

Environmental Justice in the Pacific Northwest:
Developing an Atlas & Website to Identify Indigenous Pillars
of Environmental Justice for Policy Recommendations

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Abstract

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For centuries, the Coast Salish peoples have been one of the most visible political actors in the Environmental Justice Movement of the state of Washington. However, despite their strong advocacy for environmental justice, environmental justice policies continue to dismiss cultural values, tribal sovereignty, and community mapping. This thesis aims to document several environmental justice cases that have occurred in the Pacific Northwest U.S. (PNW) against or in favor of the Coast Salish peoples since the 1960's Fish Wars. The environmental justice cases will consist of both environmental victories and injustices that impact and affect the Washington state tribes. For the purposes of this thesis, environmental justice is defined as a theory and framework utilized to describe grassroots movements led by communities of color to protect and advocate for their well-being, livelihoods, resilience and Mother Earth.

The environmental justice cases documented in this study will be utilized to develop an environmental justice atlas and website. The environmental justice cases will be coded to determine the indigenous pillars of environmental justice for the Pacific Northwest U.S. The indigenous pillars of environmental justice will identify the important tribal and cultural values for the Coast Salish tribes and nations. These indigenous pillars of environmental justice will allow policy-makers to shift from distributive, procedural and recognition justice by incorporating cultural values, tribal sovereignty, and community mapping. It is important to acknowledge that environmental justice is a complex issue in Indian Country, therefore, there are no simple solutions to address environmental justice provided in this thesis, but rather initial tools to start building, adapting, and applying the environmental justice concept to the specific context of the indigenous experiences in the United States.

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Chapter 1: Introduction

1.1 Rationale and Purpose of Research: Environmental Justice in Indian Country

Native and Indigenous communities are one of the most visible political actors in the Environmental Justice Movement (i.e. #NoDAPL, etc.). However, despite the recent theoretical, empirical, and policy advancements in environmental justice, there is still a gap pertaining to Native American and indigenous communities (Vickery, et. al., 2016). Why does this gap exist? The concept of environmental justice does not fit the indigenous experience in the United States perfectly. Unlike other marginalized, low income, or communities of color, tribes have a unique legal and political status in this country; tribal sovereignty (Walker, J., 2002). In addition, in order for environmental justice to be manifested among indigenous communities, indigenous pillars of environmental justice for Indian Country need to be identified. The indigenous pillars of environmental justice will help policymakers shift their focus from distributive, procedural, and process justice into a more inclusive form of justice that weighs in cultural resources, values, and principles (Figure 1). This will shift the focus from equity and fairness into an inclusive approach that also values indigenous cultures.

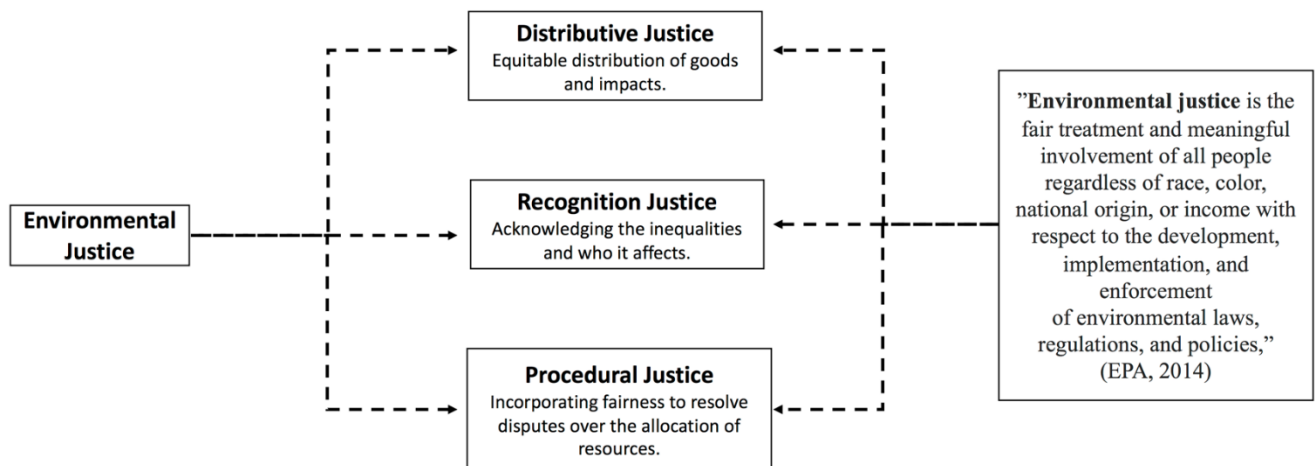


Figure 1. Policy Model of Environmental Justice.

The indigenous pillars of environmental justice determined in this thesis were identified through the coding of the environmental justice cases that were compiled and recorded for this study. The environmental justice cases were selected based on the definition of environmental justice in Indian Country; a grassroots movement led by communities of color to protect and advocate for their well-being, livelihoods, resilience and Mother Earth (Figure 2). Pillars define the important themes of related research, concepts, and policies that define certain theories and frameworks.



Figure 2. Environmental Justice in Indian Country.

Environmental justice is both a theory and framework that is used to describe and address environmental justice at the policy and community level. Pillars are the postulates that drive research and policy-making. For example, the pillars of sustainability include; environmental, social, and economic (Figure 3) (Hansmann, R. et. al., 2012; Boström, M., 2012). As a result,

most policies, projects, and research related to sustainability focus on these three areas; environmental, social, and economic.

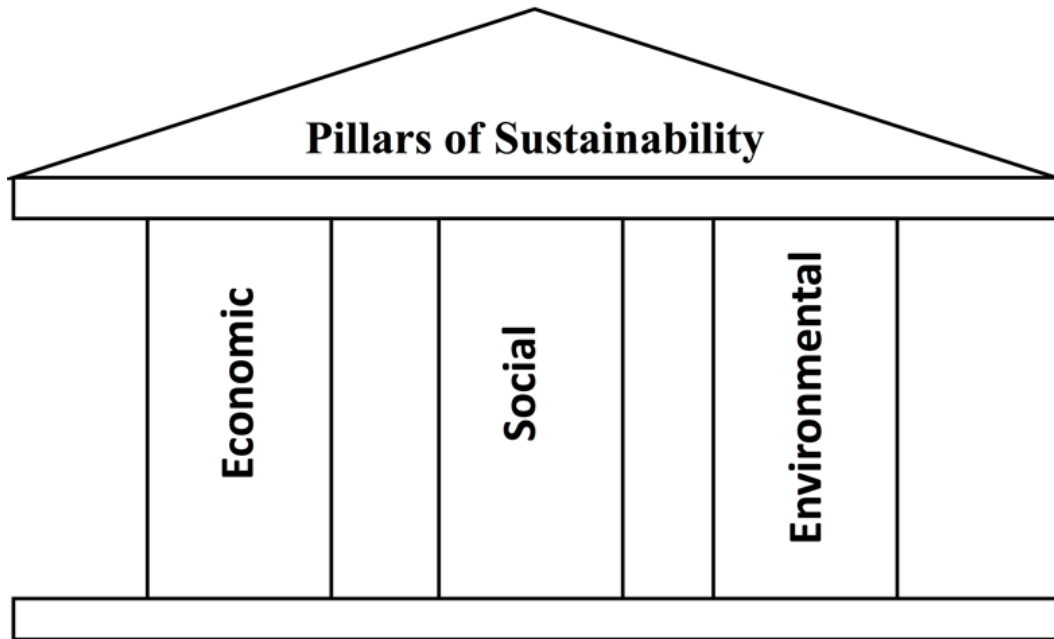


Figure 3. Pillars of Sustainability (Hansmann, R. et.al, 2012 & Boström, M., 2012).

Since the framework and theory of environmental justice does not fit the indigenous experience in the United States perfectly, we must investigate the current pillars of environmental justice to determine some of the existing gaps. Dr. Clare Ginger identifies the four pillars of environmental justice scholarship as; “1) Fairness in the distribution of environmental resources and negative impacts, 2) Intra- and intergenerational equity (fairness), 3) Right to a clean, safe, and productive environment and 4) Right to have a voice in decisions that affect our lives, families, and communities” (Figure 4) (Clare, G., 2011). These pillars of environmental justice focus more on distributive, procedural, and recognition justice (Conrad, S., 2011; Miller, J., et. al., 2016). As a result, fairness, equity, and acknowledgement are the indicators that policies weigh in when dealing with environmental justice. This dismisses the complexity of

indigenous communities by not centering their values, traditions, and principles. The indigenous pillars of environmental justice identify the cultural values that are important for the tribes to balance in order for environmental justice to be manifested throughout the Pacific Northwest in favor of the Coast Salish peoples.

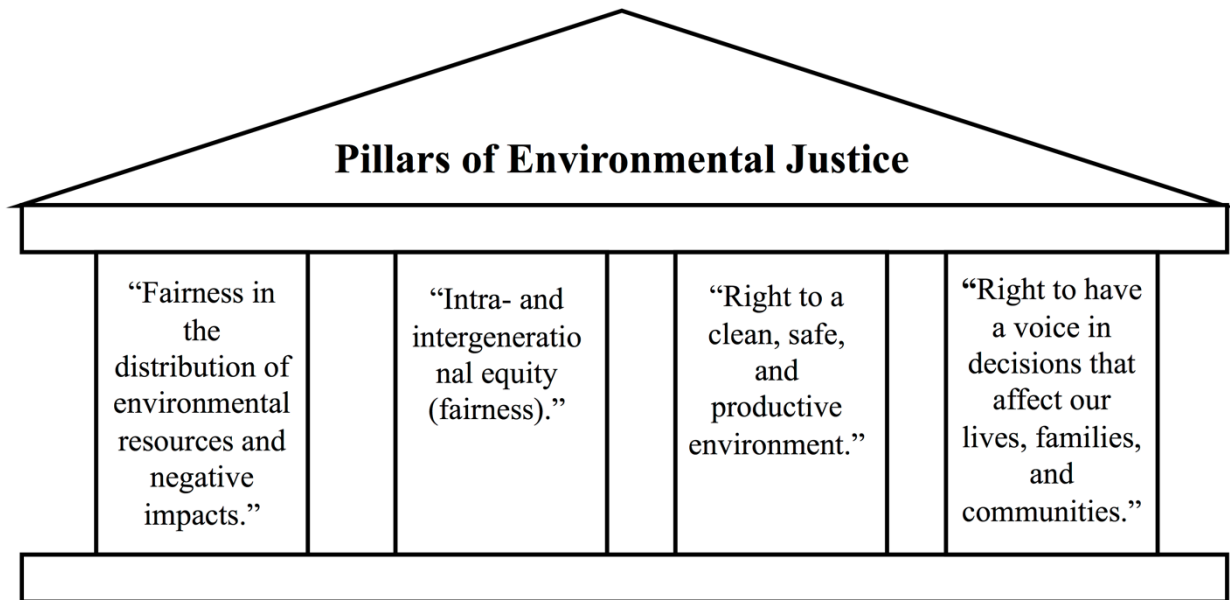


Figure 4. Current Pillars of Environmental Justice Scholarship (Clare, G., 2011).

The intersection between culture and the environment is also not manifested through environmental justice policies because policies fail to be inclusive of the strong bond of place attachment and place identity for indigenous peoples (Hernández, C., et. al., 2007). Policies such as the Executive Order 12898 focus on distributive justice; centering its theories on the equitable distribution of natural resources and environmental impacts. Consequently, environmental justice policies do not address the root cause behind environmental injustices (Conrad, S., 2011). Pellow and Brulle (2005) argued that environmental injustices can be overcome. While overcoming

environmental injustices have resulted in several victories in the Pacific Northwest, the resistance movement against the North Dakota Access Pipeline is an example of how tribal sovereignty is sometimes overthrown within United States political frameworks. Environmental justice is a complex issue in Indian Country, therefore, learning from the past to ensure that similar injustices do not play out in the future is a complicated framework to analyze and determine. The indigenous pillars of environmental justice will allow us to understand what policies need to protect, manage, and understand in order for environmental justice to be manifested throughout the Pacific Northwest. This will help policy-makers address the root causes that result in environmental (in)justices against the Coast Salish tribes and nations.

Despite several setbacks the environmental justice movement has witnessed, the movement in Indian Country has slowly been transforming the western sciences' perception of humans not being interconnected with nature by introducing the interdisciplinary study that integrates the human-environment relationship (Ottinger, G., et. al., 2011; Kopnina, H., 2014). In Indian Country, indigenous principles play a major role in the advocacy of environmental justice. Indigenous principles are practices and ethics derived from the intersection of traditional ecological knowledge (TEK) and the relationship of living and nonliving things (Posey et. al., 2004). However, since state institutions have historically managed and controlled all natural resources that continue to devalue Native American culture, it is important to incorporate decolonization into the environmental justice discourse (Smith, L., 1996; Roscigno, V., et. al., 2016).

Decolonization in environmental justice begins with sustainable self-determination (Figure 5); the process involving indigenous livelihoods and wellbeing that is comprised of food security, tribal governance and sovereignty, relationships to homelands and the natural world,

and ceremonial practices passed down to the Seven Generations (Corntassel, J., 2008). In order to promote and advocate for decolonization, a combination of western scientific knowledge and indigenous scientific knowledge need to be incorporated into any framework. The integration of both will help us address environmental justice in Indian Country as the master's tools combined with the community' tools can destroy the systems of oppressions that result in environmental injustices.

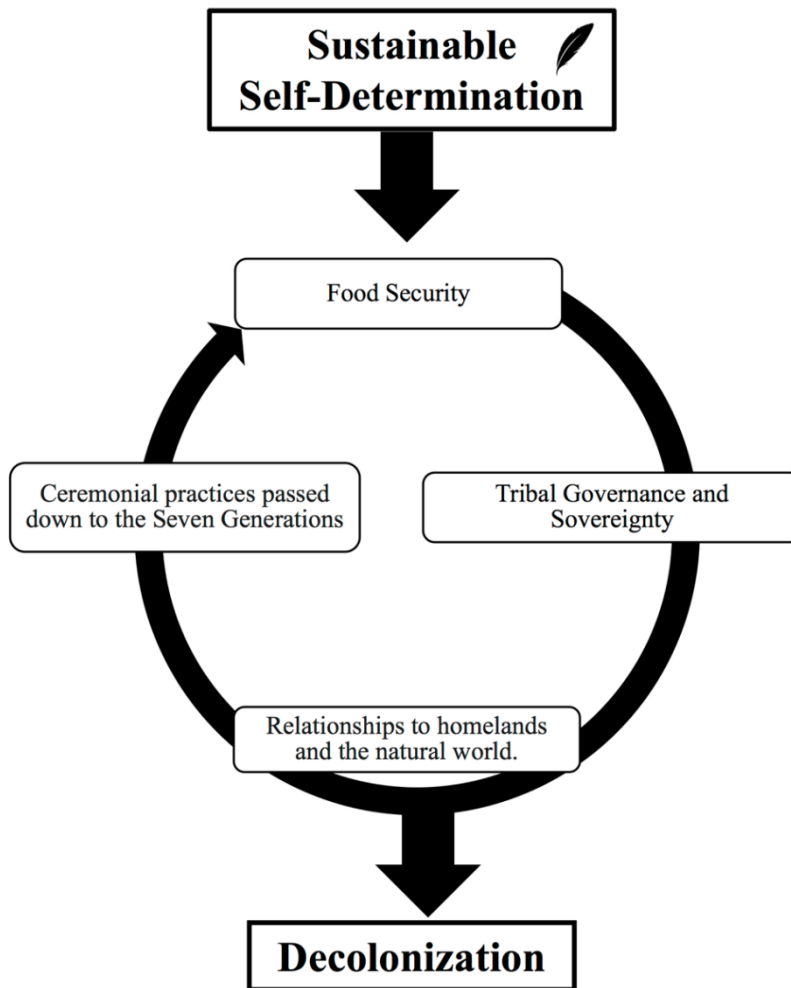


Figure 5. Roadmap from Sustainable Self-Determination to Decolonization.

Sustainable self-determination and decolonization can balance the pillars of environmental justice in Indian Country. Sustainable self-determination and decolonization are important to incorporate in existing environmental justice frameworks as they help address the root cause of some environmental (in)justices.

1.2. Grassroots & Community Mapping to Address Environmental Justice

Environmental justice can only be achieved through grassroots movements that create changes the communities identify. This is why it is crucial that environmental justice efforts continue to rise from the communities impacted and not from policy-makers, researchers, or academics who do not have a rapport built with the communities. Decolonizing the environmental discourse is necessary to achieve environmental justice, especially during our current geopolitical climate. Decolonizing the environmental discourse grants a voice to the voiceless, who are often left out of the policy decision-making. Through community mapping, the community is more likely to identify their resources and needs to address environmental justice through policies.

Most policy advancements tend to be exclusive as it fails to recognize the differences and intersectionalities each community, ethnic group, or tribe possesses. For instance, the indigenous identity is comprised of intersectionalities that can possess additional privilege within their communities. An example of an intersectionality in indigeneity is educational level (Figure 6). These major differences are the reason why the one-size-fits-all model that many policies follow isolates certain individuals within those communities (Amsden, J., et. al., 2005). Indigenous communities can be socially divided due to internal conflicts between power, politics, and privilege. Labeling them as a homologous group can create more divisive structures.

