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SINCE TIME IMMEMORIAL: THE DECLINE OF COLUMBIA RIVER BASIN
SALMON

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Since Time Immemorial: The Decline of Columbia River Basin Salmon

Most histories of salmon in the Columbia Basin begin with a variation of the same line: since time immemorial, Indian people have lived and fished in the Columbia's vast basin, and salmon have always been central to their culture and lifestyle. The specific timeline of the Columbia Basin salmon is so grand that it only makes this airy statement more abstract—the fishing community at Celilo Falls (which was inundated by The Dalles Dam in 1957) was, at more than 10,000 years, the longest continually inhabited area in the Americas. When the Marmes Rockshelter—drowned under Lower Monumental Dam in 1969— on the lower Snake River was discovered in 1965, it contained the oldest human remains ever found in North America. The archaeological record supports that this history stretches back even farther, that the Americas' first settlers came in pursuit of salmon. Today, the Pacific Northwest's human history remains inseparably intertwined with the history of the salmon. As law professor Michael

Blumm described, without exaggeration, “Salmon remain the cultural and spiritual soul of the Pacific Northwest.”¹

The centuries-old war for that soul has been dramatic and fraught with blood and lies. Today, of the roughly 16 million wild salmon that once inhabited the Columbia Basin, only about 1% remain.² Since before William Clark wrote “The multitude of fish is almost inconceivable,” to today, when the Columbia salmon teeters on the edge of extinction, people have fought over the lifeblood of the Pacific Northwest.

The decline of Columbia Basin salmon, however, has not been a terraced and progressive fall from an Edenic native fishery. Since 1853, when the first treaties regarding fishing sites were signed with Native Columbia Basin fishermen, the loss of salmon has not been the product of momentary environmental misjudgments, but of systemic flaws. While the manifestations of this culture can be studied incrementally—unfulfilled treaty promises, unsustainable commercial fishing practices, dam construction, etc.—the true narrative of the salmon’s decline is societal. The Columbia Basin salmon has been brought to the edge of extinction because of a culture that has sought expansion for expansion’s sake and valued short-term wealth over long-term sustainability. This philosophy has guided and continues to guide Columbia

¹ Michael Blumm, *Sacrificing the Salmon: A Legal and Policy History of the Decline of Columbia Basin Salmon* (Lake Mary, FL: BookWorld Publications, 2002) p. 1.

² Anthony Netboy, *The Salmon*. (Boston: Houghton Mifflin Company, 1974), 265.

Basin fisheries management to neglect not just environmental and Native American considerations, but pragmatic ones as well.

Understanding the salmon itself is crucial to understanding the history of the salmon. It is thought that salmon first evolved as freshwater fish 25-35 million years ago. During the Great Ice Age about 1 million years ago salmon were separated as the Arctic ice cap grew, joining with the North American continent and blocking the ancient Northwest Passage. This separation yielded two distinct species, the Pacific *Oncorhynchus* (meaning *hooked snout*, a reference to the curved jaw developed by mature salmon before they spawn) and Atlantic *Salmo*. As global temperatures rose, melting ice drastically diluted the salinity of the oceans. Salmon, which had survived mostly in low freshwater river basins, were now able to venture into the less salty, nutrient rich ocean. The journey from freshwater into the oceans for feeding, however, was still a major endeavor, and was possible only to mature salmon. As a result, salmon began maturing in fresh water until they were physically capable of journeying to the ocean to feed, after which they would return to fresh water to propagate. Because of this process salmon became anadromous, (meaning *running up*) migrating from the ocean to freshwater to spawn.

The six species of salmon that have historically inhabited the Columbia take part in one of nature's most spectacular migrations. Pacific salmon, *Oncorhynchus*, are born in freshwater streams. After 60 to 200 days as eggs, salmon fry hatch and begin maturing and hunting for food. Eventually, salmon swim from the gravel beds of their birth to the ocean, where they participate in an

expansive migration. Little is known about the specific ocean travels of the salmon, though some species travel more than 10,000 miles, often mingling (though not mating) with their relatives from Canada, Alaska, Siberia and Japan. After several ocean circuits over a period of about two to five years, salmon begin the arduous journey back to their natal streams. Though the process is not fully understood, it is thought that salmon use an advanced olfactory system to pick up on the unique chemical traits of their natal stream—after journeying thousands of miles over many years, salmon literally sniff their way back to the exact gravel bed of their birth, where they spawn and die. (Steelhead and Atlantic Salmon, *Salmo*, sometimes survive spawning and make several ocean journeys.) Though there are only six distinct species of Columbia salmon, these acute homing abilities create hundreds of genetically distinct populations. A salmon's freshwater journey back to spawn alone can be up to 900 miles long, and can require more than a mile of elevation gain. In some locations, Salmon jump 15-foot waterfalls as they battle their way back upstream to reproduce.³

