

# Restoring the Skagit River Delta: Habitat Restoration and Farmland Reclamation on Fir Island

Wesley James Furlong

Follow this and additional works at: <http://scholarship.law.umt.edu/plrlr>

---

### Recommended Citation

Furlong, Wesley James (2017) "Restoring the Skagit River Delta: Habitat Restoration and Farmland Reclamation on Fir Island," *Public Land and Resources Law Review*: Vol. 38 , Article 6.

Available at: <http://scholarship.law.umt.edu/plrlr/vol38/iss1/6>

This Article is brought to you for free and open access by The Scholarly Forum @ Montana Law. It has been accepted for inclusion in Public Land and Resources Law Review by an authorized editor of The Scholarly Forum @ Montana Law.

## **Restoring the Skagit River Delta: Habitat Restoration and Farmland Reclamation on Fir Island**

**Wesley James Furlong\***

I.	INTRODUCTION .....	104
II.	HISTORY, ECOLOGY, AND CULTURE OF THE SKAGIT RIVER DELTA....	
	.....	108
	A. From Estuary to Farmland .....	108
	B. The Course of the River .....	114
	C. Lifecycles of Salmon .....	116
	D. The Salmon People .....	120
III.	THE RIGHTS TO FISH AND HABITAT PROTECTION .....	124
	A. The Right of Taking Fish.....	126
	B. A Right to Habitat Protection .....	129
IV.	HABITAT RESTORATION AND FARMLAND RECLAMATION ON FIR	
	ISLAND .....	133
	A. The Skagit Chinook Recovery Plan.....	135
	B. Wiley Slough Estuarine Restoration Project.....	137
	C. Fir Island Farms Estuary Restoration Project .....	138
	D. Fisher Slough Restoration Project .....	141
	E. North Fork Levee Setback Project.....	142
V.	CONCLUSION—WHAT IS SUCCESS FOR FUTURE HABITAT	
	RESTORATION PROJECTS?.....	143

---

\* Alaska Fellow/Staff Attorney, Native American Rights Fund, Anchorage, Alaska; J.D. 2016, Alexander Blewett III School of Law at the University of Montana, Certificate in American Indian Law, Certificate in Natural Resource and Environmental Law. I would like to thank the Board of Editors and the Staff of the *Public Land & Resources Law Review* for publishing this article. I was born and raised on Fir Island, just a stone’s throw away from the habitat restoration projects discussed in this article. I grew up in this community, surrounded by the people, values, and visions that have shaped habitat restoration on Fir Island. This article reflects my experiences, values, aspirations, and commitment to and for this landscape and community; this article is about my home. Most importantly, I also would thank my parents for having the good sense to raise our family in such a profound place. The views and opinions expressed in this article are solely mine and do not necessarily reflect the views and opinions of the Native American Rights Fund or its clients.

*As we honor the Spirit of the Salmon,  
the First People gave thanks to  
the Creator for informing us that  
“The Earth is our first teacher!”  
may humans learn to study and listen  
to our first teacher so we may all survive  
and together honor Earth’s gifts.*

—taq<sup>w</sup>šəblu (Vi Hilbert)<sup>1</sup>

## I. INTRODUCTION

The salmon are dying. Today, of the thirty-seven historic Chinook salmon runs in the State of Washington, only twenty-two remain.<sup>2</sup> The Puget Sound Partnership<sup>3</sup> cautions that those remaining twenty-two Chinook salmon runs are at only ten percent of their historic levels, with some falling below one percent.<sup>4</sup> In Washington, fifteen distinct runs of salmonids are listed as either threatened or endangered under the Endangered Species Act (“ESA”).<sup>5</sup> Chinook salmon are listed as threatened throughout the entire Puget Sound.<sup>6</sup> The Washington State

---

1. FIRST FISH, FIRST PEOPLE: SALMON TALES OF THE NORTH PACIFIC RIM 15 (Judith Roche & Meg McHutchison, eds. 1998) (quoting Vi [taq<sup>w</sup>šəblu] Hilbert).

2. Puget Sound P’ship, *Salmon Recovery Status*, STATE OF WASH., <http://www.psp.wa.gov/salmon-recovery-status.php> (last visited Jan. 28, 2017).

3. The Puget Sound partnership is a Washington State agency tasked with the preservation and restoration of Puget Sound. See Puget Sound P’ship, *About the Partnership*, STATE OF WASH., <http://www.psp.wa.gov/puget-sound-partnership.php> (last visited Jan. 28, 2017).

4. Puget Sound P’ship, *Salmon Recovery*, *supra* note 2.

5. See NOAA Fisheries, *Status of EAS Listings & Critical Habitat Designations for West Coast Salmon & Steelhead*, NAT’L OCEANIC & ATMOSPHERIC ADMIN. (July 2016), [http://www.westcoast.fisheries.noaa.gov/publications/gis\\_maps/maps/salmon\\_steelhead/critical\\_habitat/wcr\\_salmonid\\_ch\\_esa\\_july2016.pdf](http://www.westcoast.fisheries.noaa.gov/publications/gis_maps/maps/salmon_steelhead/critical_habitat/wcr_salmonid_ch_esa_july2016.pdf); see 16 U.S.C. §§ 1531-1544 (2012).

6. Recreation & Conservation Office, *Salmon Species Listed Under the Federal Endangered Species Act*, STATE OF WASH. (July 2009), [http://www.rco.wa.gov/salmon\\_recovery/listed\\_species.shtml](http://www.rco.wa.gov/salmon_recovery/listed_species.shtml). Threatened salmonid runs include: Bull trout (Columbia River, Coastal/Puget Sound); Chinook salmon (Lower Columbia River, Puget Sound, Snake River spring/summer and fall runs); Chum salmon (Hood River summer run, Columbia River); Coho salmon (Lower Columbia River); Sockeye salmon (Lake Ozette); and Steelhead (Lower, Middle, and Upper Columbia River, Puget Sound, Snake River). *Id.* Endangered runs

Recreation and Conservation Office has identified eight major contributing factors to the decline in salmon.<sup>7</sup> Of these eight factors, most pertain to habitat: “[l]oss, fragmentation, and destruction of salmon habitat”; “[l]and uses that pollute waterways and degrade habitat”; “[d]ams”; “[f]luctuating marine conditions”; and “[c]limate change.”<sup>8</sup> In response to the drastic decline in salmon fisheries in Washington waters, the Nisqually (dx<sup>w</sup>sq<sup>w</sup>aliʔabš) Indian Tribe, for the first time ever, made a “historic” decision “to totally forgo their [2017] chum [salmon] season.”<sup>9</sup>

The worsening effects of human-caused habitat destruction and climate change will continue to destroy the fragile ecosystems across Puget Sound and the Salish Sea.<sup>10</sup> “Climate change is expected to have

---

include: Chinook salmon (Upper Columbia River spring run); and Sockeye salmon (Snake River). *Id.*

7. Recreation & Conservation Office, *Salmon Recovery in Washington*, STATE OF WASH., [http://www.rco.wa.gov/salmon\\_recovery/index.shtml](http://www.rco.wa.gov/salmon_recovery/index.shtml) (last visited Jan. 28, 2017).

8. *Id.* The remaining causes are identified as over fishing, competition for hatchery-raised fish, and increased predation. *Id.*

9. *Nisqually Tribe (Among Others) Closes Fishery to Protect Salmon*, NW. TREATY TRIBES (Jan. 26, 2017), <http://nwtreatytribes.org/nisqually-tribe-among-others-closes-fishery-protect-salmon/>. The Tulalip Tribe of Indians also did not open their Coho fishery in the fall of 2016. *Id.* The Tulalip (dx<sup>w</sup>lilap) Tribes is a confederation of Snohomish (sduhúbš), Snoqualmie (sduk<sup>w</sup>álbix<sup>w</sup>), Skagit (sqáʔət), Suiattle (suyáʔbix<sup>w</sup>), Samish (sʔéməš), and Stillaquamish (stúləg<sup>w</sup>ábš) tribes and “allied bands.” *Who We Are*, TULALIP TRIBES, <https://www.tulaliptribes-nsn.gov/Home/WhoWeAre.aspx> (last visited Feb. 22, 2017).

10. While this article focuses primarily on estuarine salmon habitat, the upland habitat relied on by spawning and juvenile salmon is facing dramatic changes. The cold, glacier fed streams essential to egg and fry survival are warming; since 1920, the average temperature of these mountain streams has risen 1.5 degrees Fahrenheit. NAT’L WILDLIFE FED’N, *FACING THE STORM: INDIAN TRIBES, CLIMATE-INDUCED WEATHER EXTREMES, AND THE FUTURE FOR INDIAN COUNTRY* 21 (2011) (on file with author). By 2080, the average temperature is predicted to rise to 70 degrees Fahrenheit, a temperature lethal to eggs and fry. Katie Campbell & Saskia de Melker, *Northwest ‘Salmon People’ Face Future with Less Fish*, PBS NEWSHOUR (July 18, 2012), [http://www.pbs.org/newshour/updates/climate-change-july-dec12-swinomish\\_07-18/](http://www.pbs.org/newshour/updates/climate-change-july-dec12-swinomish_07-18/). Between 2050 and 2100, the Environmental Protection Agency predicts at least half of salmon stream habitat will be destroyed by climate change. NAT’L WILDLIFE FED’N, *supra* note 10, at 21 (citing OFFICE OF POLICY, PLANNING & EVALUATION, CLIMATE CHANGE DIV., ENVTL. PROT. AGENCY, *ECOLOGICAL IMPACTS FROM CLIMATE CHANGE: AN ECONOMIC ANALYSIS OF FRESHWATER RECREATIONAL FISHING*, EPA-220-R-95-004 2-47 Exhibit 2-27 (1995) (on file with author)). With rising temperatures and more rapid snowpack melt, increased flooding accelerates up-stream sedimentation and scours away the gravel creek beds necessary for egg incubation and fry survival. *Id.*

significant physical impacts along the coast and estuarine shorelines of the Northwest.”<sup>11</sup> Its impacts will include increased erosion, rising sea levels, changes in ocean salinity, and de-sedimentation of coastal habitats.<sup>12</sup> “Physical changes to coastal wetlands, tidal flats, and beaches may have significant ecological implications for the fish and wildlife species they support.”<sup>13</sup> Tidal estuarine marshes are fundamental to the development and survival of juvenile salmon.<sup>14</sup>

Nearshore ecosystems play a critical role in the life cycle of anadromous fish<sup>15</sup> (e.g., [sic] salmon), many of which use coastal marshes and riparian areas for feeding and refuge as they transition between their freshwater and ocean life stages. At particular risk are juvenile chum (*Onchoryncus keta*) and Chinook (*Onchoryncus tshawytscha*) salmon, which are considered to be the most estuarine-dependent species.<sup>16</sup>

While “[c]ostal habitats may be able to accommodate, to some extent, moderate changes in sea levels by migrating inland . . . [,] the opportunity for inland migration has been considerably reduced by the development of dikes, seawalls, and other forms of armoring structures.”<sup>17</sup> The loss of this critical estuarine habitat negatively impacts the development of salmon and their chances of survival as they move to the open ocean.<sup>18</sup>

---

11. MEGHAN M. DALTON, PHILIP W. MOTE & AMY K. SNOVER, CLIMATE CHANGE IN THE NORTHWEST: IMPLICATIONS FOR OUR LANDSCAPE, WATERS AND COMMUNITIES 77 (2013) (on file with author).

12. *Id.* at 77–78.

13. *Id.* at 78.

14. SKAGIT RIVER SYS. COOP., NAT’L. OCEANIC AND ATMOSPHERIC ADMIN. FISHERIES & U.S. GEOLOGICAL SURVEY W. FISHERIES RES. CTR., DELTA AND NEARSHORE RESTORATION FOR THE RECOVERY OF WILD SKAGIT RIVER CHINOOK SALMON: LINKING ESTUARY RESTORATION TO WILD CHINOOK SALMON POPULATIONS 19 (Oct. 24, 2005) [hereinafter SKAGIT CHINOOK RECOVERY PLAN: APPX. D ESTUARY] (on file with author).

15. Anadromous fish are fish species that move from fresh water habitats to salt water habitats and back over their lifecycle. Dep’t of Fish & Wildlife, *Salmon and Steelhead Life Cycle and Habitat Information*, STATE OF WASH., [http://wdfw.wa.gov/conservation/habitat/spawningbed\\_protection/lifecycle.html](http://wdfw.wa.gov/conservation/habitat/spawningbed_protection/lifecycle.html) (last visited Mar. 7, 2017).

16. DALTON, MOTE & SNOVER, *supra* note 11, at 78.

17. *Id.*

18. SKAGIT RIVER SYS. COOP. & WASH. DEP’T OF FISH & WILDLIFE, SKAGIT CHINOOK RECOVERY PLAN 18 (2005) [hereinafter SKAGIT CHINOOK

In response to the declining salmon fisheries, stakeholders from across Puget Sound came together to develop a shared strategy “[t]o recover self-sustaining, harvestable salmon runs in a manner that contributes to the overall health of Puget Sound and its watersheds.”<sup>19</sup> This collaboration created the Puget Sound Salmon Recovery Plan, and fourteen watershed-specific plans for each major watershed within Puget Sound.<sup>20</sup> One strategy to recover Chinook salmon is to “[r]estore processes and habitats in and near estuarine deltas where salmon populations first encounter tides and salt water”<sup>21</sup> by “[a]dd[ing] significant new estuarine habitat and restor[ing] processes in and near estuarine deltas.”<sup>22</sup>

One microcosm of the development, habitat destruction, climate change impacts, and the implementation of the Puget Sound Salmon Recovery Plan’s habitat restoration strategy is Fir Island. A small farming community north of Seattle, Washington, Fir Island was formed by the diking and draining of the Skagit River delta. Under the Skagit Chinook Recovery Plan,<sup>23</sup> one of the watershed-specific restoration plans of the Puget Sound Salmon Recovery Plan, three habitat restoration projects have already been completed on and adjacent to Fir Island: the Wiley Slough Estuarine Restoration Project (“Wiley Slough Project”), completed in 2009;<sup>24</sup> the Fir Island Farms Estuary Restoration Project (“Fir Island Farms Project”), completed in 2016;<sup>25</sup> and the Fisher Slough

---

RECOVERY PLAN] (on file with author) (“The consequences of poor habitat conditions in an earlier life stage (e.g., [sic] a limitation in delta capacity for delta rearing juvenile Chinook), may be observed later in the salmon’s life cycle. . . . Higher or more dynamic mortality rates in marine environments may be caused or exacerbated by poor or limiting habitat conditions occurring earlier in the salmon life cycle.”).

