

Creating Spaces for Salmon:

How Dams and Eurocentric Resource Management Techniques Destroy Salmon and Culture

A Senior Thesis

Presented in Partial Fulfillment of the Requirements for Graduation

Undergraduate History Program of the University of Washington-Tacoma

By

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The University of Washington-Tacoma

December 2014

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### **Acknowledgments**

This project would have been inconceivable without the continued advice and support of my professor and advisor Dr. Julie Nicoletta. She enabled me, through her dutiful teachings, cooperation, and feedback, to be a better student, writer, and historian. For her willingness to promote my academic and personal growth, I am eternally thankful. I would also like to thank Dr. Michael Kucher, who supervised my initial research for this project and who continually pushed me to think outside of the box when it came to constructions of historical knowledge. Acknowledgment is also given to Dr. Michelle Montgomery, whose recent guidance and teachings on historic and contemporary Indigenous issues served as a reminder that history is cyclical and should not be forgotten.

**Abstract**

This project utilizes oral history interviews, treaties, governmental, international, and scientific reports, and images to examine the impact of western settlement on the ecology and Indigenous cultures of the Northwest. Central to this examination is the diagnosis of effects that Manifest Destiny ideologies and the implementation of New Deal era practices had on salmon and the cultures reliant upon them for sustenance and cultural survival. Not merely a historical overview of social movements, this paper synthesizes the stories of two rivers, the Elwha and the Columbia. It analyzes the impacts wrought by industrialization and contends that co-management of resources and implementation of Indigenous-based ecological practices create opportunities for mitigation. Analysis of the breaching of the two dams on the Elwha River and the restoration of the watershed's ecology is interwoven into the process of retrieving tribal and cultural autonomy by the Lower Elwha Klallam Tribe. As such, the Elwha Restoration Project may serve as an example for future co-management opportunities for the Confederated Tribes of the Colville Reservation and other tribes affected by existing dams.

## Introduction

Comprehensive settlement of the Pacific Northwest by non-Indigenous peoples arrived in two drastic waves. The westward expansion of the mid-1800s and industrial expansion of the New Deal in the 1930s brought industry, money, and people to the Northwest. Simultaneously, these movements wiped out Indigenous cultures and the resources they depended on to maintain their traditional economies and their cultural autonomy. Before white settlers arrived, the economy of the Pacific Northwest revolved around reciprocity and trade, a model reliant upon the surplus of foodstuffs, specifically salmon. Indigenous people of the area utilized the fish year-round and salmon comprised anywhere from 50 to 80 percent of pre-contact diets.<sup>1</sup> Along with dietary needs, salmon served a pivotal role in many ceremonial and traditional activities and the consumption or abstinence from the fish was interwoven into birth, naming, marriage, and death ceremonies as well as the economic and ceremonial custom of potlatch.<sup>2</sup>

Nearly every aspect of Northwest Indigenous life changed after contact with Europeans in the late eighteenth century. Although northwestern Indigenous people maintained their traditional life ways longer than most eastern and southern tribes, the cultural devastation brought upon them happened comparatively faster. By the mid-nineteenth century, those who survived the gamut of European-borne diseases endured the forced removal from their ancestral lands, a process that reversed thousands of years of Indigenous occupation. In March of 1853, Washington became a territory of the United States with no consent from the Indians who

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<sup>1</sup> The Confederated Tribes of the Colville Reservation, *Grand Coulee Dam: The Dam's Tribal Impacts*, 1979, Film, accessed August 1, 2014, [http://www.colvilletribes.com/the\\_dam\\_s\\_tribal\\_impacts\\_\\_1\\_.php](http://www.colvilletribes.com/the_dam_s_tribal_impacts__1_.php), 1979.

<sup>2</sup> Erna Gunther, *Klallam Ethnography* (Seattle: University of Washington Press, 1927), 175.

occupied most of the land.<sup>3</sup> Isaac Stevens was appointed governor and superintendent of Indian affairs for the territory. In 1853 and 1854 alone he negotiated five treaties with six thousand Indian people west of the Cascades. With those treaties, Governor Stevens extorted from the tribes most of the land that comprise the present-day states of Montana and Idaho, as well of that of Eastern and Western Washington.<sup>4</sup>

The treaties enabled expanded settlement by Europeans and Euro-Americans, and those heading west found the newly acquired land an oasis of economic resources. A common principle and main tenant of the Manifest Destiny concept, the newcomers believed the Indians had no proper sense of ownership or use of the land.<sup>5</sup> One of the most revered parables of European settlement in the Americas has to do with turning a wasteland—sometimes construed as a wilderness—into a garden.<sup>6</sup> This rescuing of resources from the wastefulness of non-settlement justified the taking of idle land by an international legal argument to which nations cannot exclusively appropriate to themselves more land than they have occasion for, and which they are unable to settle and cultivate.<sup>7</sup> This ideology leaves no room for hunter-gatherer societies who require large tracts of land to obtain the foods and medicines necessary for their existence. Pre-contact Indigenous peoples' ties to the land were those of kinship and ritual, not those of the ownership of property and proprietorship.<sup>8</sup>

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<sup>3</sup> Donald A. Grinde, and Bruce E. Johansen, *Ecocide of Native America: Environmental Destruction of Indian Lands and Peoples* (Sante Fe, N.M.: Clear Light, 1995), 146.

<sup>4</sup> Grinde, 147.

<sup>5</sup> Donald J. Hughes, *North American Indian Ecology* (El Paso Texas Western Press, 1996), 62.

<sup>6</sup> David Maybury-Lewis, Theodore Macdonald, Biorn Maybury-Lewis, and David Rockefeller, *Manifest Destinies and Indigenous Peoples* (Cambridge, Mass.: Harvard University Press, 2009), 193.

<sup>7</sup> Maybury-Lewis, et. al., 193.

<sup>8</sup> Hughes, 62.

Euro-American settlement of the West resulted in the exploitation and over-use of the environment and the natural resources of the area. To supply lumber to foreign markets, settlers mowed down old-growth forests. To supplement dwindling salmon runs in the American east and abroad, Euro-American fishermen over-harvested salmon and wasted the surplus on cannery floors. Cattle mutilated riparian zones and miners dredged up entire rivers in search of gold. In regard to the use of Northwest lands, logging, fishing, grazing, and mining made up most of the industrial endeavors of the new settler economy.<sup>9</sup> Recognizing that all of these industries negatively affected watershed ecology and Indigenous peoples of the Northwest, one specific industry represents the death knell of Northwest Indigenous culture. The damming of Northwest rivers for hydroelectric power drastically damaged Pacific salmon populations and changed the entire culture of the people who relied upon them.

Dams block free-flowing river systems, hindering the flow of nutrients and sediments and impeding fish and wildlife migration.<sup>10</sup> Because of how they generate power, hydropower dams are especially damaging to rivers and the damage is magnified over time.<sup>11</sup> There are fifty-five major hydroelectric projects located on the Columbia River and its tributaries alone. Thirty are federal dams owned and operated by the Army Corps of Engineers or Bureau of Reclamation. Twenty-five are non-federal installations owned by various public and private utilities. These

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<sup>9</sup> Jim Lichatowich, *Salmon without Rivers: A History of the Pacific Salmon Crisis* (Washington, D.C.: Island Press, 1999), 61.

<sup>10</sup> Leonard Ortolano, Katherine Kao Cushing, and World Commission on Dams, *Grand Coulee Dam and Columbia Basin Project USA: Final Report* (Cape Town, South Africa: World Commission on Dams, 2000), xiii.

<sup>11</sup> Ortolano, et. al., xiii.

dams give the Pacific Northwest the largest hydroelectric system in the world.<sup>12</sup> (Figure 1) The extensive damming of Washington rivers has decimated the native salmon populations. Runs that numbered in the millions before the era of dam building dwindled to only hundreds, and, in many instances, were completely wiped out.<sup>13</sup>

The World Commission on Dams reports that although dams can provide important societal benefits, they also negatively affect rivers, wildlife, and sometimes local communities.<sup>14</sup> The negative impact that dams inflict on wildlife and communities was, and is, clearly visible in the two dams that once blocked the Elwha River, near Port Angeles, and the still-standing Grand Coulee Dam on the Upper Columbia River. These rivers exist as examples of how blocking free-flowing water for hydroelectric purposes can destroy watersheds, salmon, communities and cultures. The taking of land, the damming of free flowing waters, the loss of salmon, electrification, and greed all play into both rivers' stories. However, the breaching of the Elwha dams shows what can happen when ecosystems and people are put above profits and indifference. Contemporary resource management techniques in the Pacific Northwest fail to address the economic and cultural needs of the area's Indigenous peoples. Although they are not complete models for mitigation, resource co-management, ecosystem valuation, and the utilization of traditional ecological knowledge create a space where Indigenous communities are allowed a voice.

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<sup>12</sup> Bonneville Power Administration, "Multipurpose Dams of the Pacific Northwest, n/d, <https://www.bpa.gov/Power/pl/columbia/2-multi.htm>, Accessed, November 1, 2014.

<sup>13</sup> Ortolano, et. al., xiii.

<sup>14</sup> Ortolano, et. al., vii.

This project utilizes oral history interviews, treaties, governmental, international, and scientific reports, and images to examine the impact of western settlement on the ecology and Indigenous cultures of the Northwest. Central to this examination is the diagnosis of effects that Manifest Destiny ideologies and the implementation of New Deal era practices had on salmon and the cultures reliant upon them for sustenance and cultural survival. Not merely a historical overview of social movements, this paper synthesizes the stories of two rivers, the Elwha and the Columbia. It analyzes the impacts wrought by industrialization and contends that co-management of resources and implementation of Indigenous-based ecological practices create opportunities for mitigation. Analysis of the breaching of the two dams on the Elwha River and the restoration of the watershed's ecology is interwoven into the process of retrieving tribal and cultural autonomy by the Lower Elwha Klallam Tribe. As such, the Elwha Restoration Project may serve as an example for future co-management opportunities for the Confederated Tribes of the Colville Reservation and other tribes affected by existing dams.

The annihilation of the various species of Pacific Salmon did not receive intense scholarly attention until after the era of prolific Dam building in the 1930s and 1940s. Most early written works on the subject are science-based evaluations of hatcheries and dams and include very little mention of the Indigenous people affected by the loss of salmon. Written in 1982, Bruce Brown's *Mountain in the Clouds: A Search for Wild Salmon*, broke the previous mold of ignoring Indigenous views on the salmon crisis. Included in his narrative of searching the Pacific Northwest's rivers for salmon, Brown includes the opinion of local tribes in bolstering his claim that among many issues, negligent industrialization ultimately eradicated previously healthy runs of Pacific salmon.

In 1996, Blaine Harden, the son of a Grand Coulee Dam construction worker, wrote *A River Lost: Life and Death of the Columbia*. His work showcases the ecological and cultural devastation that the building of Grand Coulee Dam created. Harden juxtaposes the negative impacts of the dam against supposed benefits and establishes an all-too-familiar story of profiteering and apathy. Highlighting these differences, Harden uses interviews of local residents to show the cultural divide of a single town. After interviewing an elder of the Colville tribe who was furious over the loss of salmon that the dam elicited, Blaine incorporates viewpoints from white Grand Coulee residents. One local business owner noted that: "I don't give a goddamn about salmon. I don't know anybody around here who gives a goddamn about salmon. Salmon are what you see in the cans. Saving salmon, it doesn't make sense."<sup>15</sup> Providing a reason for such ambivalence towards salmon, Harden includes the opinion of a local educator. A history teacher at Big Bend College advanced the view that: "My students grow up in a state of ignorance about what happened with the dam. Teachers have not been taught what to teach. Nobody knows because nobody knows. There is nothing said about what happened to the Indians. There is a feeling that it all happened somewhere else."<sup>16</sup> Harden's use of personal narrative exhibits the disconnect between Indigenous and non-Indigenous communities in Grand Coulee, Washington.