The history of the salmon's demise begins with the first major waves of white settlement in the Columbia Basin in the mid-19th century. Commissioner of Indian Affairs, A.S. Loughery, best characterized the fervor with which settlers pursued land when he said "No effort should be untried to procure the removal of [all Indians], thereby leaving the country free for settlement by the whites."⁴

³ Joseph E. Taylor, *Making Salmon: An Environmental History of the Northwest Fisheries Crisis* (Seattle, WA: University of Washington Press, 1999), 5.

⁴ Stephen Beckham, "Ethnohistorical Context of Reserved Indian Fishing Rights: Pacific Northwest Treaties, 1851-1855, (no publisher, 1984, report prepared for *United States vs. Washington*, Civil No. 9213), 3.

While not official policy, (and in fact contradictory to federal law as, according to the Indian Trade and Intercourse Act of 1834, all unceded land in the Oregon Territory belonged to Indians) Loughery's quote became standard practice. In 1850, Congress passed the Oregon Donation Act, which allowed 320 acres of land to white adult settlers in the Oregon Territory. The act, however, went into effect before any treaties ceding Indian land to settlers were ratified. Settlers asserted ownership of a total of 7,437 claims and farmed this land regardless of Indian ownership. In all, the act donated more than 2.8 million acres of Indian land to settlers before federal agents were able to negotiate treaties to make that land legally available.⁵

This same trend continued with the Stevens and Palmer Treaties, a series of exchanges made in the mid-1850's by Washington Territorial Governor and Superintendent of Indian Affairs, Isaac Ingalls Stevens, and Oregon Territorial Governor, Joel Palmer. The treaties were made in supposed good faith—in an exchange with Governor Stevens over one treaty, Chief Seattle remarked, "All of the Indians have the same good feelings towards you, and will send it on paper to the Great Father."⁶ As Chief Seattle's sentiment demonstrated, the treaties were created under the assumption of mutual benefit. Stevens, however, reflected a lesser degree of goodwill—in discussing the potential consequences of his treaty campaign, he stated, "ere long the bones of the last of many a band

⁵ *Ibid*, 10.

⁶ As cited in Blumm, 58.

[of Indians] may whiten on the graves of his ancestors.”⁷ In one of the largest land transactions in United States history, Palmer and Stevens gained roughly 64 million acres of Indian land, much of the modern states of Oregon, Washington, Idaho and Montana. The Indians, left with just six million acres of reservation land of little value, received \$1.2 million, missionaries and schools and federal protection of Indian lands—in justifying the new, concentrated, reservations, Stevens said “we can better protect you from bad white men there.”⁸ In reality, the treaties were often hollow attempts to justify massive settlement on what were legally Indian lands. In their drive to acquire new territory, settlers often invaded lands in question before treaties were ratified, leading to wars from 1855-1858.⁹ In its drive for land, this first wave of white settlement in the Columbia Basin demonstrated clear disregard of both legal obligation and concern about Indian ownership of western territory.

As a vital cultural and economic mainstay, however, fishing rights were often Indians’ priority in treaty negotiations. The treaties guaranteed exclusive fishing rights on reservations, as well “the right of taking fish” “in common with” whites at customary fishing locations.¹⁰ While negotiating the Treaty of Point No Point, Stevens said, (his emphasis supplied) “*This paper secures your fish.*”¹¹

⁷ Beckham, 16.

⁸ *Ibid*, 32.

⁹ Taylor, 44.

¹⁰ Beckham, 69-70.

¹¹ Blumm, 62.