19. 1 SHARED STRATEGIES DEV. COMM., PUGET SOUND SALMON RECOVERY PLAN 11 (Jan. 19, 2007) [hereinafter PUGET SOUND SALMON RECOVERY PLAN] (on file with author) (“The Shared Strategy for Puget Sound is a collaborative initiative built on the foundation of local efforts, supported by leaders from all levels of government and sectors of [the] communit[y].”).

20. See Puget Sound P’ship, *Watershed Recovery Plans*, STATE OF WASH., <http://www.psp.wa.gov/salmon-watershed-recovery-plans.php> (last visited Jan. 28, 2017).

21. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 374.

22. *Id.* at 375.

23. See SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18.

24. Kari Neumeyer, *Breakthrough Week in Tribal Estuary Restorations*, NW. INDIAN FISHERIES COMM’N (Aug. 20, 2009), <https://nwifc.org/breakthrough-week-in-tribal-estuary-restorations>.

25. Kimberly Cauvel, *Fir Island Dike Breach Pivotal Moment for Fish Project*, SKAGIT VALLEY HERALD (Aug. 1, 2016), <http://www.goskagit.com/>

Restoration Project (“Fisher Slough Project”), completed in 2011.<sup>26</sup> Together, these three projects have restored 351 acres of tidal and estuarine emergent marsh salmon habitat from reclaimed farmland.<sup>27</sup> With these three projects complete, and more slated for the near future, understanding how and why these projects were successful will inform the successful implementation of future projects.

Cooperative habitat restoration is an essential element of recovering Puget Sound Chinook salmon, and protecting the people, cultures, and identities that rely on them. This article begins by examining the history, ecology, and culture of the Skagit River delta, its salmon, and its people. It then discusses the right to fish and the legal premise for broad habitat restoration action. Next, it examines how habitat restoration has been implemented on Fir Island. Finally, it concludes with a discussion of future challenges to habitat restoration goals and a brief discussion of the cultural significance of habitat restoration on Fir Island. To be clear, this article is not a critique of the Puget Sound Recovery Plan. This article focuses on three projects, their place in the Skagit River and Puget Sound recovery plans, what contributed to their success, and how they can be modeled for success in the future.

## II. HISTORY, ECOLOGY, AND CULTURE OF THE SKAGIT RIVER DELTA

### A. From Estuary to Farmland

Nestled between the North and South Forks of the Skagit River at its confluence with the Salish Sea, Fir Island is the image of the

---

news/fir-island-dike-breach-pivotal-moment-for-fish-project/article\_00d104a4-4477-5a6f-bb53-fba589ac095e.html; *Fir Island Farms Estuary Restoration Project*, WASH. DEP’T OF FISH & WILDLIFE, [http://wdfw.wa.gov/lands/wildlife\\_areas/skagit/fir\\_island\\_estuary\\_restoration.php](http://wdfw.wa.gov/lands/wildlife_areas/skagit/fir_island_estuary_restoration.php) (last visited Mar. 20, 2017).

26. Kimberly Cauvel, *Fisher Slough: Successful Salmon Recovery Becomes a Community Effort*, SKAGIT VALLEY HERALD (Apr. 13, 2014), [http://www.goskagit.com/all\\_access/fisher-slough-successful-salmon-recovery-becomes-a-community-effort/article\\_b2f30bcf-f64e-5b05-a617-5457f3b8287c.html](http://www.goskagit.com/all_access/fisher-slough-successful-salmon-recovery-becomes-a-community-effort/article_b2f30bcf-f64e-5b05-a617-5457f3b8287c.html).

27. The Wiley Slough Project restored 160 acres of estuarine marsh, *see infra* IV.B; the Fir Island Farm Project restored 131 acres of estuarine marsh, *see infra* IV.C; and the Fisher Slough Project restored 60 acres of tidal marsh. *See infra* IV.D. Another project on Fir Island, the North Fork Levee Setback Project is in its planning stages. *See* Recreation & Conservation Office, *North Fork Skagit Acquisition and Feasibility*, STATE OF WASH., <https://secure.rco.wa.gov/prism/search/projectsnapshot.aspx?ProjectNumber=13-1059> (last visited Mar. 18, 2017).

American pastoral: 9,900 acres of pristine farmland. The triangular island is bounded on two sides by the Skagit River and on the third by Skagit Bay. Today, ten-foot-tall earthen and gravel dikes hold these waters back.<sup>28</sup> In the spring, as the frequent grey rains are punctuated by stunningly clear days, green John Deere tractors lumber across freshly tilled fields, upturning the rich, dark, pungent soil. If you talk to the potato and feed corn farmers who have farmed this land for generations, they will tell you that this soil is the best in the world. By the Fourth of July, the corn is knee high, tufts of potatoes push their way out of long rows of neat dirt mounds, cow grass covers the dormant fields, and dairy cows swat away flies as they chew their cud. By the early days of fall, as the shadows grow long, and evening light wearily pushes back against the grey, the crops are harvested. Fall sets in as “trombone[s] of geese slide[] southward between the overcast and the barns. Up river, there is a chill in the weeds. Old trucks and tractors rusting among the stumps seem in autumn especially forlorn.”<sup>29</sup>

As Tom Robbins observed:

At any season, it is a dry duck’s dream. The forks of the river are connected by a network of sloughs, bedded with ancient mud and lined with cattail, tules, eelgrass and sledge. The fields, though diked, are often flooded; there are puddles by the hundreds and the roadside ditches could be successfully navigated by midget submarines. . . . It is a landscape in a minor key. A sketchy panorama where objects, both organic and inorganic, lack well-defined edges and tend to melt together in a silver-green blur.<sup>30</sup>

But, next to the fields, the island’s past remains, hidden just behind the reeds.

Prior to White settlement in Skagit Valley, beginning in the early 1860s,<sup>31</sup> Fir Island was just one small part of the Skagit River’s vast

---

28. Timothy Egan, *Fir Island Journal; A Peace with the River on its Terms*, NY TIMES (Nov. 18, 1991), <http://www.nytimes.com/1991/11/18/us/fir-island-journal-a-peace-with-the-river-on-its-terms.html>.

29. Tom Robbins, *Another Roadside Attraction*, in NORTHWEST PASSAGES: A LITERARY ANTHOLOGY OF THE PACIFIC NORTHWEST FROM COYOTE TALES TO ROADSIDE ATTRACTIONS 250, 253 (Bruce Barcott, ed. 1994).

30. *Id.* at 251.

31. JAMES E. STEWART & G. LAWRENCE BODHAINE, FLOODS IN THE SKAGIT RIVER BASIN, WASHINGTON 1 (1961) (on file with author).

delta; stretching from Samish Bay in the north, across the Samish River and Olympic Marsh, around Bayview Ridge and to Padilla Bay in the west, and then south through Avon and Mount Vernon to Skagit City, Fir Island, and Skagit Bay.<sup>32</sup> It was the homeland territory of seven northern Lushootseed-speaking southern Coastal Salish Indigenous peoples.<sup>33</sup> Today, Skagit Valley is a landscape transformed by agriculture—tulip, dairy, and berry country.

Before its transformation, the Skagit River delta stretched across 71,413 acres;<sup>34</sup> the majority of which “was perennially wet.”<sup>35</sup> The Skagit River delta is the largest tidal delta in Puget Sound.<sup>36</sup> Salt water marshes and soughs once covered 28.5 percent of the delta (roughly 20,352 acres), while freshwater marshes and sloughs once covered 24.6 percent of the delta (roughly 17,567 acres).<sup>37</sup> Just under half of the freshwater marsh was forested.<sup>38</sup> The parts of the delta that were not

---

32. See generally BRIAN COLLINS, PRELIMINARY ASSESSMENT OF HISTORIC CONDITIONS OF THE SKAGIT RIVER IN THE FIR ISLAND AREA: IMPLICATIONS FOR SALMONID HABITAT RESTORATION 9, fig. 1 (Aug. 31, 1998) (on file with author).

33. See generally Wayne Suttles & Barbara Lane, *Southern Coast Salish*, in 7 HANDBOOK OF NORTH AMERICAN INDIANS: NORTHWEST COAST 485, 485–502 (Wayne Suttles, ed. 1990). Prior to White settlement, the Skagit River delta and watershed was home to a number of district groups of indigenous peoples, including: the Nuwaha (dx<sup>w</sup>?áha), known today as the (Upper) Samish; the Swinomish (swədəbš); and the Nookachamps (dúq<sup>w</sup>əčəbš), Mesekwegwils (bshík<sup>w</sup>hig<sup>w</sup>ilc), Chobaabish (čúbə?əbš), Smaliwhu (sbáli?x<sup>w</sup>), and Miskaiwhu (bəsqíx<sup>w</sup>ix<sup>w</sup>), all known today as the Upper Skagit. *Id.* at 486–88. The upper reaches of the Skagit River watershed was home to the Sauk (sá?k<sup>w</sup>bix<sup>w</sup>) and Suiattle (suyá?bix<sup>w</sup>), in present-day Washington, *id.*, and the Upper Smelqmix (Upper Similkameen Band), Stó:lō, Scw’emx (Nicola), and Nlaka’pamux (Thompson), in present-day British Columbia. C.V. ARMSTRONG, SKAGIT RIVER WATERSHED: BACKGROUND REPORT 4 (Mar. 19, 2007) (on file with author).

34. COLLINS, *supra* note 32, at 7. Historic accounts of the area the Skagit River delta covered vary. While Brian Collins, relying on maps created by the General Land Office (“GLO”), based on in-person measurements, places the historic extent of the freshwater marshes at 17,567 acres, Eldrige Morse, a contemporary observer, estimated that the freshwater marshes covered 40,000 acres. *Id.* at 7 n.6. Morse also estimated that the salt water marshes covered 32,000 acres, while the GLO mapped them to cover only 20,352 acres. *Id.*

35. *Id.* at 7.

36. CORREIGH M. GREENE & ERIC M. BEAMER, MONITORING OF POPULATION RESPONSES BY SKAGIT RIVER CHINOOK SALMON TO ESTUARY RESTORATION 2 (2005) [hereinafter SKAGIT CHINOOK RECOVERY PLAN: APPX. E IMW] (on file with author).

37. COLLINS, *supra* note 32, at 7.

38. *Id.*

perennially wet, however, “were covered ‘with dense forests, principally of fir, cedar, cottonwood and spruce, alder and ash abounding in the river bottoms, and cottonwood along its banks.’”<sup>39</sup> Today, the marshes no longer extend across the historic delta, and are instead confined to the nearshore areas and the mouth of the Skagit River at Fir Island. Eighty to ninety percent of these historic estuarine emergent and freshwater marshes have been lost.<sup>40</sup>

Before the farmers and tractors, Fir Island was a diverse, thriving ecosystem, not contained by the forks of the Skagit River and the Salish Sea; it rather softly transitioned between terrestrial and aquatic, a place where the line between wet and dry was always blurred. The upland reaches of the delta, at the fork in the river, was 4,500 acres of “tidally-influenced forest wetland”; a sparse forest of firs, intertwined with sloughs and channels filled with brackish tidal water, lined with reeds and cattails.<sup>41</sup> Heading seaward, towards Skagit Bay, another 4,500 acres defined the “transition zone,” an “open tide marsh prairie.”<sup>42</sup> Much like the upland forest, “fingers of tidally-dominated marsh along blind channels” wove their way upland and into the forest like a Jackson Pollock.<sup>43</sup> Finally, the transition zone gave way to 1,500 acres of estuarine emergent marsh;<sup>44</sup> a brackish tide marsh punctuated by woody plants, reeds, and grasses that thrive in the constant inconstancies of their habitat: the endless flood and retreat of salt water.<sup>45</sup> The soft clash of

---

39. *Id.* (quoting D. M. NESBIT, TIDE MARSHES OF THE UNITED STATES, U.S. DEPARTMENT OF AGRICULTURE MISCELLANEOUS SPECIAL REPORT (1885) (quoting account of Eldridge Morse)).

40. SKAGIT CHINOOK RECOVERY PLAN: APPX E IMW, *supra* note 36, at 2.

41. COLLINS, *supra* note 32, at 16–17.

42. *Id.* at 16.

43. *Id.* at 17.

44. *Id.* at 12, 16.

45. An estuarine emergent marsh is a tidal marsh “characterized by erect, rooted, herbaceous hydrophytes. *Wetland Mapping Training*, U.S. FISH & WILDLIFE SERV., [https://www.fws.gov/habitatconservation/nwi/wetlands\\_mapping\\_training/module2/CSD14.html](https://www.fws.gov/habitatconservation/nwi/wetlands_mapping_training/module2/CSD14.html) (last visited Nov. 5, 2016). A hydrophyte is “any plant living in water or on a substrate that is at least periodically anaerobic due to excess water,” including “woody plants and herbs.” Ralph W. Tiner, *The Concept of a Hydrophyte for Wetland Identification: Individual Plants Adapt to Wet Environments*, 41:4 BIOSCIENCE 236, 238 (1991), available at [https://www.fws.gov/northeast/EcologicalServices/pdf/wetlands/Concept%20of%20a%20hydrophyte%20for%20wetland%20identification\\_FWS-scan.pdf](https://www.fws.gov/northeast/EcologicalServices/pdf/wetlands/Concept%20of%20a%20hydrophyte%20for%20wetland%20identification_FWS-scan.pdf).

wetland forest, tide marsh prairie, estuarine marsh, river, and open bay “creat[ed] a mosaic of wetlands and cannels.”<sup>46</sup>

In 1863, the first dikes were built along the Skagit River to protect the newly claimed farmland on Fir Island.<sup>47</sup> As early as 1871, logging began on Fir Island and along the lower reaches of the Skagit River.<sup>48</sup> By the end of the 1880s, most of Fir Island was diked, drained, and claimed for agriculture.<sup>49</sup> Nevertheless, the blind channels and sloughs that crisscrossed Fir Island before its transformation remained connected to the Skagit River and Skagit Bay.<sup>50</sup> It was not until the twentieth century that these sloughs were finally blocked off, the last being Wiley Slough sometime after 1958.<sup>51</sup> The continued history of diking along the Skagit River and Skagit Bay vastly “diminished the area of tidal marsh” along Fir Island.<sup>52</sup>

Before it was farmland, Fir Island provided the perfect habitat for juvenile salmon to grow and prepare for ocean life; the blind tidal channels, estuarine transition zones, and the scrub-shrub marsh offered habitat, protection, and food.<sup>53</sup> With the Skagit Valley’s transition to an agrarian landscape, these habitats were lost. Nevertheless, “[b]ecause of the large loss of the area of blind tidal channels, there is a great potential to restore the quality of physical salmonid habitat by restoring these tidal channels, which are predominantly in the transition zone.”<sup>54</sup>

---

46. SKAGIT CHINOOK RECOVERY PLAN: APPX. D ESTUARY, *supra* note 14, at 9 (“The tidal estuarine zone (tidal delta in the case of the Skagit) includes the channeled emergent and scrub-shrub marshes where freshwater mixes with salt water. Within these areas a diversity of estuarine habitats are (or were) formed and maintained tidal riverine processes, creating a mosaic of wetlands and channels.”); SHANNON & WILSON, INC., FIR ISLAND SNOW GOOSE RESERVE RESTORATION FEASIBILITY STUDY 11 (Dec. 30, 2011) [hereinafter FIR ISLAND FARMS STUDY] (on file with author) (“Downstream from the vegetated areas of the Delta, a complex mosaic of unvegetated, braided tidal channels, sand bars, and mudflat areas exist that extend southward into . . . Skagit Bay.”).