Three years after Harden's book, James Lichatowich, a fisheries biologist, wrote *Salmon Without Rivers: A History of the Pacific Salmon Crisis*. Much less a historical narrative than a call to action, Lichatowich's work suggests that in order to reverse the Pacific Northwest's

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<sup>15</sup> Blaine Harden, *A River Lost: The Life and Death of the Columbia* (New York: W.W. Norton, 1996), 103.

<sup>16</sup> Harden, 105.

salmon crisis, people of the region need a new ecological archetype. He writes, “There can be no satisfactory outcomes to debates that pit humans against the ecosystems they live in, or that set this generation against future generations.”<sup>17</sup> A staunch opposer of hatchery-reliance, Lichatowich put forth the idea of dam removal candidly: “Given the size of the obstacles we have placed in the salmon’s path, they *do* need our help. But the most important help we can give them is to remove or reduce the obstacles, not to continuously carry the fish over the top.”<sup>18</sup> Lichatowich’s work is crucial and elemental in the argument against big dams and the havoc that they wreak on salmon.

The Elwha River and its restoration is the subject of Jeff Crane’s 2011 book, *Finding the River: An Environmental History of the Elwha*. Written before dam removal on the Elwha was completed, Crane’s book uses prior dam removal successes to reinforce the solution of large-scale dam removal for the restoration of habitats. Crane includes an entire chapter on the Lower Elwha Klallam tribe and proves in great detail, via Erna Gunther’s ethnographical work, how the Klallam people depended culturally and economically on the Elwha River’s salmon. Crane, like Lichatowich, pays attention to the differing world views enmeshed in the story of the dam and its effects on the local community. Although Crane’s work is detailed and important, he largely ignores the positive role that the restored river will have on the Klallam community. This ignorance is thematic in the historiography of the Pacific Salmon issue; Indigenous communities are examined in a historical context as subordinates to industrialization with little or no attention paid to their current and future place within the restoration movement’s framework. The

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<sup>17</sup> Lichatowich, 226.

<sup>18</sup> Lichatowich, 229.

conclusion of this paper examines the positive changes that occur when Indigenous peoples play a central role in the rehabilitation of habitats and culture.

### **Manifest Destiny, The Elwha Dams and the Lower Elwha Klallam People**

#### *The Tribe and Manifest Destiny*

Situated in the northern part of the Olympic Peninsula, the 45-mile Elwha River flows north into the Strait of Juan de Fuca. The Lower Elwha Klallam tribe lived in and utilized the Elwha River basin for thousands of years before contact with Europeans. Villages and fish camps, tribal history, and tribal culture are all integrally connected to the watershed and the river system.<sup>19</sup> The results of such a lengthy occupation resulted in the Elwha River becoming the heart of the Lower Elwha tribe's ceremonial, cultural, and spiritual existence as the watershed provided the resources necessary for sustenance and life-ways.<sup>20</sup> Consequently, the Elwha River salmon occupied a central position in Klallam diet, economy, and culture. The Lower Elwha Klallam creatively pursued and harvested salmon while celebrating them, propitiating the fish and preserving their own culture and continuity in the process.<sup>21</sup> Due to the salmon's centrality in Klallam culture, the Lower Elwha Klallam practiced the first salmon ceremony, like most coastal

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<sup>19</sup> U.S. Fish and Wildlife Service, *The Elwha Report: Restoration of the Elwha River Ecosystem & Native Anadromous Fisheries: A Report Submitted pursuant to Public Law 102-495* (Washington, D.C. and Port Angeles, Wash: Dept. of the Interior, National Park Service, U.S. Fish and Wildlife Service : Bureau of Reclamation : Bureau of Indian Affairs : Dept. of Commerce: National Marine Fisheries Service ; Lower Elwha S'Klallam Tribe, 1994), 205.

<sup>20</sup> U.S. Fish and Wildlife Service, 205.

<sup>21</sup> Jeff Crane, *Finding the River: An Environmental History of the Elwha* (Corvallis, OR: Oregon State University Press,(2011), 17.

Indians in the region.<sup>22</sup> Although the ceremony varied by community, Crane gives a brief overview of the First Salmon Ceremony as practiced by the Klallam:

Generally, the lead salmon in a run, considered a chief of those salmon, would be harvested and cooked in a traditional ceremony run by the village shaman. Then, depending on taboos, the various members of the tribe would eat the flesh of the salmon and the bones would be placed back in the river, always handled with reverence and care, so that the chief might return to the salmon people in their villages at the bottom of the ocean and bring them back again for the next spawning run.<sup>23</sup>

The ceremony facilitated cultural survival and ensured that enough salmon made it to spawning grounds, which ensured the sustainability of future runs.

The tribe's relationship with the river changed shortly after the arrival of Europeans and Euro-Americans to the Kitsap Peninsula. In January of 1855, the newly appointed governor, Issac Stevens, convened a treaty council with the peoples of the (S)'Klallam, Chimakum and Skokomish tribes.<sup>24</sup> The Treaty of Point No Point, signed on January 26, 1855, at Hahdskus, or Point No Point, on the northern tip of the Kitsap Peninsula, ceded all tribal land to the U.S. government in exchange for small reservations and hunting and fishing rights.<sup>25</sup> At the commencement of the treaty negotiations, Isaac Stevens spoke to the gathered tribes:

“ My children, you call me your father, I too have a father, who is your great father. That great father has sent me here today to pay you for your lands, to provide for your children, to see that

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<sup>22</sup> Crane, 28.

<sup>23</sup> Crane, 28.

<sup>24</sup> Jeremiah Gorsline, *Shadows of Our Ancestors: Readings in the History of Klallam-White Relations* (Port Townsend, WA: Empty Bowl, 1992), 41.

<sup>25</sup> Gorsline, 41.

you are fed and that you are cared for.”<sup>26</sup> The triumvirate of tribes received \$60,000 for their land.

The paternalistic tone of United States-Indian treaty language showcases how the U.S. government approached dealings with Indigenous peoples. Language helped underwrite the concept of Manifest Destiny throughout the Americas by molding and perpetuating the idea of racial hierarchies.<sup>27</sup> As David Maybury-Lewis suggests, the ideological standards of providential thinking, racism, and the assertion of racial hierarchies, bolstered claims to widen the realms (of the American territories) for freedom, and paired the identification of American national interest with the progress of civilization.<sup>28</sup> Euro-American settlers believed God predestined the settlement and cultivation of the West, an idea promoted and supported by the U.S. government and artfully expressed in John Gast’s American Progress, c. 1872. (Figure 2) For those who subscribed to Manifest Destiny principles, securing one’s destiny hinged on the removal of nomadic and semi-nomadic native peoples from their land. In this way, the pressures caused by an expanding population and the rapid creation of new states and territories indirectly created support for the idea that Indians could not rise to the level of white citizens; hence, they were viewed as obstacles to national growth.<sup>29</sup> The spirit of capitalism, an unmitigated force in the late nineteenth and early twentieth centuries, played a fundamental role in the construction of the Elwha Dam, as well as most development in the American West.<sup>30</sup>

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<sup>26</sup> Gorsline, 41.

<sup>27</sup> Maybury-Lewis, et. al., 198.

<sup>28</sup> Maybury-Lewis, et. al., 205.

<sup>29</sup> Maybury-Lewis, et. al., 156.

<sup>30</sup> Crane, 53.

*The Dams*

“A river is the most dynamic thing in nature; to block a river is the most audacious thing a human can do. And when you block a river, you create a new future.”<sup>31</sup>

Thomas Aldwell moved to Port Angeles, Washington, in 1890 from Toronto, Canada, and made a fair amount of money in real estate both through his own purchases and as a realtor.<sup>32</sup> After spending years acquiring land along the Elwha River, Aldwell left real estate in 1908 to pursue his real dream, the building of the Elwha Dam. All of the land purchased by Aldwell occurred under the laws of the State of Washington and did not recognize the prior rights of the Klallam Indians who lived on the river and who harvested its fish.<sup>33</sup> Aldwell and George Glines, a venture capitalist from Winnipeg, formed the Olympic Power and Development Company in 1910 and erected the 105-foot-high Lower Elwha Dam on the river in 1913.<sup>34</sup> (Figure 3) The dam, built without a fishway, provided power to Port Angeles, Port Townsend, and the Bremerton Navy Yard.<sup>35</sup>

Because it lacked adequate passage for migrating fish, in its first year of operation, the Lower Elwha River Dam reduced the salmon runs by approximately 75 percent. All spring Chinook and sockeye were lost, along with most coho, pink and chum salmon. Only the fall

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<sup>31</sup> *Grand Coulee Dam*, Film, directed by Amanda Pollak, Rob Rapley, Stephen Ives, Michael Murphy, Peter Rundquist (Arlington, Va: Insignia Films, 2012).

<sup>32</sup> Thomas T. Aldwell, “Guide to the Thomas T. Aldwell Papers 1890-1951,” created 2014, accessed November 8, 2014, <http://digital.lib.washington.edu/findingsaids/view?docId=AldwellThomasT4082.xml>.

<sup>33</sup> Ronald L. Trosper, *Resilience, Reciprocity and Ecological Economics: Northwest Coast Sustainability* (London; New York: Routledge, 2009), 101.

<sup>34</sup> Elizabeth Colleen Boyd, “Changer Is Coming: History, Identity and the Land among the Lower Elwha Klallam Tribe of the North Olympic Peninsula” (PhD diss., University of Washington, 2001), 266.

<sup>35</sup> Aldwell.

Chinook, which had always spawned in the lower river, remained relatively unaffected.<sup>36</sup> A 1911 letter from game warden James Pike to Washington Commissioner of Fisheries J.L. Riseland shows the frustrations of those who defended and utilized the fish on the Elwha River:

“I have personally searched the Elwha River and Tributaries above the Dam, and have been unable to find a single salmon. I have visited the Dam several times lately...and there appear to be thousands of salmon ant the foot of the Dam, where they are continually trying to get up the flume. I have watched them very close, and I am satisfied now that they cannot get above the dam.”<sup>37</sup>

A Washington Territory law established in 1881 required fishways on every dam wherever food fish are wont to ascend.<sup>38</sup> Riseland ignored the pleas of Pike and allowed Aldwell to ignore the fishway requirement and continue building the dam as planned. As Bruce Brown notes in his book *Mountain in the Clouds*, Riseland grew weary of enforcing the 1881 law because protecting the wild salmon inevitably meant limiting some private individuals’ opportunities to enrich themselves. The authorities loathed to do this, especially when it involved powerful financial interests.<sup>39</sup>

In 1915, Riseland’s successor, Leslie Darwin, began putting pressure on Aldwell to abide by the law and create a fish passage. Aldwell objected repeatedly and seeing no obvious recourse, Darwin offered to waive the requirement if Aldwell built a fish hatchery adjoining the

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<sup>36</sup> Bruce Brown, *Mountain in the Clouds: A Search for the Wild Salmon* (New York: Simon and Schuster, 1982), 72.