Beyond being a historical marker, the language of these treaties, and indeed their legal clout, remain relevant. For example, the Chairman of the Columbia River Inter-Tribal Fish Commission reported in 1996 that the average tribal fisherman in the Columbia Basin operated at an annual loss of \$7,000. Citing the treaties' promise of "a right of taking fish," interpreted by the Supreme Court to mean that tribal fisheries would be kept in a state adequate to preserve a fishing-based livelihood for Native Americans, this violation is a mainstay of the argument for the state's legal obligation to sustain Columbia salmon populations.

While Native American environmental stewardship had allowed for significant harvests of salmon without harming populations, the economics-first approach to the environment that was transplanted to the Columbia Basin by white settlers quickly proved disastrous for salmon. As Joseph Taylor described of this new paradigm, "The new economic rules altered the relationship between consumer and nature. Aboriginal spirits no longer mediated harvests. Instead, settlers increasingly redefined nature as a set of commodities. They ascribed worth according to market values, and reorganized the landscape to produce marketable items."¹² This new culture, which prioritized both geographic and economic expansion over environmental concern proved in the late 19th century and continues to prove incompatible with the salmon's prosperity. Though Native American harvests of salmon were prodigious—at an average of 41 million

¹² Taylor, 45.

pounds roughly equal with the highest volume white harvests of the late 19th century ¹³ — Native fishermen’s combination of environmental consciousness and general dispersion within the basin allowed for perpetually sustainable harvests. In the years immediately following the signing of the Stevens and Palmer treaties the combined effects of habitat degradation—through logging, livestock grazing, mining, irrigation, milling, and urban expansion— and the “free-for-all mentality” that led to ruthless harvesting in concentrated areas, had critically reduced Columbia Basin salmon runs. In 1875, just 20 years after the Stevens and Palmer treaties had been signed, *The Oregonian* warned about the coming of an “almost total extinction of salmon in our waters.” ¹⁴

The first major degradation of the Columbia’s salmon population followed the introduction of the canning process to the Columbia in 1867. After its introduction in 1864 on California’s Sacramento River, commercial canning quickly reduced the river’s salmon population beyond industrial utility and to the brink of extinction. ¹⁵ In 1867, without consideration or change of the process and method that left the Sacramento River nearly devoid of salmon in just three years, industrial canneries transplanted northward to the Columbia where, a couple decades later, the same practices of unselective and concentrated harvesting devastated the Columbia’s salmon population. The combination of

¹³ Joseph Craig; Robert Hacker, *The History and Development of the Fisheries of the Columbia River*, US Bureau of Fisheries Bulletin 32, (Washington D.C., Government Printing Office, 1940.)

¹⁴ “Fish Culture,” *The Portland Morning Oregonian*, XV:91 (May 21, 1875), 3.

¹⁵ Anthony Netboy, *The Salmon*, (Boston: Houghton Mifflin Company, 1974), 235.

growing markets in Europe and on the East Coast, as well as the completion of a transcontinental railroad, caused production to soar. By 1890, the population of Columbia salmon was reduced by half. While cannery harvests were not significantly greater than Native harvests—43 million pounds at their peak in 1883 versus the native average of 41 million pounds ¹⁶ — canneries' use of unselective fishing practices concentrated in a relatively small stretch of water made the practice unsustainable. Again, however, rather than refining their practices, canneries refined their technology for increased efficiency and moved northward toward the Puget Sound.

State attempts at regulation during this period were either weak and toothless or were direct attempts to bolster white expansion at the expense of natives. Either way, they failed to impact plummeting salmon populations and perpetuated unsustainable harvests and practices. Washington's first feeble attempt at protecting the salmon began in 1871 with a ban on weirs (fish traps) and nets that blocked more than 2/3 of a water source's flow. This act was followed in 1877 and 1878 in Washington and Oregon, respectively, by bans on fishing for certain months out of year, and in Oregon regulation of the placement and design of nets and traps. The states' laws failed to coordinate with one another or with industry— there were no restrictions placed on shipping or railroads' ability to transport salmon during closed seasons. Coupled with near non-existent enforcement—Oregon had a single enforcement officer for the entire length of the Columbia—state regulation was a failure. In Washington,

¹⁶ Craig, Hacker.

laws guised as preservation measures benefitted white fishermen at Native American expense. Washington established “salmon preserves” on numerous freshwater sites, many of which were traditional Native fishing grounds. Meanwhile, no restrictions were placed on saltwater fishing, where motor boats and gill netting yielded white fishermen prodigious harvests. ¹⁷ As Michael Blumm described, “the preserves foisted the burden of salmon conservation on the tribes, while allowing white fisheries in the [Puget] sound and ocean to continue largely unrestrained.” ¹⁸ In what Charles Wilkinson has characterized as a “frenzied free-for-all,” ¹⁹ the late 19th and early 20th centuries were a period of unsustainable and unfettered harvests.