47. COLLINS, *supra* note 32, at 27.

48. *Id.*

49. *Id.*

50. *Id.*

51. *Id.* at 32.

52. *Id.*

53. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 39.

54. *Id.* at iii (“Restoration opportunities include allowing tidal channels to redevelop in diked-off areas by reopening these areas to tidal influence. It is also possible that restoring the supply of sediment to the marsh on the delta front (i.e. [sic] between the two forks) would allow now-eroding saltmarsh in the estuarine emergent zone to rebuild. There is also a large potential to restore habitat quantity by restoring flow to those distributary sloughs that were blocked by dikes—the

Many residents of Fir Island are adamantly opposed to habitat restoration projects.<sup>55</sup> Fir Island is a farming community. Most farmers in Skagit Valley and on Fir Island today continue a generations-old family tradition.<sup>56</sup> Farming is their way of life, their livelihood, and their identity. Habitat restoration projects that rely on reclaiming farmland are an obvious and understandable challenge to their way of life, livelihood, and identity.<sup>57</sup> Opposition to habitat restoration is further driven by a deep-seated anti-Indian sentiment that is pervasive in Skagit Valley.<sup>58</sup> Without community support, the habitat restoration projects discussed in

---

interior sloughs on Fir Islands, and sloughs in the deltas of the North and South forks. Opportunities to restore the quality of habitat include increasing the supply of large woody debris.”).

55. See, e.g., WASH. DEP’T OF FISH & WILDLIFE, FIR ISLAND FARM RESTORATION FEASIBILITY STUDY: COMMENT TRACKING TABLE 1, 2 (n.d.) [hereinafter COMMENT TRACKING TABLE] (“I hunt, bird watch and fish and feel hunters have given up enough land to salmon restoration with the Headquarters Project [Wiley Slough Project] that has not been replaced for hunting as promised by the state.” (comment 27, Scott Witman, July 2, 2011)); *id.* at 3 (“We should leave Fir Island the way it is. It has some of the best farmland in the world. The fish and geese have plenty of reserve land on the game range [Wiley Slough Project]. This farmland is irreplaceable. We have some flooding issues but nothing compared to other areas that have tornadoes, etc. We very rarely suffer from crop failures and food is getting scarce.” (comment 30, Fred Folkertsma, July 2, 2011)); *id.* (“Against turning productive farmland into wetland. Important to have farmland to feed the people.” (comment 33, Bill Summers, July 13, 2011)).

56. See, e.g., *History*, WASH. LETTUCE & VEGETABLE CO./HUGHES FARMS, <http://www.walettuce-hughesfarms.com/meet-the-team> (last visited Mar. 18, 2017) (“Hughes Farms is a fourth generation farm in the Skagit Valley founded by Lowell Hughes in the mid-1920s. Over the years he passed the farm over to his son Jim, and his four boys. Today, Lowell’s grandsons Dave, Tom, Jeff and Bob and his great grandson, Michael are the key players behind Hughes Farms.”).

57. Of course, this coin is two-sided, as the diking, engineering, and agriculturalization of the Skagit River delta was cataclysmic to Indigenous lifeways, culture, and identity. For Indigenous communities throughout the Pacific Northwest, habitat restoration is part of an effort to preserve their identity, culture, way of life, and livelihood.

58. See, e.g., COMMENT TRACKING TABLE, *supra* note 55, at 2 (“We don’t feel we or anyone on Fir Island should give up anything until the tribes are controlled from fishing like they do today. Seasons closed or open, day or night, they haul out fish totes all day and night from the boat houses across from our house. We know what they are doing.” (comment 17, Eunice Summers, July 2, 2011)); see also Charles Tanner, Jr., *Bigotry, Calls for Violence, Following Protest of Tribal Treaty Fishing*, INST. FOR RESEARCH & EDUC. ON HUMAN RIGHTS (May 13, 2016), <http://www.irehr.org/2016/05/13/bigotry-calls-violence-follow-protest-tribal-treaty-fishing> (documenting the rise of anti-Indian racism in Skagit Valley and Washington).

this article would never have been successful. Overcoming the ingrained—even cultural—opposition to habitat restoration and pervasive anti-Indian racism in Skagit Valley is a monumental achievement.

### *B. The Course of the River*

The Skagit River and its entire watershed is “the largest and one of the most unspoiled strongholds of fish and wildlife habitat in . . . Puget Sound.”<sup>59</sup> It is the third largest river on the west coast of the United States.<sup>60</sup> Its waters are home to ten salmonid species and several other sub-groups.<sup>61</sup> The lives of Skagit River Chinook salmon, and the other anadromous fish species found in the Skagit, begin far from the tidal delta, deep in the North Cascades,<sup>62</sup> in the headwaters of the Skagit River’s tributaries.

The Skagit River is the longest river and largest watershed in Puget Sound, draining roughly two million acres of the North Cascades.<sup>63</sup> “The Skagit [River] drainage includes 2,989 identified streams totaling approximately 4,540 linear miles.”<sup>64</sup> With its

---

59. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 2.

60. SAUL WEISBERG, JON RIEDEL, TRACIE JOHANNESSEN & WENDY SHERRER, SHARING THE SKAGIT: AN EDUCATOR’S GUIDE TO THE SKAGIT RIVER WATERSHED 7 (1993) (on file with author). Only the Columbia and Sacramento Rivers are larger. This excludes the Colorado River, which does not drain into the west coast of the United States, but instead into the Gulf of California, off the coast of Mexico.

61. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 2. The Skagit Chinook Recovery Plan identifies “six Chinook salmon stocks (spring, summer, and fall); pink salmon; chum salmon; sockeye salmon; summer and winter run steelhead; sea run cutthroat trout; Dolly Varden and bull trout”; as well as coho salmon. *Id.*

62. The Cascade Mountains are a 700-mile-range of jagged, snow-capped, volcanic and non-volcanic peaks that run from southern British Columbia to northern California. The tallest peak is Mount Rainier, and the Cascade Range—as it is sometimes called—is home to thirteen volcanoes, the most famous being Mount Saint Helens and Mount Mazama, now Crater Lake National Park. The North Cascades is a Washington colloquialism for the reach of the Cascades stretching from the Canadian border south to Mount Rainier.

63. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 2 (“It encompasses over 3,100 square miles (8,030 square kilometers) of watershed area and 80,728 acres (32,670 hectares) of delta connecting the river to Skagit Bay and Whidbey Basin.”).

64. *Id.*

headwaters in the Canadian Cascades,<sup>65</sup> the Skagit River runs 158.5 miles through the Cascade Mountains and its inland temperate rainforest, emptying into Puget Sound at Skagit Bay.<sup>66</sup> As the Skagit River winds through the mountains, it is corralled by the Skagit River Hydroelectric Project, a series of three dams operated by Seattle City Light.<sup>67</sup> Below the last dam, the Skagit River picks up strength over its last ninety-five unobstructed miles<sup>68</sup> as the Cascade, Sauk and Suiattle, and Baker Rivers empty into it.<sup>69</sup> By the time the Skagit River reaches Concrete, Washington, it is a torrent of force, annually emptying nearly 1,120,500 acre-feet of water into Skagit Bay.<sup>70</sup> Within the United States, the Skagit River, and its tributaries the Sauk, Suiattle, and Cascade Rivers, are classified as Scenic and Recreational under the National Wild and Scenic Rivers System.<sup>71</sup> In Canada, the Skagit River is part of the British Columbia Heritage Rivers Program.<sup>72</sup>

In the fall, as the rains return to the Pacific Northwest and fall with an incessant intensity in the Cascades, the Skagit River swells, often immersing low-lying areas. Small-scale flooding is common in the late fall. Even in the low-lying areas of Skagit Valley—the historic river delta—small-scale flooding occurs.<sup>73</sup> Large-scale flooding along the lower Skagit River, while commonplace prior to the river's extensive diking and even through the 1950s, is now rare.<sup>74</sup> Since White

---

65. The headwaters of the Skagit River are near Allison Pass in E. C. Manning Provincial Park, British Columbia. ARMSTRONG, *supra* note 33, at 1.

66. *Skagit River, Washington*, NAT'L WILD & SCENIC RIVER SYS., <https://www.rivers.gov/rivers/skagit.php> (last visited Feb. 18, 2017).

67. Free flow of the Skagit River is blocked by the Gorge, Diablo, and Ross Dams. See Seattle City Light, *Skagit River Hydroelectric Project*, CITY OF SEATTLE, <http://www.seattle.gov/light/Skagit> (last visited Feb. 18, 2017).

68. The Gorge Dam is 95.3 miles upriver from Skagit Bay. STEWART & BODHAINE *supra* note 31, at 6.

69. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 1, Location Map.

70. WEISBERG, RIEDEL, JOHANNESSEN & SHERRER, *supra* note 60, at 7.

71. NAT'L WILD & SCENIC RIVER SYS. *supra* note 66; see Wild and Scenic Rivers Act, Pub L. No. 90-542, 82 Stat. 906 (1968) (codified at 16 U.S.C. §§ 1271–1287 (2012)).

72. B.C. Parks, *Skagit River*, BRITISH COLUMBIA, [http://www.env.gov.bc.ca/bcparks/heritage\\_rivers\\_program/bc\\_rivers/skagit\\_river.html](http://www.env.gov.bc.ca/bcparks/heritage_rivers_program/bc_rivers/skagit_river.html) (last visited Feb. 23, 2017).

73. See generally *Skagit County Hazard Assessment*, SKAGIT CNTY., <https://www.skagitcounty.net/Departments/Flood/hazard.htm> (last visited Feb. 24, 2017).

74. See STEWART & BODHAINE, *supra* note 31, at 17 (discussing floods prior to 1952 where dikes either failed or were too short).

settlement, large-scale flooding has been well documented,<sup>75</sup> and stories of floods are common in local Tribe's history<sup>76</sup> and mythology.<sup>77</sup> The last major flood was in 1990, when the waterlogged dike along the North Fork of the Skagit River burst, filling Fir Island with up to ten feet of water.<sup>78</sup>

The Skagit River is the source of life; its course informs the ecology and culture of the its watershed, valley, and delta. From its headwaters, the river brings life down, out of the mountains, while the returning salmon bring life back up the river, into the mountains. The cycle of life, rains, and floods persist, despite the transformations brought to the landscape. The river is constant.

### *C. Lifecycles of Salmon*

Chinook salmon are king—King Salmon.<sup>79</sup> They are the largest salmonid species, often growing larger than forty pounds, and sometimes over 100 pounds.<sup>80</sup> At maturity, Chinook salmon are blue-green and silver, with black spots on their tails and black along their teeth.<sup>81</sup> As they prepare to spawn, however, Chinook salmon lose their majesty, “appear[ing] battered from their journey.”<sup>82</sup> And indeed, their life is a journey.

Skagit Chinook salmon begin their lives high in the Cascade Mountains; in the headwaters of the Skagit River's tributaries.<sup>83</sup> Chinook salmon are anadromous fish, meaning they begin their life in freshwater, migrate to saltwater habitats where they live to maturity, and then return to freshwater habitats to spawn and die.<sup>84</sup> Chinook salmon—

75. *Id.* at 20–31.

76. *Id.* at 20–21 (discussing an 1879 account by “one of the oldest Sedro Wolley Indians” of a major flood circa 1815).

77. *See generally* ELLA E. CLARK, INDIAN LEGENDS OF THE PACIFIC NORTHWEST 42–46 (2d prtg. 2003).

78. Rick Lund, *Fir Island in Danger of Becoming Part of the Bay—Flood Water Coming in Faster Than It's Receding*, SEATTLE TIMES (Nov. 13, 1990), <http://community.seattletimes.nwsourc.com/archive/?date=19901113&slug=1103911>.

79. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 38.

80. *Id.*

81. *Id.*

82. *Id.*

83. Skagit Chinook cannot, of course, spawn in the headwaters of the Skagit River, as the three-dam Skagit River Hydroelectric Project blocks upstream passage nearly sixty miles from the headwaters. *See supra* note 67.

84. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 36.

like all salmonids except bull trout—are also semelparous, meaning they spawn only once and then die shortly thereafter.<sup>85</sup> Their bodies, either eaten or decomposing in the streams, provide nitrogen and other ocean nutrients that enrich and nourish the upland ecosystem of their natal streams.<sup>86</sup>

Chinook salmon require gravel streambeds, and cold, clear water to spawn and survive.<sup>87</sup> Female Chinook salmon dig nests, called redds, in creek beds, using their tails to push away the gravel.<sup>88</sup> The female then deposits her eggs in her redd, which are then fertilized by a male.<sup>89</sup> The male may seek other redds to fertilize before he dies.<sup>90</sup> The female will guard her redd for up to twenty-five days before she, too, dies.<sup>91</sup> After thirty to 160 days, the eggs hatch and alevins emerge.<sup>92</sup> With their yoke sacks still attached, the alevins remain in the gravel until they are large enough to venture out.

From alevins, Chinook salmon develop into fry. As fry, the juvenile Chinook salmon utilize the stream habitat, growing larger and stronger for their downstream migration. Riparian vegetation, tree roots, and decaying trees from logjams provide shade and protection for the fry.<sup>93</sup> Side channels, pools, and wetlands provide refuge from the higher velocity currents of the streams and rivers until the fry are large enough to migrate downstream.<sup>94</sup>

When the fry are large enough, they become outmigrants and begin their seaward migration.<sup>95</sup> Chinook salmon may utilize the

---

85. *Id.*

86. See C. JEFF CEDERHOLM ET AL., PACIFIC SALMON AND WILDLIFE—ECOLOGICAL CONTEXTS, RELATIONSHIPS, AND IMPLICATIONS FOR MANAGEMENT 65 (2000) (on file with author) (“As the above studies indicate, spawning salmon provide a source of carbon, nitrogen[,] and phosphorus essential to maintain the production of salmon juveniles and other trophic levels of the stream. Accumulating evidence suggests that spawning salmon populations are an important link to the adjacent riparian and terrestrial communities, and indeed, fortifies the role of salmon as a keystone species, wherein the integrity and persistence of the entire community is contingent upon the population’s actions and abundance.” (footnote removed)).

