legal ramifications for future U.S. cases.

Canada's constitution and case law recognize aboriginal and treaty rights related to hunting, fishing, and trapping.¹⁵⁰ But these rights apply only within a First Nation's ancestral territory.¹⁵¹ First Nations may exercise these rights subject to federal conservation requirements and other restrictions.¹⁵² Canada's Fisheries Act also expressly addresses and confers First Nation fishing rights.¹⁵³ Although tribal members must obtain a communal First Nation fishing license, B.C. provides legal advice to tribal members on how to prove an aboriginal right that does not require a license.¹⁵⁴

Canada's conservation and management of Pacific salmon often occur through court decisions that uphold both aboriginal and treaty rights to fish.¹⁵⁵ The initial precedent of *Delgamuukw v. British Columbia* and *R. v. Sparrow* recognized oral testimony as legitimate

¹⁴⁷ See *Montana v. United States*, 450 U.S. 544 (1981); *Wisconsin v. Baker*, 698 F.2d 1323 (7th Cir. 1983); *Wisconsin v. EPA*, 266 F.3d 741 (7th Cir. 2001).

¹⁴⁸ *Washington v. United States*, 853 F.3d 946 (9th Cir. 2016).

¹⁴⁹ *Id.*

¹⁵⁰ Constitution Act, 1982, *being* Schedule B to the Canada Act, 1982 c 11, § 35 (U.K.).

¹⁵¹ See *Calder et al. v. Attorney-General of British Columbia*, [1973] S.C.R. 313 (Can.); *R. v. Sparrow*, [1990] 1 S.C.R. 1075 (Can.); *R. v. Marshall*, [1999] 3 S.C.R. 456 (Can.).

¹⁵² *Fishing, Hunting & Trapping: The Rights and Responsibilities of First Nations People in Manitoba*, MAN. SUSTAINABLE DEV., <https://www.gov.mb.ca/sd/firstnations/> (last visited Jan. 20, 2020).

¹⁵³ Fisheries Act, R.S.C. 1985, c F-14, § 5(4) (Can.).

¹⁵⁴ LEGAL AID B.C., A GUIDE TO ABORIGINAL HARVESTING RIGHTS 8 (Dec. 2017).

¹⁵⁵ See *Haida v. British Columbia (Minister of Forests)*, [2004] 3 S.C.R. 511 (Can.); *R. v. Sparrow*, [1990] 1 S.C.R. 1075 (Can.); *R. v. Jack*, [1994], 2 S.C.R. 310 (Can.).

and affirmed aboriginal title.¹⁵⁶ The Supreme Court of Canada further strengthened aboriginal title's power in *Tsilhqot'in Nation v. British Columbia*, holding that private corporations wanting to use resources located on land owned by First Nations must first meaningfully consult with that tribe.¹⁵⁷ Although the Canadian government may implement rules and regulations to protect First Nations' hunting and fishing rights, the Supreme Court of Canada has established its own legal duty to consult with First Nation groups on such issues.¹⁵⁸ The DFO also pledged to prioritize First Nations' fishing rights over other fisheries in its fish-farm management.¹⁵⁹

In conclusion, tribes in Washington have historically faced divided courts on tribal fishing and water rights issues. In contrast, First Nation aboriginal and treaty fishing rights serve as Canada's main legal mechanism for protecting native salmonid species and regulating exotic ones. Consequently, B.C.'s strongest response to managing fish farms in the wake of the Cooke collapse came from First Nations.

IV REGIONAL RESPONSE TO THE COOKE SPILL

Cooke Aquaculture's Cypress Island net-pen collapse was the spark that ignited long-simmering tensions over farmed Atlantic salmon in the Pacific Northwest and inspired legal and political action.¹⁶⁰ Cooke Aquaculture is the largest non-Norwegian salmon producer in the world, with multiple Atlantic salmon fish farms throughout the United States and Canada.¹⁶¹ Iccicle Seafood initially entered into a fifteen-year

¹⁵⁶ *Delgamuukw v. British Columbia*, [1997] 3 S.C.R. 1010 (Can.); *R. v. Sparrow*, [1990] 1 S.C.R. 1075 (Can.). See also Andrew Kurjata, *20 Years Ago, This Court Case Changed the Way Canadians Understood Indigenous Rights*, CBC NEWS (Dec. 11, 2017), <https://www.cbc.ca/news/canada/british-columbia/delgamuukw-vs-british-columbia-20-years-rights-titles-1.4440703>.