As their right to sustainable fisheries became critically threatened, tribes turned to the federal courts to uphold the guarantees of the first treaties. Almost immediately after the signing of the Stevens and Palmer treaties, conflict arose at Celilo Falls. After several attempts by whites to exclude natives from the treasured site, in 1895 the Office of Indian Affairs, together with the Department of Justice, went to court in order to reestablish tribes’ legal right to fish at Celilo Falls and throughout the region. The case was the response to the Winans Brothers Packing Company, which operated four fish wheels (mills that scooped fish out of the water, day and night) on the Washington side at Celilo. Winans

¹⁷ Netboy, 19-20.

¹⁸ Blumm, 6.

¹⁹ Charles F. Wilkinson *Crossing the Next Meridian: Land, Water, and the Future of the West* (Washington, D.C.: Island Press, 1992) 188.

held federal homestead patents to the area and, despite the Indian right to fish “in common with whites” at traditional sites, fenced off the area, destroying Indian curing huts in the process. The ruling by state court favored Winans: according to Judge C.H. Hanford Indians were guaranteed only a right to equal treatment as whites through the treaties, and had no special rights to the property. Winans responded by building new fences.²⁰

In 1905, the case *United States v. Winans*, moved to the US Supreme Court where, in a major foundational opinion for tribal fishing rights Justice Joseph McKenna reversed Washington’s decision. According to McKenna, the treaty clearly promised the Indians a greater right to fisheries than equality with whites. In granting Indians “equal” rights, Washington violated the treaties, which “promise[d] more and [gave] the word of the nation for more.” McKenna concluded:

The right to resort to the fishing places in controversy was a part of larger rights possessed by the Indians, upon the exercise of which there was not a shadow of impediment, and which were not much less necessary to the existence of the Indians than the atmosphere they breathed. New conditions came into existence, to which those rights had to be accommodated. Only a limitation of them, however, was necessary and intended, not a taking away.²¹

The decision was significant in establishing the supremacy of treaty rights— private land titles, like those of the Winans, as well as all pertinent state legislature, became legally subordinate to treaty guarantees. Though the decision is celebrated today as a landmark victory for tribal fishing rights,

²⁰ *United States v. Winans*, 198 U.S. 371, 1905

²¹ *Ibid.*

McKenna's statement about limitation later became a justification for state regulation of treaty rights, which proved a source of conflict for decades to come. While treaty rights to plentiful fish harvest and access to traditional fishing grounds were upheld legally, however, they were seldom upheld practically—legality proved an insufficient obstacle to halt the expansion that was killing the salmon. In the following decades, fish populations would continue to dwindle as Natives increasingly saw their traditional sites drowned by dams. The era of industrial canning reflects the same mentality that ignited white settlement in the Columbia Basin, and illustrates why that culture of unfettered growth was impossible to sustain along with healthy salmon populations. It also reflects the pragmatic, legal, and environmental fallacies of such a culture—in their unfettered drive for economic gain, industrial canners ruined in twenty years what had been a sustainable resource for 10,000, a sustainable resource they were legally obligated to sustain.

Salmon populations during the first decades of the 20th century continued to decline. Regulation was not science-based, emphasized overfishing, and ignored how destruction of salmon habitat adversely affected populations. Meanwhile, the effects of growing industry and population continued to devastate the population. Livestock, mining, timber harvesting, agriculture and urban growth silted spawning beds, drained marshes and wetlands, and polluted water sources. The alteration of the course, temperature, oxygen levels and cleanliness of salmon-supporting waterways that accompanied development was as detrimental a force against the salmon as unselective and concentrated

harvests. But these impacts were unheeded by proponents of expansion. As salmon habitats from British Columbia to the Sacramento River fell to industry and growth, so did the fish they supported. ²²