<sup>37</sup> Brown, 63.

<sup>38</sup> “History of Hydropower on the Elwha River,” *National Parks Conservation Association*, accessed November 8, 2014, <http://www.npca.org/protecting-our-parks/air-land-water/great-waters/elwha-dam-history.html>.

<sup>39</sup> Brown, 66.

Elwha Dam.<sup>40</sup> Although Aldwell initially resisted Darwin's proposal, the Olympic Power and Development Company eventually built a fish hatchery on the Elwha River.<sup>41</sup> Ultimately handed over to the state of Washington, the hatchery began operations in 1915. Because the dam blocked such a large portion of the river, hatchery managers experienced difficulties in raising and releasing sustainable runs. Immovable ecological constraints coupled with the lack of state funding for the Elwha hatchery, doomed it to failure and it closed in 1922.<sup>42</sup> In his 1921 annual report to the Governor of Washington, Darwin wrote, "The people of this state have an interest in perpetuating and maintaining our food and shellfishery, compared with which the right of any individual, no matter how great his investment therein, sinks into insignificance."<sup>43</sup> However authentic or passionate Darwin's convictions, they were not shared by everyone.

### *Tribal Impacts*

The increased electrical demands of the booming Kitsap Peninsula led the Olympic Power and Development Company to build another hydropower dam on the Elwha River. Built in 1927, the 210-foot-tall Glines Canyon Dam sat eight miles upstream of the Lower Elwha Dam.<sup>44</sup> (Figure 4) Following the historic model of non-intervention by the state, the issue of fishways went undiscussed and the Glines Canyon Dam was also built without them.<sup>45</sup> The

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<sup>40</sup> National Parks Conservation Association.

<sup>41</sup> National Parks Conservation Association.

<sup>42</sup> National Parks Conservation Association.

<sup>43</sup> L. H. Darwin, *Thirtieth and Thirty-First Annual Reports of the State Fish Commissioner to the Governor of the State of Washington, April 1, 1919 to March 31, 1921* (Olympia, Wa: Frank M. Lamborn, 1921), 14.

<sup>44</sup> National Parks Conservation Association.

<sup>45</sup> Boyd, 276.

second dam created Lake Mills, a reservoir that inundated many significant cultural sites for the Lower Elwha Klallam tribe, including their creation site, burial areas and Thunderbird's home.<sup>46</sup> An important symbol of strength to the Klallam people, Thunderbird resided in a cave on the Elwha River and chased salmon upriver by sending thunder and lighting toward the mouth of the Elwha.<sup>47</sup> Along with the loss of fish, important ceremonial sites, and culture, people of the Elwha tribe were forced from their reservation due to yearly flooding caused by the dams.<sup>48</sup> Frank Bennett, a former chairman of the Lower Elwha Tribal Council, said of the dam owners, "I guess they don't care if a few Indians drown."<sup>49</sup> Disregard for human lives, as well as salmon, are reoccurring themes in the history of hydroelectric development on the Elwha River. The river used to support runs of all five Pacific salmon species and five other species of anadromous fish. Stories are told of chinook salmon returning to the river that weighed 100 pounds, with runs of 300,000-400,000 salmon per year. Modern runs represent just 1 percent of those historic counts.<sup>50</sup>

### *Removal and Restoration*

President Franklin D. Roosevelt's designation of the Olympic National Park in 1938 created a wilderness sanctuary that placed 85 percent of the river's watershed within the

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<sup>46</sup> U.S. Fish and Wildlife Service, 205.

<sup>47</sup>Jacilee Wray, *Native Peoples of the Olympic Peninsula: Who We Are* (Norman: University of Oklahoma Press, 2013), 22.

<sup>48</sup> U.S. Fish and Wildlife Service, 205.

<sup>49</sup> Brown, 108.

<sup>50</sup> Jeffery P. Mayor, "Elwha: A River of Change," *News Tribune* (Tacoma, WA), September 6, 2014.

boundaries of the park.<sup>51</sup> Unlike many other rivers blocked by dams, prime salmon spawning and rearing habitat existed within the boundaries of the Olympic National Park.<sup>52</sup> This enabled the Lower Elwha Klallam tribe, government officials, and environmentalists to seek removal of the dams when the Glines Canyon Dam came up for relicensing in the late 1970s.<sup>53</sup> Nearly twenty years of petitions and motions of intervention eventually moved the restoration effort into Congress. President George H.W. Bush signed the Elwha River Ecosystem and Fisheries Restoration Act [Public Law 102-495] in 1992.<sup>54</sup> The Northwest's reliance on hatcheries came under increasing scrutiny from the Washington Department of Fisheries and the U.S. Fish and Wildlife Service. Consequently, the Elwha Act called for the "full restoration of the Elwha River ecosystem and native anadromous fisheries."<sup>55</sup>

In 2011, the dam removal phase of the \$325 million Elwha River restoration project — the largest such process undertaken in the U.S. to date — began. It was finished in August 2014 after the final remnant of Glines Canyon Dam was blasted from its foundation.<sup>56</sup> As co-managers of the restoration project, the Lower Elwha Klallam Tribe guided the process of retrieving culturally significant resources and sites that were impaired for over one hundred years by dam

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<sup>51</sup> National Parks Service, U.S. Department of the Interior, "Timeline of the Elwha 1940 to 1992," accessed October 3, 2014, <http://www.nps.gov/olym/historyculture/timeline-of-the-elwha-1940-to-1992.htm>; Robert Elofson, Oral History Interview with author, Port Angeles, Washington, May 5, 2014.

<sup>52</sup> Trospen, 102.

<sup>53</sup> Patrick McCully, *Silenced Rivers: The Ecology and Politics of Large Dams* (Atlantic Highlands: N.J., Zed Books, 1996), 73.

<sup>54</sup> National Parks Service.

<sup>55</sup> National Parks Service; U.S. Fish and Wildlife Service, 223.

<sup>56</sup> Leah Leach, "Elwha River Mouth Grows as Sediment Creates New Habitat, Estuaries," *Peninsula Daily News*, November 1, 2014, <http://www.peninsuladailynews.com/article/20141102/NEWS/311029941/elwha-river-mouth-grows-as-sediment-creates-new-habitat-estuaries>.

construction and operation.<sup>57</sup> Immediately after the first dam came down, the salmon returned to the Elwha River. Fisheries Biologist for the Lower Elwha Klallam Tribe, Robert Elofson, seemed especially happy about the returning fish. “This brings a smile to me, to watch it happening, the salmon coming back,” he said. “The sediment coming down, the woody debris building up, it’s amazing to see the process taking place.”<sup>58</sup> The sediment, once locked behind the two dams, created approximately 70 acres of new estuary at the mouth of the Elwha River.<sup>59</sup> The newly formed estuary provides an intermediary habitat between salt and fresh water that fish are flocking to use.<sup>60</sup>

Delighted with the returning salmon, the tribe also hopes that once full restoration is completed, they may be able to gain beneficial title to lands within the Elwha project boundaries that will “sustain limited development for badly needed housing and other economic ventures.”<sup>61</sup> As noted in the 1994 report on the Elwha River’s restoration, “Dam removal and acquisition of lands would dramatically improve the Tribe’s ability to develop a strong economic and cultural presence, and to provide community stability and opportunities for education and employment to all members,”<sup>62</sup> Ecological Economist Ronald L. Trosper believes that the story of the Elwha River exhibits that, at the end of the twentieth century, the salmon fishery and the culture that accompanied it, proved more valuable than the two dams.<sup>63</sup> (Figure 5) The same can not be said

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<sup>57</sup> U.S. Fish and Wildlife Service, 208.

<sup>58</sup> Elofson.

<sup>59</sup> Leach.

<sup>60</sup> Leach.

<sup>61</sup> U.S. Fish and Wildlife Service, 173.

<sup>62</sup> U.S. Fish and Wildlife Service, 174.

<sup>63</sup> Trosper, 102.

for the fisheries and cultures of the Columbia River Basin, where the Grand Coulee Dam currently plugs what used to be the largest salmon fishery in the Pacific Northwest.

## **The New Deal, Grand Coulee Dam, and the Confederated Tribes of the Colville**

### **Reservation**

#### *The Colville People*

“ We were not even asked, or consulted about what effects the dam would have. That we would lose our way of life did not really matter to anyone. For them it was development, for us it was disaster.”

Lucy Covington, Colville Tribal Leader <sup>64</sup>

“The Grand Coulee Dam Visitor’s Guide” states that the Indigenous people of the Columbia Plateau occupied the land for “hundreds of years before explorers and settlers reached the land.” Archeological sites on the Columbia River Basin and Plateau date human occupation back to 10,000 BCE.<sup>65</sup> The Columbia River, with its headwaters in the Canadian Rockies, briefly flows north before turning sharply south and then gradually southwest on its journey towards the Pacific Ocean. The Columbia River, at 1,243 miles in length, is the largest river in the Pacific Northwest. It was once the biggest salmon-supporting river in the West with conservative historical return estimates between ten and sixteen million salmon annually.<sup>66</sup>

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<sup>64</sup> *Grand Coulee Dam Tribal Impacts*.

<sup>65</sup> “Colvilles – Native People,” *Grand Coulee Dam Visitors Guide*, <http://www.gcdvisitor.com/colvilles-native-people/>, accessed November 9, 2014; “Columbia River History,” *Center For Columbia River History*, <http://www.ccrh.org/river/history.php>. accessed, November 9, 2014.

<sup>66</sup> Columbia River Inter-Tribal Fish Commission, “Columbia River Salmon,” <http://www.critfc.org/salmon-culture/columbia-river-salmon/>, Accessed November 1, 2014.

The massive runs of salmon provided the Columbia Plateau people with their chief means of subsistence and occupied a central place in their cultural and spiritual life.<sup>67</sup> Common with most tribes of the Pacific Northwest, the Columbia Plateau people welcomed the return of the salmon in the spring with five days of ceremony and elaborate ritual behavior. The First Salmon Ceremony assured the return of the salmon both by following the laws laid down by the Creator, and by allowing sufficient fish to escape to spawn the next generation.<sup>68</sup> The ceremony and the salmon stories told throughout the year confirm the fish's centrality to the spiritual life of the Columbia Plateau people and reflects the reverence that native people held for all lifeforms.<sup>69</sup> Despite the arid climate of the Columbia Plateau, certain natural resources were bountiful and were shared generously and distributed equitably throughout the region.<sup>70</sup>

Similar to the Lower Elwha Klallam, contact with Euro-Americans drastically altered the traditions of the Plateau people. Governor Stevens managed to coerce many of the larger tribes of the Columbia Plateau to sign treaties ceding their land, but many smaller bands were left out of Stevens' negotiations. The catastrophic American Civil War and the newly built transcontinental railroad persuaded Congress to readdress the "Indian problem." Concerned with the increasing costs and difficulties of negotiating for more Indigenous land, Congress ordered President Ulysses S. Grant to stop making treaties and the treaty-writing era ended in 1871.<sup>71</sup> An executive order by President Grant in 1872, forced twelve tribes of the Columbia Plateau to settle

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<sup>67</sup> Ortolano, et. al., A9-3.

<sup>68</sup> Ortolano, et. al., A9-3.

<sup>69</sup> Ortolano, et. al., A9-3.

<sup>70</sup> Ortolano, et. al., A9-3.