¹⁵⁷ *Tsilhqot'in Nation v. British Columbia*, [2014] 2 S.C.R. 257 (Can.).

¹⁵⁸ *Haida v. British Columbia (Minister of Forests)*, [2004] 3 S.C.R. 511 (Can.).

¹⁵⁹ *Canada's Policy for Conservation of Wild Pacific Salmon: Introduction*, FISHERIES & OCEANS CAN., <http://www.dfo-mpo.gc.ca/reports-rapports/regs/sff-cpd/overview-cadre-eng.htm> (last visited Jan. 23, 2020).

¹⁶⁰ Cooke's Cypress Island net-pen collapse had indirect implications on fishing companies worldwide; however, this is beyond this Article's scope. See Hadeel Ibrahim, *Atlantic Salmon Group Strikes Deal to Stop Greenland Fishery for 12 Years*, CBC NEWS, (May 28, 2018), <https://www.cbc.ca/news/canada/new-brunswick/salmon-fishing-prohibition-greenland-faroe-island-1.4680875>.

¹⁶¹ Aslak Berge, *These Are the World's 20 Largest Salmon Producers*, SALMON BUS. (July 30, 2017), <https://salmonbusiness.com/these-are-the-worlds-20-largest-salmon-producers/>.

lease agreement with the WDNR for the Cypress Island net-pen site in 2008, which Cooke Aquaculture took over in 2016.¹⁶²

Washington and B.C. responded differently to Cooke Aquaculture's continued presence within their respective waters after the spill occurred. Based on precedent in other states, which included a legal framework establishing checks on net-pen aquaculture growth and environmental rules regulating invasive species, Washington not only fined Cooke Aquaculture and terminated its Cypress Island lease but also enacted legislation that will phase out net-pen aquaculture by 2024.¹⁶³ In contrast, in the absence of regulatory laws and governmental oversight, B.C. First Nations relied on treaty and aboriginal fishing rights to develop a framework toward future aquaculture management and control.

A. Washington – Environmental Activism and Legislation

The Cooke collapse led to the investigation of Cypress Island and other Washington Cooke facilities, as well as an eventual reassessment of all net-pen aquaculture in the state.¹⁶⁴ Cooke's dismissive remarks regarding environmentalists and tribal leaders' concerns—and its act of restocking the Cypress Island net pen only two months after the spill—bolstered public opposition of Atlantic salmon aquaculture.¹⁶⁵ First Nations and environmental rights activists in the Sound protested to voice their concerns over the impact on wild salmon populations.¹⁶⁶

Cooke officials initially underplayed their role in the collapse. They blamed “exceptionally high tides and currents coinciding with this

¹⁶² Skagit Valley Herald Staff, *Lease Terminated for Cypress Island Fish Farm*, CYBER DEALS (Feb. 4, 2018), https://www.goskagit.com/news/local_news/lease-terminated-for-cypress-island-fish-farm/article_9aee4fd0-73ad-5820-96f2-c785dfdddeff.html.

¹⁶³ See H.B. 2260, 65th Leg., Reg. Sess. (Wash. 2018).

¹⁶⁴ Carlo Davis, *Department of Natural Resources Terminates Atlantic Salmon Net Pen Lease*, WASH. DEP'T OF NAT. RESOURCES (Dec. 17, 2017), <https://www.dnr.wa.gov/news/department-natural-resources-terminates-atlantic-salmon-net-pen-lease>.