In 1932, the Army Corps of Engineers created its 308 report, which outlined the construction of ten dams for better navigation, flood control, and cheap hydropower, but contained no mention of impact on fish and wildlife, the era of massive dam building which lasted from the Great Depression to the mid-1970's proved most devastating to Columbia basin salmon. Beginning in 1933 with the construction of Rock Island Dam on the Columbia near Wenatchee, Washington, the federal government began constructing massive dams between Washington's Grand Coulee and Oregon's Bonneville Dam as part of New Deal job creation programs. In a retrospective 1948 report on development of the Columbia and its tributaries, the Corps of Engineers stated, "...only in a few instances has any thought been paid to the effect these developments might have had on fish and wildlife." ²³ The attitude and culture that allowed this oversight is best captured by the Chief of the Corps who in response to inquiries about fish ladders on the Bonneville Dam is reported to have said "We do not intend to play nursemaid to the fish!" ²⁴ Had the fishing industry and public's protests not prevailed, the entire population of salmon spawning in the thousands of miles of waterways above Bonneville would have become extinct. Even when

²² Taylor, 143.

²³ Corps of Engineers, *Columbia River and Tributaries*, House Doc. 531, 81st Congress, 2nd Session, Volume VII, 2863

²⁴ Netboy, 287.

consideration was given to fish populations during dam construction, as it eventually was at Bonneville, protective measures were often inadequate. While fish ladders at the hydroelectric Bonneville and Rock Island dams granted passage to some mature salmon returning from the ocean, they failed to accommodate those heading out to sea. As a result, an unsustainable 15% of juvenile salmon traveling downstream were killed on average at each dam. This number was presented in reports from the U.S. Fish and Wildlife Service beginning with the completion of Bonneville in 1938, yet failed to figure into the Corps' continued construction of hydroelectric and navigational dams. Some dams sealed off the river completely. With the completion of the Grand Coulee dam, for example, the Columbia was cut off from its headwaters in British Columbia. As a result, all salmon populations spawning above the dam were killed, including the famed June Hog run, a Chinook population in which individual fish averaged above 80 pounds.

Some of the most devastating impacts of dam construction were unknown and thus not considered during dam construction. For example, we now understand that heavy spills of water over dams results in nitrogen supersaturation in reservoirs, one of the deadliest consequences of dam construction. This change in chemistry causes "bubble disease," which annually takes millions of salmon. Reservoirs also harmed salmon spawning downstream by altering the river's flow. The spring freshets that salmon required for passage to and from the ocean were stored in the reservoir for use in later, drier seasons, making even more difficult, and thus increasing the mortality rate, for migrating

salmon. For example, while it took only 14 days for a salmon to travel from The Dalles to the mouth of the Snake River before dam construction, it now requires a 22-day journey. The high temperature that result from slack water in reservoirs have led to increased populations of juvenile salmon predators and have contributed to outbreaks of fatal disease.²⁵

Dam building increased following World War II, as the result of an influx of population and a growth of industry throughout the Pacific Northwest. Dam projects primarily provided jobs for returning soldiers. They also provided an economic boon, supplying low cost irrigation for agriculture, low cost hydropower for industry and civilians, and opened shipping channels as far inwards as Lewiston, Idaho.

The era came to a close in 1975, by which point about 60 dams had been built within the Columbia basin. The last four dams were built on the Lower Snake River. Construction of the dams was initially rejected by Congress in 1953, based on the likelihood of extinction for salmon spawning above the dams that would follow their completion. In 1955, however, lobbying by the aluminum industry, power and other utility companies, various chambers of commerce, shipping and other navigation dependent industries, agriculture, and newspapers, as well as a changing Congress, secured funds for the construction of the dams, beginning with Ice Harbor Dam. The construction of these dams was not passive or uninformed—it reflects a conscious decision to expand

²⁵ Howard Raymond, *Migration Rates of Yearling Chinook Salmon in Relation to Flows and Impoundments in the Columbia and Snake Rivers*, Washington Department of Fisheries, 1968

industry at the expense of anadromous fish in the Snake. Based on the information yielded by decades of dam construction, as well as basic reasoning, Congress and industry were aware of the devastation that dam construction entailed for the salmon— in initially rejecting construction, Chairman of the House Appropriations Committee Clarence Cannon of Missouri stated: “The construction of this dam means eventually the complete extinction of a species of salmon which thereafter can never be resuscitated or recreated.” ²⁶