87. *Id.* at 8 (“Salmon evolved in habitats that are typically characterized by accessible cool, clean water with abundant woody debris or other forms of cover, relatively clean spawning gravels, food, and a balanced population of predators.”).

88. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 38.

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.* at 37.

94. *Id.*

95. *Id.*

freshwater habitat they were hatched in for as short as one to ten days, or as long as over a year.<sup>96</sup> As the outmigrants prepare for life in the open ocean, they may utilize the inter-tidal and estuarine habitats along the Skagit River delta for up to a few months before moving to the open ocean.<sup>97</sup> “Juvenile Chinook salmon that rear in delta estuarine habitats utilize specific habitats, namely blind channels and the margins of distributary channels, where low velocities and preferred depths exist.”<sup>98</sup> The brackish water that characterizes these habitats is also ideal for the juvenile Chinook salmon to undergo the physiological transition to salt water, called smoltification.<sup>99</sup> The survival rate of mature Chinook salmon in the open ocean is correlated to the productivity of these inter-tidal and estuarine habitats, and the length of time juvenile Chinook salmon rear in them.<sup>100</sup> These habitats also provide the juvenile Chinook salmon with a migratory pathway to the open ocean.<sup>101</sup>

Chinook salmon remain in the open ocean for one to six years.<sup>102</sup> While most Chinook migrate in the open ocean, Puget Sound Chinook salmon migrate closer to the shore, where they are more vulnerable to commercial and recreational fishing.<sup>103</sup> Some Puget Sound Chinook salmon never leave the Salish Sea, although this is a small minority.<sup>104</sup> After spending maturity at sea, “Chinook salmon return to their streams

---

96. *Id.* at 39.

97. *Id.*

98. SKAGIT CHINOOK RECOVERY PLAN: APPX. D ESTUARY, *supra* note 14, at 11. “Juvenile Skagit Chinook salmon utilize the estuary of their native river—the tidally influenced part of the Skagit delta. Juvenile Skagit Chinook salmon also utilize nearshore habitats adjacent and distant from their natal river estuary. These habitats include shoreline and offshore areas as well as discontinuous pocket estuary habitat within the Whidbey Basin of Puget Sound.” *Id.* at 3.

99. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 39; Dep’t of Fish & Wildlife, *Salmon and Steelhead Life Cycle and Habitat Information*, STATE OF WASH., [http://wdfw.wa.gov/conservation/habitat/spawningbed\\_protection/lifecycle.html](http://wdfw.wa.gov/conservation/habitat/spawningbed_protection/lifecycle.html) (last visited Mar. 11, 2017).

100. *Cf.* SKAGIT CHINOOK RECOVERY PLAN: APPX. D ESTUARY, *supra* note 14, at 18 (“All growth relationships support the idea that a tidal delta rearing period improves growth of wild juvenile Chinook salmon after they reach Skagit Bay. Increased time of residence equates to larger size before entering bay habitat. If faster growth is important to later survival, and we know that there is some form of density dependence occurring in the Skagit tidal delta, then it would make good restoration sense to increase tidal delta capacity (and quality) in order to increase fish residence in the tidal delta habitat.”).

101. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 39.

102. *Id.*

103. *Id.* at 40.

104. *Id.*

of origin with a high degree of fidelity.”<sup>105</sup> While Chinook may return to their natal spawning grounds at any time throughout the year, in Puget Sound, summer and fall runs predominate “and many of the early-timed runs have become extinct.”<sup>106</sup> Before Chinook salmon can return upstream, they must spend time in the inter-tidal and estuarine habitat they were reared in so that they can undergo the physiological transformation needed to return to freshwater habitat.<sup>107</sup> Chinook salmon must then battle their way back upstream to spawn and die, navigating man-made and natural barriers and avoiding predators and fishermen.

Chinook salmon occupy and utilize diverse habitats and ecosystems as they grow and develop into ocean-going maturity.<sup>108</sup> In response to the diversity in early-life habitat, Chinook salmon have developed two distinct anadromous life histories that allow them to better survive variation in habitat pressures.<sup>109</sup> Biologists classify these different life histories as ocean type and stream type.<sup>110</sup>

Ocean type Chinook salmon begin their seaward migration well before their first full year of life.<sup>111</sup> These sub-yearlings display three types of seaward migration patterns. Fry migrants hatch and quickly migrate downstream, skipping any significant rearing time in upstream and inter-tidal delta habitats.<sup>112</sup> They migrate almost directly to Skagit Bay and spend rearing time in nearshore habitats and pocket estuaries<sup>113</sup> along the shoreline.<sup>114</sup> Delta rearing migrants, the sub-type most affected by delta and estuarine habitat restoration,<sup>115</sup> hatch and migrate downstream to the inter-tidal estuarine habitat along Fir Island.<sup>116</sup> Delta rearing migrants reside in the delta habitat for up to several months

---

105. *Id.* at 40–41.

106. *Id.* at 41–42.

107. *Id.* at 39.

108. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 19 (“The freshwater, estuarine, and marine environments of salmon are variable and diverse. In response to the demands of their environment, Skagit Chinook salmon have developed a variety of life history strategies that utilize different parts of their freshwater, estuarine, and marine environments in different ways.”).

109. *Id.*

110. *Id.* at 14.

111. *Id.*

112. *Id.* at 15.

113. A pocket estuary is a “[p]artially enclosed, measurably diluted marine body of water that is smaller in scale than and discontinuous from Chinook natal river systems.” *Id.* at 8.

114. *Id.* at 15.

115. *Id.* at xvii.

116. *Id.* at 15.

before they grow large enough to move to nearshore habitats.<sup>117</sup> Finally, parr migrants hatch and remain in freshwater stream habitat for a couple of months before migrating seaward to nearshore habitats.<sup>118</sup> Some parr migrants may be found in blind channel habitats along the Skagit River, but rarely do they utilize the estuarine habitat.<sup>119</sup> In contrast, stream type Chinook salmon (or yearlings) hatch and remain in their natal freshwater habitat for over one year before migrating seaward.<sup>120</sup>

Skagit River Chinook salmon have both ocean and stream type life histories in their populations.<sup>121</sup> “Life history variation is important to buffer populations against changes in survival at different life stages that may result from natural or human caused catastrophes.”<sup>122</sup>

#### *D. The Salmon People*

The Skagit River watershed was historically home to nine distinct bands and tribes of northern Lushootseed-speaking southern Coastal Salish Indigenous people in present-day Washington.<sup>123</sup> Today, the Skagit River watershed is home to four federally recognized tribes:<sup>124</sup> the Swinomish Indian Tribal Community (“Swinomish Tribe”);<sup>125</sup> the Samish Indian Nation;<sup>126</sup> the Upper Skagit Indian Tribe;<sup>127</sup> and the Sauk-Suiattle Indian Tribe (“Sauk-Suiattle Tribe”).<sup>128</sup>

Salmon, and salmon fishing, are more than just a food source and a commodity to the Indigenous communities of the Pacific

---

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. SKAGIT CHINOOK RECOVERY PLAN: APPX. D ESTUARY, *supra* note 14, at 4.

123. Three distinct groups of Indigenous peoples lived in the Skagit River watershed in present-day British Columbia. *See supra* note 33.

124. *See* Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs, 82 Fed. Reg. 4,915, 4,918–19 (Jan. 17, 2017).

125. *Home*, SWINOMISH INDIAN TRIBAL CMTY., <http://www.swinomish-nsn.gov/> (last visited Feb. 27, 2017).

126. *Home*, SAMISH INDIAN NATION, <http://www.samishtribe.nsn.us/> (last visited Feb. 27, 2017).

127. *Home*, UPPER SKAGIT TRIBE, <https://upperskagit.nsopw.gov/Home.aspx> (last visited Feb. 27, 2017).

128. *Home*, SAUK-SUIATTLE INDIAN TRIBE, <http://www.sauk-suiattle.com/> (last visited Feb. 27, 2017).

Northwest: “[s]almon is culture, and culture is salmon.”<sup>129</sup> According to Shelly Vendiola, a member of the Swinomish Tribe: “Things from the water, like the salmon, it feeds our spirit and it’s who we are. So, water is sacred, and salmon is medicine.”<sup>130</sup> Since time immemorial, salmon has been inextricably linked to Coastal Salish culture, tradition, and spirituality. Ancestors believed that salmon were another tribe who live in the ocean.<sup>131</sup> The salmon were immortal, taking human form in the ocean.<sup>132</sup> The returning salmon runs were gifts from the benevolent salmon king.<sup>133</sup> To honor these gifts and to ensure their annual return, the first salmon run is greeted with reverence and ceremony.<sup>134</sup> Salmon continue to symbolize the cycle of life, death, and rebirth.<sup>135</sup>

The first salmon ceremony honors the return of the salmon, and gives thanks for their gift of life to the people.

The salmon chief of the tribe would select a fisher to catch the first salmon. This was an honor, and before entering the river the fisher would undergo a blessing or a purification. Once a fish was caught, it would be brought to shore and carefully prepared, cooked and distributed to the people in a manner unique to the location and tribe. The head of the fish would be kept pointed upriver to show the salmon’s spirit the way home. The bones would be carefully cleaned and returned to the river, where it was believed the salmon would reconstitute itself and continue its journey. Throughout, there was an underlying theme of respect for the salmon as a gift, and the hope that by properly respecting the fish the salmon king would continue his

---

129. NAT’L MUSEUM OF THE AM. INDIAN, EDUC. OFFICE, BACKGROUND INFORMATION ON THE LUMMI NATION I (n.d.), *available at* [http://www.nmai.si.edu/environment/pdf/07\\_01\\_Teacher\\_Background\\_Lummi.pdf](http://www.nmai.si.edu/environment/pdf/07_01_Teacher_Background_Lummi.pdf) (quoting Merle Jefferson, Sr., Exec. Dir., Lummi Nation Natural Res. Dep’t).

130. Richard Walker, *10 Things You Should Know About the Swinomish Tribe*, INDIAN COUNTRY MEDIA NETWORK (Oct. 1, 2015), <https://indiancountrymedia.network.com/news/native-news/10-things-you-should-know-about-the-swinomish-tribe> (quoting Shelly Vendiola (Swinomish), Faculty, Nw. Indian Coll.).

131. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 2.

132. John Harrison, *First-Salmon Ceremony*, NW. POWER & CONSERVATION COUNCIL (Oct. 31, 2008), <https://www.nwcouncil.org/history/FirstSalmonCeremony>.

133. *Id.*

134. *Id.*

135. *Id.*

benevolence through the coming months of salmon returns and again the following year.<sup>136</sup>

In the words of Billy Frank, Jr.:

“We have ceremonies for the first salmon of each run. We bring everybody together and share the first salmon, and we train our children that way. When we eat the salmon we give out offerings to the fish and the river. We’re not separate from the river. Indian people don’t have a cathedral. We have the land and the river.”<sup>137</sup>

As United States District Judge George H. Boldt observed, “[t]he symbolic acts [of the first-salmon ceremony], attitudes of respect and reverence, and concern for the salmon reflect a ritualistic conception of the interdependence and relatedness of all living things.”<sup>138</sup>

While salmon still hold a place of reverence and spiritual significance in Coastal Salish culture, commercial fishing has become an economic lifeline for many tribal communities in the Pacific Northwest. Often confined to remote, small reservations where casino gaming is not a realistic source of income for the community, natural resource development is often one of the only sources of economic development.<sup>139</sup> Fishing, then, with its generations-old traditions within Indigenous communities provides the opportunity for economic development. The Swinomish Tribe, located along Skagit Bay, just

---

136. *Id.*

137. CHARLES WILKINSON, MESSAGES FROM FRANK’S LANDING: A STORY OF SALMON, TREATIES AND THE INDIAN WAY 99 (2000) (quoting Billy Frank, Jr., former Chairman, Nw. Indian Fisheries Comm’n).

138. *United States v. Washington* (Boldt Decision), 384 F. Supp. 312, 351 (W.D. Wash. 1974).

139. Of course, there are exceptions, as both the Muckleshoot Indian Tribe and the Tulalip Tribes operate successful casino gaming operations. *See Home*, MUCKLESHOOT CASINO, <http://www.muckleshootcasino.com>; *Home*, TULALIP RESORT CASINO, <https://www.tulalipresortcasino.com>. Nevertheless, for tribes farther away from the Seattle metropolitan area, casino gaming cannot be relied on as the foundation for their economy. *See, e.g.*, Samantha Wohlfeil, *Nooksack River Casino Shuts Down*, BELLINGHAM HERALD (Dec. 11, 2015), <http://www.bellinghamherald.com/news/local/article49235660.html>. And even tribes with successful casino gaming operations are still heavily involved in commercial, traditional, and cultural fishing, as well as fishery and habitat management. *See Natural Resources*, TULALIP TRIBES, <https://nr.tulaliptribes.com>; *Fisheries*, MUCKLESHOOT INDIAN TRIBE, <http://www.muckleshoot.nsn.us/services/fisheries.aspx>.

north of the mouth of the North Fork of the Skagit River, owns and operates a fishing company, Native Catch, which openly acknowledges its foundations in Swinomish culture and tradition.<sup>140</sup>

The effects of climate change—and impacts of development on habitat—“will have complex and profound effects on tribal resources, cultures, and economies.”<sup>141</sup> As the impacts of climate change take hold, “treaty-protected fish and shellfish populations may become threatened or less accessible.”<sup>142</sup> These impacts will affect not only tribal fisheries, but with so many tribes’ singular reliance on fishing for both economic and cultural survival, the impacts will be especially devastating.<sup>143</sup>

Within the Skagit River watershed, the Swinomish Tribe and the Sauk-Suiattle Tribe have worked to address this crisis. Both tribes have created the Skagit River System Cooperative (“Cooperative”).<sup>144</sup> The Cooperative provides natural resource management services to both tribes.<sup>145</sup> Its work aims at “improving fisheries management and habitat conditions within the usual and accustomed fishing areas for” the Swinomish and Sauk-Suiattle Tribes.<sup>146</sup> A significant portion of its work focuses on habitat restoration and salmon recovery, including dike removal in tidal and blind channel and riparian habitat, and restoration in upland habitats.<sup>147</sup> The Cooperative also provides technical data and assistance for fishery managers for “long-term salmon recovery and management plans”;<sup>148</sup> upland timber and logging activities that impact natal salmon habitats;<sup>149</sup> and “environmental review of activities

---

140. Native Catch, *Home*, SWINOMISH INDIAN TRIBAL CMTY., <http://www.swinomish-nsn.gov/nativecatch/index.html> (last visited May 15, 2017) (“With 10,000 years of knowledge about our ancestral waters behind us, our dedication and sense of responsibility towards managing and protecting the bounty of the Salish Sea and water resources beyond is just as vital to our heritage today as it was so many years ago.”).