Environmental justice policies also identify a temporary solution to a problem that does not address the root cause because they are following the top-down approach. The top-down approach disconnects policy-makers from the communities and as a result, their community assessments come from a place of power and privilege. This is why the bottom-up approach is essential to address the root causes of environmental (in)justices that will eventually manifest into environmental justice.

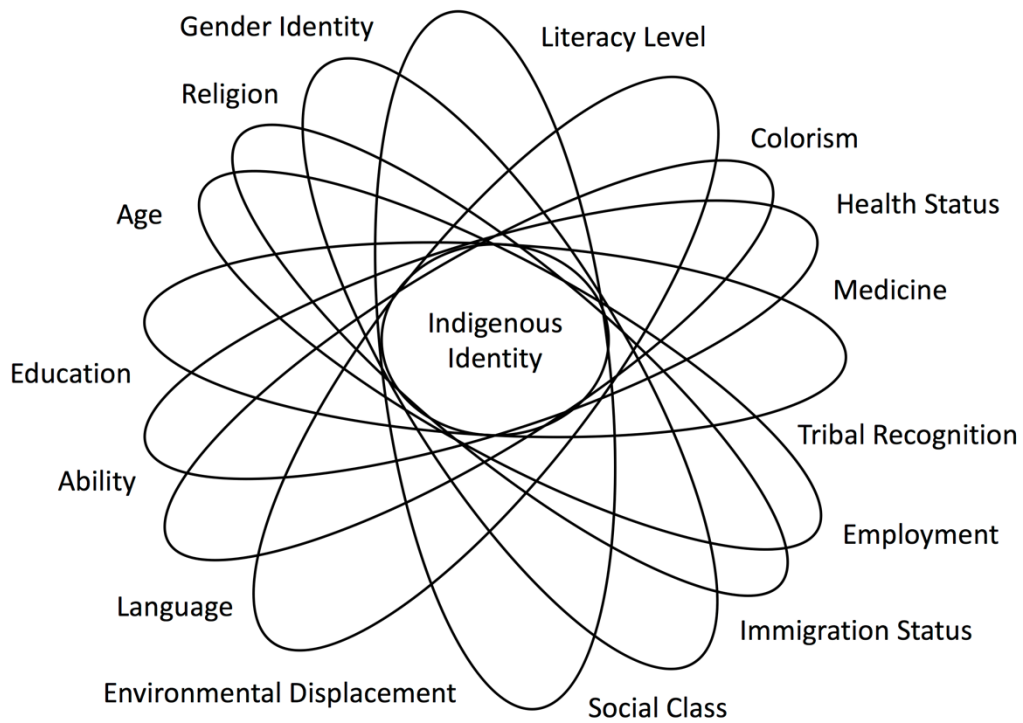


Figure 6. Indigenous Identity Intersectionalities.

The bottom-up approach emphasizes grassroots movements that allow communities to effectively address environmental justice. One of the main components of grassroots work and the bottom-up approach is community mapping. The community mapping framework for

addressing environmental justice (Figure 7) was generated based on my previous community work in the PNW. Community mapping is useful because it creates: 1) willingness to participate or work together; 2) Diverse and inclusive space; 3) Trust among community members; 4) Community & youth empowerment; 5) Community goals; and 6) Collaboration to address current environmental (in)justices that are affecting the community.

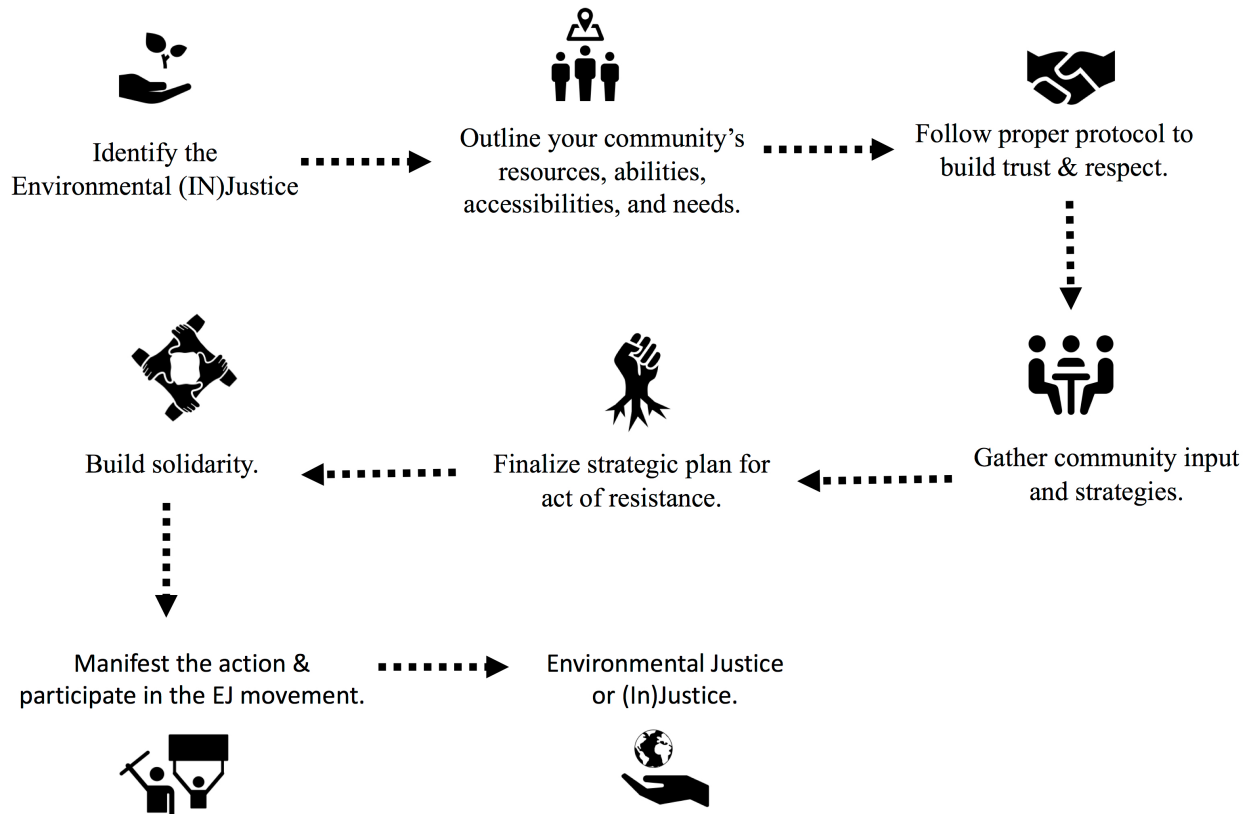


Figure 7. Community Mapping Framework to Address Environmental Justice.

Community mapping is an effective communication and data tool that allows the community to identify its assets, abilities, accessibilities, and capacities that will make it more clear to them when fighting against fossil fuel companies, etc. It is important to note that this community mapping framework needs to be adapted to the specific community and additional steps can be added due to their needs and assessments. Not all indigenous communities follow

the same protocol, therefore their community mapping can differ from this framework.

Community mapping highlights the resiliency and resistance of indigenous communities.

1.3. History of Environmental Justice in the Pacific Northwest: From Treaties to Fish Wars

The Coast Salish tribes and nations signed the Stevens Treaties between 1854-56. Table 1 lists the several treaties signed between the United States of America and the Washington state tribes. In these treaties, there was a fishing clause that granted the tribes the right to access and harvest 50% of fish stocks in their usual and accustomed areas (O. Yale L., 2002).

Table 1. Treaties between the United States of America and Washington State Tribes (Government of Indian Affairs, 1855).

Treaty	Coast Salish tribe or nation	Location and Date Signed
Treaty of Medicine Creek	Nisqually, Puyallup, Squaxin Island, Muckleshoot	Medicine Creek December 26, 1854
Treaty of Point Elliott	Lummi, Nooksack, Stillaguamish, Swinomish, Upper Skagit, Suquamish, Sauk Suiattle, Tulalip, and Muckleshoot	Point Elliott January 22, 1855
Treaty of Point No Point	Jamestown S'Klallam, Port Gamble S'Klallam, Lower Elwha, Skokomish	Point No Point, Suquamish Head January 26, 1855
Treaty of Neah Bay	Makah	Neah Bay January 31, 1855
Treaty with the Walla Wallas	Walla Walla, Cayuse and Umatilla tribes and bands	Camp Stevens, Walla Walla Valley June 9, 1855
Treaty with the Yakamas	Yakama confederated tribes and bands	Camp Stevens, Walla Walla Valley June 9, 1855
Treaty with the Nez Perces	Nez Perce Tribe	Camp Stevens, Walla Walla Valley , June 11, 1855
Treaty of Olympia	Quinault, Hoh, and Quileute	Qui-nai-elt River, January 25, 1856

For instance, the Treaty of Point Elliot's fishing clause stated;

“ARTICLE 5. 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 any beds staked or cultivated by citizens” (Government of Indian Affairs, 1855).

These fishing clauses incorporated in all treaties were not fulfilled by the federal government resulting in an environmental injustice against the tribes that took years before it was addressed. The treaties were dictated by President Thomas Jefferson to try to assimilate Native Americans by introducing them to agriculture (i.e. farming, raising cattle, etc.) and abandon their old ways of hunting, gathering, and fishing (Richards, K., 2005).

Despite the assimilation efforts (i.e. treaties, policies, boarding schools, etc) from the U.S. government and religious entities, the Coast Salish cultures thrived in the Pacific Northwest. In the 1960's, the Civil Rights Movement of the Pacific Northwest originated as an act of resistance and resilience. This movement aimed to reclaim the recognition of fishing and treaty rights for the Washington state tribes. This is also known as the Fish Wars and some the key actors in this grassroots movement were; Billy Frank Jr., Janet McCloud, Robert Satiacum Jr., Alison Gottfriedson, Hank Adams, and Ramona Bennett. They held fish-ins protests which were based off the sit-ins that took place in the south during the Civil Rights Movement. They were arrested because the participants were fishing without federal licenses or permits. They

were refusing to obtain state licenses from the Fish and Wildlife Services as a form of self-determination and to reassert their treaty rights that were never honored.

The fish-ins finally garnered media attention in 1964 and prompted celebrities to join the movement, including the movie star Marlon Brando. After countless battles at Frank's Landing (the location where the fish-ins mostly took place), the National Association for the Advancement of Colored People (NAACP) began providing legal support to the tribes. The NAACP fundraised for the legal fees and along with the American Civil Liberties Union and ultimately, the U.S. Department of Justice. This case was taken to court (Twitchell, M., 1989).

In 1974, a court decision made by Judge George Boldt changed the course of history for the PNW and Washington state tribes. This court ruling became known as the Boldt Decision and it asserted the treaty rights the tribes were denied for years. One of those rights was the fishing clause that finally allowed tribes to practice their fishing rights as a sovereign nation without applying for fishing permits from the Washington Department of Fish and Wildlife. The tribes now had the right to 50% of the fish stocks in the state of Washington. A historical timeline of the events that led to the Fish Wars and ultimately, the Boldt Decision, is shown in Figure 8.

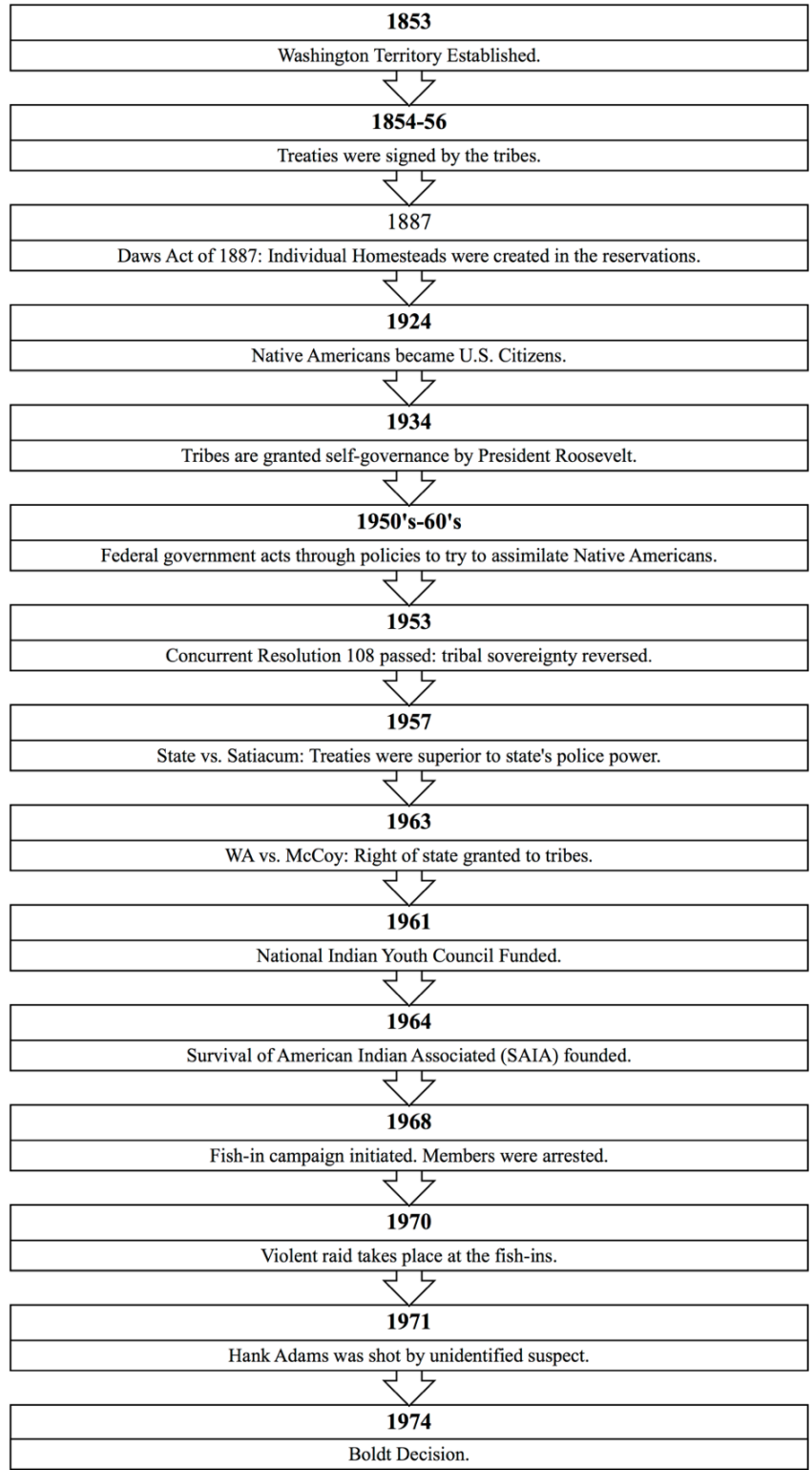


Figure 8. Historical Timeline of Events that Led to the Fish Wars and Boldt Decision.

The Boldt Decision only applies to twenty of federally recognized tribes. In the state of Washington, there are currently eight tribes that do not have federal recognition. Tribes that are not federally recognized are not granted tribal sovereignty, but can still form tribal organizations. They can also purchase lands but their lands will not be considered trusts; lands protected by the federal government. The Boldt Decision also led to the establishment of the Northwest Indian Fisheries Commission; “a natural resources management support service organization for 20 treaty Indian tribes in western Washington,” (Northwest Indian Fisheries Commission, 1974). This thesis focuses on the environmental justice cases that occurred during the Fish Wars of the Pacific Northwest against or in favor of all thirty-seven tribes—in regardless of federal recognition or the Boldt Decision applying to them.

1.4. Web-based Mapping Technology for Environmental Justice: Existing Environmental Justice Atlas & the Environmental Protection Agency’s EJSCREEN

Western sciences have led to technological and societal advances in the 21st century. As a result, web-based tools such as geographic information system (GIS) have allowed environmental justice research to integrate spatial studies in relation to socio-demographics and environmental hazards (Grineski, S., 2011). However, most of these web-based tools have been applied to urban settings. They have mapped the environmental hazards and health disparities in major cities. There were a few maps and rarely any atlases pertaining to environmental justice that focus on rural areas such as the areas where the tribes reside. The only public environmental justice atlas (<http://ejatlas.org/>) has little information regarding environmental justice cases that have occurred in the state of Washington. The only two cases documented for the state are: 1) GMOs and Crop Biodiversity Loss in Washington State, USA (<http://ejatlas.org/>); and 2) Plutonium Production at Hanford near Native American Reservations, USA (<http://ejatlas.org/>).

The Environmental Protection Agency (EPA) also launched EJSCREEN: Environmental Justice Screening and Mapping Tool (EPA, 2010). This platform focuses more on communities that have worked with the EPA and it offers useful demographics for government agencies or others who are interested in working with certain communities to analyze. EJSCREEN centers its data on demographic information from the U.S. Census sites reported to EPA, environmental justice grants awarded from the EPA, nonattainment area, water features, parks, transportation, EPA tribal areas, and boundaries. This is a great outlet for government agencies that require certain data demographics such as 1) Minority and/or low-income populations, 2) potential environmental quality issues, 3) environmental and demographic indicators, and 4) other factors of interest (i.e. language) (Cheng, C., 2016).

EPA's mission was to create a national consistent tool for government partners and the public to understand environmental and demographic characteristics of certain locations through EJSCREEN (EPA, 2012). Appendix 1, 2, and 3 show the reports generated on EJSCREEN for Bellingham, WA—where the Lummi Nation is located. Some of the useful information integrated into the EJSCREEN report include the comparison of environmental justice indexes with the entire state, region, and country. This percentile does not weigh in cultural values and the indigenous pillars of environmental justice. The environmental justice indexes focus more on the technical information obtained through the western sciences and lens. They incorporate some of the health disparities indigenous communities face, but are limited to; cancer risk from toxic air and exposure to lead in paint.