Concerns about the four dams’ impact on Snake River salmon proved well founded. After their completion, the survival rate for juvenile salmon migrating downstream on the Lower Snake plunged from 95% to 25%. In 1988, Snake River Coho went extinct. Two years later, a single sockeye salmon returned to Idaho. In 1994, the Snake River Chinook was listed on the endangered species list. The Snake River Dams, however, make a relatively small economic contribution—they provide no flood control, little irrigation and only 5% of the Northwest’s power. Their most significant contribution is allowing shipping to inland ports, despite heavy subsidies on barge transportation. ²⁷ Construction of the four dams on the Lower Salmon River reflects the collective choice to prioritize the expansion of hydropower and inland shipping despite the known and devastating consequences on salmon.

²⁶ *Hearing Before the Subcommittee of the Committee of Appropriations, House of Representatives, 82nd Congress, 2nd session, Part 2, 879.*

²⁷ *Columbia River System Operation Review Impact Statement, (GPO: US Army Corps of Engineers, November, 1995) Sections 3-3, 5-1, and 5-2.*

Rather than addressing dam construction, overfishing or habitat degradation, artificial propagation through hatchery programs became the popular response to declining salmon populations. First introduced to the Columbia basin in 1877, by the turn of the century hatchery construction and propagation had exploded. Though the method has yet to be retired today, hatcheries were quickly proven as an ineffective compensation for wild fish. Lacking the genetic diversity of wild fish, hatchery fish were more susceptible to deadly diseases and often spread them to wild fish as well. The stronger and older hatchery fish also competed with wild fish for resources and diluted the genetic distinctness of individual populations through interbreeding. By 1935, salmon harvests in Washington fell to 15 million pounds, a 300% decline from the turn of the century, despite an increased hatchery production from 25 to 90 million fish during that same period.²⁸

Despite these clear indicators about their economic ineffectiveness, hatchery production continued to explode into the dam-building era. Bolstered by the 1938 Mitchell Act, which over 50 years granted roughly \$200 million in federal funding for hatchery programs to compensate for fish lost in dam operations, belief in the effectiveness of hatchery programs was perpetuated by the supposition that they were an adequate means of sustaining salmon runs, and thus the salmon industry, while growing hydroelectric power sources and increasing flood control and inland navigation. The introduction over the next 50

²⁸ William Dietrich. *Northwest Passage: The Great Columbia River* (New York City: Simon and Schuster, 1995), 337.

years of forty new hatcheries was guided by this philosophy, and reflects its flaws. The majority of these new projects were built below the Bonneville Dam, which, while ideal for skirting dam-related death rates, concentrated fish in the river's lower extremes, away from tribal fisherman. This concentration also encouraged ocean salmon fishing, which was unselective and often harvested disproportionate numbers of wild fish compared to those that were introduced artificially.²⁹ The issues related to hatchery-produced fish that were discovered decades earlier were perpetuated and became clearer during this period as well. That hatchery fish diluted unique gene pools, spread disease and competed for resources suggested that they covered up and contributed to the decline of Columbia Basin salmon, rather than solved it. Refusal to cease the use of hatcheries in the Columbia Basin despite their cost and the danger we know they pose to wild populations reflects the same choice that is made in erecting dams.

Later initiatives like the Northwest Power Act, the Pacific Salmon Treaty and Endangered Species Act all were direct responses to dangerously reduced populations. While freshwater issues like dam building and habitat degradation posed an obvious threat to salmon populations, obstacles during their ocean journeys were similarly harmful. A salmon's ocean journey is difficult to understand and follow, and even more difficult to protect. In their migration, salmon cross international waterways, passing through the jurisdictions of Canada, Japan, Russia, and other nations. As a result, Columbia basin salmon are frequently intercepted by foreign nations, who bear none of the costs or

²⁹ *Ibid*, 381.

consequences of Columbia basin salmon conservation, but reap financial benefit. The issue is further complicated by fisheries in Alaska: in order to compensate for fish lost to Alaskan fishing, Canadians harvested US salmon, meaning those from both Alaskan and Columbia basin sources. This international interdependency prompted the creation of the Pacific Salmon Treaty.