<sup>71</sup> Ortolano, et. al., A9-5.

on a reservation situated along the Columbia River, creating the Confederated Tribes of the Colville Reservation.<sup>72</sup> Forced onto one tract of land, the Columbia River and its salmon remained the central and most powerful element in the religious, social, economic, and ceremonial life of the Colville people.<sup>73</sup> The original Colville reservation lasted not even three months when other executive orders and agreements took large portions of the reservation for public domain. Over a ten year period, the Colville Indian Reservation was reduced to less than half of its original size.<sup>74</sup> The executive orders of the late 1800s and the Reclamation Act of 1902 facilitated the removal of the Colville people from their lands and allowed unfettered industrialization of the Columbia River in the following years.

### *The New Deal and Grand Coulee*

The Reclamation Act of 1902 allowed the government to sell off its semi-arid public lands, including those taken from the Colvilles in the Columbia Basin, in order to fund future irrigation projects. The process involved land speculation in which arid regions were irrigated, then sold, allowing the cycle of land purchases and irrigation projects to continue.<sup>75</sup> Pursuing opportunities to create wealth from the arid lands surrounding the Columbia, government officials and land speculators concocted grand schemes that involved the damming of the Columbia River and making a reservoir of the ancient riverbed of Grand Coulee. Fiercely

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<sup>72</sup> “Colvilles - Native People.”

<sup>73</sup> The Confederated Tribes of the Colville Reservation, *The Price We Paid*, 1979, film, accessed August 1, 2014, [http://www.colvilletribes.com/the\\_price\\_we\\_paid\\_2\\_2\\_.php](http://www.colvilletribes.com/the_price_we_paid_2_2_.php).

<sup>74</sup> “Colvilles - Native People.”

<sup>75</sup> U.S. Department of the Interior, “The Bureau of Reclamation-A Very Brief History,” accessed November 1, 2014, <http://www.usbr.gov/history/borhist.html>.

debated for almost two decades, the plans to turn the desert into an oasis received state approval. Engineers disagreed on the plausibility of building a profitable irrigation dam at Grand Coulee, so initial plans allowed for a smaller dam that would support only a hydroelectric facility.<sup>76</sup>

The original plans for Grand Coulee Dam, created in 1920 and supported under the Federal Power Act, had Washington State overseeing construction of the dam. Because half of the dam sat on reservation land, the act required the state to pay the Colville people annual fees based on the amount of electricity produced on their land.<sup>77</sup> Shortly after construction began, President Roosevelt visited the Columbia River Basin and decided that the damming of the Columbia River fit perfectly into his New Deal Program. The New Deal created programs that employed some of the millions of Americans adversely affected by the Great Depression and the Dust Bowl.<sup>78</sup> When the Bureau of Reclamation took control of dam construction in 1933, the Bureau converted the plans to include both hydroelectric and irrigation capabilities. With these changes also came a change to the requirements for repayment to individuals and communities.

By the 1930s the Federal Power Act no longer applied to the Grand Coulee Dam project and no law required the Bureau of Reclamation to pay anything to the Indians for power revenue that the dam earned.<sup>79</sup> The federal government conducted extensive surveys and knew full well that Grand Coulee's vast reservoir would inundate Indigenous communities, submerge sacred fishing spots and ancestral burial grounds, and create an impenetrable barrier denying salmon

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<sup>76</sup> Pollak, et. al.

<sup>77</sup> Pollak, et. al.; Harden, 114.

<sup>78</sup> Carol Berkin Christopher Miller, Robert Cherny, and James Gormly, *Making America: A History of the United States, Volume 2: From 1865* (Boston: Cengage Learning, 2011), 629.

<sup>79</sup> Harden, 114.

access to a network of spawning grounds in the upper Columbia.<sup>80</sup> Nonetheless, federal officials pursued no formal process of involving the tribes in decision making or gaining the tribes' consent for the taking and inundation of lands and the destruction of the tribes' fisheries.<sup>81</sup>

### *Tribal Impacts-Kettle Falls*

The Grand Coulee Dam eliminated a fishery worth a quarter of a million dollars per year. An estimated 30 to 50 percent of the original anadromous spawning habitat on the Columbia was either submerged under reservoirs or blocked by dams without adequate fish passage.<sup>82</sup> The dam closed forever one thousand miles of spawning ground in the upper Columbia Basin and wild fish that had inhabited its waters for ten millennia simply disappeared during their five-year life course.<sup>83</sup> With the loss of all or most of the anadromous fish, the Colville tribe lost a valuable sustenance resource, as well as the centerpiece of their economy and culture. Grand Coulee Dam, Lake Roosevelt, and the Columbia Basin Project also damaged livelihoods by destroying or limiting access to gathering and hunting grounds both on and off the reservation.<sup>84</sup>

One of the most devastating cultural and economic losses for the Colville people happened with the inundation of Kettle Falls, an ancient fishing and trading site. (Figure 6) In June of 1940, feeling powerless against the tide of rising water, representatives of the Native American population from throughout the Pacific Northwest gathered for a three-day "Ceremony

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<sup>80</sup> Pollak, et. al.

<sup>81</sup> *Grand Coulee Dam Tribal Impacts*.

<sup>82</sup> McCully, 42.

<sup>83</sup> Karl Boyd Brooks, *Public Power, Private Dams: The Hells Canyon High Dam Controversy* (Seattle: University of Washington Press, 2006), 81.

<sup>84</sup> *Grand Coulee Dam Tribal Impacts*.

of Tears.” The ceremony represented a last goodbye to Kettle Falls and all of the land and ancestors that Lake Roosevelt eventually inundated. (Figure 7) Colombia Plateau stories note that at one time, men could walk across the river at Kettle Falls on the backs of the fish.<sup>85</sup>

### *Tribal Impacts-Burial Grounds*

In 1938, dam construction encountered multiple known and unknown Colville burial sites along the river. The Office of Indian Affairs intervened on behalf of the tribe and began negotiations with the Bureau of Reclamation for relocation of known cemeteries as well as isolated burials. Work began in September 1939 when the Spokane undertaking firm of Ball & Dodd was awarded the contract to relocate graves away from the area to be flooded.<sup>86</sup> By the end of 1939, the Bureau, with the help of the tribe, had relocated 915 graves.<sup>87</sup> By the fall of 1940, the number rose to over 1,200 graves. Indian leaders then indicated the discovery of over 2,000 additional sites with more turning up daily. Despite protests from the Colville Nation and the agreement the Bureau of Reclamation had made with the Indians, the government relocated no more graves. Water shortly rose over both the discovered and undiscovered burials.<sup>88</sup> The Colville people deeply mourned the loss of the graves left behind. Dr. Verne F. Ray, an anthropologist who lived with the Colville people for over twenty years during the early

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<sup>85</sup> Paul C. Pitzer, *Grand Coulee: Harnessing a Dream* (Pullman: Washington State University Press, 1994), 227.

<sup>86</sup> Kathryn L. McKay and Nancy F. Renk, *Currents and Undercurrents: An Administrative History of Lake Roosevelt National Recreation Area* (Grand Coulee: U.S. Dept. of the Interior, National Park Service), 2002, ch. 9.

<sup>87</sup> Pitzer, 221.

<sup>88</sup> Pitzer, 221.

twentieth century said, “The whole project involved a ruthless disregard of the Indians as human beings. The result can only be called a disaster for the Colville people.”<sup>89</sup>

### *Tribal Impacts-Other Issues*

After the flooding of Colville reservation land by Lake Roosevelt, drinking water and phone service to some parts of the reservation remained cut off for thirty years. None of the irrigation water diverted from the river by Grand Coulee Dam was ever made available to the Colville people. The electricity from the dam eventually made its way to the reservation, however, reservation residents pay more than twice as much for electricity as do their (mostly white) neighbors across the Columbia in Grant County.<sup>90</sup> Harden notes that, while the non-reservation side of the Columbia attracted industry and farmers with its subsidized power and water, the economy of the reservation withered. He cites an income distribution chart of the reservation made in the early 1990s which shows no middle class.<sup>91</sup> On the reservation, rates of suicide, fatal car accidents, alcoholism, drug addiction, divorce, and death by house fire soared.<sup>92</sup> In 1951, fed up with the extensive losses and crippling poverty inflicted by the dams, tribal council members filed a compensation claim with the federal government. In 1974, the Department of the Interior officially reconfirmed that the land was used without tribal permission and without any move to compensate losses sustained by the dam.<sup>93</sup> It took four decades, but in

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<sup>89</sup> *The Price We Paid*.

<sup>90</sup> Harden, 107.

<sup>91</sup> Harden, 107.

<sup>92</sup> Harden, 106.

<sup>93</sup> *The Price We Paid*.

1994, federal officials agreed to pay the Colville Confederated Tribes the lump sum of \$53 million and a minimum of \$15.25 million annually thereafter.<sup>94</sup> The vastly overdue payment, however, cannot replace what the Colville people lost; they sustained incalculable injuries apart from their material damages and monetary losses. Many of the most fundamental and treasured aspects of their native heritage were transformed or destroyed by the dam.<sup>95</sup>

### **Differing World Views**

“The most profound innovation of capitalism that changes the way human groups relate to nature is the selling of land. By creating a market for land, all the complex interactions of plants, animals, and minerals are reduced to one simple word, *land*.”<sup>96</sup>

The Elwha, Glines Canyon, and Grand Coulee dams’ existence is rooted in, and interwoven into, the history of European and Euro-American colonial oppression of American Indigenous peoples. These hydroelectric projects could not exist without the acquisition of, and profit from, Indigenous lands. Both rivers’ stories are unique in some ways, but sadly common in others. The tradition of exploitation, both ecological and human, is a commonality of dam construction worldwide. The Elwha River and its breeched dams created an opportunity for liberation from those exploitive restraints. The Grand Coulee Dam, though still an emblem of death for the Colville people, marked a milestone of acknowledgment from the federal

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<sup>94</sup> Pitzer, 222.

<sup>95</sup> *The Price We Paid*.

<sup>96</sup> Grinde, 265.

government about specific Indigenous rights. Perhaps this affirmation of Indigenous land rights will open the possibility for the Columbia River to share a similar fate as the Elwha.

Central to both dams' stories is the divide of culture between those exploiting and those being exploited. Culture arises from environmental relations, that is, from subsistence. The relations are both equilateral and dialectal, containing both harmony and tension, but in either case, humans shape their culture in response to environmental relations.<sup>97</sup> In the case of colonialism, the transplanted culture uses subsistence and economical techniques that are not compatible with that of the colonized environment. The colonialist agrarian model of subsistence, buttressed by capitalism, works in certain areas and relies on many factors, especially access to water, but it also requires a land use ethic that leaves no space for other models. Ecologically, this Eurocentric approach to subsistence creates paradigms of land and water use that place lesser value in ecosystems and the animals that inhabit them. Culturally, these ecological models create opportunities for oppression as they devalue the Indigenous cultures that built their entire cosmology around the intrinsic value of all living and non-living things.

### *Eurocentric World Views*

In 1879, U.S. Colonel Nelson Miles said, "The history of nearly every race that has advanced from barbarism to civilization has been through the stages of the hunter, the herdsmen, the agriculturist, and finally reaching those of commerce, mechanics and the higher arts."<sup>98</sup> This

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<sup>97</sup> Kai Erikson, Christopher Vecsey, and Robert W Venables, *American Indian Environments: Ecological Issues in Native American History* (Syracuse: Syracuse University Press, 1980), 4.