¹⁶⁵ Ben Fisher, *Judge Rules Cooke Aquaculture Can't Restock Atlantic Salmon Farm in Washington*, SEAFOODSOURCE (Apr. 17, 2018), <https://www.seafoodsource.com/news/aquaculture/judge-rules-cooke-aquaculture-can-t-restock-atlantic-salmon-farm-in-washington>.

¹⁶⁶ Laura Zuckerman, *Protest Seeks Shutdown of Atlantic Salmon Farms in Washington State*, REUTERS (Sept. 16, 2017), <https://www.reuters.com/article/us-washingtonstate-fish/protest-seeks-shutdown-of-atlantic-salmon-farms-in-washington-state-idUSKCN1BR09Y>.

week’s solar eclipse” for the broken nets at Cypress Island.¹⁶⁷ However, officials in the United States were skeptical of this explanation and launched an official investigation into the spill. A joint report produced by the WDE, WDFW, and WDNR ultimately found that the collapse was a direct result of Cooke’s failure to clean and maintain its nets, follow repair protocol, and pay attention to the engineering at its net-pen facility.¹⁶⁸ The report also concluded that Cooke knew of the pen’s deteriorating condition before its collapse yet chose not to initiate repairs.¹⁶⁹

Cooke criticized the report, calling it “an inaccurate and misleading document.”¹⁷⁰ However, at a press conference regarding these findings, Washington State Commissioner of Public Lands Hillary Franz stated that “the collapse of the net pen was entirely preventable . . . Cooke’s disregard caused this disaster and recklessly put our state’s ecosystem at risk.”¹⁷¹ Based on the report, the WDE determined that Cooke violated its water quality permit before and during the net-pen collapse and as a result fined the company \$332,000.¹⁷² The WDNR also terminated Cooke Aquaculture’s Cypress Island lease, calling the company’s failure to maintain its nets a breach of its lease with the state.¹⁷³

Due to Cooke’s initial slow response to the spill, most of the escaped Atlantic salmon were not recaptured.¹⁷⁴ Although the Lummi Nation

¹⁶⁷ Lisa Johnson, *Thousands of Atlantic Salmon Escape Fish Farm Near Victoria After Nets Damaged*, CBC NEWS (Aug. 22, 2017), <https://www.cbc.ca/news/canada/british-columbia/atlantic-salmon-released-cooke-aquaculture-1.4257369>.

¹⁶⁸ DEP’T. OF ECOLOGY STATE OF WASH. ET AL., 2017 CYPRESS ISLAND ATL. SALMON NET PEN FAILURE: AN INVESTIGATION AND REVIEW 6–7 (2018).

¹⁶⁹ *Id.*

¹⁷⁰ Press Release, Joel Richardson, Vice President of Public Relations, Cooke Aquaculture Inc., *Cooke Aquaculture Pacific Dismisses State’s Investigation into Cypress Island as Incomplete and Inaccurate* (Jan. 30, 2018), <http://www.cookeseafood.com/cms/wp-content/uploads/2018/01/Press-release-Cooke-dismisses-states-draft-Cypress-report-Jan.-30-2018.pdf>.

¹⁷¹ Bellamy Pailthorp, *State Investigation Finds Company Negligence Caused Summer Net Pen Collapse*, KNKX (Jan. 31, 2018), <http://www.knkx.org/post/state-investigation-finds-company-negligence-caused-summer-net-pen-collapse>.

¹⁷² Dep’t of Ecology, *Ecology Fines Cooke \$332,000 for Net Pen Collapse* (Jan. 30, 2018), <https://ecology.wa.gov/About-us/Get-to-know-us/News/2018/Jan-30-Cooke-net-pen-fine>.

¹⁷³ Letter from Kristin Swenddal, Acting Deputy Supervisor for Aquatics, Geology & IT, to Innes Weir, General Manager of Cooke Aquaculture Pacific (Feb. 2, 2018) (on file with the Department of Natural Resources).