By the early 1980's, west coast Chinook populations were being seriously threatened by interceptions, which were an impetus to moving negotiations along and eventually producing the 1985 treaty. The treaty emphasized equitable harvest allocation and conservation, meaning that nations were entitled to "benefits equivalent to the production of salmon originating in its waters," and similarly that all would not overfish. Difficulties in implementation became apparent immediately—vague language like "equitable harvests," and noncommittal pledges left the treaty without teeth, leading to international gridlock. After nearly a decade of negotiation, in 1999 amendments were made to more pragmatically govern harvests by basing them on current fish populations. Because the original did not accommodate for species variation, however, weak populations were more susceptible to damage. While the 1999 amendments were improvements, they have yet to prove effective, as vague wording and perceived unfair harvest restrictions, as well as ineffective measures for habitat protection have hindered successful implementation.

Industrialized nations do not need to abuse their salmon resources to promote growth. That the management of Columbia Basin fisheries has been guided by unrestricted expansion becomes clear by comparing it to British

Columbia's Fraser River Basin. The Fraser, which has surpassed the Columbia as the world's largest salmon population, and Columbia Basins are similar waterways—they must support industrial and tribal fishing, they pass through significant urban areas (the Fraser through Vancouver B.C.), they have enormous hydroelectric potential and they both have suffered the consequences of industrialization and resource extraction. It is not, therefore, for lack of environmental obstacles that Fraser salmon thrive while Columbia salmon near extinction, but for cultural choice. The inhabitants of the Fraser Basin have chosen to prioritize the survival of salmon. The Fraser underwent a similar transformation as the Columbia at the turn of the century: a growing population, combined with bountiful natural resources, led to habitat degradation and unsustainable harvests. In one case, railroad construction at a canyon known as Hell's Gate blocked off the main stem of the river almost entirely. Understanding that progress did not necessitate ruthless exploitation of natural resources, and prioritizing the continued existence of the salmon, the Canadian government was able to take meaningful action to preserve both industry and salmon. The management of the Fraser placed restrictions on logging, mining, and industrial pollution, and pushed environmental restoration while also refusing to allow the construction of dams despite the waterway's hydroelectric potential. In 1971, Pacific Area Director on the Department of Fisheries Rob Hourston stated that “despite increasing catches by commercial fishermen, stiff regulations in some seasons and the recent complaints concerning threats to spawning grounds by industry and land settlement, British Columbia's salmon resources have

increased by 13% during the past decade.”³⁰ This success was the result of a culture that prioritized the continued existence of the salmon and understood that, in promoting sustainability, restriction could be a proponent of progress. While the management of the Columbia refused to curb expansion, choosing to push development and haphazardly compensate with hatchery programs, management of the Fraser sought balance. When compared to the Fraser River, the continued use of hatcheries, the construction of dams, unsustainable and unselective harvests and degradation of habitat in the Columbia Basin reflect a refusal to restrict expansion despite the devastating impact on salmon.³¹

In concluding his book on dams on the Lower Snake River, Keith Petersen wrote of our efforts to save the salmon, “We have not really sacrificed at all. We paid for all those fish salvage efforts while continuing to enjoy the cheapest electricity in the nation, while continuing to support, at little personal expense, a huge toll free waterway. We have not even begun to make the regional lifestyle changes that might actually be required to save these fish.”³² By interchanging “cheap electricity” and “toll free waterways” with free land, or industrial canning, or grazing or timber or any other kind of profitable land, that statement can apply to all generations since white men first came to the Oregon Territory. This generation is not unique in refusing the consequences of its actions. It is instead

³⁰ *National Fisherman*, (August 1971). As cited in *Netboy*, 389.

³¹ *Netboy*, 367-390.

³² Keith C. Petersen, *River of Life, Channel of Death: Fish and Dams on the Lower Snake* (Lewiston, ID: Confluence Press, Inc., 1995), 230.

only the most recent manifestation of a culture that prioritizes growth—economic, geographic, or otherwise—above all else, and fails to understand sustainability as a factor of progress. For the inhabitants of the Columbia Basin, the history of the salmon has proven that drive more powerful than concern for the environment, for our legal and moral obligations to Native Americans, and even to our pragmatic interests.

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