<sup>98</sup> Maybury-Lewis, et. al., 199.

statement typifies the Euro-american, or Eurocentric, view of the hierarchy of race. It also aptly characterizes a man who spent years leading campaigns in the Indian Wars, which either killed or corralled thousands of Indigenous peoples onto reservations. The reservation system opened up “unoccupied” land for sale and settlement by non-Indigenous peoples, a process that rightly fulfilled the “divine right” to land that the Manifest Destiny ideology espoused. The parceling and ownership of land had no coordinate place in Indigenous philosophies of land use. Resource development, land ownership, social control, and other configurations of European power are inextricably tied together to create an environmental ideology that is distinctly Eurocentric in its orientations.<sup>99</sup>

Brooks notes that similar land use ethics remained long after the end of the Manifest Destiny Era. “The New Deal bequeathed not so much a new civic ethos about nature as a new administrative regime over nature.”<sup>100</sup> Man-made mechanisms used to control nature secured western man’s place at the helm of this new regime. General excitement concerning the conquering of nature is visible in a 1947 visitors pamphlet that touts Grand Coulee Dam as “The Eighth Wonder of the World.” The image displays the stark contrast between the arid desert and the blue waters of Lake Roosevelt, effectively showcasing the ability of humans to control their environments. (Figure 8) The dominion of man over nature has roots in the Judeo-Christian world, where the soul is divorced from nature. As a consequence, humans place the existential maintenance of their individual souls above the collective maintenance of the environment.<sup>101</sup>

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<sup>99</sup> Grinde, 269.

<sup>100</sup> Brooks, 40.

<sup>101</sup> Grinde, 272.

Donald Grinde, author of *Ecocide of Native America*, elaborates on how this concept plays into the continuation of ecologically devastating practices wrought by Eurocentric world views.

“What to be feared is the path of least resistance-where environment is allowed continually to deteriorate and the resulting mass destruction of populations will ‘appear’ to be by the hand of ‘God.’ The Christian notion of the Apocalypse easily sanctifies this process, when it is really a lack of political courage, vision, and leadership.”<sup>102</sup>

This idea of an apocalyptic degradation of environment, lying outside of human control, was recently put forth by conservative talk show host Rush Limbaugh and achingly exhibits the disconnect between Eurocentrism and ecology. “See, in my humble opinion, folks, if you believe in God, then intellectually you cannot believe in manmade global warming ... You must be either agnostic or atheistic to believe that man controls something that he can’t create.”<sup>103</sup> Although Limbaugh reflects the extremities of neoconservatism, his ideologies reflect modern Eurocentric philosophies regarding the ecological impacts of industrialization. The Eurocentric disconnect of people from their environments perpetuates an ideology that is problematic when implementing local, regional, and worldwide changes in environmental policies, because the separation of nature, culture and the divine results in a disappearance, or at least a dormancy, of place in Western thinking.<sup>104</sup>

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<sup>102</sup> Grinde, 277.

<sup>103</sup> Jack Jenkins, “Limbaugh: ‘If You Believe In God, Then Intellectually You Cannot Believe In Manmade Global Warming,’” 2014, accessed November 11, 2014, <http://thinkprogress.org/climate/2013/08/14/2469341/limbaugh-christians-global-warming/>.

<sup>104</sup> Jay T. Johnson and Brian Murton, “Re/placing Native Science: Indigenous Voices in Contemporary Constructions of Nature,” *GEOR Geographical Research* 45 (2007): 123.

*Indigenous World Views*

To understand the impacts that ecological degradation and species loss has on Indigenous communities, it is necessary to understand the earth from an Indigenous perspective as sacred space, as provider for the living, and as a shrine for the dead.<sup>105</sup> Most Indigenous communities define themselves, in part, in terms of the environmental territories that are so large a part of their cosmological, cultural, social, political, and economic universe.<sup>106</sup> Because place occupies a deep meaning for Indigenous peoples, the displacement from and destruction of these environments caused, and still causes, emotional, spiritual, and cultural trauma. Ecology and land are intimately connected to Native American spirituality, which assumes that land is not regarded merely as real estate, a commodity to be bought, sold, or exploited for financial gain.<sup>107</sup>

Consider the implications of such a philosophy coming in contact with Eurocentric land ideals during the treaty-writing era. When met with the prospect of settling in one area to farm, Indigenous people believed that settlers lacked love for the earth because they tried to cut it up, buying and selling pieces of it, wounding it by plowing, and moving on when they had taken what they wanted from it.<sup>108</sup> Wovoka, a Paiute prophet, espoused this belief in the 1880s saying: “You ask me to plow the ground. Shall I take a knife and tear my mother's bosom? Then when I die she will not take me to her bosom to rest. You ask me to dig for stones! Shall I dig under her skin for bones? Then when I die I cannot enter her body to be born again. You ask me to cut grass

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<sup>105</sup> Grinde, 3.

<sup>106</sup> Grinde, 3.

<sup>107</sup> Grinde, 3.

<sup>108</sup> Hughes, 62.

and make hay and sell it and be rich like white men, but how dare I cut my mother's hair?"<sup>109</sup>

Recognizing such viewpoints in a modern context, it is obvious that dams facilitate further degradation to Indigenous land-use ethics.

Another significant tenet of Indigenous world views is reciprocity and it is central to communities in the Pacific Northwest where practices, such as the potlatch, facilitated the redistribution of wealth via clothing, food, trade-goods, stories, and songs. The Northwest Coast system rewards people for being generous, not selfish, and thus encourages generosity. Organizing exchange on principles of generosity creates a system that is quite different from modern Eurocentric markets.<sup>110</sup> In reciprocal environments, attention and consideration is paid to all earthly things, and animals are treated with reverence and respect, especially when utilized as food sources. Lichatowich exhibits how Indigenous world views create a space for ecological sustainability. "The sustainable relationship between the Pacific salmon and Native Americans derived not from ecology but from an economy based in the age-old concept of the gift and a belief system that treated all parts of the earth-plants, animals, rocks-as equal members of a community."<sup>111</sup>

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<sup>109</sup> Kent Nerburn and Louise Mengelkoch, *Native American Wisdom* (San Rafael: New World Library, 1991), 4.

<sup>110</sup> W.L. Minckley and James E Deacon, *Battle Against Extinction: Native Fish Management in the American West* (Tucson: University of Arizona Press, 1991), xi.

<sup>111</sup> Lichatowich, 34.

*Why Eurocentric Ecological Practices are not Working for Salmon Restoration*

The immediate postwar years in the Pacific Northwest signaled efforts to restore habitat and preserve salmon and steelhead species.<sup>112</sup> The prescribed restoration efforts for declining salmon numbers employed hatcheries or other artificial propagation methods. The fundamental goals of dominating, controlling, and manipulating nature for human use remained deeply imbedded in western culture and hatcheries provided the perfect vehicle for ordering and controlling the aquatic realm.<sup>113</sup> The idea that a species could sustainably be bred and harvested had little scientific backing when the wide-spread implementation of hatcheries began in the early twentieth century. The viability of hatcheries went unchecked for decades by the governmental bodies whose duty it was to preserve the salmon. Federal agencies like the U.S. Army Corps of Engineers and the Bureau of Reclamation, having built the dams that destroyed the salmon, continued to insist that science and technology were the keys to recovery, even as they strived to protect their key assets, the dams.<sup>114</sup>

Unfortunately for the salmon and the humans and animals dependent on them, restoration efforts to date, although well funded, have failed. The continued failure of hatcheries signals a complex problem of resource management entrenched not only in bad science, but bureaucracy and politics as well. A committee of independent scientists that studied the decline of the Pacific salmon for the National Research Council concluded that hatchery programs went decades without any long-term evaluation model and, consequently, the success or failure of the program

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<sup>112</sup> Crane, 102.

<sup>113</sup> Lichatowich, 128.

<sup>114</sup> Crane, 127.

had never been documented.<sup>115</sup> To show the expense of hatchery maintenance, from 1942 to 1999, approximately \$3 billion went to salmon restoration on the Columbia River alone. According to a report by the U.S. General Accounting Office, 40 percent of that budget went to hatchery maintenance, compared to 5 percent spent on habitat restoration.<sup>116</sup> Funds spent on restoration and mitigation efforts in America is hard to track as U.S., state, and tribal entities all pump millions a year into mitigation. A 2003 report by the Property and Environment Research Center proclaimed that the Bonneville Power Administration (BPA) alone is spending \$400 per fish, per year, on the Columbia River.<sup>117</sup>

A problem with salmon restoration via hatchery implementation is that habitat restoration is undervalued and propagation success is over-exaggerated. Underlying this approach to management is the assumption that hatcheries can maintain salmon production without healthy rivers.<sup>118</sup> Before American biologists can conceive of alternatives to artificial propagation, they have to embrace a different world view, one capable of challenging the conventional wisdom that humans can manipulate and control ecosystems and that technology, such as hatcheries, can replace natural ecological processes.<sup>119</sup> Salmon restoration has failed because hatcheries are largely derived from the same world view and assumptions that created the problem in the first

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<sup>115</sup> Lichatowich, 128.

<sup>116</sup> Lichatowich, 135.

<sup>117</sup> Clay J. Landry, "The Wrong Way To Restore Salmon," *Perc Report* 21 (2003): 9, <http://perc.org/articles/wrong-way-restore-salmon>.

<sup>118</sup> Lichatowich, 131.

<sup>119</sup> Lichatowich, 188.

place.<sup>120</sup> The idea that man can control and bend nature to his will has proven to be unfounded both by science and by the natural economies that once sustained healthy salmon runs.

As Grinde suggests, “The popularity of Native American perspectives on the environment in the late-twentieth century is no accident, but part of a species-wide search for modes of living that will address the number one problem everyone now faces: the survival of a sustaining earth.”<sup>121</sup> Mitigation policies are not working and it is time to address that fact blatantly. However, sweeping changes require an understanding of the human role as a member in a biological community. Just as we have learned that it is right to have ethical standards guiding our relationships with other people, we must now develop ethical standards to guide our relationships with the natural world, in which homo sapiens is only one of several million species having rights.<sup>122</sup>

The dismissal of Eurocentric resource management practices will allow for a wider range of options that serve a broader group of people and habitats. One way to enable the development of a healthy co-management regime, one that incorporates the knowledge of local users, is to include Indigenous communities. Co-management policies enable economic surplus and cultural surplus, with both conditions serving all communities of the region. In order for tribes to regain economic, social, and cultural autonomy, they must be allowed an equal seat at the table. From a tribal perspective, collaboration may be the most effective way to work towards the non-linear

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<sup>120</sup> Lichatowich, xiv

<sup>121</sup> Grinde, 278.

<sup>122</sup> Minckley, 412.

and complex goal of preserving culture.<sup>123</sup> In sum, Pacific Northwest Indigenous cultural survival depends on survival of the salmon and survival of the salmon depends on survival of the habitat.<sup>124</sup> Native American and other Indigenous peoples must play a crucial and central role in resource management, unfettered by the economic and intellectual tenets of empire and modernization.<sup>125</sup> As Grinde aptly suggests, “As long as Western man feels that he is demigod above creation and pretends to make environmental management decisions that allegedly preserve or ‘improve’ the environment, then each generation will swap one set of environmental problems for another.”<sup>126</sup> The current approach to resource management, which ignores scientific evidence and culturally important values at the behest of profiteers, does not support the ecological sustainability of Northwest rivers.