While EJSCREEN is a hub for data that is useful to assist decision-makers in prioritizing grants and other efforts in areas of greatest need as assessed by this GIS-based tool, a model similar to the EJ Atlas to <http://ejatlas.org/> is more useful for the advocacy of environmental and

tribal rights in Washington. Unlike EJSCREEN, this atlas is also more user-friendly and it includes sources and information to learn more about the environmental justice cases documented. A similar model was utilized in this thesis to develop and create our EJ atlas and website. These tools were created more for the communities themselves who might not be technologically trained to utilize a complicated map like EJSCREEN.

Chapter 2: Materials and Methods

2.1 Data Collection: Compiling a table of Environmental Justice Cases

Environmental justice cases were collected from various online news sources. Our sources were selected based on three indicators: Accuracy of background information, Reliability and non-biases of the source, and Amount of information provided. Table 2 lists the sources that were cited. The news sources were divided into ten categories; academic institution/news outlet, regional news outlet, national news outlet, international news outlet, blog, tribal website, government agency, social media, native-led news outlet, and non-profit governmental agencies (NGOs). Each category is self-explanatory.

Table 2. List of News Sources.

News Sources	# of Times Source was Used
Academic Institution/News Outlet	12
Regional (WA) News Outlet	41
National News Outlet	9
International News Outlet	2
Blog	14
Tribal Website	4
Government Agency	9
Social Media	4
Native-led News Outlet	16
NGOs	6

The importance of regional news outlets reporting on local environmental justice cases is demonstrated in our data collection as they were the number one news source that documented most of the cases coded in our atlas (Figure 9). There is a lack of national and international news sources focusing in the state of Washington as they were the news sources that documented the fewer cases. Native-led were the second news source that documented the most environmental justice cases coded in our atlas and this demonstrates the important of news outlets centering the

voices of indigenous peoples. The one that surpassed in this category was Indian Country Media Network that is an online news outlet that focuses on reporting issues and news, and travel in Indian Country (Indian Country Media Network, 2017).

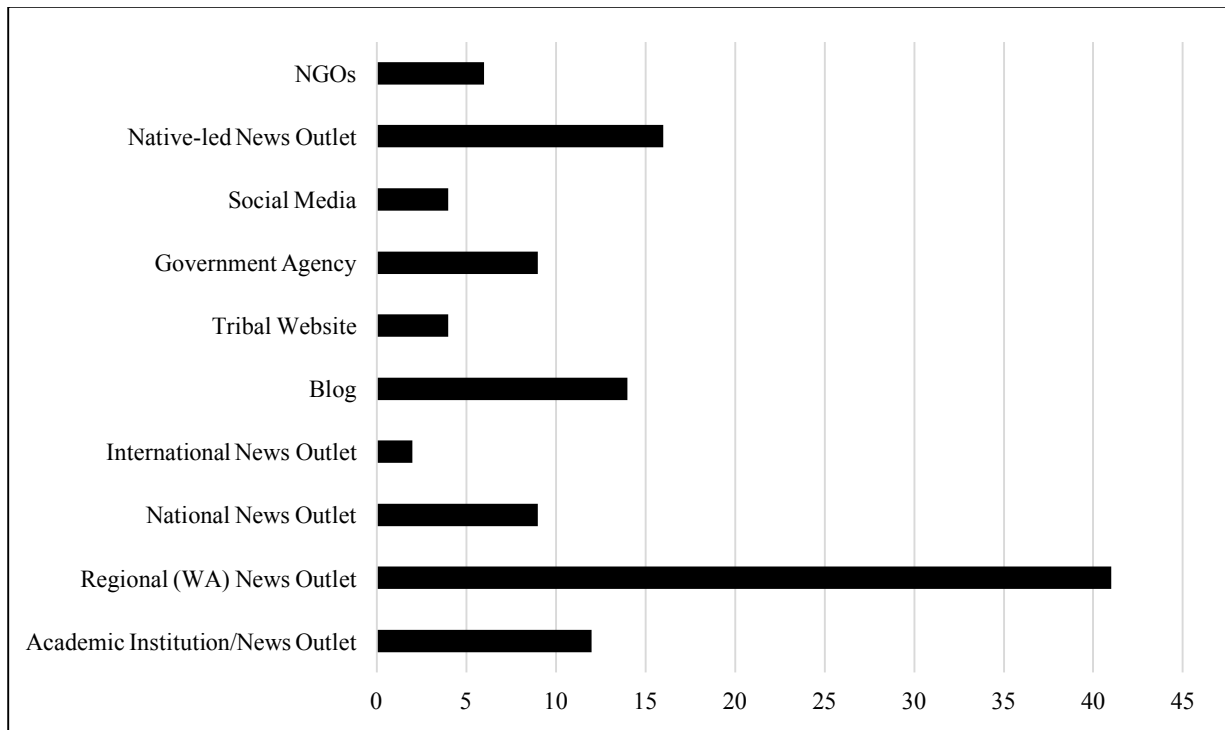


Figure 9. Number of Times News Sources Were Utilized.

The environmental justice cases were selected based on the environmental justice definition utilized in this thesis; a grassroots movement led by communities of color to protect and advocate for their well-being, livelihoods, resilience and Mother Earth. All cases result in either an injustice or victory in favor or against the Washington state tribes. For this thesis, the cases that occurred after the Fish Wars of the 1960's were the ones documented in Table 3 and

coded on our environmental justice atlas. A brief summary was generated for each case that included: a) Background information, b) Problem, c) Community, d) Strategies, and e) Sources (Figure 10). Once the cases were recorded (Table 3) they were coded in our Environmental Justice Atlas that is accessible on: <http://arcg.is/OuiXnr>. The atlas was titled, ‘Environmental Justice in the Pacific Northwest.’



Figure 10. Key Points Mentioned in the Environmental Justice Cases.

Table 3: Environmental Justice Cases

Washington Tribe	Environmental Justice Case	Year	Description
Frank’s Landing: Fish-Ins	Frank’s Landing: Fish-ins Site	1960's-1974	<p>Frank's landing is the historic site that Willy Frank Sr. purchased to relocate his family and preserve additional fishing grounds. This site became the infamous site in which the fish-ins took place that led to several arrests (including Billy Frank Jr). The fish-ins led to the legal disputes that resulted in the Boldt Decision. Frank's landing is now a historic site and the We He Lut Indian School is currently established there.</p> <p>Sources: https://www.youtube.com/watch?v=3LIBxv-v5KE https://www.youtube.com/watch?v=3LIBxv-v5KE https://indiancountrymedianetwork.com/news/letter-from-wahelut-franks-</p>

			landing/https://indiancountrymedianetwork.com/news/letter-from-wahelut-franks-landing/ http://frankslanding.org/franks-landing/http://frankslanding.org/franks-landing/
Tulalip Tribe	3-4 Million Tons of Toxic Dumped in the Lower Snohomish Estuary	1964-1979	<p>The commercial and industrial sectors dumped 3-4 million tons of toxic from into the lower Snohomish Estuary. This resulted in the loss over 147 acres of intertidal wetlands. The Department of Ecology for the state of Washington, conducted an investigation of the sediments in 2009. They found high level of toxins that indeed exceed the state's cleanup standards. These results are the consequences of dumping 3-4 tons of toxins in the lower region of the estuary.</p> <p>Sources: http://www.ecy.wa.gov/programs/tcp/sites_brochure/psi/everett/everettSedStudy.html http://www.qwuloolt.org/AboutUs/HistoryAndVision</p>
Puyallup Tribe	Puyallup Tribe: \$162 Million Land Settlement for Stolen Lands	1988	<p>The Puyallup tribe lost 18,000 acres of land in Commencement Bay to the city of Tacoma—after the land settlement that through fraud and manipulation was taken from the tribe. This land was granted to the city of Tacoma for advancements in development and urbanization. The Puyallup tribe submitted a land claim in court and in 1988, they received \$162 million in a land settlement. As a part of this settlement they also received \$51 million deep-water terminal to diversify into trading and commercialized ports. Even though the tribe only received \$162 million, the total of all the buildings and other landscapes in this 18,000 acres of land total to \$750 million.</p> <p>Sources: http://www.historylink.org/File/7969 http://www.nytimes.com/1988/08/29/us/indian-tribe-agrees-to-drop-claim-to-tacoma-land-for-162-million.html</p>
All Washington state tribes	Paddle to Seattle: Canoe Journey	1989-today	<p>In 1989 a Paddle to Seattle was initiated by seventeen tribes. They reintroduced their traditional canoe making and learned how to paddle them to ensure that this tradition was not</p>

			<p>lost for the Seven Generations. Emmett Oliver played a major role in revitalizing this tradition as he served in the Maritime Committee of the Washington State Centennial Commission. The first canoe journey was called the ‘Paddle to Seattle’ and ever since it has evolved to what is now known as Canoe Journey. It involves all the Coast Salish tribes and nations and the final destination is selected every year. The tribes have to paddle to the host tribe. This is a way to introduce the canoe tradition to the younger generation and to revitalize traditions.</p> <p>Sources: http://www.historylink.org/File/20269 https://indiancountrymedianetwork.com/news/native-news/emmett-oliver-founder-of-paddle-to-seattle-walks-on-at-102/</p>
Lummi Nation	Lummi Nation Launches Renewable Energy Projects	1993-2012	<p>The Lummi Nation established a goal to become energy self-sufficient. Since this statement in 1993, the Lummi Nation was approached by several renewable energy developers to start a project. In 2011, they launched an assessment to determine whether the Lummi Nation can indeed become energy self-sufficient. The company behind this assessment is DNV Renewables—a U.S. renewable energy company. There is also a wildlife assessment that needs to be conducted since renewable energy installations can disturb the wildlife of the area. The wind feasibility assessment taught the Lummi Nation that in order to build wind power sources, they need to estimate the feasibility of the assessment and foster collaborations and partnerships to achieve this goal. The other renewable energy projects the tribe is overseeing include; solar lighting for pedestrian sidewalks, geothermal heat pumps, and a strategic energy plan to decrease the energy consumption per household.</p> <p>Sources: http://www7.nau.edu/itep/main/tcc/Tribes/pn_lummi</p>

<p>All Washington state tribes</p>	<p>Kennewick Man Returned to Coast Salish Tribes</p>	<p>1998-2017</p>	<p>On 1996, two men in Kennewick, Washington found a human skull and excavations uncovered an entire ancient skeleton. Archaeologist Dr. James Chatters claimed that the skeleton was not of Native American descent, but rather European. Lab tests concluded that the skeleton was over 9,000 years old. Scholars sued the state to prevent the remains to be returned to the Native American tribes under the Native American Graves Protection and Repatriation Act. After sequencing the DNA of the Kennewick man and publishing it, the DNA of several tribal members was used and the DNA matched most of their DNA. This settled the disputes of the scientists who had mentioned the Kennewick man was not Native American. In 2017, the remains were finally buried in a traditional ceremony.</p> <p>Sources: http://www.burkemuseum.org/blog/kennewick-man-ancient-one http://www.burkemuseum.org/blog/kennewick-man-ancient-one http://www.tri-cityherald.com/opinion/opn-columns-blogs/article150818932.html http://www.tri-cityherald.com/opinion/opn-columns-blogs/article150818932.html http://www.smithsonianmag.com/history/kennewick-man-finally-freed-share-his-secrets-180952462/?no-ist=&no-cache=&page=3</p>
<p>Makah Tribe</p>	<p>Makah Tribe's Whale Hunt</p>	<p>1999</p>	<p>After countless legal battles, the Makah tribe was given the legal right to reintroduce whaling for cultural resurgence and revitalization. Whale hunting was a granted right to the tribe under the 1855 Treaty of Neah Bay. In 1999, Makah whale hunters legally hunted their first grey whale since the 1920's. However, after this whaling, their legal right was banned due to the opposition they received from conservationists like the Sea Shepherd alliance. Whale hunting is an important component of Makah traditions and cultures. The 1999 became the last whale hunt the Makah tribe was allowed to do.</p>

			<p>Sources: https://indiancountrymedianetwork.com/history/events/whale-wars-group-vs-makah-who-decides-if-traditions-are-authentic/ https://indiancountrymedianetwork.com/history/events/whale-wars-group-vs-makah-who-decides-if-traditions-are-authentic/ http://www.takepart.com/article/2015/03/12/makah-tribe-hopes-resume-gray-whale-hunt http://www.takepart.com/article/2015/03/12/makah-tribe-hopes-resume-gray-whale-hunt http://www.historylink.org/File/5310</p>
Colville Confederated Tribes & Spokane Tribes	Sturgeon Fishing in Lake Roosevelt Opened to Tribal Fishermen	2000-2017	<p>The sturgeon fisheries in Lake Roosevelt has been closed for years due to the low populations of the species. However, in 2017 it will be opened to tribal fishermen. The Colville and Spokane Tribes are co-managers and they are monitoring the sturgeon their tribal members harvest. The sport fishermen are only allowed to harvest one sturgeon with a limit of two per year. Hatcheries were administered by both tribes and finally, the populations are healthy enough to open the fisheries for the summer of 2017.</p> <p>Sources: http://www.spokesman.com/blogs/outdoors/2017/may/03/lake-roosevelt-sturgeon-season-planned-tribes-already-fishing/ https://fortress.wa.gov/dfw/erules/efishrules/erule.jsp?id=1975</p>
Muckleshoot & Suquamish	Duwamish River	2001	<p>Muckleshoot and Suquamish tribes have federal treaty rights to fish in the Duwamish river (usually and accustomed fish harvest site). However, due to the urbanization and storm H2O runoff, the Duwamish River has been polluted resulting in health disparities. In 2001, the Duwamish River was identified by the EPA as a pollution site that was unsafe to people and the environment cleanup initiated as a result and King County removed 66,000 cubed yards of contaminated sediments. The project continues. As a result, both the Muckleshoot and Suquamish fishing grounds are negatively impacted due to the contaminated found in the Duwamish River</p>

			<p>waterfront. The clean-up led by the county initiated in 2013.</p> <p>Sources: http://duwamishcleanup.org/http://duwamishcleanup.org/ https://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish https://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=muckleshoot+duwamish&*</p>
Yakama Nation	Lower Yakama Valley: Access to Clean Groundwater	2001	<p>In 2001, the Department of Ecology for the state of Washington conducted a water analysis and found out that the Lower Yakama Valley's groundwater had 20% Nitrates. Nitrates affect human health severely as they reduce the amount of oxygen red blood cells can carry. Infants can also die from serious complications such as blue baby syndrome. In 2013, the EPA agreed to work with the Lower Yakama Valley to address and identify the source of pollution for the nitrate found in the groundwater. This monitoring includes; groundwater monitoring, soil data reports, etc.</p> <p>Sources: http://www.ecy.wa.gov/programs/wq/grndwtr/LowerYak-gw.html https://yosemite.epa.gov/r10/water.nsf/gwpu/IYakamagw</p>
Hoh Indian Tribe: Forks, WA	Hoh Indian Tribe: Flooding	2009	<p>Of the tribe's reservation land that was designated to them by the government , 90% was located on flood plains. Due to sea-level rising and storms, their land was flooding at an alarming rate— forcing tribal members to relocate. Half of the tribe's homes were abandoned or washed away due to the persisting floods their lands underwent. A bill was introduced in 2009 that aimed to grant the tribe 37 acres of the Olympic National Park— land less likely to flood. This bill became the Hoh Indian Tribe Safe Homelands Act in 2010 and as a result, the tribe was officially granted land to relocate and avoid the floods from the Olympic National Park.</p>

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Cowlitz Indian Tribe & Southwest Washington Tribes	Disease Affecting the Elk in Southwestern Washington	2009-	<p>Since 2009, a disease known as the hoof rot has been affecting the elk of the state of Washington—mostly the one located in southwestern region of the state. This disease causes hoof lesions: missing, broken, or deformed. This disease had affected livestock before but not wildlife until recently. As of now they do not know what is causing this disease, but it is affecting the traditional foods of many tribes as the elk cannot be harvested and consumed if it is impacted by this disease.</p> <p>Sources: http://tdn.com/lifestyles/outdoors/wsul-researchers-called-upon-to-solve-hoof-rot-dilemma/article_7b119b4a-72d3-55d0-9b67-bff2411bd78e.html</p> <p>http://wdfw.wa.gov/conservation/health/hoof_disease/</p>
Yakama Nation	Yakama Nation Fosters Partnerships to Develop Biofuel energy	2010	<p>The Yakama Nation has fostered partnerships in the Pacific Northwest, including the University of Washington to develop biofuels. Biofuels are a controversial source of renewable energy since they utilize ethanol from food sources and crops that increase their prices and increase deforestation for the establishment of more agricultural fields. Since launching Yakama Power, the tribe wants to continue increase their energy independency while protecting the environment.</p> <p>Sources: http://www.washington.edu/news/2010/05/27/uw-tribal-partnership-to-develop-pacific-northwest-bioenergy/</p>