141. DALTON, MOTE & SNOVER, *supra* note 11, at xxxviii.

142. *Id.*

143. NAT’L WILDLIFE FED’N, *supra* note 10, at 21.

144. *Welcome*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org> (last visited Mar. 12, 2017).

145. *Id.*

146. *Programs*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org/programs> (last visited Mar. 12, 2017).

147. *Restoration*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org/restoration> (last visited Mar. 12, 2017).

148. *Salmon Recovery*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org/salmon-recovery> (last visited Mar. 12, 2017).

149. *Forest and Fish*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org/forest-and-fish> (last visited Mar. 12, 2017).

authorized by local, state, and federal permits that may affect fisheries habitat.”<sup>150</sup>

The Cooperative is a partner to the Shared Strategy of the Puget Sound Salmon Recovery Plan<sup>151</sup> and a principal author of the Skagit Chinook Recovery Plan.<sup>152</sup> While the Cooperative was directly involved in the planning, design, and implementation of the Wiley Slough Project,<sup>153</sup> its work on the Skagit Chinook Recovery Plan laid the foundation for the Fir Island Farm Project.<sup>154</sup> Tribally-based programs are essential to facilitate the restoration of traditional fisheries and habitats in a manner consistent with the values and visions of tribal communities.

### III. THE RIGHTS TO FISH AND HABITAT PROTECTION

By the Twentieth Century, fishing was no longer merely culture; it also became a tool to galvanize broad social, ecological, and legal changes throughout the Pacific Northwest.<sup>155</sup> Between 1854 and 1855, Governor Isaac I. Stevens wrote and entered into six treaties between the United States and tribes in the Pacific Northwest.<sup>156</sup> Through these treaties, the tribes ceded their vast homelands to the United States.<sup>157</sup> In exchange, the tribes reserved the “right of taking fish at usual and accustomed grounds.”<sup>158</sup> The tribes viewed the reservation of fishing rights as their consideration for ceding their vast territories to the

---

150. *Environmental Services*, SKAGIT RIVER SYS. COOP., <http://www.skagitcoop.org/environmental-services> (Mar. 12, 2017).

151. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at acknowledgements page.

152. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at title page.

153. S. HINTON ET AL., DRAFT WILEY SLOUGH ESTUARINE DESIGN REPORT 1 (Apr. 1, 2005) [hereinafter WILEY SLOUGH DESIGN REPORT] (on file with author).

154. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at title page.

155. WILKINSON, *supra* note 137, at 12–14.

156. COHEN’S HANDBOOK OF FEDERAL INDIAN LAW, § 18.04[2][e][iii], 1169 nn.38–39 (Nell Jessup Newton, ed., 2012 & Supp. 2015) [hereinafter COHEN’S HANDBOOK]; *see generally* *Washington v. Wash. State Passenger Fishing Vessel Ass’n (Fishing Vessel)*, 443 U.S. 658, 662 n.2 (1979); *United States v. Washington (Orrick Decision)*, 506 F. Supp. 187, 189 n.2 (W.D. Wash. 1980).

157. Michael C. Blumm, *Indian Treaty Fishing Rights and the Environment: Affirming the Right to Habitat Protection and Restoration*, 92 WASH. L. REV. 1, 2 (2017).

158. Treaty Between the United States and the Dwámish, Suquámish, and other Allied and Subordinate Tribes of Indians in Washington Territory art. V, Apr. 11, 1859, 12 Stat. 927 [hereinafter Treaty of Point Elliot].

government.<sup>159</sup> The treaties that Governor Stevens signed are known as the Stevens Treaties, and they all contain nearly identical language regarding this reservation of fishing rights.<sup>160</sup> In full, the Fishing Clause of the Treaty of Point Elliot reads:

The right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the territory, and of erecting temporary houses for the purpose of curing, together with the privilege of hunting and gathering roots and berries on open and unclaimed lands. Provided, however, that they shall not take shell-fish from beds staked or cultivated by citizens.<sup>161</sup>

The Stevens Treaties recognized the importance of fishing to the Indigenous communities throughout the Pacific Northwest.<sup>162</sup> Securing the right to continuously fish was so important to tribes that similar language is found in treaties signed by the United States throughout the

---

159. See O. Yale Lewis, III, Comment, *Treaty Fishing Rights: A Habitat Right as Part of the Trinity of Rights Implied by the Fishing Clause of the Stevens Treaties*, 27 AM. INDIAN L. REV. 281, 307 (2003) (“This was the consideration for which they ceded essentially all of their aboriginal territory to non-Indians.”).

160. Treaty of Point Elliot, *supra* note 158, at art. V (“The right of taking fish at usual and accustomed grounds and stations is further secured to said Indians.”); Treaty with the Nisqualli, Puyallup, etc. art. 3, Dec. 26 1854, 10 Stat. 1132 [hereinafter Treaty of Medicine Creek] (“The right of taking fish, at all usual and accustomed grounds and stations, is further secured to said Indians.”); Treaty Between the United States of America and the S’Klallam Indians art. IV, Apr. 29, 1859, 12 Stat. 933 [hereinafter Treaty of Point No Point] (“The right of taking fish at usual and accustomed grounds and stations is further secured to said Indians.”); Treaty Between the United States of America and the Makah Tribe of Indians art. IV, Apr. 18, 1859, 12 Stat. 939 [hereinafter Treaty of Neah Bay] (“The right of taking fish and of whaling or sealing at usual and accustomed grounds and stations is further secured to said Indians.”); Treaty Between the United States and the Yakima Nation of Indians art. III, Apr. 18, 1859, 12 Stat. 951 [hereinafter Treaty with the Yakimas] (“The exclusive right of taking fish in all the streams, where running through or bordering said reservation, is further secured to said confederated tribes and bands of Indians.”); Treaty Between the United States and the Qui-nai-elt and Quil-leh-ute Indians art. III, Apr. 11, 1859, 12 Stat. 971 [hereinafter Treaty of Olympia] (“The right of taking fish at all usual and accustomed grounds and stations is secured to said Indians.”).

161. Treaty of Point Elliot, *supra* note 158, at art. V.

162. Wesley J. Furlong, “*Salmon is Culture, and Culture is Salmon*”: *Reexamining the Implied Right to Habitat Protection as a Tool for Cultural and Ecological Preservation*, 37 PUB. LAND & RESOURCES L. REV. 113, 119 (2016).

greater Pacific and Interior Northwest.<sup>163</sup> “Salmon were a central concern” to the tribal parties during the treaty-making process.<sup>164</sup> As the Supreme Court of the United States recognized in 1905, “[a]n adequate supply of salmon was ‘not much less necessary to the existence of the Indians than the atmosphere they breathed.’”<sup>165</sup> Until 1974, however, this right existed on paper only.<sup>166</sup>

#### A. *The Right of Taking Fish*

The seminal case discussing the right to take fish is the Supreme Court’s 1905 decision in *United States v. Winans*, establishing the right to cross and occupy land to fish.<sup>167</sup> Following the turn of the century, the United States brought a lawsuit against the Winans brothers for operating a fish wheel on the Columbia River.<sup>168</sup> The United States alleged that the Winans’ fish wheel created a monopoly, denying enough salmon to pass upstream to support the Yakima Nation fishermen.<sup>169</sup>

---

163. While not considered part of the Stevens Treaties, Governor Stevens also signed three other treaties that contained similar language: Treaty Between the United States of America and the Nez Percé Indians art. III, Apr. 29, 1859, 12 Stat. 957 [hereinafter Nez Perce Treaty of 1855] (“The exclusive right of taking fish in all the streams where running through or bordering said reservation is further secured to said Indians.”); Treaty Between the United States and the Flathead, Kootenay, and Upper Pend d’Oreilles Indians art. III, Apr. 18, 1859, 12 Stat. 975 [hereinafter Treaty of Hellgate] (“The exclusive right of taking fish in all the streams running through or bordering said reservation is further secured to said Indians.”); Treaty Between the United States and the Walla-Walla, Cayuses, and Umatilla Tribes and bands of Indians in Washington and Oregon Territories art. I, Apr. 11, 1859, 12 Stat. 945 [hereinafter Walla Walla Treaty] (“[T]he exclusive right of taking fish in the streams running through and bordering said reservation is hereby secured to said Indians.”); *see also* Treaty Between the United States of America and the Klamath and Moadoc Tribes and Yahooskin Band of Snake Indians art. I, July 2, 1866, 16 Stat. 707 [hereinafter Treaty with the Klamaths] (“[T]he exclusive right of taking fish in streams and lakes, including in said reservation, . . . is hereby secured to the Indians aforesaid.”).

164. *United States v. Washington*, 827 F.3d 836, 851 (9th Cir. 2016), *amended and superseded by*, 853 F.3d 946 (9th Cir. 2017) (the amended opinion does not modify the substantive holdings or analysis of the original opinion, and for clarity, this article will cite the original opinion in recognition of its significance in the *United States v. Washington* progeny).

165. *Id.* (quoting *United States v. Winans*, 198 U.S. 371, 381 (1905)).

166. *See generally* Boldt Decision, 384 F. Supp. 312 (W.D. Wash. 1974).

167. *Winans*, 198 U.S. 371.

168. *Id.* at 382.

169. *Id.* at 377.

Using the Indian law canons of construction,<sup>170</sup> the Supreme Court concluded that at the time the treaty was signed, the Yakima Nation understood its right to fish extended off its reservation.<sup>171</sup> The Court held that the right to take fish included in the treaty “imposed a servitude upon every piece of land as though described therein.”<sup>172</sup> This easement was viewed as a property right held in common by every citizen of the Yakima Nation, specifically “the right to cross [land] to the river” and “the right to occupy [land] for the purpose” of fishing.<sup>173</sup>

In the following decades, large-scale commercial fishing in Washington placed significant pressure on tribal treaty fishing, while systematic and systemic racism pitted the full force of the State of Washington against treaty fishers. Beginning in the 1950s and continuing through the 1970s, game wardens and state troopers would harass and arrest treaty fishers.<sup>174</sup> This era was known as the Fish Wars.<sup>175</sup> Fish-ins, protests, and simple subsistence fishing brought arrests and beatings.<sup>176</sup> Along the banks of the rivers and streams in Washington, the Fish Wars became a galvanizing symbol of the Native civil rights movement.<sup>177</sup>

---

170. The Indian law canons of constructions inform courts that treaties (and statutes and executive orders) are to be interpreted as tribes would have understood them at the time they were signed, and that ambiguities are to be construed in favor of the tribes. See COHEN’S HANDBOOK, *supra* note 156, at § 2.02[1], 113–15. “[T]reat[ies] must therefore be construed, not in accordance to the technical meaning of [their] words to learned lawyers, but in the sense in which they would naturally be understood by the Indians.” *Fishing Vessel*, 443 U.S. 658, 676 (1979) (quoting *Jones v. Meehan*, 175 U.S. 1, 11 (1899)).

171. *Winans*, 198 U.S. at 381.

172. *Id.*

173. *Id.*

174. See WILKINSON, *supra* note 137, at 34–39

175. *See id.*

176. As Charles Wilkinson described it:

The game wardens—a dozen to more than fifty—would descend the banks in a stone-faced scramble towards a few Nisqually men in a canoe or skiff unloading salmon from a gillnet. Usually the Nisqually would give passive resistance—dead weight—and five officers or more would drag the men up the rugged banks towards the waiting vehicles. The dragging often got rough, with much pushing and shoving, many arms twisted way up the back, and numerous cold-cock punches. The billy clubs made their thuds.

*Id.* at 38.

177. *Id.* “In time, the banks of the Nisqually merged with the schoolhouse steps of Little Rock, the bridge at Selma, and the back of the bus in Montgomery.” *Id.*

Finally, under mounting pressure, the United States intervened, bringing a two-phased series of litigation against Washington on behalf of the treaty tribes to enforce the right to fish and to define its scope.<sup>178</sup> Phase I determined the amount of fish allowed to be harvested by treaty fishermen.<sup>179</sup> Phase II determined whether hatchery-raised fish would be included in the allocation and whether the treaties included an implied right to habitat protection.<sup>180</sup>

Phase I began with the United States District Court for the Western District of Washington's 1974 decision in *United States v. Washington*, known as the *Boldt Decision*, which established the principle of equal sharing.<sup>181</sup> Judge Boldt found that the "in common with" language of the Stevens Treaties reserved for the tribes the right to take half of all fish harvested within usual and accustomed fishing grounds.<sup>182</sup>

[I]t is incumbent upon [the State] to take all appropriate steps within [its] actual abilities to assure as nearly as possible an equal sharing of the opportunity for treaty and non-treaty fishermen to harvest every species of fish to which the treaty tribes have access at their usual and accustomed fishing places.<sup>183</sup>

The United States Court of Appeals for the Ninth Circuit agreed, stating that the "50-50 [sic] apportionment . . . best effectuates what the Indian parties would have expected if a partition of fishing opportunities has been necessary at the time of the treaties."<sup>184</sup>

Judge Boldt's apportionment headed to the Supreme Court, which in 1979 established the "moderate living" standard.<sup>185</sup> In *Washington v. Washington State Commercial Passenger Fishing Vessel Association*, the Supreme Court generally agreed with Judge Boldt's analysis, but concluded that instead of half, the treaties reserved to the tribes the right to take enough fish "necessary to provide the Indians with a livelihood[—]that is to say, a moderate living."<sup>186</sup> The Court

---

178. Furlong, *supra* note 162, at 122.

179. *Id.*

180. *Id.*

181. *Boldt Decision*, 384 F. Supp. 312 (W.D. Wash. 1974).

182. *Id.* at 343.

183. *Id.* at 344.

184. *United States v. Washington*, 520 F.2d 676, 688 (9th Cir. 1975).

185. *Fishing Vessel*, 443 U.S. 658 (1979).

186. *Id.* at 686.

concluded that “the maximum possible allocation to the Indians is fixed at 50% [sic],” and can be adjusted only downward as the moderate living needs of the tribes decline.<sup>187</sup>

Besides issues of allocation, tribes have been successful in pushing back against most state regulation of tribal treaty-based fisheries. In a series of cases from the Supreme Court, referred to as *Puyallup I* and *II*, state regulations were struck down as applied to treaty fishermen.<sup>188</sup> Today, state regulation of treaty fishermen and fisheries is only permitted where that regulation is non-discriminatory and necessary for the conservation of the species.<sup>189</sup> State regulation over treaty fishermen may also be permitted in the context of public safety.<sup>190</sup>

### B. A Right to Habitat Protection

Phase II of the *United States v. Washington* litigation sought to establish that the Stevens Treaties’ Fishing Clause implied a broader right to habitat protection.<sup>191</sup> Initially, the United States and the tribes

---

187. *Id.* at 686–87.