## Conclusion

“Today the species of man is facing a question of its very survival. The way of life known as Western Civilization is on a death path on which their own culture has no viable answers. When faced with the reality of their own destructiveness, they can only go forward into new areas of more efficient destruction.” The Hau de No Sau Nee (Iroquois) Address to the Western World.<sup>127</sup>

The disconnect of people from the habitats they live in and the idea that nature can be “dominated” produces a mode of thinking that plugs living rivers, depletes salmon runs, and

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<sup>123</sup> Amanda E. Cronin and David M. Ostergren, “Democracy, Participation, and Native American Tribes in Collaborative Watershed Management,” *Society & Natural Resources* 20:6 (2007): 536. doi: 10.1080/08941920701338059.

<sup>124</sup> Cronin, 539.

<sup>125</sup> Grinde, 278.

<sup>126</sup> Grinde, 262.

<sup>127</sup> *A Basic Call to Consciousness: The Hau de No Sau Nee Address to the Western World*, Geneva, Switzerland, Autumn 1977, Mohawk Nation, N.Y.: Akwesasne Notes, 1978.

destroys communities. This separation also serves to displace the Indigenous voice within Western science and its socially constructed idea of ‘nature.’<sup>128</sup> The policies that guide human-environment interaction are slowly changing and projects that negatively impact ecological processes, like large hydroelectric facilities, are coming under increased scrutiny. As historian Paul C. Pitzer suggests in his book *Grand Coulee*, “Under the current laws, with requirements for complicated and detailed environmental impact studies, concern about endangered species, and greater interests in litigation, the rights of minorities, farmers, job protection, and the demands of other special interest groups, it is doubtful that Grand Coulee Dam, or anything like it, could be built today.”<sup>129</sup> Although the avenues for further industrialization of America’s rivers might be halted by the Endangered Species Act and “special interest” groups, thousands of functioning dams continue to actively kill salmon and inundate land. As renowned environmental leader, activist, and Nisqually tribal member Billy Frank Jr. noted, “Hydropower is not cheap. It’s all been paid for by the salmon.” Cartoonist David Horsey vividly captured this statement visually in a 1991 image. (Figure 9)

Thousands of dams built in the prolific dam-building era of the 1930s and 1940s are nearing the end of their design life.<sup>130</sup> The breaching of dangerous, unproductive, or ecologically destructive dams offers occasion for a reevaluation of prior and contemporary ecological practices. Now that dam removal is no longer considered a fringe, radical approach to river restoration, there will be significantly more opportunities to use dam removal as a river

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<sup>128</sup> Johnson, 122.

<sup>129</sup> Pitzer, 230.

<sup>130</sup>American Rivers (Organization), Friends of the Earth, and Trout Unlimited, *Dam Removal Success Stories: Restoring Rivers through Selective Removal of Dams That Don’t Make Sense* (Washington, D.C., Seattle, WA., Arlington, Va, 1999), xii.

restoration tool.<sup>131</sup> The Elwha River Restoration Project exhibits how, when allowed to co-manage natural resources, Indigenous communities, as well as ecosystems, flourish. Ecologist Fikret Berkes suggests that Indigenous resource management offers ecological and social alternatives to the failing Eurocentric methods currently employed. “Drawing on management practices based on traditional ecological knowledge, and understanding the social mechanisms behind them, may speed up the process of designing alternative resource management systems.”<sup>132</sup> These alternative systems may provide avenues for the retrieval of resources and culture for Indigenous and non-Indigenous communities alike.

One obvious recourse to the failing Euro-American approach to resource management is a return to the sustainability of the “natural economy,” the cornerstone of pre-contact Indigenous resource management. Traditional ecological knowledge, honed and perfected over thousands of years, offers proven counterpoints to expensive, and ultimately futile, approaches favored by industrialized economies. In some cases, the use of Indigenous sustainability practices, although not named as such, have taken root in many ecological restoration projects. Recently favored by some federal and state habitat restoration programs, lawyer and author Charles F. Wilkinson notes that modern conservation practices are anything but a new idea. “The Indian worldview holds the most sophisticated connection between our species and the natural world. Hardly primitive, it is in fact premised in what we now call “biodiversity” and “biocentricism.” It is holistic and it is based on reverence, and love, for the land.”<sup>133</sup> Unlike Western ideals of nature,

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<sup>131</sup> American Rivers, xvii.

<sup>132</sup> F. Berkes, J Colding, and C Folke, “Rediscovery of Traditional Ecological Knowledge as Adaptive Management,” *Ecological Applications* 10 (2000):1260.

<sup>133</sup> C.F. Wilkinson, *Messages from Frank's Landing: A Story of Salmon, Treaties, and the Indian Way* (Seattle: University of Washington Press, 2000), 96.

Indigenous views do not separate nature and culture—they are treated as one and the same.<sup>134</sup> When nature is as important to a society as their culture, the loss of a species or habitat means much more than can be expressed in monetary values.

Modern in its post-colonial implementation, scientists and some governmental bodies are now pushing for ecosystem valuation, that is, the economic “worth” of healthy flora and fauna, to be considered in dam assessment and relicensing. The Elwha River Restoration Project, the largest such removal and restoration project implemented to date, employed ecosystem valuation.<sup>135</sup> The Elwha Restoration Report, conducted prior to removal, determined that the economic value of the two dams’ hydropower did not exceed the worth of the salmon runs.<sup>136</sup> As a testament to large-scale dam removal, in 2013, one year after the removal of the lower Elwha dam, the Lower Elwha Klallam Tribe welcomed home the largest run of chinook salmon since the building of the dam 1911.<sup>137</sup>

Despite the fact that modern ecosystem valuation exists within the bureaucratic framework of the Euro-American industrialized economy and places a monetary value on plants and animals, the practice of ecosystem valuation is a step in the right direction for sound ecological practices. Ecosystem valuation puts a premium on incorporating details of the legal, contextual, social, and organizational setting and minimizes the use of simplified assumptions

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<sup>134</sup> David Tomblin, “The Ecological Restoration Movement,” *Organization & Environment* 22:2 (2009): 194.

<sup>135</sup> C. K. Gowan, Stephenson, and L Shabman, “The Role of Ecosystem Valuation in Environmental Decision Making: Hydropower Relicensing and Dam Removal on the Elwha River,” *Ecological Economics* 56:4 (2006): 508.

<sup>136</sup> U.S. Fish and Wildlife, 200.

<sup>137</sup> “Elwha River Sees Largest Run of Chinook in Decades,” *The Seattle Times*, November 17, 2013, accessed May 15, 2014, [http://seattletimes.com/html/localnews/202276484\\_apxelwhariversalmon.html](http://seattletimes.com/html/localnews/202276484_apxelwhariversalmon.html).

about behavioral motivations of organizations and individuals.<sup>138</sup> Therefore, when ecosystem valuation is utilized, the history of a place, including traditional usage, is given a voice and a value. Although it is not an all-encompassing solution to dams or the tragic loss of Pacific salmon and salmon culture, it is a starting point.

The damming of rivers and the killing of fish on the Columbia as on the Elwha functions as a reverse form of enclosure. The loss of salmon weakens Indigenous communities economically, compelling them to seek more wage labor work and opportunities outside of their communities.<sup>139</sup> Existing not just as an answer to ecological quandaries, Indigenous-based resource management also offers a solution to the loss of tribal autonomy, as well as the cultural ramifications of such losses, that has resulted from extensive Euro-American settlement and years of failed assimilation practices. Ecological historian Nicholas E. Flanders believes that, “The development of a co-management regime, one that incorporates the knowledge of local users, suggest an alternative future in which management is decentralized.”<sup>140</sup> The decentralization of resource management means, in theory, that tribes can manage their lands in ways that befit their cultural and site-specific ecological knowledge. After over a century of oppressive federal assimilation policies and industrial exploitation of tribal lands, North American tribes are using ecological restoration opportunities to reverse cultural and ecological damage. Moreover, the efficacious application of ecological restoration on North American tribal

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<sup>138</sup> Gowan, 509.

<sup>139</sup> Crane, 105.

<sup>140</sup> Nicholas E. Flanders, “Native American Sovereignty and Natural Resource Management,” *Human Ecology* 26:3 (1998): 466.

lands demonstrates self-sufficiency and is integral to tribes regaining political autonomy over their own affairs, thus maintaining their sovereign status.”<sup>141</sup>

Trosper, among others, believes that the answers to modern ecological issues can be found by tapping into traditional ecological practices, such as harvesting sustainably and maintaining a general reciprocity of economic resources among those residing in the area. He writes, “As resilience and sustainability become more important, rules such as those used on the Northwest Coast deserve serious examination to determine how they can be incorporated into present day social-ecological systems.”<sup>142</sup> Traditional ecological knowledge offers options that sustain healthy salmon and rivers, while simultaneously creating an environment that weakens the hold that state and local governments have over sovereign Indigenous nations.

Although a return to pre-contact economies might not be feasible in modern times, it does not mean that proven Indigenous management techniques should be ignored. As Jim Lichatowich eloquently puts it, “Regardless of how much money we spend on salmon restoration programs, unless we change the story of our relationship with these fish, we face the real possibility of losing them. We need a new story to guide our behavior, one that is in harmony with the ecosystems of the Northwest.”<sup>143</sup> There may ultimately come a time when all people of the Pacific Northwest rely on the wealth of the salmon for economic and subsistence-based needs. Acknowledging the rights of the people, animals, and habitats that historically occupied this region is the first step in creating avenues and environments that facilitate such reliance.

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<sup>141</sup> Tomblin, 194.

<sup>142</sup> Trosper, 169.

<sup>143</sup> Lichatowich, 224.

# Dams of the Pacific Northwest

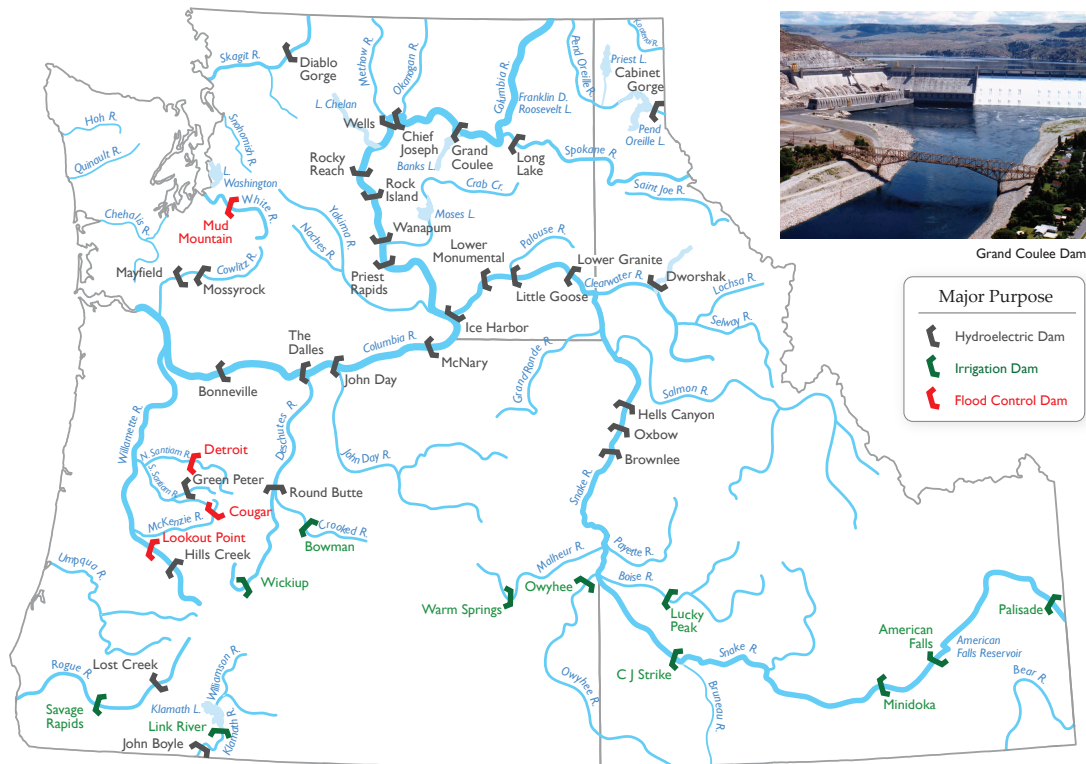


Figure 1. Dams of the Pacific Northwest, from *The Student Atlas of Oregon*, accessed October 1, 2014, <http://studentatlasoforegon.pdx.edu/PDFs/Map43.pdf>.