<p>Jamestown S'klallam Tribe</p>	<p>Jamestown S'klallam Tribe: Clams & Toxins</p>	<p>2011</p>	<p>New toxin found in clams caused illnesses among tribal members and community members who harvested clams from this region. Clams were poisoned by Dinophysis, a new toxin that affects shellfish and other filter feeders. The Department of Health instructed the tribal members to return and not consume any of the clams they had harvested during this time period.</p> <p>Sources: http://www.pbs.org/newshour/bb/climate-change-july-dec13-shellfish_10-23/http://www.pbs.org/newshour/bb/climate-change-july-dec13-shellfish_10-23/ https://www.soundtoxins.org/partners-tribes.html</p>
<p>Lower Elwha Klallam Tribe</p>	<p>Elwha River, Washington: Dam Removal & Salmon Return</p>	<p>2011</p>	<p>Dams were introduced in the early 1930's and as a result, salmon populations began decreasing due to their habitats being altered. These dams were impacting the Elwha Klallam tribe's salmon fisheries. They began collaborating with the U.S. National Park Service to raise \$325 million to begin removing the dam. After the removal of the Elwha River Dam adult Chinook Salmon returned to Olympic National Park, located 5 miles from the dam. The adult Chinook salmon were spotted in 2011, when the dam removal project began. The dam was fully removed in 2014.</p> <p>Sources: https://indiancountrymedianetwork.com/news/video-spotlight-elwha-river-dam-removal/ https://indiancountrymedianetwork.com/news/video-spotlight-elwha-river-dam-removal/ https://indiancountrymedianetwork.com/news/dammed-no-more-chinook-return-to-elwha-river/</p>
<p>Lower Elwha Klallam Tribe</p>	<p>Environment- alist Against Tribe's Hatcheries</p>	<p>2012</p>	<p>A couple of months after the dam removal, environmental nonprofits sued the Lower Elwha tribe to stop them from releasing salmon that were raised in their hatcheries. The nonprofits called the fish genetically bred and inferior. They accused this of being an imperfect step towards conservation and restoration. However, the salmon are important to the tribe's creation stories and they are returning in lower numbers—which leaves the tribe in a dilemma in terms of the next steps to take.</p>

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Port Gamble S'Klallam Tribe	Port Gamble Bay: Wrestling Against Timber Company	2012-2016	<p>Pope Resources—a timber company—is fighting over land that they planned to sell with an agreement with the Port Gamble S'Klallam tribe. This land includes over 7,000 acres that sits on the tribe's ancestral sites. The company decided that if it cannot come in agreement with the tribe, it will sell the acres to the highest bidder. This dispute was initiated in 2012 and ended in 2016—when the tribe and Pope Resources came to an agreement to protect the bay for conservation and restoration. In 2016, the tribe received \$1.5 million grant from the state for wildlife estuary and salmon restoration program that they are establishing.</p> <p>Sources: http://www.hcn.org/issues/44.20/a-washington-tribe-and-a-timber-company-wrestle-over-a-forests-future http://www.48northsolutions.com/current-events/pope-resources-port-gamble-sklallam-negotiating-conservation-easement</p>
Nooksack Tribe	Nooksack Tribe: 306 Tribal Members Fight Against Disenrollment	2013-2016	<p>In 2013, 306 members of the Nooksack Tribe were disenrolled due to the council not being able to locate their ancestor in their tribal archives. As a result, these members lost housing, fishing rights, and access to healthcare. This disenrollment has jeopardized their language revitalization program as the last tribal member who speaks the language—Adams—is one of the members who was disenrolled. He is now investing his efforts to get himself and the other 305 members enrolled in the tribe again. The disenrollment was approved and finalized by the Bureau of Indian Affairs.</p> <p>Sources: https://indiancountrymedianetwork.com/education/native-education/disenrollment-kills-nooksack-language-revitalization-program/</p>

			http://kuow.org/post/nooksack-tribe-cites-missing-ancestor-reason-disenroll-306-members http://www.hcn.org/articles/will-the-nooksack-306-stave-off-disenrollment
All Washington state Tribes	Ninth Circuit Court Rules in Favor of Tribes: WA State Must Repair Culverts	2013-2017	<p>Despite the legal disputes that have occurred since 2013, the Ninth Circuit Court ruled in favor of the tribes. This means the state of Washington will have to invest \$2 billion to repair and/or remove the culverts located in the state. The culverts are contributing to the habitat loss of salmon and are also blocking their passage for spawning. There are over 800 culverts in the state that are impacted the salmon. The ninth circuit court is located in Seattle, WA.</p> <p>Sources: http://www.seattletimes.com/seattle-news/washington-state-loses-big-legal-battle-over-salmon-culverts/ http://www.courthousenews.com/ninth-circuit-rules-tribes-salmon-washington-state/ http://www.kiro7.com/news/local/washington-may-have-to-pay-2b-to-save-salmon/525307023 http://www.opb.org/news/article/culvert-case-decision-a-win-for-salmon/</p>
All Washington state Tribes	Victory over Mineral Resource Mine	2014	<p>Concrete Northwest applied for a mineral resource land to expand its area. This would negatively impact the South Fork Nooksack which is an area where wild salmon populations are found including Coho, King, etc. Salmon are an essential and important resource to the PNW tribes so this is a victory for all PNW tribes.</p> <p>Sources: https://washingtonlandscape.blogspot.com/2014/06/whatcom-county-wins-gma-case-on-gravel.html http://cedar.wvu.edu/huxley_stupubs/15/</p>
Port Gamble S'Klallam Tribe	Port Gamble S'Klallam Tribe: Justice Grant	2014	<p>The Port Gamble S'Klallam tribe received \$1.3 M grant from the Department of Justice. This grant will be used to purchase a boat for water patrolling. This will help the tribe to address 1) community policing 2) justice system and alcohol</p>

			<p>abuse and 3) violent against women (these issues affect environmental justice as it is surrounding the environments that impact the community members).</p> <p>Sources: http://archive.kitsapsun.com/news/local/port-gamble-sklallam-tribe-gets-13m-in-justice-department-grants-ep-632255308-355271081.html</p>
Seattle, WA	Columbus Day is Abolished: Indigenous Peoples Day Celebrated	2014	<p>In the summer of 2014, the city of Seattle voted to abolish Columbus Day and instead celebrate Indigenous Peoples Day. This day is meant to honor Indigenous peoples who were oppressed, murdered, etc. due to colonization of settlers such as Christopher Columbus. It is meant to be a day to celebrate social justice as despite the assimilation efforts, indigenous peoples have been able to maintain their cultures alive.</p> <p>Sources: http://www.npr.org/sections/codeswitch/2014/10/12/354274630/seattle-swaps-columbus-day-for-indigenous-peoples-day</p>
Quinault Tribe	Quinault Tribe: Resiliency Against Climate Change	2014-	<p>One of the glaciers that fed the tribes over the years—the Anderson Glacier—continues to melt. Since 1927, 90% of the glacier mass has decreased due to climate change. As a result, there has been flooding that: 1) Negatively impacts the blueback salmon runs; and 2) flooding of the reservation. In 2014, the tribe experienced a significant flooding and ultimately forced the tribe into higher ground; it also caused them consider land they had purchased.</p> <p>Sources: http://www.earthisland.org/journal/index.php/eij/article/losing_home/</p>
Puget Sound: All Washington state Tribes	Salmon are Contaminated with Prescribed Pharmaceuticals	2014-2016	<p>Several salmon species were caught in the Puget Sound and their tissues were analyzed. Researchers were able to locate several antidepressants in the salmon's tissues including cocaine, Advil, Prozac, Lipitor, Benadryl, and other pharmaceuticals. This is indeed new findings as most of the research has focused on illegal drugs such as PCP and not so much on prescribed pharmaceuticals. The point source of this pollution was not identified as of</p>

			<p>now. Since these pharmaceuticals are found in their tissues, they will be consumed by the humans who consume these fish.</p> <p>Sources: https://news.vice.com/article/seattle-area-salmon-are-loaded-with-anti-depressants-and-other-drugs-thanks-to-human-waste http://www.seattletimes.com/seattle-news/environment/drugs-flooding-into-puget-sound-and-its-salmon/ https://mic.com/articles/138058/salmon-full-of-cocaine-and-antidepressants-study-finds-puget-sound-fish-full-of-drugs#.utLaNduvL</p>
All Washington state Tribes	Olympia: Honoring the Native History in Washington through Education	2015	<p>Senate Bill 54333 was passed and signed by Governor Jay Inslee. This bill makes it mandatory for public schools in the state of Washington to teach Native history, culture, and government within their curriculum. The 29 federally recognized tribes have strong inputs in the curriculum and will monitor its credibility. The legislation went into effect in the 2016 school year. This makes Washington the second state to pass such legislation; preceding it was the state of Montana which became the first state to pass such legislation.</p> <p>Sources: https://indiancountrymedianetwork.com/education/native-education/from-encouraged-to-mandatory-schools-must-teach-native-history-in-washington/ http://www.thestranger.com/news/feature/2015/06/24/22438654/teaching-tribal-history-is-finally-required-in-washington-public-schools</p>
Tulalip Tribe	Qwuloot Estuary: Chinook Salmon Return After Reopening Wetlands	2015	<p>The Tulalip Tribe implemented a conservation project to bring back the chinook salmon to the Snohomish River's Qwuloot Estuary. There were levees built that prevented the chinook salmon to migrate through this area. The Tulalip Tribe utilized bulldozers to remove the levees—re-opening 350 acres of wetlands. This project is a collaboration between the National Oceanic and Atmospheric Administration (NOAA), U.S. Fish and Wildlife Service (USFWS), Washington</p>

			<p>Department of Ecology (WDOE), US Army Corps of Engineers, Natural Resource Conservation Service (NRCS), and the City of Marysville, and overseen by the Tulalip tribe.</p> <p>Sources: https://indiancountrymedianetwork.com/news/environment/tulalip-swinomish-preserve-forest-and-salmon-habitat-with-two-significant-initiatives/ http://www.qwuloolt.org/AboutUs/HistoryAndVision</p>
Yakama Nation	Fish Populations: Nation's Hatchery	2015	<p>The Yakama Nation established a fish hatchery that is helping the Yakama River's fish populations. This program began in 1997 in order to replenish the fish populations that have declined due to habitat loss and dams. The hatcheries are also helping with the spawning of new salmon juveniles that are helping replenish the populations as well.</p> <p>Sources: http://www.yakimaherald.com/news/local/study-shows-cle-elum-hatchery-is-helping-fish-population-on/article_a5b17bc4-3745-11e5-855e-0fca0b7b4f01.html</p>
Sauk-Suiattle Tribe	Flooding & Climate Change Impacting the Sauk-Suiattle Tribe	2015-	<p>Climate change is resulting in glacial melts that is contributing to the flood of rivers. Logging near the watershed is also causing alterations downstream. Consequently, the tribe is forced to move upward from the river. The river continues to flood and the report concluded that the flooding was expected to increase 50%, doubling the frequency. The tribe purchased land in Darrington and is considering this location as a possible relocation site.</p> <p>Sources: http://www.heraldnet.com/news/flood-concerns-may-force-sauk-suiattle-tribe-to-move-reservation/ https://indiancountrymedianetwork.com/news/environment/changes-in-climate-watershed-forcing-sauk-suiattle-tribe-to-move-farther-upland/</p>
Port Gamble S'Klallam Tribe	Port Gamble Bay Clean Up	2015-2017	<p>The Port Gamble Bay was contaminated from a sawmill that operated from 1853-1995. As a</p>

			<p>result, several contaminants such as carcinogenic polycyclic aromatic hydrocarbons (cPAHs), etc. were dispersed into the bay. The mill closed and the Washington Department of Ecology spent \$17 million on this clean-up project. Several overwater structures will also be removed in this cleanup including thousands of cubic yards of contaminated soil.</p> <p>Sources: https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3444 http://www.portgamblebaycleanup.com/project-information http://www.seattletimes.com/seattle-news/environment/state-to-begin-cleanup-of-contaminated-port-gamble-bay/</p>
Lummi Nation	Lummi Nation: Defeating the Coal Export Terminal	2016	<p>The Gateway Pacific Coal export terminal was proposed to be built crossing Cherry Point: a fishing site for the Lummi Nation. After a huge effort and resistance building from the Lummi Nation, the Army Corps of Engineers declined the permit to Gateway Pacific Coal, preventing them from building a coal export terminal at Cherry Point. This export coal terminal would violate treaty fishing rights and as a result it was overturned in court.</p> <p>Sources: http://www.sightline.org/2016/05/09/lummi-nation-defeats-coal-export-terminal/http://www.sightline.org/2016/05/09/lummi-nation-defeats-coal-export-terminal/ http://www.seattletimes.com/seattle-news/environment/tribes-prevail-kill-proposed-coal-terminal-at-cherry-point/</p>
Nooksack Tribe	Nooksack Tribe: Tribal Council is Illegitimate according to Federal Government	2016	<p>After disenrolling 300 tribal members, the federal government declared the tribal council—who made the decision of disenrollment—illegitimate. In Oct. 2016, the tribe was asked to hold elections for a new tribal council, however four council members continue to hold office on expired terms. As a result of this ongoing investigation, the federal government has frozen the funds to the tribe. The tribe filed a lawsuit for \$13. 7 million,</p>

			<p>however the federal government has asked them to drop it due to the illegitimacy of the tribal council.</p> <p>Sources: http://www.seattletimes.com/seattle-news/politics/us-official-rips-group-kicked-out-of-nooksack-tribe/ http://www.seattletimes.com/seattle-news/northwest/nooksack-tribe-disenrolling-hundreds-in-high-stakes-showdown-with-feds/ http://kgmi.com/news/007700-federal-government-requests-dismissal-of-noosack-tribe-lawsuit/</p>
Quinault Tribe	Quinault Tribe: Fight Against Crude Oil Transport	2016	<p>There is currently no crude oil in this port, however, this is after the communities advocated for permits to be reversed. Renewable Energy Group (REG) has a lease in Port of Grays Harbor and they are stating they will not transport any crude oil. They cancelled their initial plans after the communities held protests against this new lease. Other companies who were planning to transport crude oil like Westbay Terminal have cancelled their leases. In 2013, the Quinault tribe fought for other oil transports in this port. An oil spill will severely affect the tribe's fishing grounds and rights.</p> <p>Sources: http://www.seattletimes.com/seattle-news/environment/grays-harbor-biodiesel-plant-cancels-plan-to-ship-crude-oil/ http://www.quinaultindiannation.com/crudeoil.htm http://www.tulalipnews.com/wp/2016/07/13/quinault-indian-nation-hosts-crude-oil-protest-rally/</p>
Cowlitz Indian Tribe	Cowlitz Indian Tribe: Opposition to Proposed Coal Terminal	2016	<p>There is currently a proposed coal terminal that will pass through Longview, WA. The state and federal officials failed to determine the environmental risks and did not consult the tribe. The construction of this terminal will increase the risks of juvenile salmon deaths. The coal terminal will expand to 530-acres along the Columbia River.</p>

			<p>Sources: https://www.indianz.com/News/2016/10/21/cowlitz-tribe-opposes-coal-export-termin.asp</p> <p>http://www.opb.org/news/series/coal-in-the-nw/cowlitz-tribe-asserts-opposition-to-longview-coal-terminal/</p>
Cowlitz Indian Tribe	Cowlitz Tribe: From Federal Recognition to Constructing a Casino	2016	<p>The tribe received federal recognition in 2000. In 2015, their attempts to build a casino was met with opposition from those accusing the tribe that they do not have claims to the land. However, the tribe had purchased this land and have legal authority. Clark County threatened to arrest anybody constructing the casino. The issue the County determined is that the construction can affect the county's water quality. The county tried to halt the construction because it could 'tear up' the roads.</p> <p>Sources: http://www.oregonlive.com/clark-county/index.ssf/2015/04/cowlitz_tribe_will_break_groun.html</p> <p>http://tdn.com/news/local/cowlitz-tribe-pushes-back-against-clark-county-s-efforts-to/article_ba412a29-b10a-5f9d-8d82-ad474efb5a3b.html</p> <p>http://www.columbian.com/news/2015/mar/09/cowlitz-tribe-feds-have-established-our-reservatio/</p>
Colville Confederated Tribes	Colville Confederated Tribes - First Wolf Harvested	2016	<p>Three hunting seasons went by in which the Colville Tribes did not harvest a wolf due to their low numbers. Only three out of the 18-20 wolves that currently reside in the tribe are allowed to be taken. However, in September the state killed six members of a wolf packed that were traveling across the reservation. The state stopped the killings but resumed when the wolf pack killed two calves.</p> <p>Sources: http://www.tribaltribune.com/news/article_fc9452fc-b00e-11e6-9e94-3f2bece5e94b.html</p> <p>http://www.tribaltribune.com/news/article_501ec66-711c-11e6-8c68-db66eb322e7c.html</p>