188. *Puyallup Tribe v. Dep’t of Game of Wash.*, 391 U.S. 392, 398 (1968) [hereinafter *Puyallup I*] (“The right to fish ‘at all usual and accustomed’ places may, of course, not be qualified by the State.”); *Dep’t of Game of Wash. v. Puyallup Tribe*, 414 U.S. 44, 49 (1973) [hereinafter *Puyallup II*] (“The aim is to accommodate the rights of Indians under the Treaty [of Medicine Creek] and the rights of other people.”).

189. *Puyallup I*, 391 U.S. at 398 (“But the manner of fishing, the size of the take, the restriction of commercial fishing, and the like may be regulated by the State *in the interest of conservation*, provided the regulation meets appropriate standards and *does not discriminate against the Indians.*” (emphasis added)); *see Puyallup II*, 414 U.S. at 48 (finding that state regulations barring net fishing in rivers discriminated against treaty fishermen because only Indian fishermen used nets in rivers, thus giving a preference to non-treaty fishermen downstream using hook and line).

190. *See Confederated Tribes of Colville Reservation v. Anderson*, 903 F. Supp. 2d 1187, 1198 (W.D. Wash. 2011) (“[A] state may enact and enforce laws regulating a tribal member’s exercise of an ‘in common’ hunting [or fishing] right for public-safety purposes if the law(s) [sic]: 1) reasonably prevents a public-safety threat; 2) is necessary to prevent the identified public-safety threat; 3) does not discriminate against Indians; and 4) application to the Tribe is necessary in the interest of public safety.” (footnotes removed)); *accord Lac Courte Oreilles Band of Lake Superior Chippewa Indians v. Wisconsin*, No. 74-cv-313-bbc, \_\_\_ F. Supp. 3d \_\_\_, 2015 WL 5944238, at \*6 (W.D. Wis. Oct. 13, 2015) (invalidating state public safety regulations of off-reservation tribal night deer hunting as “either discriminatory or unnecessary” because tribal regulations of off-reservation tribal night deer hunting were adequate to “ameliorate any substantial risk”).

191. *See Orrick Decision*, 506 F. Supp. 187 (W.D. Wash. 1980).

were successful. The Western Washington District Court's 1980 decision in *United States v. Washington*, known as the *Orrick Decision*, held that the Fishing Clause indeed implied a broader right to habitat protection.<sup>192</sup> United States District Judge William H. Orrick concluded that if human-caused habitat destruction was to continue, "the right to take fish would eventually be reduced to the right to dip one's net into the water . . . and bring it out empty."<sup>193</sup> Such a result, Judge Orrick concluded, would vitiate decades of litigation and the explicit terms of the treaties.<sup>194</sup>

Judge Orrick held that the "paramount purpose of the treaties" was to protect the right to fish,<sup>195</sup> and that "[t]he most fundamental prerequisite to exercising the right to take fish is the existence of fish to be taken."<sup>196</sup> Judge Orrick recognized that in *Fishing Vessel*, the Supreme Court had stated that the right to take fish did not merely reserve tribes the "chance . . . occasionally to dip their nets into the territorial waters," but "something considerably more tangible": the right to take and harvest fish.<sup>197</sup> Relying on this fundamental understanding, Judge Orrick found that the treaties imposed a broader right to habitat protection that imposed an environmental duty upon the State.<sup>198</sup> The right was limited, however, to ensuring only that the tribes maintained their moderate living needs.<sup>199</sup> It did not impose a standard of "no significant deterioration."<sup>200</sup>

The Ninth Circuit overturned Judge Orrick, objecting to the broad right he read into the treaties.<sup>201</sup> The court identified "four main objections": "the absence of a basis in precedent, the lack of theoretical or practical necessity for the right, its unworkably complex standard of liability, and its potential for disproportionately disrupting essential economic development."<sup>202</sup> En banc, the Ninth Circuit tempered somewhat its objections to the implied right, but nonetheless rejected it, stating: "It serves neither the needs of the parties, nor the jurisprudence of the court, nor the interests of the public for the judiciary to employ declaratory judgement procedure to announce legal rules imprecise in

---

192. *Id.* at 205.

193. *Id.* at 203 (ellipses in original).

194. *Id.*

195. *Id.* at 205.

196. *Id.* at 203.

197. *Id.* (quoting *Fishing Vessel*, 443 U.S. 658, 679 (1979)).

198. *Id.* (discussing *Fishing Vessel*, 433 U.S. at 679).

199. *Id.* at 207–08.

200. *Id.* at 207.

201. *United States v. Washington*, 694 F.2d 1374, 1380 (9th Cir. 1982).

202. *Id.* at 1380–81.

definition and uncertain in dimension.”<sup>203</sup> Nevertheless, the en banc court left open the possibility that a habitat-based right could be found under the right circumstances: “[T]he State’s precise obligations and duties under the treaty with respect to the myriad of State actions that may affect the environment . . . will depend . . . upon concrete facts which underlie a dispute in a particular case.”<sup>204</sup>

Since the Ninth Circuit’s decisions in 1982 and 1985, a series of court decisions have chipped away at the Ninth Circuit’s fear of recognizing an implied right to habitat protection.<sup>205</sup> Most recently, in 2016, the Ninth Circuit affirmed the Western Washington District Court’s 2007 decision in *United States v. Washington*, known as the *Culverts Case*, holding that the treaties imposed a duty on Washington to refrain from constructing or maintaining culverts that block upstream fish passage.<sup>206</sup> The district court concluded that the 1985 en banc panel opinion “cannot be read as rejecting the concept of a treaty-based duty to avoid specific actions which impair salmon runs.”<sup>207</sup> The court noted that at the time the treaties were signed, “[i]t was . . . the government’s intent, and the Tribes’ understanding, that they would be able to meet their own subsistence needs forever.”<sup>208</sup> The duty imposed by the court, however, was “not a broad ‘environmental servitude’ . . . , but rather a narrow directive.”<sup>209</sup>

In upholding the district court’s opinion, the Ninth Circuit came as close as any court since the *Orrick Decision* to acknowledging that the Stevens Treaties imply a broader right to habitat protection.<sup>210</sup>

Just as the land on the Belknap Reservation would have been worthless without water to irrigate the arid land,<sup>211</sup>

---

203. *United States v. Washington*, 759 F.2d 1353, 1357 (9th Cir. 1985) (en banc).

204. *Id.*

205. For a detailed discussion on the legal development of the implied right to habitat protection and the case for its implementation as a broadly applicable, proactive duty on state action, see Furlong, *supra* note 162, at 134–55.

206. *United States v. Washington (Culverts Case)*, 20 F. Supp. 3d 828 (W.D. Wash. 2007), *aff’d*, 827 F.3d 836, *amended and superseded by*, 853 F.3d 946.

207. *Id.* at 894 (discussing *Washington*, 759 F.2d at 1357).

208. *Id.* at 897 (discussing *Fishing Vessel*, 443 U.S. 658, 658 (1979)).

209. *Id.* at 899.

210. See *Washington*, 827 F.3d at 852–54.

211. See *Winters v. United States*, 207 U.S. 564, 576 (1908) (In applying the reserved water rights doctrine to Indian reservation, the Court held that the entire purpose of the treaty establishing the reservation was to “civilize[.]” the Indians, thus

and just as the right to hunt and fish on the Klamath Marsh would have been worthless without water to provide habitat for game and fish,<sup>212</sup> the Tribe's right of access to their usual and accustomed fishing places would be worthless without harvestable fish.<sup>213</sup>

During the treaty negotiations, the tribes “‘raised questions about the role that fisheries were to play in their future.’”<sup>214</sup> In the negotiations for the Treaty of Point Elliot, Governor Stevens told the Tribes, “‘I want that you shall not have simply food and drink now but that you may have them forever.’”<sup>215</sup> And during negotiations around the Treaty of Point No Point, Governor Stevens said, “‘This paper secures your fish. Does not a father give food to his children?’”<sup>216</sup> The tribes understood that they not only would “‘have access to their usual and accustomed fishing places, but also that there would be fish sufficient to sustain them.’”<sup>217</sup>

Based on the facts presented, the court concluded that “[s]almon now available for harvest are not sufficient to provide a ‘moderate living’ to the Tribes.”<sup>218</sup> While stopping short of holding that the treaties imposed a broad right to habitat protection, the court found that the State violated its treaty obligations by maintaining culverts that blocked upstream fish passage to “‘approximately 1,000 linear miles of streams suitable for salmon habitat.’”<sup>219</sup>

Today, courts have come just shy of interpreting the Stevens Treaties as implying a right to habitat protection, since the *Orrick Decision* held that they did in 1980. Nevertheless, the *Culverts Case* and its subsequent Ninth Circuit affirmation have pushed the rights inherent in the treaties further than any court since 1980. Without interpreting the treaties as implying a *proactive* right to habitat protection, courts have nevertheless interpreted them as implying a *retroactive* right to remedy

---

its establishment impliedly reserved enough water to support agriculture on the reservation.).

212. See *United States v. Adair*, 723 F.2d 1394, 1409 (9th Cir. 1983) (In applying the reserved water rights doctrine, the court held that “one of the ‘very purposes’” of establishing the Klamath reservation was to ensure that the tribe continued its traditional hunting and fishing lifestyle.).

213. *Washington*, 827 F.3d at 853.

214. *Id.* at 851 (quoting Decl. of Richard White, *United States v. Washington*, 20 F. Supp. 3d 828 (W.D. Wash. 2007) (No. 70-9213)).

215. *Id.* (quoting Decl. of White).

216. *Id.* (quoting *Fishing Vessel*, 443 U.S. 658, 667 n.11 (1979)).

217. *Id.*

218. *Id.* at 853 (quoting *Fishing Vessel*, 443 U.S. at 686).

219. *Id.*

state actions that have degraded habitat necessary for salmon survival to satisfy treaty tribes' moderate living needs.<sup>220</sup> Seen another way, courts have imposed a duty on the State to remedy degraded habitats where tribes can show concrete evidence that the loss of habitat affects their right to take fish.<sup>221</sup> If the duty exists to fix these conditions after they occur, the logical inference is that a duty also exists to refrain from taking the actions in the first place.<sup>222</sup>

The implications of the duties imposed by the treaties are important. As climate change and development further destroy remaining salmon habitat, the understanding that the treaties impose a right to not only remedy but even prevent state-caused or permitted<sup>223</sup> degradation will hopefully induce further restoration projects around Puget Sound. This will serve as a tool to force restoration projects to be undertaken when cooperative approaches fail, and prevent the destruction of sensitive habitat in the first place.

#### IV. HABITAT RESTORATION AND FARMLAND RECLAMATION ON FIR ISLAND

The Skagit Chinook Recovery Plan is just one component of the Puget Sound Salmon Recovery Plan.<sup>224</sup> The Puget Sound Salmon Recovery Plan represents a "Shared Strategy"<sup>225</sup> for the restoration of Puget Sound and the rehabilitation of the salmon; it is a strategy shared by over 150 tribal, state, local, and federal governments and agencies, as

---

220. See *Culverts Case*, 20 F. Supp. 3d 828, 899 (W.D. Wash. 2007) ("This is not a broad 'environmental servitude' or the imposition of an affirmative duty to take all possible steps to protect fish runs. . . . The Tribes have presented sufficient facts regarding the number of blocked culverts to justify a declaratory judgment regarding the State's duty to refrain from such activity.").

221. *Washington*, 827 F.3d at 853 ("The facts presented in the district court establish that Washington has acted affirmatively to build and maintain barrier culverts under its roads. The State's barrier culverts within the Case Area clock approximately 1,000 linear miles of streams suitable for salmon habitat. . . . Salmon now available for harvest are not sufficient to provide a 'moderate living' to the Tribes.").

222. See Furlong, *supra* note 162, at 139.

223. See *United States v. Washington*, 694 F.2d 1374, 1388–89 (9th Cir. 1982) (emphasizing that the implied right to habitat protection would create a "servitude [that] affects *all* State or State-authorized activities affecting the environment, not just those involving appropriative consumption of water" (emphasis in original)).

224. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at foreword.

225. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at iv.

well as salmon recovery organizations.<sup>226</sup> In the late-1990s, the State enacted a number of initiatives to coordinate and assist various local and regional recovery efforts in response to continued and unprecedented declines in salmon runs and harvest.<sup>227</sup> The crisis of declining salmon

---

226. *Id.* at 13.

227. *Id.*; *see, e.g.*, Salmon Recovery Planning Act:

The legislature finds that repeated attempts to improve salmonid fish runs throughout the state of Washington have failed to avert listings of salmon and steelhead runs as threatened or endangered under the federal [E]ndangered [S]pecies [A]ct (16 U.S.C. Sec. 1531 et seq. [sic]). These listings threaten the sport, commercial, and tribal fishing industries as well as the economic well-being and vitality of vast areas of the state. It is the intent of the legislature to begin activities required for the recovery of salmon stocks as soon as possible, although the legislature understands that successful recovery efforts may not be realized for many years because of the life cycle of salmon and the complex array of natural and human-caused problems they face.

The legislature finds that it is in the interest of the citizens of the state of Washington for the state to retain primary responsibility for managing the natural resources of the state, rather than abdicate those responsibilities to the federal government, and that the state may best accomplish this objective by integrating local and regional recovery activities into a statewide strategy that can make the most effective use of provisions of federal laws allowing for a state lead in salmon recovery, delivered through implementation activities consistent with regional and watershed recovery plans. *The legislature also finds that a statewide salmon recovery strategy must be developed and implemented through an active public involvement process in order to ensure public participation in, and support for, salmon recovery.* The legislature also finds that there is a substantial link between the provisions of the federal [E]ndangered [S]pecies [A]ct and the federal [C]lean [W]ater [A]ct (33 U.S.C. Sec. 1251 et seq. [sic]). *The legislature further finds that habitat restoration is a vital component of salmon recovery efforts. Therefore, it is the intent of the legislature to specifically address salmon habitat restoration in a coordinated manner and to develop a structure that allows for the coordinated delivery of federal, state, and local assistance to communities for habitat projects that will assist in the recovery and enhancement of salmon stocks. A strong watershed-based locally implemented plan is essential for local, regional, and statewide salmon recovery.*

WASH. REV. CODE § 77.85.005 (emphasis added).

runs was familiar to tribal, state, local, and federal leaders.<sup>228</sup> Nevertheless, Chinook salmon were listed as endangered under the ESA, thus a new response was required.<sup>229</sup> The Puget Sound Salmon Recovery Plan's Shared Strategy represents a broad vision with a local approach to implementing salmon recovery across Puget Sound through "tailor[ed] recovery strategies and actions to the political, cultural, economic[,] and ecosystem needs of individual watersheds across the Sound."<sup>230</sup>

#### A. *The Skagit Chinook Recovery Plan*

The Skagit Chinook Recovery Plan is the guiding document for the recovery of Skagit River Chinook salmon. The term "recovery" holds specific meaning in the context of Chinook salmon, as a species listed under the ESA. The National Oceanic and Atmospheric Administration, which administers the ESA for anadromous fish, defines recovery by four factors:<sup>231</sup> abundance;<sup>232</sup> productivity;<sup>233</sup> diversity;<sup>234</sup> and connectivity.<sup>235</sup> The recovery of the Skagit River Chinook salmon is predicated on six recovery actions: harvest management; habitat protection; habitat restoration; artificial production; research; and monitoring.<sup>236</sup>

Habitat restoration is a critical component in the overall recovery plan. The Skagit Chinook Recovery Plan states simply its purpose to "[r]estore large areas of delta habitat."<sup>237</sup> The four distinct types of juvenile Chinook salmon life histories require unique approaches to habitat restoration depending on the habitats utilized by each type.<sup>238</sup>

228. PUGET SOUND SALMON RECOVERY PLAN, *supra* note 19, at 13.

229. *Id.*

230. *Id.* at 14.

231. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at xiii.

232. "Abundance, expressed as both escapement, which is the number of spawners, and recruitment, which is the number of returning adults harvested in Alaska, Canada[,] and the U.S. [sic], plus the number of unharvested fish that return to the Skagit River." *Id.* (emphasis removed).

233. "Productivity, or the ratio of the number of fish produced by each spawner." *Id.* (emphasis removed).

234. "Diversity of habitats and genetic traits that support Chinook production." *Id.* (emphasis removed).

235. "Connectivity between these habitats." *Id.* (emphasis removed).

236. *Id.* at xv.

237. *Id.* at 46.

238. *Id.* at xv ("[Y]earlings and parr migrants depend more on abundant and high quality freshwater habitat, while tidal delta rearing migrants and fry migrants depend more on estuarine habitats (tidal delta and pocket estuaries).").

Thus, the habitat recovery actions contained in the Skagit Chinook Recovery Plan focus on four district habitats: “[s]pawning habitat and egg incubation conditions”; “[f]reshwater rearing habitat in large river floodplains, tributaries, and non-tidal delta”; “[t]idal delta rearing habitat”; and “[n]earshore rearing habitat (primarily pocket estuary restoration).”<sup>239</sup> The restoration of tidal delta and estuarine rearing habitats includes the “reestablishment of historic estuarine wetlands through dike and levee removal or setbacks, and the reestablishment of downstream migration corridors that provide for dispersion of juvenile Chinook to spatially diverse habitats.”<sup>240</sup>

The Skagit Chinook Recovery Plan identified both the loss of delta habitat and the loss of delta habitat connectivity along and within the Skagit River delta as having a particularly negative impact on the viability of Chinook salmon.<sup>241</sup> As the Skagit Chinook Recovery Plan notes, Fir Island’s transformation from a thriving tidal estuarine habitat to fertile farmland through “diking, dredging, and filling . . . ha[s] severely limited the historic extent of delta habitat.”<sup>242</sup> And, while the delta has seen modest progradation<sup>243</sup> over the last half-century, “projections for sea level rise in conjunction with global warming trends lead us [sic] to believe the South Fork [region of Fir Island] will continue to lose ground for the foreseeable future.”<sup>244</sup> The significant loss of delta and estuarine habitat has caused significant habitat fragmentation, making it harder for juvenile Chinook salmon to access the habitat necessary for their survival.<sup>245</sup> Based on the then-present-day conditions of the tidal and estuarine habitat of the Skagit River delta, the Skagit Chinook Recovery Plan stated that the recovery of the Skagit Chinook salmon could not be achieved without two specific nearshore and estuarine restoration approaches: one along the Swinomish Channel,<sup>246</sup> and the other on Fir Island.<sup>247</sup>

---

239. *Id.* at xvii.

240. *Id.*

241. *Id.* at 45–46.

242. *Id.* at 45.

243. Progradation is the growth of a river delta seaward due to sedimentation.

244. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 45.

245. *Id.* at 46.

246. The Swinomish Channel is an eleven-mile-long waterway that connects Skagit Bay with Padilla Bay.

247. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 159.

*B. Wiley Slough Estuarine Restoration Project*

The Wiley Slough Project was the first habitat restoration and farmland reclamation project commenced and completed on Fir Island. The Skagit Chinook Recovery Plan identified the Wiley Slough area as vital for habitat restoration, proposing the removal of 6,500 feet of dike<sup>248</sup> and the restoration 160 acres of estuarine emergent marsh by connecting the reclaimed farmland to tidal influences.<sup>249</sup> The Skagit Chinook Recovery Plan estimated that the Wiley Slough Project would increase Chinook salmon production by 38,492 smolts.<sup>250</sup> The primary objectives of the Wiley Slough Project were to “[r]estore tidal and riverine flooding (natural process) to the marsh surface,” to “[r]estore channel habitat for juvenile salmonids inside and outside the dikes,” and to restore “native marsh vegetation . . . to support detrital food chains . . . for juvenile salmonids.”<sup>251</sup>

In 1956, the levee system on Fir Island along the Skagit Bay was expanded to include what became the Wiley Slough Project area.<sup>252</sup> This dike expansion cut off the project area from river and tidal influences, directly contributed to the loss of sixteen acres of tidally-influenced blind channel habitat and 160 acres of estuarine emergent marsh habitat.<sup>253</sup> Seaward of the dikes, the new levee system directly caused the loss of twenty acres of inter-tidal blind channel habitat due to increased sedimentation.<sup>254</sup> The surrounding sloughs and channels not directly affected by the diking were indirectly impacted by these diking projects.<sup>255</sup> These neighboring channels “lost sinuosity and associated channel habitat diversity, probably due to loss of floodplain area via dike construction, which caused greater confinement of flood flows.”<sup>256</sup> Like the rest of Fir Island, “early land managers chose to convert this site for active management of cereal grains to attract and hold waterfowl for increased hunting opportunities.”<sup>257</sup> This, of course, required the Wiley Slough Project area to “be drained and converted to tillable soil,” while

---

248. WILEY SLOUGH DESIGN REPORT, *supra* note 153, at 94.

249. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 162.

250. *Id.* Smolts are juvenile salmon that are undergoing the process of smoltification.

251. WILEY SLOUGH DESIGN REPORT, *supra* note 153, at 9.

252. *Id.* at 3.

253. *Id.*

254. *Id.*

255. *Id.*

256. *Id.*

257. *Id.* at 4.

tidal channels as deep as six feet within the project area were plowed over and filled.<sup>258</sup>

Work on the Wiley Slough Project began in 2001, with initial planning meetings between the Washington State Department of Fish and Wildlife (“WDFW”) and the Cooperative; funding was secured in 2002.<sup>259</sup> The first phase of construction began in the summer of 2008.<sup>260</sup> The initial phase saw the construction of setback dikes and the installation of a new tide gate.<sup>261</sup> The second phase saw the seaward dikes removed, the restoration of tidally-connected channels, and the reintroduction of tidal influences to the project area.<sup>262</sup> The second phase was largely finished in the summer of 2009, when construction crews broke through the last dike, allowing tide waters to enter the project area.<sup>263</sup> Today, the entire 160 acres is reconnected to Skagit Bay. It is continuously wet, reclaiming its once lost character as an estuarine emergent marsh, and providing habitat for juvenile Chinook salmon, waterfowl (including snow geese, Canada geese, trumpeter swans, and ducks), countless shorebirds and songbirds, and raptors, including bald eagles.<sup>264</sup>

### C. Fir Island Farms Estuary Restoration Project

Just two miles northwest of the Wiley Slough Project is the Fir Island Farms Project, the second restoration project commenced and completed on Fir Island. While not specifically identified as the Fir Island Farms Project in the Skagit Chinook Recovery Plan, the project is located in the vicinity of Davis and Dry Sloughs,<sup>265</sup> which were identified in the Skagit Chinook Recovery Plan as a proposed levee setback project with the potential to restore 120 acres of estuarine emergent marsh.<sup>266</sup> Completed in the summer of 2016, the Fir Island

---

258. *Id.*

259. *Id.* at 7–8.

260. WASH. DEP’T OF FISH & WILDLIFE, SKAGIT WILDLIFE AREA 2010 MANAGEMENT PLAN UPDATE 6 (2010) (on file with author).

261. *Id.*

262. *Id.*

263. Kari Neumeyer, *Breakthrough Week in Tribal Estuary Restorations*, NW. INDIAN FISHERIES COMM’N (Aug. 20, 2009), <http://www.nwifc.org/breakthrough-week-in-tribal-estuary-restorations>.

264. See WDFW Lands, *Headquarters (Skagit) Unit*, STATE OF WASH., [http://wdfw.wa.gov/lands/wildlife\\_areas/skagit/Headquarters%20\(Skagit\)/](http://wdfw.wa.gov/lands/wildlife_areas/skagit/Headquarters%20(Skagit)) (last visited Apr. 29, 2017).

265. FIR ISLAND FARMS STUDY, *supra* note 46, at 1.

266. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 174.

Farms Project reclaimed 231 acres of farmland, restoring 131 acres to estuarine emergent marsh, preserving the other 100 acres for snow goose foraging habitat,<sup>267</sup> and reestablishing seventeen acres of tidal channels.<sup>268</sup>

The restoration of 130 acres of tidal marsh will include setting back the existing dikes, restoring tidal exchange processes to the site that will provide benefits to a multitude of species (fish, birds, and mammals). In particular, it will provide essential delta-type rearing habitat for the endangered juvenile Chinook, salmon.<sup>269</sup>

The project is meant to support the production of 65,000 to 320,000 juvenile Chinook salmon annually.<sup>270</sup> In all, 5,800 feet of setback dike was constructed, and 3,100 feet of seaward dike was removed, opening the site to the Skagit Bay for the first time in over 100 years.<sup>271</sup>

The Fir Island Farm Project has been touted as “an example of how local agricultural leaders and the state can work together to develop a project that benefits salmon recovery while preserving productive farmland.”<sup>272</sup> Indeed, of the 264 acres that the Fir Island Farm Project encompassed, 240 acres were actively farmed until the project commenced.<sup>273</sup> When the Davis and Dry Sloughs areas—now, the Fir Island Farm Project—were identified as a potential restoration project in the Skagit Chinook Recovery Plan it was noted that nearly a quarter of the land slated to be restored to estuarine emergent marsh was privately

---

267. Dep’t of Fish & Wildlife, *Fir Island Farms Estuary Restoration Project*, STATE OF WASH., [http://wdfw.wa.gov/lands/wildlife\\_areas/skagit/fir\\_island\\_estuary\\_restoration.php](http://wdfw.wa.gov/lands/wildlife_areas/skagit/fir_island_estuary_restoration.php) (last visited Mar. 15, 2017).

268. FIR ISLAND FARMS STUDY, *supra* note 46, at 4.

269. *Id.* at 2.

270. *Id.* at 4.

271. Dep’t of Fish & Wildlife, *Fir Island Farms Estuary*, *supra* note 267; Dep’t of Fish & Wildlife, *Marine Dike Removal*, STATE OF WASH., [http://wdfw.wa.gov/lands/wildlife\\_areas/skagit/fir\\_island\\_marine\\_dike\\_removal.php](http://wdfw.wa.gov/lands/wildlife_areas/skagit/fir_island_marine_dike_removal.php) (last visited Mar. 15, 2017).

272. Dep’t of Fish & Wildlife, *Fir Island Farms Estuary*, *supra* note 267.

273. Dep’t of Fish & Wildlife, *Fir Island Farms Reserve Restoration Feasibility Study*, STATE OF WASH., [http://wdfw.wa.gov/lands/wildlife\\_areas/skagit/restoration\\_study.php](http://wdfw.wa.gov/lands/wildlife_areas/skagit/restoration_study.php) (last visited Mar. 15, 2017).

owned.<sup>274</sup> This is categorically different than the Wiley Slough project, which reclaimed no privately-owned land.<sup>275</sup>

In order to obtain local buy-in and convince private land owners and local farmers that reclaiming farmland for habitat restoration as in their best interests, the Fir Island Farm Project had to encompass non-habitat restoration goals, such as farmland drainage and flood control and prevention.<sup>276</sup> Indeed, the Fir Island Farms Project was also meant to increase drainage from the low-lying farmlands surrounding the project site by upgrading tide gates, and to protect the surrounding farmland from flooding.<sup>277</sup> Even though the Fir Island Farm Project explicitly stated that one of its purposes was flood and drainage control<sup>278</sup>—an issue of particular concern to farmers and residents of Fir Island—the principle of habitat restoration through farmland reclamation was nevertheless unpalatable to some.<sup>279</sup> Skagit County Consolidated Diking Improvement District 22 Commissioner Greg Lee was quoted in the local newspaper:

---

274. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 174 (“The project as described here proposes to involve approximately 90 acres of WDFW lands and 30 acres of private land.”).

275. *Id.* at 162 (“The property is currently in public ownership.”).

276. As was reported in the local newspaper:

Drainage, flood protection and saltwater intrusion were taken into account and incorporated into the project plans, which aim to restore the most habitat while preserving farmland and snow goose refuge.

A variety of stakeholders involved in the project planning helped ensure existing functions of the site like flood protection would continue or even be improved, [Nature Conservancy Restoration Manager Jenny] Baker said.

When complete, the project will restore tidal functions while preserving 100 acres of protected snow goose forage and maintain public access. Flood protection also will be maintained with a new dike, tide gate and pump station.

Kimberly Cauvel, *Fir Island Dike Setback Moves Forward*, SKAGIT VALLEY HERALD (Mar. 25, 2015), [http://www.goskagit.com/all\\_access/fir-island-dike-set-back-moves-forward/article\\_53869974-d6d0-5dc0-8a98-977361751a9a.html](http://www.goskagit.com/all_access/fir-island-dike-set-back-moves-forward/article_53869974-d6d0-5dc0-8a98-977361751a9a.html).

277. FIR ISLAND FARMS STUDY, *supra* note 46, at 2–3.

278. *Id.* at i (“Other project goals included minimizing impacts to landowners, maintaining parking and public uses, *maintaining or improving protection from saltwater intrusion to crops, interior drainage and flooding*, and maintaining the reserve Snow Goose management activities.” (emphasis added)).

279. See *supra* notes 55, 58.

“Hopefully we will have as good if not better drainage than we have now,” said Lee, who owns farmland on the north end of Fir Island.

While the dike district supported the project, the project still doesn’t sit well with some farmers.

“This is a project that we don’t like to see happening, taking good farming ground and turning it into fish habitat,” said Lee, whose family once owned the land inundated with water Monday.