¹⁷⁴ Lynda Mapes, *More Atlantic Salmon Coming to Puget Sound Despite Legislative Action to Ban Them*, NEWS TRIBUNE (Sept. 3, 2018), <https://www.thenewstribune.com/news/local/article217605570.html>.

caught some of the escaped fish, as many as 205,849 Atlantic salmon are still unaccounted for.¹⁷⁵ Months later, Atlantic salmon were caught miles upstream in both Washington and Canada, despite Cooke's assurance that Atlantic salmon would die out quickly in the wild.¹⁷⁶ This introduction of Atlantic salmon into Pacific salmon habitat will likely have significant impacts on the environment, ecological makeup, and First Nations in the region.

Spurred on by these voices of opposition and Washington's existing legal framework regarding Atlantic salmon aquaculture and invasive species, democratic Senator Kevin Ranker introduced legislation in December 2017 to completely ban net-pen aquaculture.¹⁷⁷ Although the bill faced opposition from fishing companies and their supporters,¹⁷⁸ Washington environmentalists and tribal members ultimately continued to push it forward. After multiple revisions, Engrossed House Bill (EHB) 2957 passed the house and senate and Governor Jay Inslee signed it into law in March 2018.¹⁷⁹ EHB 2957 modifies existing laws regarding Washington aquaculture in order to phase out non-native, net-pen aquaculture in the Sound by 2025.¹⁸⁰ While EHB 2957 does not affect existing fish-farm leases, the bill prohibits net-pen aquaculture leases from being renewed or approved. In signing the bill, Governor Inslee declared that fish farms "present a risk to our wild salmon runs that we cannot tolerate."¹⁸¹ Cooke Aquaculture responded that it was "deeply disappointed in . . . the potential impact [this decision] could have on Washington's 30-year-salmon-farming

¹⁷⁵ DEP'T. OF ECOLOGY STATE OF WASH. ET AL., *supra* note 168, at 111.

¹⁷⁶ Lynda Mapes, *8 Months After Farmed-Fish Escape, Lively Atlantic Salmon Caught 40 Miles Upriver*, SEATTLE TIMES (Apr. 19, 2018), <https://www.seattletimes.com/seattle-news/atlantic-salmon-caught-in-skagit-8-months-after-escape-from-pen-had-eaten-a-fish/>.

¹⁷⁷ Amy Smart, *Washington State Senator Pushes Fish-Farm Ban, Urges Same in B.C.*, TIMES COLONIST (Dec. 6, 2017), <https://www.timescolonist.com/news/local/washington-state-senator-pushes-fish-farm-ban-urges-same-in-b-c-1.23114031>.

¹⁷⁸ Lynda Mapes, *State Kills Atlantic Salmon Farming in Washington*, SEATTLE TIMES (Mar. 2, 2018), <https://www.seattletimes.com/seattle-news/politics/bill-to-phase-out-atlantic-salmon-farming-in-washington-state-nears-deadline/>.

¹⁷⁹ H.B. 2260, 65th Leg., Reg. Sess. (Wash. 2018).

¹⁸⁰ Ben Fisher, *Washington Governor Jay Inslee Signs Bill Banning Atlantic Salmon Farming*, SEAFOODSOURCE (Mar. 23, 2018), <https://www.seafoodsource.com/news/aquaculture/washington-governor-jay-inslee-signs-bill-banning-atlantic-salmon-farming>.

¹⁸¹ *Id.*

industry and the more than 600 rural workers . . . that rely upon salmon farming for their livelihoods.”¹⁸²

B. British Columbia – First Nations’ Treaty Rights

The Cooke collapse and Washington’s response have received mixed reactions from Canadian government officials. B.C. cautioned against EHB 2957, calling it “an emotional and science-deficit response” to fish-farming issues that can be mitigated rather than completely banned.¹⁸³ B.C. warned against reaching conclusions regarding Atlantic salmon aquaculture and its environmental impacts without first conducting scientific research on the issue, particularly when aquaculture is so important for the B.C. economy.¹⁸⁴ Since the Cooke spill, B.C. officials have called for a scientific expert panel on aquaculture to evaluate the conditions of Atlantic salmon and net pens in B.C.¹⁸⁵