Skokomish Tribe	Skokomish River Closed: Outraged Fishermen	2016	<p>The Skokomish tribe made the decision to close the fishing in the Skokomish River due to conservation decisions they made to protect the Chinook Salmon. This decision angered a lot of recreational fishermen because they were asking for fairness—despite the tribe having the right to make their decisions in regards to their fisheries. This fisheries also generates a lot of human waste since it is a popular spot to fish—creating problems with the nearby shellfish farms as well.</p> <p>Sources: http://komonews.com/news/local/fishermen-upset-about-new-rules-on-the-skokomish-river</p> <p>http://archive.kitsapsun.com/outdoors/tribe-blocks-salmon-fishing-on-skokomish-river-343d4919-4c41-4369-e053-0100007fb9f0-381592681.html</p> <p>http://archive.kitsapsun.com/news/angry-anglers-protest-closure-of-skokomish-river-38ce4140-5d01-643b-e053-0100007faefe--388763471.html</p>
Squaxin Island Tribe	Squaxin Tribe Donates for Trail Conservation to Protect Salmon	2016	<p>The Kennedy Creek Salmon Trail welcomes over 5,000 visitors to see the 20,000-40,000 chum salmon spawn. It is a trail opened to visitors under the American with Disabilities Act. The Squaxin tribe has donated to help with trail operations—despite Taylor Shellfish owning most of the land where this trail is located.</p> <p>Sources: http://www.thenewstribune.com/outdoors/article109982402.html</p>
Puyallup Tribe	Port of Tacoma - Puyallup Tribe's Fisheries Threatened by Fracking	2016-	<p>Liquefied Natural Gas plant is proposed to be built in the port of Tacoma. This plant will frack natural gas in a liquid state. It will produce 250,000 gallons of liquefied natural gas daily. The Puyallup tribe is opposed to it because it will impact their water and environment—harming the tribe's fisheries as a result.</p> <p>Sources: https://lrinspire.com/2017/03/13/puyallup-tribes-treaty-right-to-fish-threatened-by-proposed-liquefied-natural-gas-plant/</p>

			https://lrinspire.com/2016/11/09/puyallup-tribe-battles-proposed-liquefied-natural-gas-plant/
All Washington state tribes	Washington State: Salmon Populations Continue to Decline	2016-	<p>Salmon populations & runs continue to decline in the state of Washington due to urbanization that is destroying salmon habitats and polluting their waters. The increase in watershed, stream temperature, and sediment transports is consequently reducing the number of insects and fish species. As a result, tribes have to take drastic measures and decrease their salmon fishing for this year (2017)—as they did last year. Their main priority is to conserve their salmon so that the future generations can also exercise their treaty rights. This will definitely impact their cultural ceremonies and food sovereignty as a result.</p> <p>Sources: http://lastrealindians.com/state-of-our-watersheds-2016-salmon-habitat-in-decline-report-by-northwest-treaty-tribes/ https://nwtreatytribes.org/treaty-tribes-agree-fishing-plan-driven-habitat-decline/</p>
Yakama Nation	500 Tribal Members are Evicted from their Tribal Homes	2016-	<p>Approximately 500 tribal members from the Yakama Nation were evicted from their homes located in the reservation. This was due to either failing to pay rent, not passing drug tests, or living in overcrowded homes. Sixty tribal owned homes were evicted and the tribal members are now homeless. Many of them are staying in Toppenish in a compound which is a homeless encampment. The members include children and elders. The overcrowded homes were due to other family members becoming homeless and being offered a place to stay by other family members.</p> <p>Sources: https://www.theguardian.com/us-news/2017/jun/12/native-americans-homelessness-crisis-yakama-nation http://www.yakimaherald.com/news/lower_valley/yakamas-to-build-tiny-houses-for-homeless/article_8c44f98a-8f0b-11e6-8158-fb93121d6582.html</p>

<p>Seattle City Council: Seattle, WA</p>	<p>Seattle Divests from Wells Fargo in Support of #NODAPL</p>	<p>2017</p>	<p>The Seattle City Council divested over \$3 billion from Wells Fargo—one of the banks funding the Dakota Access Pipeline project. This was a decision made by the Seattle City Council after receiving pressure from the community grassroots efforts to divest from this bank. Seattle became the first non-tribal governmental entity to support Standing Rock Sioux tribe in 2016.</p> <p>Sources: http://www.thestranger.com/slog/2017/02/07/24855420/seattle-votes-to-divest-3-billion-from-wells-fargo-because-of-the-banks-dakota-access-pipeline-financing http://www.thestranger.com/slog/2017/02/07/24855420/seattle-votes-to-divest-3-billion-from-wells-fargo-because-of-the-banks-dakota-access-pipeline-financing</p> <p>http://www.latimes.com/nation/la-na-seattle-divests-from-wells-fargo-20170206-story.html http://www.latimes.com/nation/la-na-seattle-divests-from-wells-fargo-20170206-story.html</p>
<p>Duwamish Tribal Council</p>	<p>Bringing Lolita (Puget Sound Native Orca) Back Home</p>	<p>2017</p>	<p>Lolita was a 4-year-old orca that was taken from the Puget Sound for an aquarium in Miami (Miami Seaquarium). She has spent 45 years in captivity and is known for being in the tiniest orca tank. In April 2017, local tribal councils organized and led a protest to bring Lolita back to the Puget Sound and reintroduce her with her family. The Miami Seaquarium has ignored all protests and continues to host her for revenue.</p> <p>Sources: http://www.seaworldofhurt.com/features/lolita/ https://www.thedodo.com/lolita-sick-testimony-1978125917.html</p> <p>https://www.facebook.com/events/1053310828148690/?acontext=%7B%22ref%22%3A%2223%22%2C%22action_history%22%3A%22null%22%7D</p>

Cowlitz Indian Tribe	Port of Kalama-Fighting the Methanol Plant	2017	<p>The Northwest Innovation Works is currently proposing a facility at Port of Kalama. It is intended to convert natural gas to methanol. This will become the world's largest methanol gas refinery. A Paddle to Kalama took place to protest the development.</p> <p>Sources: http://nwinnovationworks.com/projects/port-of-kalama https://www.facebook.com/events/1498661426824830/</p>
Colville Confederated Tribes: Reservation	Colville Reservation: Flood Warning	2017	<p>There is a flood warning for Ferry, Okanogan, Douglas and Chelan counties in the Colville Reservation. The floods can cause mud and rock slides that can come in impact with homes, cars, etc. The reservation's drinking water is also at high risk of contamination due to the runoff that will be generated from the floods. One home was reported to have tipped over during the flood.</p> <p>Sources: http://www.tribaltribune.com/news/article_6722bcfc-1f91-11e7-9ba4-5fdd4fc3fceb.html http://www.ktvb.com/news/local/regional/some-ferry-county-homes-in-danger-of-sliding-into-river/431177744</p>
Colville Confederated Tribes & Yakama Nation	Hanford Reach Threatened as a Monument	2017	<p>Due to the new presidency, the Hanford Reach might be unlisted as a national monument. The new administration wants to review all monuments listed for the past 21 years. Washington state Democrats are fighting to protect 43 species of fish, 42 mammal species and 258 bird species. These species hold a cultural importance for the Colville Tribe and Yakama Nation. The Hanford Reach was made a monument under President Clinton's term.</p> <p>Sources: http://www.spokesman.com/stories/2017/may/11/senators-tell-zinke-hands-off-the-hanford-reach/ http://www.washingtontimes.com/news/2017/apr/26/supporters-of-hanford-reach-worried-about-trump-ac/</p>

			http://www.tricityherald.com/news/local/article146779274.html
Yakama Nation	Leak in Hanford Nuclear Site	2017	<p>A worker in the Hanford Nuclear Site was contaminated with radioactive material on his clothing. This occurred just weeks after a tunnel collapsed on the site. The quick inspection revealed that there was airborne radiological release, therefore, the workers returned to their normal day. The Hanford Site has been under "clean up" for two decades to prevent any environmental or human health harm—however, this incident proves that the clean up or safety protocol is not as effective. There is a Tribal Program at Hanford Site given the damage and effects this nuclear site has had on the Yakama Nation and how many of their tribal members it employs.</p> <p>Sources: http://www.hanford.gov/page.cfm/aboutus http://www.cnn.com/2017/05/20/us/hanford-nuclear-tank-potential-leak/ http://www.cnn.com/2017/05/20/us/hanford-nuclear-tank-potential-leak/ http://www.independent.co.uk/news/world/americas/hanford-nuclear-waste-site-possible-leak-contamination-radiation-ashington-state-a7747096.html</p>
Suquamish Tribe	Suquamish Tribe Suing US Navy	2017	<p>The Suquamish tribe is pursuing a lawsuit against the US Navy. The Navy's USS Independence was decommissioned and like all ship or manmade infrastructures, it polluted the waters. This violates the Clean Water Act. Three inches of marine invasive species were introduced and scraped away by the divers. The problem with this is that if it is scrapped, the copper is being removed from the ship and copper is very harmful to salmon. It affects their sensory systems and their reproductive system that eventually prevents them from spawning.</p> <p>Sources: http://knkx.org/post/suquamish-tribe-enviro-groups-suing-us-navy-over-hull-scraping-sinclair-inlet</p>

Pacific Northwest Plateau Tribes	Washington State University Receives \$2.5 Million for Indigenous STEM Education	2017	<p>Washington State University received a \$2.5 million grant from the National Science Foundation. Their goal is to increase the number of Native American students who are engaged, learn, and are successful in STEM (science, technology, engineering, and math). In Washington, they will work with the Confederated Tribes of the Colville Reservation (Colville Tribe). The project was titled 'ISTEM' since it aims to integrate indigenous sciences and knowledge with western sciences and knowledge.</p> <p>Sources: https://news.wsu.edu/2017/05/24/2-5m-nsf-grant-for-indigenous-stem-education/</p>
Suquamish & Tulalip Tribes	Suquamish & Tulalip Tribes Sue the Coast Guard for Putting Orcas at Risk	2017	<p>The Coast Guard has failed to protect the orca whale population—which is an endangered species—from potential oil spills with their tanker traffic in the Strait of Juan de Fuca. The tribes are arguing that the Coast Guard has not contacted the National Marine Fisheries Service or worked with them to minimize the impact the boats and vessels have on this species. Earth Justice is providing legal support to the tribes over this case.</p> <p>Sources: https://www.usnews.com/news/best-states/washington/articles/2017-04-26/tribes-sue-coast-guard-over-tanker-traffics-risk-to-orcas http://earthjustice.org/news/press/2017/northwest-tribes-to-u-s-coast-guard-orcas-and-oil-tankers-don-t-mix</p>

Colville Tribe	Colville Tribe: Reducing invasive predators	2017	<p>The Colville Tribe is working with their Fish and Wildlife Program to start reducing the number of northern pikes in Lake Roosevelt. The northern pikes are an invasive species that has become one of the predators in Lake Roosevelt. These efforts are made to protect the salmon and other native species. The fishermen need to remove the northern pike heads and they will receive \$10/northern pike they catch. The incentive is to motivate other fishermen to help the tribe start removing and decreasing the number of this invasive species. They aim to collaborate with the Spokane tribe as well.</p> <p>Sources: http://www.spokesman.com/blogs/outdoors/2017/apr/14/tribe-offers-anglers-10-reward-northern-pike-heads-lake-roosevelt/</p>
Quinault Reservation	Hate Crime: One Tribal Member is Murdered & One is Hospitalized	2017	<p>During Memorial weekend, two tribal members were murdered by a suspect—white male. The white male ran the two tribal members over with his monster truck; an oversized truck with huge tires. The victims were one 20-year-old and one 19-year-old. The truck driver was driving fast in the reservation and the young men tried to stop him. The driver started screaming racial slurs which made this a hate crime. The tribe is working with Grays Harbor County Prosecutor’s Office to catch the man responsible for this hate crime.</p> <p>Sources: http://nativenewsonline.net/currents/non-native-man-runs-two-tribal-members-one-died-result-injuries-sustained-incident/</p>

Seattle, WA	Indigenous People Protest Chase Banks for their Bank Loans towards Keystone XL	2017	<p>JPMorgan Chase bank had 13 branches occupied by 26 activists; indigenous and accomplices. They were protesting the banks because they are the main providers of the loans for the Keystone XL pipeline construction. The 26 activists were arrested because they chained themselves to the bank doors and were disrupting their business hours. Chase is one of the largest banks that provides the loans to major pipeline construction projects.</p> <p>Sources: http://www.dailykos.com/story/2017/5/11/1661312/-Indigenous-and-eco-activist-protesters-in-Seattle-demand-Chase-stop-making-tar-sand-pipeline-loans</p>
Eastern Washington Tribes: Colville, Yakama, and Spokane	New Law to Restore the Health of Forests: Two Bills Passed	2017	<p>A new law was passed that aims to protect forests from wildfires by restoring the health of state forests. The Washington State Department of Natural Resources (DNR) is the entity responsible for preventing and addressing wildfires for the state of Washington. As reported by DNR, last year there were over 807 wildfires. 90% of these wildfires were caused/started by humans. The House Bill 1711 and Senate Bill 5546 will make the state support with funding and resources the assessments of over 100,000 acres of forests. These assessments will determine those forests who are being threatened by diseases—these forests will be the ones restored through these bills.</p> <p>Sources: http://www.tacomadailyindex.com/blog/new-plan-for-restoring-health-of-washingtons-forests-signed-into-law/2440612/</p>
All Washington state tribes	Womxn’s March in the State of Washington: Native Women’s Presence	2017	<p>There were several womxn’s marches that took place in the state of Washington in advocacy of womxn’s rights. Several marches centered the voices of indigenous womxn including that march that took place in Seattle. This march was in unity with the march that was taking place in Washington D.C. The march in Seattle was led by the Indigenous Sisters Resistance. The local marches were hosted in: Seattle, Spokane, Olympia, Tacoma, Bellingham, Friday Harbor, Whidbey Island, Yakama, and Chelan.</p>

			<p>Sources: https://www.facebook.com/groups/PNWIndigenoSistersResistance/ https://womxnsMarchSeattle.wordpress.com/mission/</p>
All Washington state tribes	Senate Bill 5835 is Passed to Protect Pregnant Native American Women	2017	<p>A senate bill was passed in the state of Washington to ensure that women who are pregnant are allowed more flexibility in their work schedules. This will address the health disparities that Native American women face in the workforce who suffer more from premature birth and other birth complications. Some of these health disparities can be prevented and with this new bill, pregnant Native women can have more access to health care and regular checkups.</p> <p>Sources: http://www.nbcrightnow.com/story/35444016/new-accommodations-for-pregnant-workers-become-law http://app.leg.wa.gov/billsummary?BillNumber=5835&Year=2017</p>
Confederated Tribes of the Colville Reservation	Reintroduction of a Native Species, the Pronghorn	2017	<p>The Confederated Tribes of the Colville Reservation is currently reintroducing a native species that was no longer abundant in their native lands, the pronghorn. This species has an acute vision that allows it to survive their predators. The pronghorn were brought from Nevada during cold weather since they easily overheat due to their active energetic behavior. They were released and tribal members were not allowed to be near them so that the pronghorn needed time to acclimate.</p> <p>Sources: https://psmag.com/magazine/native-tribe-reintroducing-disappeared-species-on-own-land</p>
All Washington state tribes	New U.S. Administration Cuts Funding for Native American Programs	2017	<p>The new budget proposals from the U.S. administration cutting funding for Native American programming such as social services, climate change initiatives, and child welfare. A total of \$64 million will be taken away from Native American education initiatives, \$27 million from natural resources, and \$23 million from human resources. The administration will also eliminate</p>

			<p>the \$10 million granted to tribes for their climate change initiatives and mitigation strategies.</p> <p>Sources: http://www.pbs.org/newshour/rundown/tribes-bash-proposed-trump-budget-cuts-native-american-programs/</p>
Seattle, Washington: All Washington State Tribes	University of Washington Offers Tribal Gaming Certificate	2017	<p>Over twenty-two tribes in the state of Washington depend on gaming and casino as a source of revenue. Due to the demand and need, the University of Washington is now offering a certificate Tribal Gaming and Hospitality Management Program. This program is housed under the Department of American Indian Studies. This summer 2017 will be the first cohort that receives this certificate.</p> <p>Sources: http://www.washington.edu/news/2017/06/13/tribal-gaming-certificate-addresses-economic-reality-of-indian-reservations/</p>
Nooksack Tribe	Nooksack Tribe is Forced to Close Casino due to Violations	2017	<p>The National Indian Commission ordered the Nooksack tribe to close the Northwood Casino. It is due to several alleged violations including conducting a health and environmental impact assessment. This is the last casino the tribe was operating since their other casino was shut down in 2015. As a result, the tribe has suffered a huge economic loss. The ‘illegitimacy’ of the tribal council makes it harder for the tribe to advocate its rights to the National Indian Commission. The tribe has not held elections since then and this is why their tribal council does not have much legal authority.</p> <p>Sources: https://www.gamblinginsider.com/news/3481/nooksack-indian-tribe-closes-casino-after-alleged-violations</p>

Swinomish and Quinault Tribes	Standing with Paris Agreement	2017	<p>Despite the recent announcement that the United States will withdraw from the Paris Agreement, the Swinomish and Quinault tribes are standing with the agreement. They are joining Standing Rock as sovereign nations that can make their own decisions. The Paris Agreement is important to the tribes because of the climate change initiatives they are taking to protect their homelands.</p> <p>Sources: http://www.insidesources.com/statement-paris-agreement-shows-limits-tribal-authority/ http://www.seattlepi.com/local/politics/article/Connelly-Washington-Alaska-Dakota-tribes-stand-11200461.php#photo-886504</p>
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2.2. Utilizing ArcGIS for the Mapping of Environmental Justice Cases in the Atlas

ArcGIS is an advanced tool for geospatial information system that is utilized to map geomorphological characteristics. It is very useful because it integrates other databases and layers that have already been created by other developers (Grossman, M., et. al., 2016). Compared to other approaches and methods of dissemination of information, mapping has become a technique of raising public awareness due to its simplicity in representing data (Green, M., 2012). One of the goals of this thesis is to raise public awareness of the environmental justice cases that have occurred in the state of Washington and mapping is the best tool to integrate this information in this thesis, This tool has also been utilized in environmental justice research to map environmental hazards, health disparities, poverty, etc. (Manntay, et. al., 2009; Sanchez, N., et. al., 2014; Clough, E., et. al., 2016). Due to its simplicity, mapping is also a form of decolonization as it allows researchers to present their data to a wide audience, not just academics, scholars, and researchers, but also lay persons and community advocates. It also integrates new principles in which knowledge is built on Western knowledge and lenses that

dismiss indigenous sciences and knowledge (Isasi-Díaz, A., et. al., 2012). Decolonization aims to dismantle the layers that continue to oppress communities of color. Mapping tools such as GIS allow communities to (re)map the history of their regions by centering their stories. The decolonizing lens incorporated in this project gave a voice to those who have been silenced in the official environmental discourse of the Pacific Northwest—the Coast Salish peoples.