“As a commissioner I don’t have a problem with it. As a farmer and a taxpayer I don’t like seeing it,” he said.<sup>280</sup>

While this view is more nuanced than merely pro- or anti-restoration, opposition to the Fir Island Farms Project and other restoration projects that seek to reclaim farmland is very real.<sup>281</sup> The seaward dike was breached in August 2016, and today, part of the old levee system takes visitors—birders, tourists, and the curious local—right out to the shoreline. When the tide turns and begins rising, you can walk down to the water and watch the seawater rush back into the newly restored estuarine emergent marsh.

#### *D. Fisher Slough Restoration Project*

Habitat restoration projects along the Skagit River delta are, of course, not confined to the boundaries of Fir Island. Directly across from Fir Island, along the east bank of the South Fork of the Skagit River is Fisher Slough. It is the site of a sixty-acre habitat restoration project, completed in 2011.<sup>282</sup> The Fisher Slough Project was identified in the Skagit Chinook Recovery Plan as a fifty- to eighty-acre project “within that riverine tidal zone” that would “restore[] agriculture land to channel, scrub-shrub, forested wetland, and tributary junction habitats.”<sup>283</sup> The Skagit Chinook Recovery Plan estimated that the Fisher Slough Project would improve Chinook salmon production by 16,431 smolts within three years of implementation.<sup>284</sup> Planning for the Fisher Slough Project

---

280. Cauvel, *Fir Island Dike Breach*, *supra* note 25.

281. *See infra* section V.

282. Cauvel, *Fisher Slough*, *supra* note 26.

283. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 172.

284. *Id.*

began in 2004.<sup>285</sup> The primary objectives of the Fisher Slough Project were to “[c]reate a diverse array of native vegetative communities”; “[c]reate freshwater tidal marsh Chinook (*Oncorhynchus tshawytscha*) salmon rearing habitat”; “[p]rovide fish passage for coho (*Oncorhynchus kisutch*) and chum (*Oncorhynchus keta*) spawning access”; and “[i]mprove flood storage to protect agricultural uses of adjacent properties.”<sup>286</sup> Besides habitat restoration, the Fisher Slough Project also aimed “to improve flood protection for the surrounding agricultural community, showing how farms and fish habitat can coexist on the landscape.”<sup>287</sup>

The Fisher Slough Project commenced in three phases: first, replacing the existing floodgate; second, excavating channels within the project area to support fish passage; and third, constructing setback dikes, removing the old dike, and reconnecting the project area to the river, reestablishing the tidal marsh.<sup>288</sup> The project is located on land owned by The Nature Conservancy, a project partner, which bought the land from a local farmer.<sup>289</sup> The Fisher Slough Project is notable as one of the first successful habitat restoration project in the Skagit River delta completed on private land.<sup>290</sup>

#### E. North Fork Levee Setback Project

Back on Fir Island, other habitat restoration projects have been proposed.<sup>291</sup> For example, along the North Fork of the Skagit River, the

---

285. THE NATURE CONSERVANCY, FISHER SLOUGH FINAL DESIGN AND PERMITTING: FINAL BASIS OF DESIGN REPORT 1 (Dec. 2009) [hereinafter FISHER SLOUGH DESIGN REPORT] (on file with author).

286. *Id.*

287. ECONORTHWEST, SOCIOECONOMIC BENEFITS OF THE FISHER SLOUGH RESTORATION PROJECT 1 (Nov. 2012) (on file with author).

288. FISHER SLOUGH DESIGN REPORT, *supra* note 285, at 9.

289. ECONORTHWEST, *supra* note 287, at 6.

290. Nat'l Marine Fisheries Serv., *Case Study: Fisher Slough Marsh Restoration*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (Feb. 19, 2013), <http://www.habitat.noaa.gov/highlights/fishersloughmarshrestoration.html>.

291. Habitat restoration projects are under works or in planning throughout Puget Sound. See Puget Sound P'ship, *Puget Sound Recovery Atlas*, STATE OF WASH., <http://www.psp.wa.gov/gis/RecoveryAtlas> (last visited Mar. 19, 2017). Tribes have been leaders in implementing habitat restoration projects. For example, the Skokomish Indian Tribe spearheaded a restoration project that is nearing completion. See *Restoration Wrapping Up on Skokomish Estuary*, NW TREATY TRIBES (Mar. 17, 2017), <https://nwtreatytribes.org/restoration-wrapping-skokomish-estuary>. The project has restored nearly 350 acres of a proposed 1,000 acres of reclaimed farmland along the Skokomish Estuary. *Id.* Work began when a

Washington State Recreation and Conservation Office has proposed a thirty-two acre habitat restoration and farmland reclamation project.<sup>292</sup> Twenty-two acres are currently privately owned farmland, while the Skagit County Consolidated Diking Improvement District 22 owns ten acres of the riparian floodplain.<sup>293</sup> While construction has yet to begin,<sup>294</sup> the project is meant to setback 2,200 feet of the river dike,<sup>295</sup> opening the thirty-two acres of farmland and riparian floodplain to river flows and tidal influences. The project would allow for the reestablishment of “riverine-tidal wetland habitat” and “off-channel and potential[] wetland/pond [sic]” habitat to support juvenile Chinook salmon and other salmonid outmigration rearing habitat.<sup>296</sup>

This project is part of the four-phased, 658-acre North Fork Levee Setback Project identified in the Skagit Chinook Recovery Plan.<sup>297</sup> This target includes restoring thirty acres of blind channel habitat.<sup>298</sup> When the entire North Fork Levee Setback Project is complete, the Skagit Chinook Recovery Plan estimates that the new riverine-tidal wetland habitat would support 625,032 Chinook salmon smolts.<sup>299</sup>

#### V. CONCLUSION—WHAT IS SUCCESS FOR FUTURE HABITAT RESTORATION PROJECTS?

Twenty years ago, the idea of reclaiming farmland on Fir Island to restore estuarine salmon habitat was unthinkable. I grew up on Fir Island, just a mile from the Wiley Slough and Fir Island Farms Projects; I went to school and played baseball with the children and grandchildren

---

mile of dike was removed, allowing tidal flow back onto the farmland. *Id.* Similarly, the Stillaguamish Tribe of Indians will soon begin work on an eighty-eight acre restoration project along the Stillaguamish River by removing a century-old dike and reconnecting the coastal wetlands to tidal influence. *Stillaguamish Restoration Restores Wetlands, Protects Farmland*, NW. TREATY TRIBES (Mar. 11, 2017), <https://nwtreatytribes.org/stillaguamish-restoration-restores-wetlands-protects-farmland>.

292. SHANNON & WILSON, INC., DRAFT FEASIBILITY STUDY AND PRELIMINARY DESIGN REPORT: NORTH FORK SKAGIT LEVEE SETBACK 1 (Dec. 31, 2015) [hereinafter NORTH FORK FEASIBILITY STUDY] (on file with author).

293. *Id.*

294. Recreation & Conservation Office, *North Fork*, *supra* note 27.

295. NORTH FORK FEASIBILITY STUDY, *supra* note 292, at 1.

296. Recreation & Conservation Office, *North Fork*, *supra* note 27.

297. NORTH FORK FEASIBILITY STUDY, *supra* note 292, at 1; *see* SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 191.

298. SKAGIT CHINOOK RECOVERY PLAN, *supra* note 18, at 191.

299. *Id.*

of the farmers on Fir Island. Regardless of the motivation behind their opposition, most residents and farmers on Fir Island would have never supported a plan to setback dikes and flood farmland with the goal of protecting salmon. Opposition to habitat restoration was as culturally ubiquitous on Fir Island as the rain. Nevertheless, two projects on Fir Island are complete, one next to the Island is complete, and another major project on the Island is in the works.

What has made these projects successful is not merely the number of acres restored or smolts returned, but their ability to garner community support for and cooperation in their implementation. In order to implement these projects successfully and to receive such support and cooperation, their goal could not only be habitat restoration, but also flood control. These projects have allowed for the reengineering of major flood control systems by reinforcing critical dike infrastructure, replacing and modernizing drainage systems and tidal gates, and by providing greater buffer zones on the seaward side of the dikes to blunt the impacts of rising sea levels and tidal influences.

How these projects are framed is critical to their successful implementation. To tribes, fishers, and conservationists, they are habitat restoration projects; to farmers, landowners, and skeptical community members, they are flood control projects. While the Skagit River System Cooperative was a contributing author of the Skagit Chinook Recovery Plan, it was only involved in the implementation of the Wiley Slough project, the only project on or next to Fir Island completed on only state-owned land.<sup>300</sup> Sensitive to the reticence of tribal involvement in habitat restoration, the Cooperative is conspicuously absent from the implementation of these projects on private land. The Fisher Slough, Fir Island Farms, and North Fork Levee Setback Projects all involved or involve the reclamation of private farmland, and while they were

---

300. Compare, WILEY SLOUGH DESIGN REPORT, *supra*, note 153, at 1 (“The Wiley Slough Restoration project is a collaborative project between the Washington Department of Fish and Wildlife (WDFW), the Skagit Watershed Council, the Skagit River System Cooperative, Seattle City Light, the US Fish & Wildlife Service, and others.”), with, FIR ISLAND FARMS STUDY, *supra* note 46, at 2 (“The project is sponsored by the WDFW.”), NORTH FORK FEASIBILITY STUDY, *supra* note 292, at 22 (“The project baseline studies, concept design alternatives, and alternatives evaluation have been presented to Skagit County, the [Skagit County Consolidated Diking Improvement District 22], [Dave] Hughes, the Western Washington Agricultural Association (WWA), and other landowner and habitat restoration stakeholders.”), and, ECONORTHWEST, *supra* note 287, at 1 (“The Project [was] made possible by a partnership between The Nature Conservancy (TNC), Skagit County, Western Washington Agriculture Association (WWAA), local dike and drainage districts, and neighboring farmers.”).

proposed in the Skagit Chinook Recovery Plan, the Cooperative has not been involved in their implementation.

Despite the success of these projects and the lessons they can teach for other restoration projects, the future of habitat restoration in Puget Sound is uncertain. In October 2016, in the waning months of President Barack H. Obama's administration, the White House Council on Environmental Quality ("CEQ") and the Environmental Protection Agency ("EPA") announced major investments in Puget Sound's restoration, including:

[a] \$248 million investment from [the] EPA, the State of Washington[,] and Puget Sound tribal governments, over the next five years, which will go towards improving estuary health. [The] EPA is contributing \$124 million through the National Estuary Program, matched with an additional \$124 million from the State.<sup>301</sup>

The CEQ also noted that two habitat studies completed by the United States Army Corps of Engineers awaited congressional construction authorization, including "the Puget Sound Nearshore Restoration Study, [which] recommends approximately \$450 million in large-scale estuary and coastal habitat restoration."<sup>302</sup> The future of these investments is bleak, however, as President Donald J. Trump's proposed 2018 budget plan would cut the EPA's budget by thirty-one percent and eliminate many of the Agency's grant programs, including those for Puget Sound restoration.<sup>303</sup>

With the potential elimination of federal and EPA grants, restoration projects will have to rely on funding from the State, tribal, local governments, and private funders. Tribal programs, however, are

---

301. Christy Goldfuss, Managing Dir., White House Council on Env'tl. Quality, *Taking Action to Protect the Puget Sound Watershed*, THE WHITE HOUSE, PRESIDENT BARACK OBAMA (Oct. 18, 2016), <https://obamawhitehouse.archives.gov/blog/2016/10/18/taking-action-protect-puget-sound-watershed>; see also Wash. Governor Jay Inslee, *White House, Washington State and Federal Leaders Announce Major New Initiatives for Puget Sound Recovery*, STATE OF WASH. (Oct. 18, 2016), <http://www.governor.wa.gov/news-media/white-house-washington-state-and-federal-leaders-announce-major-new-initiatives-puget>.

302. Goldfuss, *supra* note 301.

303. John Ryan, *Trump's Budget an 'All-Out Assault on Puget Sound'*, KUOW NEWS & INFO. (Mar. 17, 2017), <http://kuow.org/post/trumps-budget-all-out-assault-puget-sound>; see generally *Puget Sound*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/puget-sound> (last visited Mar. 19, 2017).

expected to suffer significantly under the proposed budget plan.<sup>304</sup> Nevertheless, the Puget Sound Partnership has identified that the State has committed \$449,435,893 to restoration projects from 1990 to 2016.<sup>305</sup> The State has also invested \$13,977,228 in restoration projects that are currently active.<sup>306</sup> While the EPA's commitment to invest \$124,000,000 in Puget Sound's restoration will most certainly be curtailed, the State's matching investment is now more critical than ever.<sup>307</sup>

Continued investment by local and regional stakeholders is essential to the broad restoration goals outlined in the Puget Sound Salmon Recovery Plan and recovery projects identified in the watershed-specific recovery plans. Without investment and support by local and regional stakeholders, tribes will begin to use their treaty rights to ensure that habitat restoration projects are undertaken and completed. In the wake of the *Culverts Case* decisions, some are already positing that the right to take fish may now be used to push for the removal of dams and hydroelectric facilities blocking upstream fish passage.<sup>308</sup> While such large-scale vision is needed to develop the scope of the treaty rights and the power of tribes, smaller-scale habitat restoration projects may become the forefront of the push to expand the right to habitat protection.

Nevertheless, successful habitat restoration projects require cooperation from a broad coalition of stakeholders. Habitat restoration benefits broad communities and is not simply as reductive as pro-Indian, anti-famer. Habitat restoration provides opportunities to reengineer flood control systems and reclaim underused, unused, or unproductive farmland. Habitat restoration also supports healthier ecosystems, which in turn supports tourism, recreation, and sport, treaty, and commercial fishing.

In the coming years, as budgets shrink at the federal level, successfully implementing the vision of the Puget Sound Salmon Recovery Plan, as well as the Skagit Chinook Recovery Plan, and restoring broad swaths of salmon habitat will require more state, tribal,

---

304. Courtney Flatt, *Proposed EPA Cuts Could Pose Big Problems for Tribes*, KUOW NEWS & INFO. (Mar. 10, 2017), <http://kuow.org/post/proposed-epa-cuts-could-pose-big-problems-tribes>.

305. Puget Sound P'ship, *Recovery Atlas*, *supra* note 291.

306. *Id.* (next to "State," click "\$449,435,893," then, under "Status," select "Completed," then select "Apply," then select "Download," then select "DATA," then select "Full data," then check "Show all columns," then select "Download all rows as a text file") (on file with author).

307. See Goldfuss, *supra* note 301.

308. Blumm, *supra* note 157, at 29–31, 36.

and local support and cooperation. As Fir Island proves, even in places where entrenched hostility and biases towards habitat restoration and Native Americans is pervasive, habitat restoration projects can nonetheless succeed when local support and cooperation are valued as an essential part of their implementation.