Although Cooke Aquaculture’s collapse occurred in Washington, Canadian citizens have reported multiple Atlantic salmon in B.C. waters.¹⁸⁶ Given the significant presence of both First Nations and fish-farm companies in the Broughton Archipelago, the region has become the center of B.C.’s conflicts surrounding this issue. In response to the collapse, a number of First Nation tribal members with a history of fish-farm protests¹⁸⁷ staged peaceful occupation protests in the Archipelago.¹⁸⁸ First Nations claim that Atlantic salmon net pens have

¹⁸² Press Release, Cooke Aquaculture Inc., Cooke Aquaculture Pacific Responds to Washington State Legislature’s Passage of H.B. 2957 (Mar. 2, 2018), <http://www.cookeseafood.com/cms/wp-content/uploads/2018/03/Press-release-CAP-Senate-passage-of-HB-2957-March-2final.pdf>.

¹⁸³ Fabian Dawson, *Canada Reacts to Washington’s Ban on Atlantic Salmon Farming*, SEAWESTNEWS (Mar. 4, 2018), <https://www.seawestnews.com/canada-reacts-washingtons-ban-atlantic-salmon-farming/>.

¹⁸⁴ Donald J. Noakes, *Oceans of Opportunity: A Review of Canadian Aquaculture*, 1 MARINE ECON. & MGMT. 43 (2018).

¹⁸⁵ Press Release, Fisheries and Oceans Can., Minister LeBlanc Announces Independent Expert Panel on Aquaculture Science (Feb. 2, 2018), https://www.canada.ca/en/fisheries-oceans/news/2018/02/minister_leblancannouncesindependentexpertpanelonaquaculturescie.html.

¹⁸⁶ John Ryan, *Atlantic Salmon Swim Far and Wide After Fish Farm Collapse*, KUOW (Oct. 23, 2017), <https://kuow.org/stories/atlantic-salmon-swim-far-and-wide-after-fish-farm-collapse/>.

¹⁸⁷ These tribes include the influential Musgamagw Dzawada-enuxw, ‘Namgis, and Mamalilikulla nations.

¹⁸⁸ Erica Gies, *Canadian First Nations Call for Eviction of Fish Farms*, HIGH COUNTRY NEWS (Oct. 20, 2017), <https://www.hcn.org/articles/tribal-affairs-canadian-first-nations-call-for-eviction-of-fish-farms>.

lasting negative impacts on Pacific salmon populations. The tribal members rely on the fish population, which is granted to them through treaties, reservations, and aboriginal rights.¹⁸⁹ Additionally, tribes claim that Canada, and these fishing companies, violated recognized tribal and aboriginal title rights under UNDRIP by negotiating aquaculture leases in tribal waters without tribal input or consent.¹⁹⁰ As occupation continued for months, the fishing company Marine Harvest sought and was granted an injunction to remove protestors from its Midsummer Island fish farm in the Broughton Archipelago.¹⁹¹

First Nations also responded legally to non-negotiated fish farms within their territory. Namgis First Nation filed a lawsuit against the DFO and Marine Harvest, seeking judicial review of the DFO Minister's policy that does not require piscine orthoreovirus (PRV) testing before granting fish-farm licenses. Namgis First Nation is also seeking an injunction to stop Marine Harvest from restocking their net pens with one million fish before conducting PRV testing.¹⁹² Although the court denied the injunction in March 2018,¹⁹³ the Namgis suit against the DFO was scheduled for hearings in September 2018.¹⁹⁴ Dzawada'enuxw First Nation is also suing the DFO, claiming that the government violated their aboriginal right to Pacific salmon by failing to maintain their waters and not consulting with them and other First Nations before signing fishing company contracts.¹⁹⁵

To avoid the public spectacle of a trial, and in an attempt to produce a more equitable arrangement with fishing companies, FLNRO, British

¹⁸⁹ Laura Kane, *First Nations, Environmentalists Occupy B.C. Salmon Farm*, CBC (Aug. 30, 2017), <https://www.cbc.ca/news/canada/british-columbia/first-nations-environmentalists-occupy-b-c-salmon-farm-1.4268234>.