The state of Washington is outlined in purple to depict the environmental justice case that affects all tribes; the decline of salmon populations due to pollution, storm water runoff, and habitat loss (Figure 11). The red pins depict each environmental justice case that was gathered and recorded and the yellow points maps all the dams located in the state (Figure 11 is the legend for the environmental justice atlas). Two built-in layers were also included in the atlas:

- A) Tribal reservation and trust lands mapping (Washington State Department of Transportation, Boundaries of Tribal Lands recognized by the U.S. Bureau of Indian Affairs, 2017) and,
- B) The salmon journeys outline (Loftfield, M., Analysis Feature Service generated from Trace Downstream, 2016).

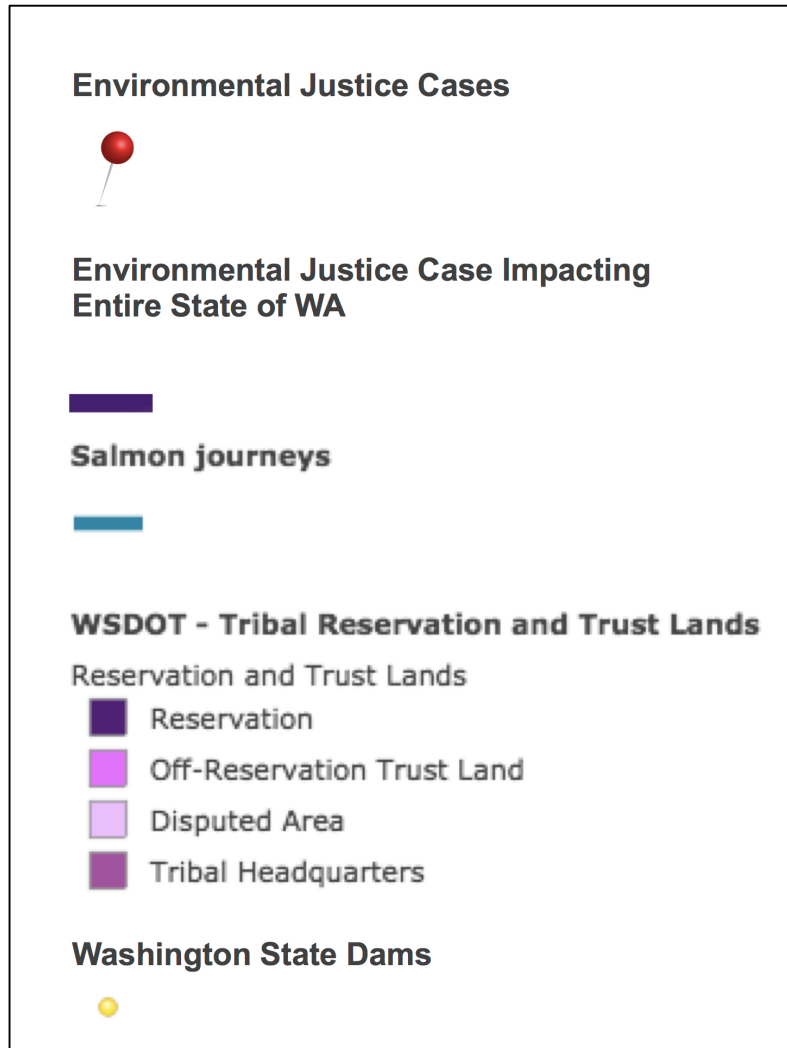


Figure 11. Legend of Environmental Justice Atlas.

The tribal reservation and trust lands mapping incorporates the layouts of the reservations, off reservation trust lands, and disputed areas. The eight tribes that are not federally recognized do not have reservations and land trusts therefore they are excluded in this built-in layer. The salmon journeys outline maps the downstream journey the salmon take in the state of Washington. The salmon journeys focus on the Coho, Chinook, Sockeye, Chum, and Pink salmon. Both features are important to incorporate in the map because they provide crucial information in environmental justice of the Pacific Northwest; land and salmon. Both land and

salmon play a crucial role in decolonization, science, and environmental rights as environmental injustices in the PNW are manifested when one oppresses or dismisses the other. As long as the gap between science, decolonization, and environmental justice continues to exist, environmental injustices will increase, especially in this Anthropogenic environment and world.

2.3 Importance of Mapping Dams in the Environmental Justice Atlas

It is important to incorporate dams in the environmental justice atlas because they have contributed the most to habitat loss and disturbances for the salmon populations (Levin, P. et. al., 2001). The decline of salmon jeopardizes treaty rights and this is why dams should be removed in the state of Washington to protect the salmon species. The case study of the Elwha Dam Removal explains why the removal of dams is important. Once this dam was removed, salmon populations replenished in the river and estuary.

A study compared the populations and size of the Coho Salmon in the Elwha Estuary prior and after the dam removal. The study concluded that the salmon populations increased numerically and expanded spatially after the dam removal. The natural environment of the region began redeveloping to what it once was, resulting in positive findings aiding the salmon conservation efforts (Quinn, T., et. al., 2013). This is an example of how science can be utilized to advocate for environmental rights and decolonization as it proves with a western lens what indigenous peoples of the Pacific Northwest knew before scientific studies were conducted; dams are severely affecting the salmon populations, spawning, and habitats. It also raises an important point that questions this western decision; why were dams created by European-settlers? What was and is their purpose?

The first settler societies and cities established in the United States were located near rivers because they needed to utilize water wheels to grind their flour (Marchand, M., et. al., 2013). The hydropower energy produced by dams decreases the fossil fuel consumption and production in the Pacific Northwest, however, at a negative cost. It impacts the salmon populations and species that are already jeopardized and endangered. According to the U.S. Fish and Wildlife report on Pacific Salmon, the Chinook salmon is the least abundant salmon of the Pacific Northwest region. In 1991, it was reported that 214 out of 400 stocks of salmon of the Pacific Northwest were at risk for extinction and 106 are extinct according to the American Fisheries Society. Table 4 lists the largest dams located in the state of Washington that are still operating that were coded in our atlas.

Table 4. Dams in the state of Washington (Department of Ecology, State of Washington, 2017).

Dam	Location	River
Bonneville Dam	Skamania County, Washington (also OR)	Columbia River
Boundary Dam	Metline Falls, Washington	Pend Oreille River
Box Canyon Dam	Ione, Washington	Pend Oreille River
Chief Joseph Dam	Douglas and Okanogan counties, WA	Columbia River
Diablo Dam	Whatcom County, Washington	Skagit River
Electron Hydroelectric Project	Pierce County, Washington	Puyallup River
Gorge Dam	Whatcom County, Washington	Skagit River
Grand Coulee Dam	Grant and Okanogan counties	Columbia River
Ice Harbor Dam	Franklin and Walla Walla counties	Snake River
Lake Chelan Dam	Chelan, Washington	Chelan River
Little Goose Dam	Columbia and Whitman counties	Snake River

Lower Baker Dam	Skagit County, Washington	Baker River (Washington)
Lower Granite Dam	Garfield and Whitman counties	Snake River
Lower Monumental Dam	Franklin and Walla Walla counties	Snake River
Merwin Dam	Clark and Cowlitz counties	Lewis River (Washington)
Priest Rapids Dam	Grant and Yakama counties	Columbia River
Rock Island Dam	Chelan and Douglas counties	Columbia River
Rocky Reach Dam	Chelan and Douglas counties	Columbia River
Ross Dam	Whatcom County, Washington	Skagit River
Snoqualmie Falls Hydroelectric Plant	Snoqualmie, Washington	Snoqualmie River
Swift Dam	Skamania County, Washington	Lewis River (Washington)
Upper Baker Dam	Whatcom County, Washington	Baker River (Washington)
Wells Dam	Chelan and Douglas counties	Columbia River
Wanapum Dam	Grant and Kittitas counties	Columbia River
Yale Dam	Clark and Cowlitz counties	Lewis River (Washington)

2.4. Website Development: <http://www.ejpnw.org/>

One of the most recent environmental justice cases that garnered international attention was the Standing Rock Sioux Tribe's resistance movement against the North Dakota Access Pipeline. Standing Rock Sioux tribe was able to reach communities across the globe through the creation of their website and social media platforms. As a result of the positive contributions websites have on social movements, a website (<http://www.ejpnw.org/>) was developed for this thesis. The website (Figure 12) allows us to incorporate not only the environmental justice atlas, but also other crucial materials and information that is important to share in regards to the environmental justice movements of the Pacific Northwest. The domain www.ejpnw.org was purchased on December 2016 and the website was launched in March 2017. The website

statistics from May 23 to June 22 are demonstrated in Figure 13. The highest amount of unique views was on June 14th with a number of thirty-two website visitors.

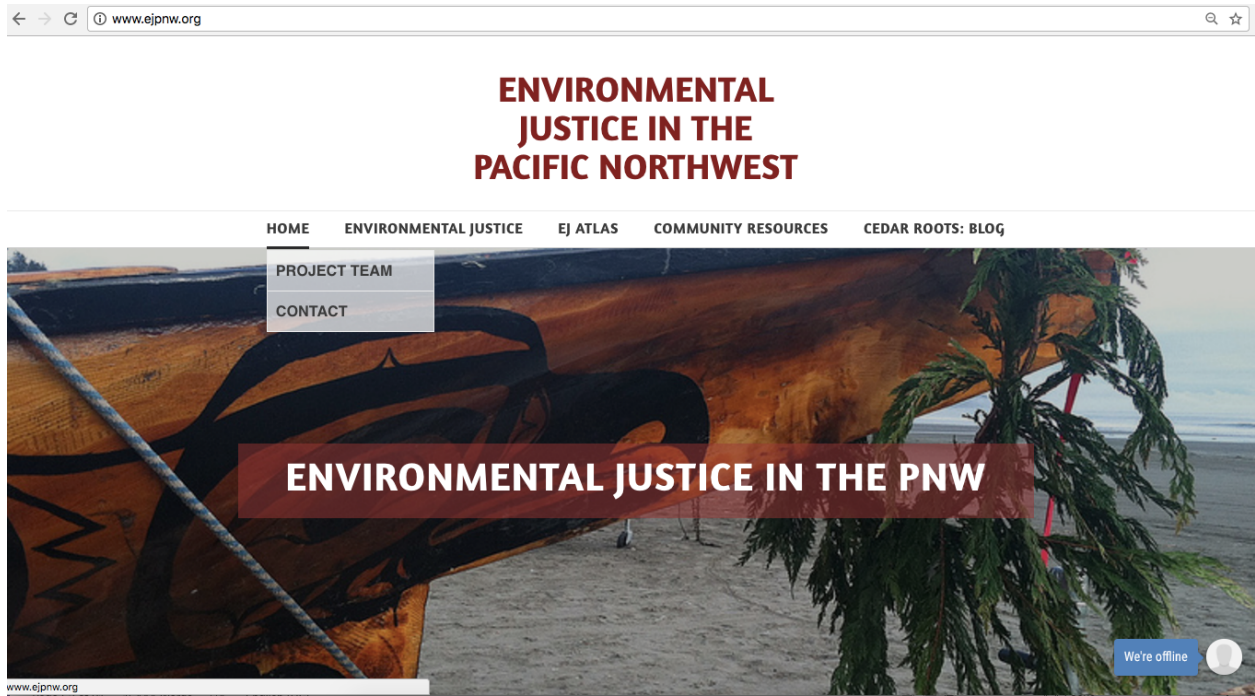


Figure 12. Environmental Justice in the Pacific Northwest Website Format.



Figure 13. Statistics for Website Developed. www.ejpnw.org(Obtained from Weebly.com).

Weebly was utilized as the platform to develop the website because it allows for the customization of templates with Hyper Text Markup Language (HTML) and Cascading Style Sheets (CSS). Both HTML and CSS allow for the development of personalized websites through simple coding (Weebly, www.weebly.com, 2017). Weebly also incorporates a drag and drop features that allows for basic templates and functions to be generated on websites such as text, image, and video add-ons. Our Environmental Justice Atlas was embedded into our website through the code generated in ArcGIS for website hosting (Figure 14). This code allows our website to display the Environmental Justice Atlas for easier user friendly technology that does not require logging in like Esri ArcGIS does. To view our Environmental Justice Atlas users just need to visit the website, www.ejpnw.org.

```
<iframe width='100%' height='640px'  
src='http://www.arcgis.com/apps/View/index.html?appid=32013c0e0cbf4fdeb173eefbb1bc82b  
3&extent=-128.4771,44.4078,-112.0965,50.4204' frameborder='0' scrolling='no'></iframe
```

Figure 14. HTML code for Environmental Justice Atlas hosted in ArcGIS.

The website navigation pages (Appendix 4) allowed for additional resources pertaining to Environmental Justice in Indian Country to be incorporated into this project. The 'Home' page displays our logo (Appendix 5), animated video that explains the project, and the Washington state tribes map obtained from www.washingtontribes.org/tribes-map (Appendix 6). The logo represents the intersection between culture and the environment that is important to indigenous peoples. It symbolizes our connection to Mother Earth and how we serve as her protector. The

logo serves as the symbol for the indigenous pillars of environmental justice that are important to incorporate in environmental justice policies, research, and concepts. The first sub-page for the home page includes the 'Project Team' that lists all the members participating in this project and the second sub-page is our contact page. Our 'Contact' page that allows users to contact us with inquiries, comments, concerns, etc. In order to promote our website and environmental justice atlas, social media was integrated on our website as well.

The 'Environmental Justice' navigation page hosts an infographic with the various definitions of environmental justice (Appendix 7), media resources that include a video from Dr. Robert Bullard and Tom Goldtooth, and a Q&A section (questions and answers) (Appendix 8) with common questions asked regarding environmental justice. It also has a community forum where users can comment with their personal definition of environmental justice. The subpage titled 'Environmental Justice in the Pacific Northwest' has an image created with the Noun Project that allows scholars to utilize icons that allow our work to reach a wider audience, both academic and non-academic. Appendix 9 is the image generated to depict environmental justice in the Pacific Northwest visually. The sub-page also hosts a timeline of the events that initiates with the Fish Wars and ends with the Boldt Decision. Two videos from the Cable-Satellite Public Affairs Network (C-SPAN) and a silent video created for educational purposes highlight the main events that occurred during the Fish Wars with basic important information. These videos were selected because it focuses on the indigenous experience and recounts the Fish Wars from first-hand experiences not secondary sources.

The 'EJ Atlas' navigation page hosts the map legend for our environmental justice atlas and an infographic created to describe to users how to read the environmental justice atlas (Appendix 10). The Environmental Justice Atlas HTML code allows for the feasibility to display

the atlas on this page. The sub-page for community resources is the ‘Environmental Justice’ curriculum that will that will be created by our project assistant. This curriculum will align with 11th and 12th grade Washington state standards. The page ends with a contact form that allows users to submit environmental justice cases they want to report for our atlas (Appendix 11). This navigation page is followed with the ‘Community Resources’ page that lists organizations (government agencies, non-profits, or community organizations) that provide resources and aid to tribes in terms of addressing environmental justice (Table 5). The page also hosts our community mapping (Figure 5). A blog was integrated in our navigation pages as well. This blog is entitled ‘Cedar Roots,’ which accepts submissions from community members who want to write a piece that relates to environmental justice and the Coast Salish tribes and nations. Appendix 12 is the first blog post that was written by the project assistant, Vanessa Sanchez.

Table 5. Community Resources to Address Environmental Justice in Washington.