Figure 2. *American Progress*, John Gast, c.1872, Chromolithograph. accessed November 2, 2014, Wikimedia Commons, [http://en.wikipedia.org/wiki/Manifest\\_destiny#mediaviewer File:American\\_progress.JPG](http://en.wikipedia.org/wiki/Manifest_destiny#mediaviewer/File:American_progress.JPG).<sup>144</sup>

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<sup>144</sup> This painting (circa 1872) by John Gast called *American Progress*, is an allegorical representation of the modernization of the new west. Widely distributed as an engraving, it portrayed settlers moving west, guided and protected by Columbia (who represents America and is dressed in a Roman toga to represent classical republicanism) and aided by technology (railways, telegraph), driving Native Americans and bison into obscurity. It is also important to note that Columbia is bringing the "light" as witnessed on the eastern side of the painting as she travels towards the "darkened" west.



Figure 3. Lower Elwha Dam Under Construction, c.1911, Photograph. Burt Kellogg Collection. Courtesy of the North Olympic Library System, accessed April 5, 2014, <http://www.washingtonruralheritage.org/cdm/singleitem/collection/nols/id/129/rec/5>.



Figure 4. Upper Elwha (Glines Canyon) Dam Under Construction, c.1927, Photograph. Burt Kellogg Collection. Courtesy of the North Olympic Library System, accessed April 5, 2014, <http://www.washingtonruralheritage.org/cdm/singleitem/collection/nols/id/93/rec/17>.



Figure 5. Viewpoint of the Lower Elwha Dam site, 2014, Photograph. Courtesy of Jordan Woolston.



Figure 6. Colville men fishing from rocks, Kettle Falls, Washington, undated, Photograph. Courtesy of the University of Washington's Digital Collections, accessed November 1, 2014. <http://digitalcollections.lib.washington.edu/cdm/singleitem/collection/loc/id/480/rec/13>.



Figure 7. Colville Women pose in ceremonial dress at the Ceremony of Tears, c. 1939, Photograph. Courtesy of the University of Washington, digital collections, accessed November 4, 2014, <http://digitalcollections.lib.washington.edu/cdm/singleitem/collection/loc/id/544/rec/27>.

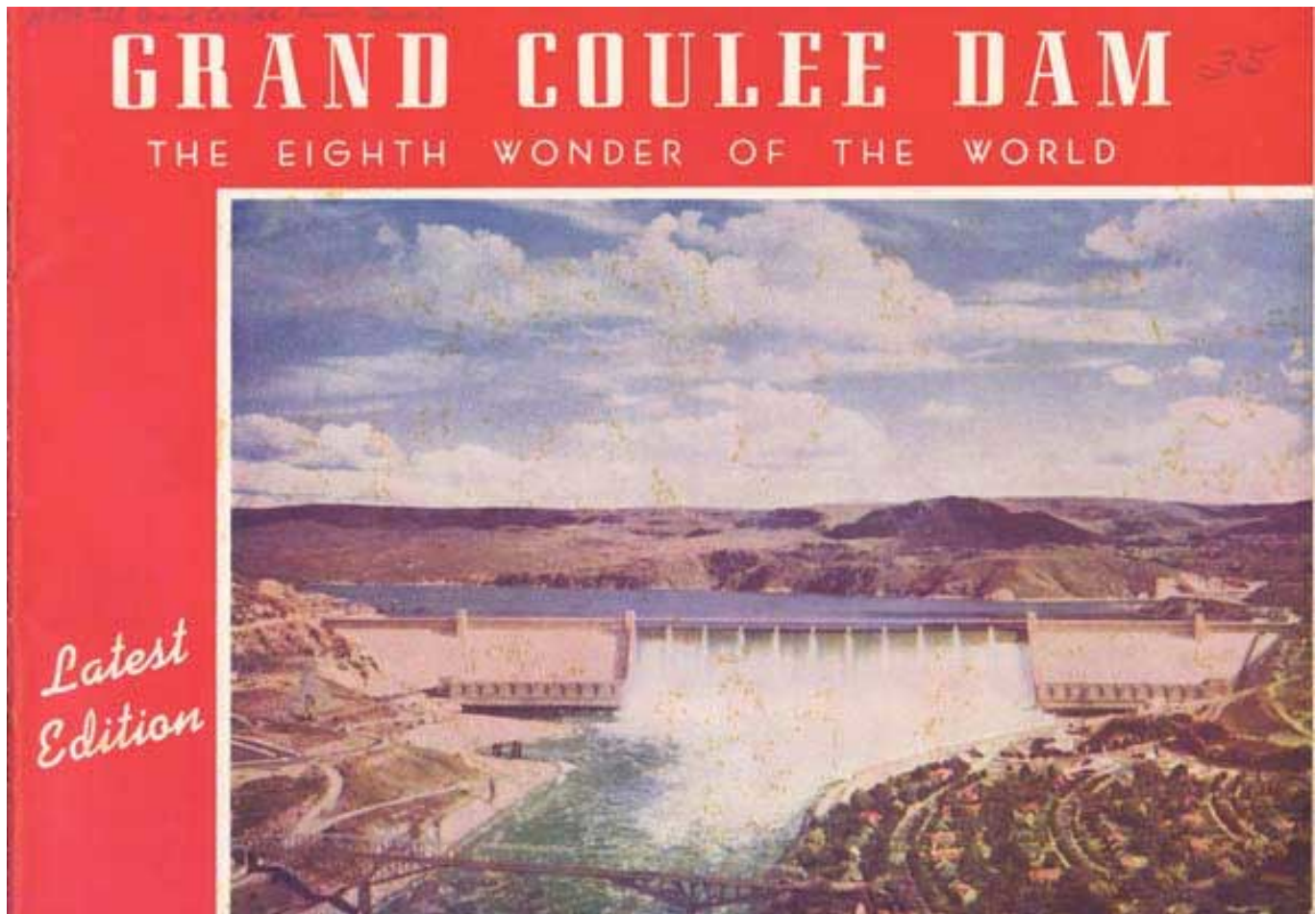


Figure 8. *Grand Coulee Dam: The Eighth Wonder of the World*, c.1947, Pamphlet. Courtesy of the University of Washington's Digital Collections, accessed October 1, 2014, <http://digitalcollections.lib.washington.edu/cdm/compoundobject/collection/grandcoulee/id/426/show/240>.

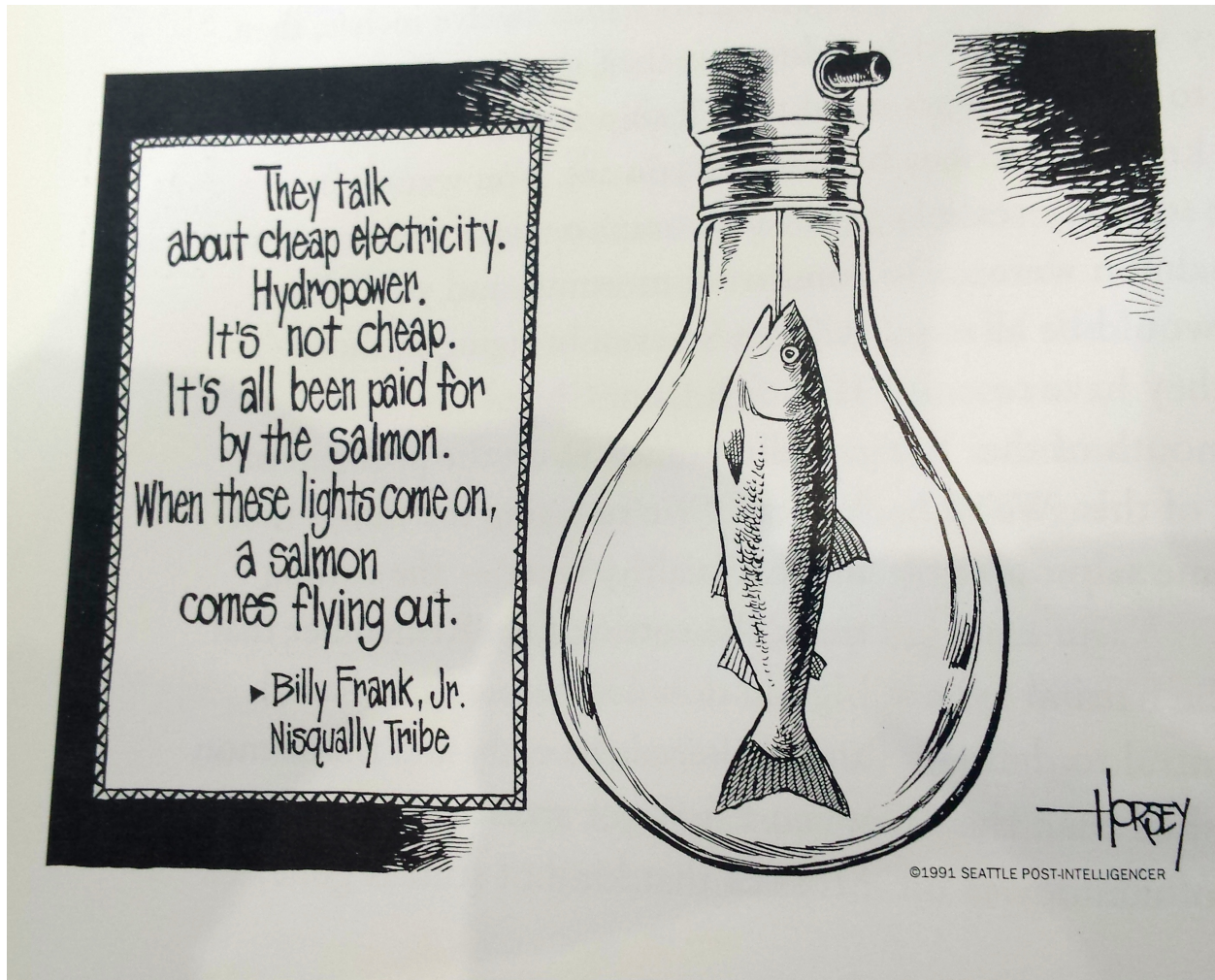


Figure 9. David Horsey, "They talk about cheap electricity," 1991, *Cited in Messages from Franks Landing: A Story of Salmon, Treaties and the Indian Way*, 2000, p.92.