¹⁹⁰ *Id.*

¹⁹¹ Derrick Penner, *Marine Harvest Seeks Injunction to Remove Protesters from Midsummer Island Salmon Farm*, VANCOUVER SUN (Nov. 11, 2017), <https://vancouversun.com/news/local-news/marine-harvest-seeks-injunction-to-remove-protesters-from-midsummer-island-salmon-farm>.

¹⁹² Press Release, Namgis Staff, 'Namgis Sues to Prevent Restocking of Open-Net Fish Farms (Mar. 13, 2018), <http://www.namgis.bc.ca/news-items/namgis-sues-to-prevent-restocking-of-open-net-fish-farm/>.

¹⁹³ Tyson Whitney, 'Namgis First Nation Launches Parallel Case to Protect Wild Salmon', ECOJUSTICE (Apr. 17, 2018), <https://www.ecojustice.ca/namgis-case-protect-wild-salmon/>.

¹⁹⁴ *Id.*

¹⁹⁵ Judith Lavoie, *B.C. First Nation Launches First Ever Case to Extend Aboriginal Title to Ocean*, NARWHAL (May 29, 2018), <https://thenarwhal.ca/b-c-first-nation-launches-first-ever-case-to-extend-aboriginal-title-to-ocean/>.

Columbia Ministry Indigenous Relations and Reconciliation and British Columbia Ministry of Agriculture entered into talks with First Nations representatives, recognizing that further aquaculture restrictions and First Nation involvement are necessary moving forward.¹⁹⁶ The Chiefs of three First Nations and the Ministers of three provinces signed a letter of understanding to formalize the negotiations.¹⁹⁷ Although the talks are ongoing, First Nations have already persuaded B.C. officials to establish new rules and regulations regarding the renewal of fish-farm tenures after 2022. Officials will also consider new national oversight standards for aquaculture.¹⁹⁸

CONCLUSION

Atlantic salmon net-pen aquaculture is an integral, yet controversial, part of the Pacific Northwest. Although Atlantic salmon fishing brings jobs and economic prosperity to the region, the practice also raises serious environmental concerns and First Nations' rights issues. B.C.'s vague legal language and lack of government regulation for aquaculture contrasts with Washington's regulations and requirements for the industry. These differing legal frameworks produced different results: a net-pen ban in Washington, while B.C.'s aquaculture laws remained initially unchanged. Each region uses different legal bodies to protect Pacific salmon populations. While Washington uses invasive and endangered species lists, B.C. relies on existing First Nations aboriginal and treaty fishing rights. Although B.C.'s aquaculture legal system would make an outright ban on fish farming difficult, the province can potentially hold fish farmers accountable for future spills through those strong laws concerning First Nations.

¹⁹⁶ *BC Government Extends Formal Discussions with First Nations in Broughton Archipelago*, LAKE COWICHAN GAZETTE (Sept. 28, 2018), <https://www.lakecowichan.gazette.com/news/bc-government-extends-formal-discussions-with-first-nations-in-broughton-archipelago/>.

¹⁹⁷ *Province Establishes Joint Decision-Making Process with First Nations for Broughton Archipelago Fish Farm Tenures*, BC GOV NEWS (June 27, 2018), <https://news.agov.bc.ca/releases/2018FLNR0046-001299>.

¹⁹⁸ Press Release, Ministry of Agriculture & Ministry of Forests, Lands, Natural Resource Operations and Rural Development, B.C. Government Announces New Approach to Salmon Farm Tenures (June 20, 2018), https://archive.news.gov.bc.ca/releases/news_releases_2017-2021/2018AGRI0046-001248.htm; JULIE GELFAND, REPORT 1 – SALMON FARMING, OFFICE OF THE AUDITOR GENERAL OF CANADA (2018).