Community Resources
Potlatch Fund http://www.potlatchfund.org/
Environment Washington http://www.environmentwashington.org/
The Nature Conservancy https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/washington/index.htm
Washington Environmental Council https://wecprotects.org/
The Environmental Protection Agency, Region 10 Tribal Programs https://www.epa.gov/tribal/region-10-tribal-programs
Northwest Indian Fisheries Commission https://nwtreatytribes.org/about-us/
Columbia River Inter-Tribal Fish Commission http://www.critfc.org/

The American Indian Health Commission (AIHC) for Washington State http://www.aihc-wa.com/
The Affiliated Tribes of Northwest Indians http://www.atntribes.org/
The Healing Lodge of the Seven Nations http://www.healinglodge.org/history/
National Congress of American Indians http://www.ncai.org/
National Indian Gaming Association (NIGA) http://www.indiangaming.org/
The NATIVE Project http://www.nativeproject.org/
Northwest Tribal Technical Assistance Program http://www.ewu.edu/nwttap
Northwest Indian Bar Association (NIBA) https://www.nwiba.org/
Northwest Portland Area Indian Health Board http://www.npaihb.org/
Seattle Indian Health Board http://www.sihb.org/
Upper Columbia United Tribes (UCUT) https://ucut.org/
Washington Indian Gaming Association (WIGA) http://www.washingtonindiangaming.org/
Indian Land Tenure Foundation http://iltf.org/
Indigenous Environmental Network http://www.ienearth.org/
Western Environmental Law Center http://www.westernlaw.org/regions/washington
Indian Country Today https://indiancountrymedianetwork.com/today/
Native American Rights Fund (NARF) http://www.narf.org/

Washington Forest Law Center
http://www.wflc.org/
Earth Justice
http://earthjustice.org/
Social Justice Fund
http://www.socialjusticefund.org/

2.5 Integration of Social Media: <https://www.facebook.com/ejpnw/>

Social media and internet activism are becoming relevant for a lot of activist and social movement groups as it allows them to coordinate their actions, express their views, and transmit their message across the globe (Velasquez, A., et. al., 2015). Even though social media outlets and the internet were not created for activism, they have created new forms of activism and resistance (Harlow, S., 2012). The access to social media and the internet are at our fingertips, therefore, it is crucial to incorporate a Facebook page in our project. This Facebook page allows us to promote the tools created in this thesis to increase the advocacy and solidarity for the environmental justice movement of the Pacific Northwest. The page incorporates the same acronym “EJPNW” utilized in our website <https://www.facebook.com/ejpnw/>. This page will start listing some of the cases documented in the atlas to increase public awareness of environmental injustices that have occurred in our own backyard—the state of Washington.

While teaching the course—Decolonizing the Environmental Discourse—a lot of my students were not aware of the environmental justice cases that have occurred or are occurring in the state of Washington. This is why integrating social media is important. Facebook was selected as our social media platform because according to the Facebook Newsroom, nearly 1.94 billion individuals are active. The Facebook page <https://www.facebook.com/ejpnw/> has fifty

likes (Figure 15), which indicates that this project has reached fifty individuals despite it not being promoted yet. Facebook pages have built-in sections where basic information.

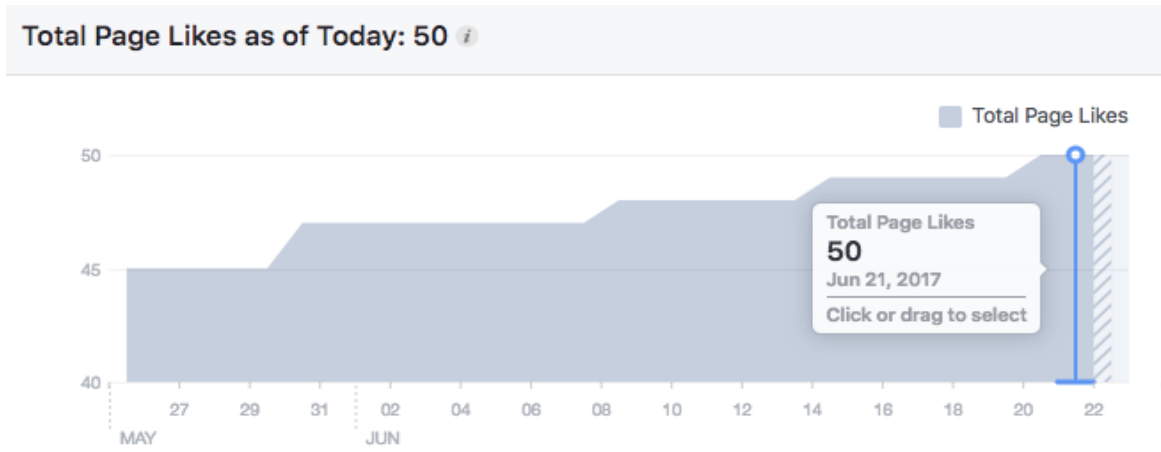


Figure 15. Statistics for Facebook Page <https://www.facebook.com/ejpnw/> (Obtained from Facebook.com).

Chapter 3: Results & Discussion

3.1 Indigenous Pillars of Environmental Justice

The environmental justice cases were coded and fifty-eight indigenous pillars of environmental justice were identified for the Pacific Northwest (Figure 16). There was a total of sixty environmental justice cases recorded in our environmental justice atlas. The indigenous pillars of environmental justice are the overarching theme for each case. They are the culturally important social, natural, and economic resources that the tribes advocated for or was impacted in the state of Washington in each environmental justice case. Some of the cases cross linked with some of the previous identified indigenous pillars. A graph demonstrates the number of times each indigenous pillar of environmental justice was coded in our environmental justice case and atlas (Figure 17).

Indigenous Pillars of Environmental Justice

Agriculture	Habitat Loss	Nuclear Sites	Water Patrolling	Water Quality/Contamination
Ancestors	Hate Crimes	Place-Based History	Wetlands	Fight Against Fossil Fuels (i.e. minerals, oil, coal, Keystone XL)
Ancestral Lands	Homelessness	Racial Justice	Whaling	Salmon
Canoe Journey	Housing	Renewable Energy	Wildfires	Native Species (wildlife & plants)
Casino	Hunting	River	Cultural Revitalization	Northern Pikes
Dams	Indigenous Peoples Day	Shellfish	Native Women's Rights	Climate Justice
Energy self-sufficiency	Land	Standing Rock	Orca	Floods
Estuary	Levees	S.T.E.M.	Sea Level Rising	Wildlife (i.e. Elk, wolf)
Federal Recognition	National Monument	Sturgeon	Toxic Waste	Culverts
Feminism	Native History, Culture, and Government	Timber	Tribal Enrollment	Federal Funding
Forests	Tribal Sovereignty	Traditional Foods	Fisheries: Hatcheries	Education
Urbanization		Treaty Rights	Fishing Rights	

Figure 16. Indigenous Pillars of Environmental Justice in the Pacific Northwest.

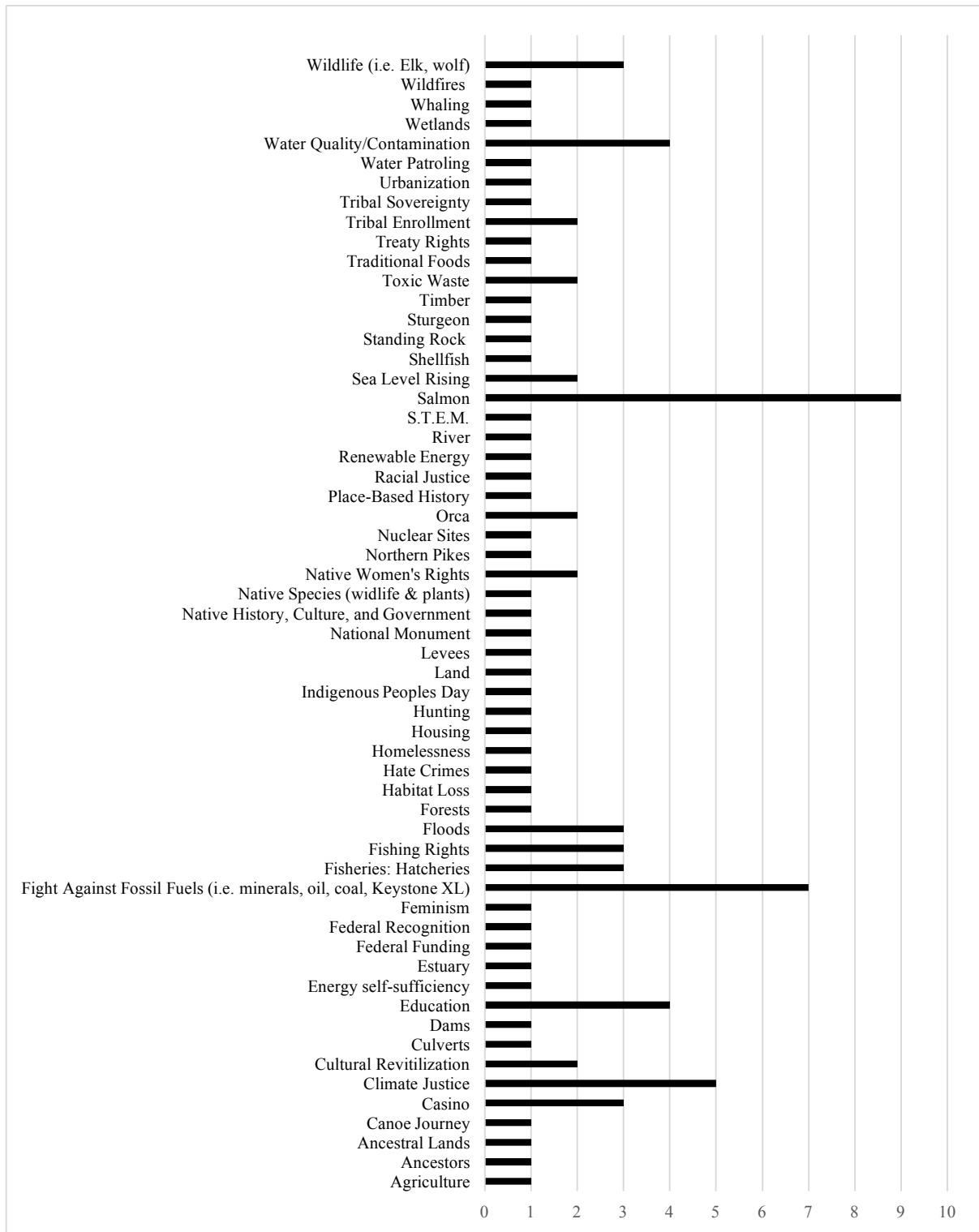


Figure 17. Number of Times Indigenous Pillars of Environmental Justice Were Coded in Atlas.

The most frequent one in the environmental justice movement of the Pacific Northwest was 'salmon.' Salmon has been an important cultural component for the Coast Salish tribes and nations. Traditionally, it has been their main source of protein and played a major role in their tribal ceremonies (Taylor, J., 1999). However, the salmon populations have declined and this is jeopardizing the environmental justice movements of the Pacific Northwest. As many of the elders have mentioned, "Without any salmon there will no longer be any treaty rights in the state of Washington." This is why it is important for them to protect this species and as a result, the salmon has been the driving force of the environmental justice movement in the Pacific Northwest. It is important to mention the interconnection between the indigenous pillars of environmental justice and the cultural and tribal values of the Coast Salish peoples.

While pillars are used more in policy-making and research decisions, they must also incorporate cultural values (termed as indigenous pillars in this thesis) in order to truly advocate for environmental justice in Indian Country. Cultural values are what drive the environmental justice movement in the Pacific Northwest and this why salmon was an indigenous pillar identified throughout the most cases. Salmon plays a crucial role in the Coast Salish culture and survival and this is for what most Coast Salish peoples will lead an environmental justice movement. The communities themselves can identify first-hand what is important to them, not the federal agencies that try to address environmental justice from a top-down approach. It is important for the communities to advocate for their livelihoods, wellbeing, resilience, and Mother Earth. Environmental justice can therefore, only be achieved when the communities are the ones leading it. The other frequent indigenous pillars of environmental justice include the fight against fossil fuels, water quality, climate justice, and education.

It is important to recognize that the environmental justice movement began hundreds of years ago and indigenous communities have been leading it as well (Bell, K., 2014). However, the environmental justice term, concept, and theory began its first introduction into academia in the 1980's by Dr. Robert Bullard. However, the current term, theory, and concept was not built, adapted, or applied to the indigenous experiences in the United States. From our four months of data collection, it is evident that the environmental justice movement in Indian Country started receiving more attention starting in 2016, when the fight against the North Dakota Access Pipeline reached a wide audience through social media (Lee, G., 2017). Before then, there was less coverage on the environmental justice movement in Indian Country. In Figure 18 a graph shows how the coverage on environmental justice rose to its highest peaks from 2016-2017.

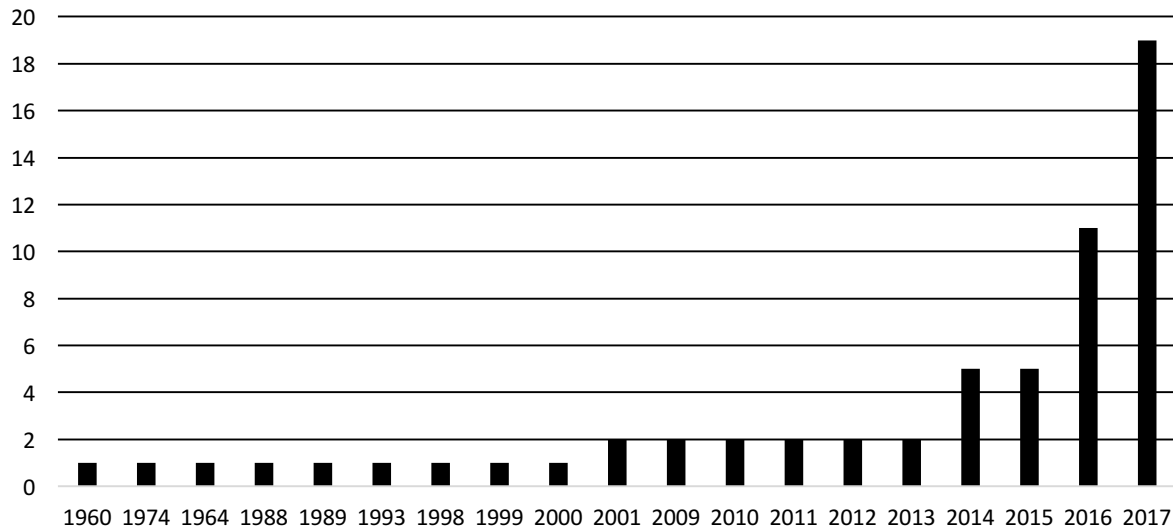


Figure 18. Graph- Environmental Justice Cases Reported and Covered by Year.

Another important finding that this thesis solidifies is how the indigenous pillars of environmental justice are interconnected with health and the environment (Figure 19). In environmental justice policy the interconnection and relationship between health and the

environment are often neglected and separated. The current environmental justice policies focus more on equity, fairness, and recognition of environmental impacts and natural resources. Their policy goals are not to decrease health disparities that occur more frequently in communities of color, despite health disparities being one of the quantified indicators in environmental justice research and scholarship. Distributive, procedural, and recognition justice continue to dictate how environmental justice is monitored or considered in policies. The inclusion categories for indigenous peoples differs as environmental inequity and racism in Indian Country is not necessary based on race, class, gender, or age (Bullard, R., 1990).

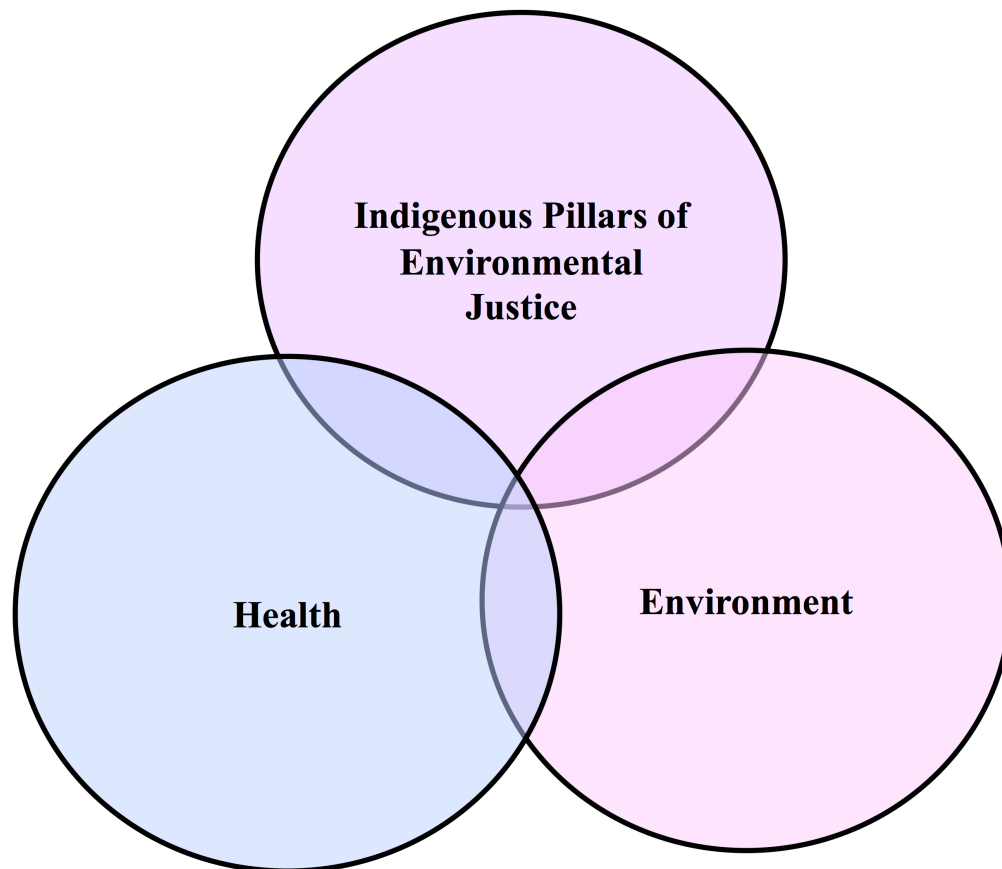


Figure 19. Relationship between the indigenous pillars of environmental justice, health, and the environment.