## Bibliography

**Primary Sources**

*A Basic Call to Consciousness: The Hau de No Sau Nee Address to the Western World.* Geneva, Switzerland, Autumn 1977. Mohawk Nation, N.Y.: Akwesasne Notes, 1978.

Aldwell, Thomas T. "Guide to the Thomas T. Aldwell Papers 1890-1951." 2014. Accessed November 8, 2014. <http://digital.lib.washington.edu/findingaids/view?docId=AldwellThomasT4082.xml>.

American Rivers (Organization). *2013 Dam Removal Report.* <http://www.americanrivers.org/initiative/dams/projects/2013-dam-removals/>. Accessed April 20, 2014.

Columbia River Inter-Tribal Fish Commission. "Columbia River Salmon." 2014. Accessed November 1, 2014. <http://www.critfc.org/salmon-culture/columbia-river-salmon/>.

Columbia River Inter-Tribal Fish Commission, and Administration for Native Americans. Beaty, Roy E, *Cumulative Impacts on the Peoples of the Nez Perce, Yakama, Umatilla, and Warm Springs Indian Reservations from Construction and Operation of US Army Corps of Engineers' Dams in the Columbia River Basin Upstream of Bonneville Dam.* Portland, Ore.: Columbia River Inter-Tribal Fish Commission. 1999.

"Colvilles – Native People." Grand Coulee Dam Visitors Guide. Accessed November 9, 2014. <http://www.gcdvisitor.com/colvilles-native-people/>.

Confederated Tribes of the Colville Reservation. *Building Grand Coulee Dam: A Tribal Perspective.* 1979. Film. Accessed August 1, 2014. [http://www.colvilletribes.com/building\\_gcd\\_\\_\\_a\\_tribal\\_perspective\\_\\_3\\_3\\_.php](http://www.colvilletribes.com/building_gcd___a_tribal_perspective__3_3_.php).

Confederated Tribes of the Colville Reservation. *Grand Coulee Dam: The Dam's Tribal Impacts.* 1979. Film. Accessed August 1, 2014. [http://www.colvilletribes.com/the\\_dam\\_s\\_tribal\\_impacts\\_\\_1\\_.php](http://www.colvilletribes.com/the_dam_s_tribal_impacts__1_.php).

Confederated Tribes of the Colville Reservation. *The Price We Paid.* 1979. Film. Accessed August 1, 2014. [http://www.colvilletribes.com/the\\_price\\_we\\_paid\\_\\_2\\_2\\_.php](http://www.colvilletribes.com/the_price_we_paid__2_2_.php).

Darwin, Leslie H. *Thirtieth and Thirty-First Annual Reports of the State Fish Commissioner to the Governor of the State of Washington, April 1, 1919 to March 31, 1921* Olympia, Wa: Frank M. Lamborn, 1921.

Elofson, Robert, Interview with author. Port Angeles, Washington, May 5, 2014.

- “Elwha River Sees Largest Run of Chinook in Decades.” *The Seattle Times* (Seattle, WA), November 17, 2013. Accessed May 15, 2014. [localnews2022276484\\_apxelwhariversalmon.html](http://www.seattletimes.com/localnews/2022276484_apxelwhariversalmon.html).
- “History of Hydropower on the Elwha River.” *National Parks Conservation Association*. Accessed November 8, 2014. <http://www.npca.org/protecting-our-parks/air-land-water/great-waters/elwha-dam-history.html>.
- Jenkins, Jack. “Limbaugh: ‘If You Believe In God, Then Intellectually You Cannot Believe In Manmade Global Warming.’” 2014. Accessed November 11, 2014, <http://thinkprogress.org/climate/2013/08/14/2469341/limbaugh-christians-global-warming/>.
- Leach, Leah. “Elwha River Mouth Grows as Sediment Creates New Habitat, Estuaries.” *Peninsula Daily News* (Port Angeles, WA), November 1, 2014. Accessed November 1, 2014. <http://www.peninsuladailynews.com/article/20141102/NEWS/311029941/elwha-river-mouth-grows-as-sediment-creates-new-habitat-estuaries>.
- National Parks Service, U.S. Department of the Interior. “Timeline of the Elwha 1940 to 1992.” Accessed October 3, 2014. <http://www.nps.gov/olym/historyculture/timeline-of-the-elwha-1940-to-1992.htm>.
- Ortolano, Leonard, Katherine Kao Cushing, and World Commission on Dams. *Grand Coulee Dam and Columbia Basin Project USA: Final Report*. Cape Town, South Africa: World Commission on Dams, 2000.
- Spokane Tribe of Indians. *Grand Coulee Dam and The Forgotten Tribe*. Undated. Film. Accessed October 10, 2013. <http://www.spokanetribe.com/grand-coulee-dam>.
- U.S. Department of the Interior. “The Bureau of Reclamation-A Very Brief History.” Undated. Accessed November 1, 2014. <http://www.usbr.gov/history/borhist.html>.
- U.S. Fish and Wildlife Service. *The Elwha Report Restoration of the Elwha River Ecosystem & Native Anadromous Fisheries: A Report Submitted pursuant to Public Law 102-495*. Dept. of the Interior, National Park Service, U.S. Fish and Wildlife Service, Bureau of Reclamation, Bureau of Indian Affairs, Dept. of Commerce, National Marine Fisheries Service, Lower Elwha S’Klallam Tribe, 1994.
- “The Wrong Way to Restore Salmon.” Property and Environment Research Center. 2003. Accessed November 1, 2014. <http://perc.org/articles/wrong-way-restore-salmon>.

## Secondary Sources

- American Rivers (Organization), Friends of the Earth, and Trout Unlimited. *Dam Removal Success Stories: Restoring Rivers through Selective Removal of Dams That Don't Make Sense*. Washington, D.C., Seattle, WA, Arlington, Va., 1999.
- Babbitt, Bruce E. *Cities in the Wilderness: A New Vision of Land Use in America*. Washington, D.C.: Island Press/Shearwater Books, 2005.
- Berkes, F, J Colding, and C Folke. "Rediscovery of Traditional Ecological Knowledge as Adaptive Management." *Ecological Applications* 10 (2000): 1251–62.
- Berkin, Carol, Christopher Miller, Robert Cherny, and James Gormly. *Making America: A History of the United States, Volume 2: From 1865*. Boston, Cengage Learning, 2011.
- Bonneville Power Administration. "Multipurpose Dams of the Pacific Northwest, n/d. Accessed November 1, 2014. <https://www.bpa.gov/Power/pl/columbia/2-multi.htm>.
- Boyd, Colleen Elizabeth. "Changer Is Coming: History, Identity and the Land among the Lower Elwha Klallam Tribe of the North Olympic Peninsula." PhD diss., University of Washington, 2001.
- Brooks, Karl Boyd. *Public Power, Private Dams: The Hells Canyon High Dam Controversy*. Seattle: University of Washington Press, 2006.
- Brown, Bruce. *Mountain in the Clouds: A Search for the Wild Salmon*. New York: Simon and Schuster, 1982.
- Crane, Jeff. *Finding the River: An Environmental History of the Elwha*. Corvallis, OR: Oregon State University Press, 2011.
- Cronin, Amanda E., and David M. Ostergren. "Democracy, Participation, and Native American Tribes in Collaborative Watershed Management." *Society & Natural Resources* 20:6 (2007): 527–42. doi:10.1080/08941920701338059.
- Erikson, Kai, Christopher Vecsey, and Robert W Venables. *American Indian Environments: Ecological Issues in Native American History*. Syracuse: Syracuse University Press, 1980.
- Flanders, Nicholas E. "Native American Sovereignty and Natural Resource Management." *Human Ecology* 26:3 (1998): 425–49.

- Gorsline, Jeremiah. *Shadows of Our Ancestors: Readings in the History of Klallam-White Relations*. Port Townsend, WA: Empty Bowl, 1992.
- Gowan, C, K Stephenson, and L Shabman. "The Role of Ecosystem Valuation in Environmental Decision Making: Hydropower Relicensing and Dam Removal on the Elwha River." *Ecological Economics* 56: 4 (2006): 508–23.
- Grinde, Donald A. *Ecocide of Native America: Environmental Destruction of Indian Lands and Peoples*. Sante Fe, N.M.: Clear Light, 1995.
- Gunther, Erna. *Klallam Ethnography*. Seattle: University of Washington Press, 1927.
- Harden, Blaine. *A River Lost: The Life and Death of the Columbia*. New York: W.W. Norton, 1996.
- Hawley, Steven. *Recovering a Lost River: Removing Dams, Rewilding Salmon, Revitalizing Communities*. Boston: Beacon Press, 2011.
- Hughes, J. Donald. *North American Indian Ecology*. El Paso: Texas Western Press, 1996.
- Johnson, Jay T., and Brian Murton. "Re/placing Native Science: Indigenous Voices in Contemporary Constructions of Nature." *GEOR Geographical Research* 45:2 (2007) 121–29.
- Landry, Clay J. "The Wrong Way To Restore Salmon." *Perc Report* 21:2 (2003): 1-20. <http://perc.org/articles/wrong-way-restore-salmon>.
- Lichatowich, Jim. *Salmon without Rivers: A History of the Pacific Salmon Crisis*. Washington, D.C.: Island Press, 1999.
- Lovett, Richard A. "As Salmon Stage Disappearing Act, Dams May Too." *Science* 284: 5414 (1999): 574–75.
- Maybury-Lewis, David, Theodore Macdonald, Biorn Maybury-Lewis, and David Rockefeller Center for Latin American Studies. *Manifest Destinies and Indigenous Peoples*. Cambridge, Mass.: Harvard University Press, 2009.
- McKay, Kathryn L., and Nancy F. Renk. *Currents and Undercurrents: An Administrative History of Lake Roosevelt National Recreation Area, Grand Coulee*: U.S. Dept. of the Interior, National Park Service, 2002.
- McCully, Patrick. *Silenced Rivers: The Ecology and Politics of Large Dams*. London; Atlantic Highlands, N.J.: Zed Books, 1996.

- Minckley, W. L., and James E Deacon. *Battle Against Extinction: Native Fish Management in the American West*. Tucson: University of Arizona Press, 1991.
- Nerburn, Kent, and Louise Mengelkoch. *Native American Wisdom*. San Rafael, Calif: New World Library, 1991.
- Ortolano, Leonard, Cushing, Katherine Kao. "Grand Coulee Dam 70 Years Later: What Can We Learn?" *International Journal of Water Resources Development* 18:3 (2002): 373-90.
- Pitzer, Paul C. *Grand Coulee: Harnessing a Dream*. Pullman, Wash.: Washington State University Press, 1994.
- Pollak, Amanda, Rob Rapley, Stephen Ives, Michael Murphy, Peter Rundquist, Insignia Films, American Experience Films WGBH Public Broadcasting Service (U.S.) *Grand Coulee Dam*. Arlington, Va: PBS, 2012.
- Tomblin, D. "The Ecological Restoration Movement." *Organization & Environment*, 22:2 (2009): 185–207.
- Trosper, Ronald L. *Resilience, Reciprocity and Ecological Economics: Northwest Coast Sustainability*. New York: Routledge, 2009.
- Wilkinson, C. F. *Messages from Frank's Landing: A Story of Salmon, Treaties, and the Indian Way*. Seattle: University of Washington Press, 2000.
- Wray, Jacilee. *Native Peoples of the Olympic Peninsula: Who We Are*. Norman: University of Oklahoma Press, 2013.