Cultural and tribal components that need to be integrated as environmental justice issues in Indian Country are linked back to their culture, language, education, etc. These categories do not fit the ideologies or sub-categories that define race, class, gender, or age categorize with binary definitions. For instance, salmon does not fit any of these categories and this is why environmental justice policy needs to assess indigenous pillars of environmental justice for every group of tribes and nations it tries to serve. The environmental impacts can be distributed among all communities equally, however, indigenous pillars allow us to synthesize and quantify the impact Coast Salish peoples will undergo if their salmon is threatened versus other communities that consume salmon as a source of commercialized source of protein. Other forms of justice such as the criminal justice system can focus on race, gender, age, and class, however, because of the interconnection between the environment, health, culture, and traditions, environmental justice needs to incorporate more sub-categories that in this thesis is defined as indigenous pillars of environmental justice.

3.2 Geospatial Distribution of Environmental Justice Cases and Dams in the state of Washington

The finalized Environmental Justice Atlas documented sixty different environmental justice cases, the salmon journeys, federally-recognized tribes' reservations and land areas, and twenty-five dams that are still operating in the state of Washington. Each environmental justice case and dam was coded with a picture to give a visual representation. Figure 20 is the final atlas that is accessible on: <http://www.ejpnw.org/ej-atlas.html>.

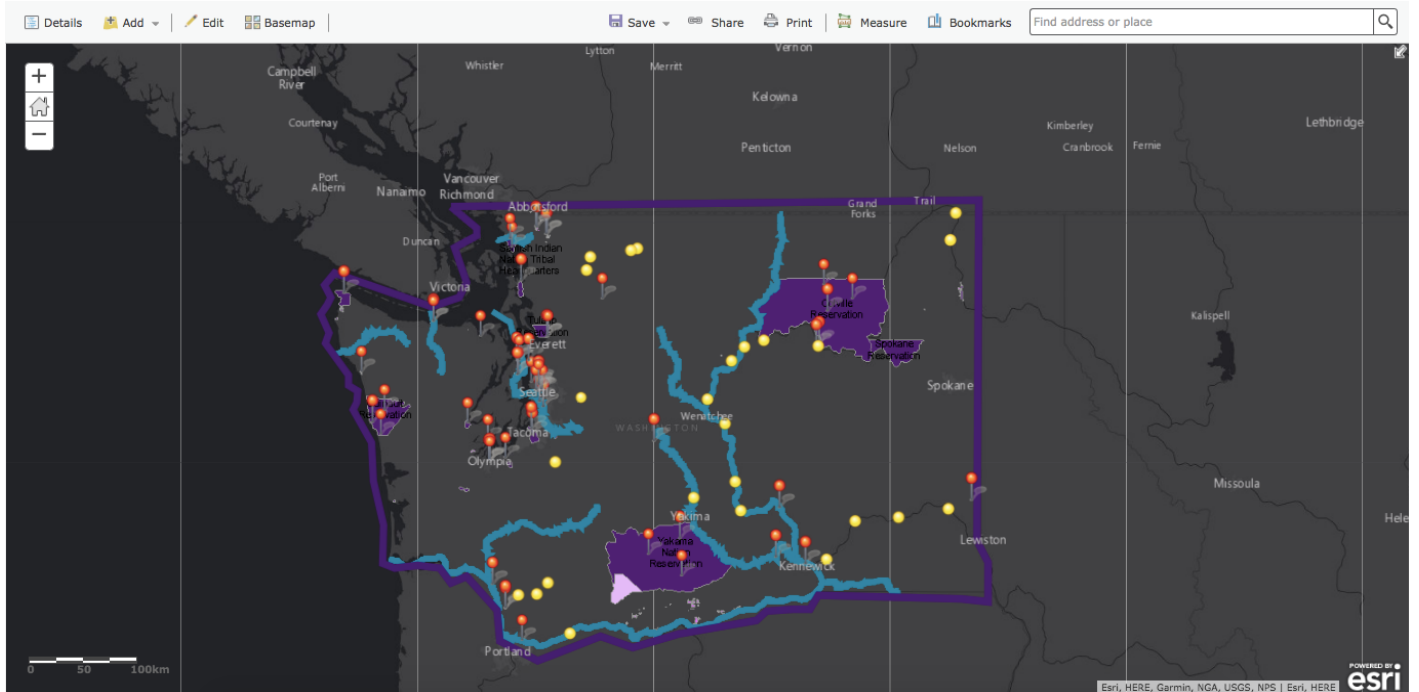


Figure 20. Environmental Justice Atlas.

The environmental justice cases were gathered and the data was separated into three categories of information; 1) Washington Tribe; 2) Environmental Justice Case; 3) Year; and 4) Description. As noted on Table 6 and Figure 21, the cases that were the most recorded were ones that impacted all Washington state tribes with a total of twelve cases. This indicates that most of the environmental justice movement in the Pacific Northwest has been as an act of resilience and resistance to protect their natural, social, and economic resources that play a major role in their cultural values. This is why the environmental justice movement of the Pacific Northwest cannot be seen as separated from all Washington state tribes since the cases mostly documented impact all tribes. The majority environmental justice cases were documented from the Western side of the state and less on the Eastern side of the state. However, individually, the Eastern state tribes

like the Colville Confederated Tribes and the Yakama Nation have the second and third most environmental justice cases documented.

Table 6. Distribution of Environmental Justice Cases Reported.

Location	# Reported
All WA state tribes	12
Colville Confederated Tribes	7
Cowlitz Indian Tribe	4
Duwamish	1
Frank's Landing	1
Hoh Indian Tribe	1
Jamestown S'Klallam Tribe	1
Lower Elwha Tribe	2
Lummi Nation	2
Makah Tribe	1
Muckleshoot Tribe	1
Nooksack Tribe	3
Port Gamble S'Klallam Tribe	3
Puyallup Tribe	2
Quinault Tribe	4
Sauk-Suiattle Tribe	1
Seattle, WA	4
Skokomish Tribe	1
Spokane Tribes	2
Suquamish Tribe	3
Squaxin Tribe	1
Swinomish Tribe	1
Tulalip Tribe	3
Yakama Nation	6

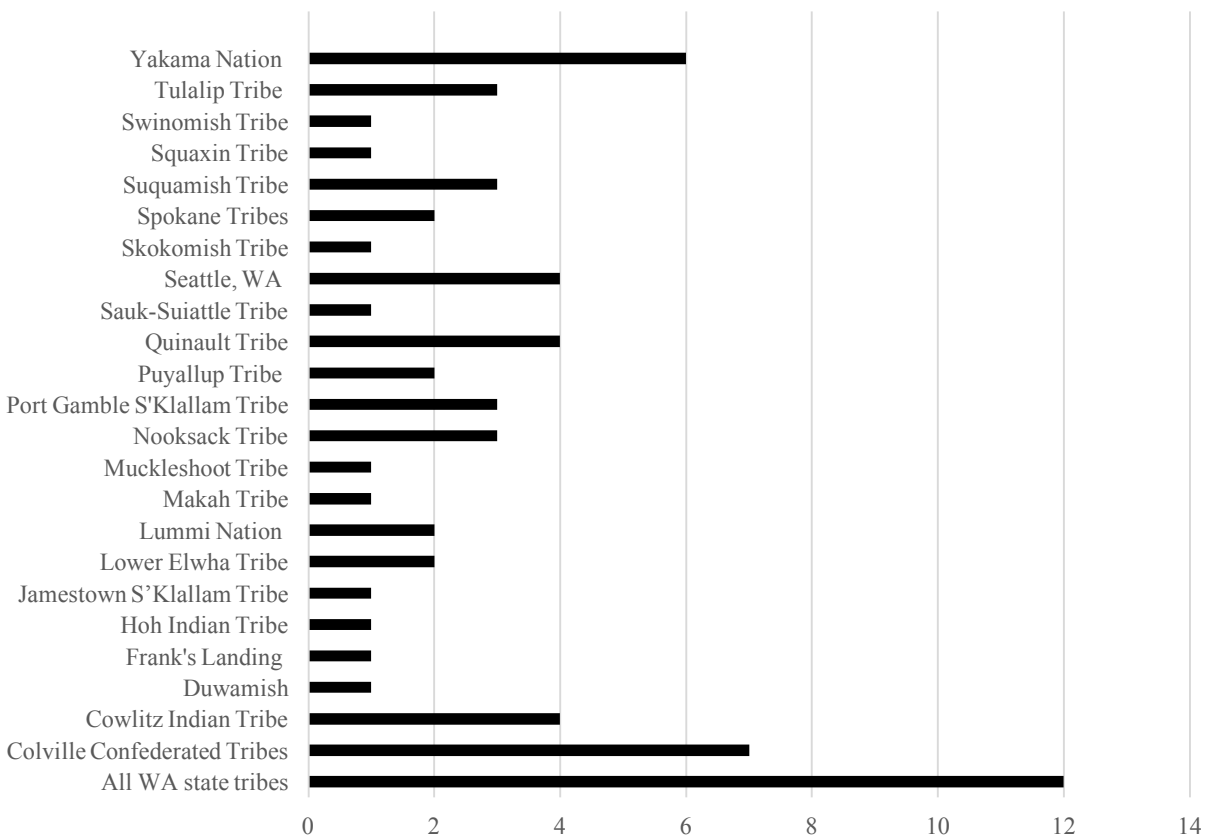


Figure 21. Graph- Distribution of Environmental Justice Cases Recorded.

The dams in the state of Washington were also built and are geospatially distributed among the salmon journeys and spawning areas. The dams are mostly located in the Eastern part of the state dams impacting the Colville Confederated Tribes, Spokane Tribes, and Yakama Nation the most. Dams have definitely lead to habitat loss and destruction as they were built on rivers where salmon migration and spawning takes place. The geospatial distribution of dams plays a major role in this as most of the environmental justice cases documented for the Colville Confederated Tribes, Spokane Tribes, and Yakama Nation revolve around the decline of fish and wildlife populations that can be interconnected with the construction of dams in their rivers.

Chapter 4: Policy Recommendations

Environmental justice policy focuses on distributive, recognition, and procedural justice. Distributive justice focuses on the equitable distribution of goods and impacts, recognition justice acknowledges the inequities and who it affects, and procedural justice incorporates fairness to resolve disputes over the allocation of resources. Focusing on these three types of justice allows for fairness, equity, and acknowledgement to be the three pillars of environmental justice policy (see Figure 20). These pillars dismiss tribal, social, and natural resources that hold an important cultural value for the Washington state tribes. As a result, environmental justice cannot be manifested in Indian Country with the current policies in place to address environmental injustices.

The policy options recommended in this thesis are (see Figure 22):

1. Cultural Recognition: Integrate the important cultural values for tribes.
2. Tribal Sovereignty: recognize the tribe's political status as sovereign nations.
3. Community Mapping: Incorporate community and citizen participation.

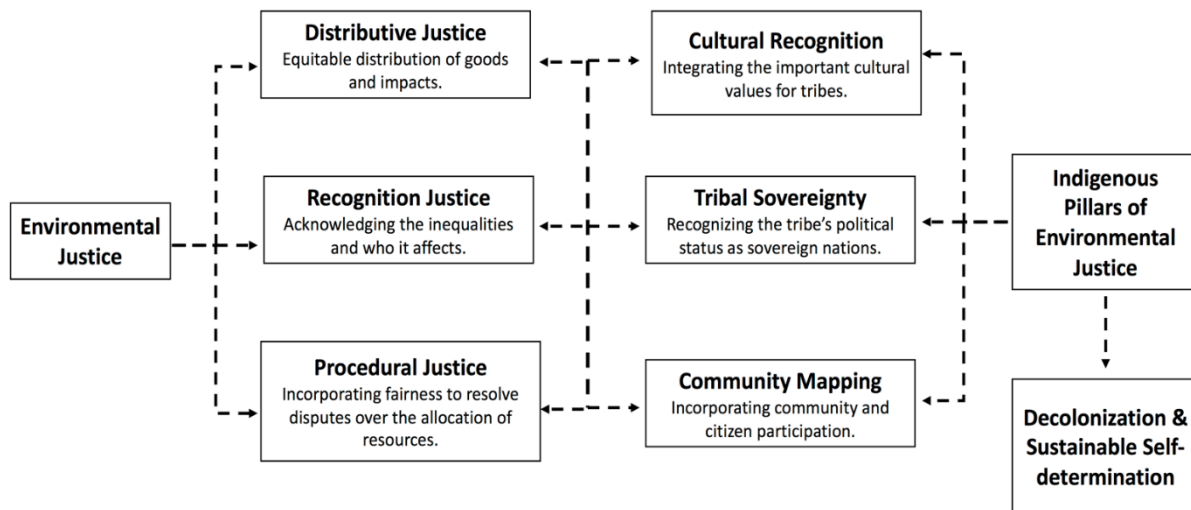


Figure 22. Policy Recommendations for Environmental Justice Policy.

The advantages of including all three as policy options is that indigenous pillars of environmental justice will be incorporated. Including the indigenous pillars of environmental justice will facilitate environmental justice victories in the Pacific Northwest. It will also adjust the policies to be more inclusive of the indigenous experiences in the United States by adapting to the unique political and cultural systems of federally recognized tribes. Indigenous cultures are one of the most complex and the four indicators that environmental justice policy, scholarship, and research focus (e.g., race, class, gender, and age) are not enough to build, adapt, and apply the environmental justice concept, theories, research, and policies to fit the indigenous experience in the United States.

The disadvantages of these options is that many federal policies have restrictions on how they can address environmental justice including economic and monetary input. However, the policy options presented allow for federally policies to be less restricted on how environmental justice is addressed in Indian Country to fit the complexity of cultures whose physical and cultural survival is dependent on their natural resources. Environmental justice can only be fulfilled by the communities themselves and this is why the three policy recommendations are important. It will incorporate tribal sovereignty which is often neglected in many policies in the United States. Cultural recognition allows for cultural values to be incorporated in environmental justice since these values are what drives the Environmental Justice movement in Indian Country. Community mapping increases citizen and community participation that allows for the incorporating of a bottom-up approach that facilitates decolonization of the ways natural resources are governed and distributed. The issues, recommendations, and rationales are further explained in Table 7.

Table 7. Issues, Recommendations, and Rationales for Environmental Justice Policy.

<p>Issue #1: Environmental Justice aims to equitably distribute natural resources and environmental impacts.</p>
<p>Recommendation #1: Cultural Recognition: Integrate the important cultural values for tribes.</p>
<p>Rationale #1: Equity cannot be accomplished without integrating cultural values that play a major role in achieving cultural equity. The Universal of Declaration of Human Rights defines cultural equity as, “the right that all people everywhere have to inherit and develop their intellectual, emotional, material, and spiritual traditions” (The Universal of Declaration of Human Rights, Article 27, Section 1). Cultural equity plays a major role in achieving environmental justice.</p>
<p>Issue #2: Environmental justice policy is created for a U.S. federal government system, dismissing tribal sovereignty.</p>
<p>Recommendation #2: Tribal Sovereignty: recognize the tribe’s political status as sovereign nations.</p>
<p>Rationale #2: Tribal sovereignty plays a major role in how tribes operation and the protocol they follow to ensure self-determination as sovereign nations. In order for environmental justice policy to be successfully implemented in Indian Country, tribal sovereignty needs to be incorporated in current policies. The U.S. Department of the Interior Indian Affairs defines tribal sovereignty as, “federally recognized tribes are recognized as possessing certain inherent rights of self-government (i.e., tribal sovereignty) and are entitled to receive certain federal benefits, services, and protections because of their special relationship with the United States” (Department of the Interior Indian Affairs, 2017).</p>
<p>Issue #3: Environmental Justice Policy-Making Top-Down Approach.</p>
<p>Recommendation #3: Community Mapping: Incorporate community and citizen participation.</p>
<p>Rationale #3: Successful community-based organizations require the support of cultural values and need to be adapted to the specific context of local and traditional communities (Brosius, J., et. al., 2015). Community mapping will facilitate the effectiveness of the policies given that successful community-based organizations and policies need stakeholder engagement and participation.</p>

Incorporating these three policy recommendations can lead to decolonization in environmental justice scholarship, research, and most importantly, policy. As previously mentioned, sustainable self-determination is the process that involves indigenous livelihoods and

wellbeing that is comprised of indigenous pillars of environmental justice (Cornassel, J., 2008). In order to promote and advocate for decolonization, a combination of western scientific knowledge and indigenous scientific knowledge need to be incorporated in existing policy. This scope can be accomplished through the policy recommendations of cultural recognition, community mapping, and tribal sovereignty. The integration of both will help us address environmental justice in Indian Country as the master's tools combined with the community's tools can destroy the systems of oppressions that result in environmental injustices. Sustainable self-determination and decolonization can balance the pillars of environmental justice in Indian Country. Both are important to incorporate in existing environmental justice frameworks as they help address the root cause of some environmental (in)justices.

Chapter 5: Conclusion, Discussion, and Future Work

This chapter will summarize the project, discuss the findings and contributions to environmental justice scholarship and policy, and provide an outline for future work.

5.1. Conclusion & Discussion

This thesis challenged the current environmental justice policy by providing policy recommendations that can shift the current paradigm that continues to dismiss indigenous knowledge, cultures, and traditions. By documenting several environmental justice cases that have occurred in the state of Washington against or in favor of the Washington state tribes, indigenous pillars of environmental justice were identified for the Pacific Northwest. These indigenous pillars of environmental justice indicate the importance of incorporating community mapping, tribal sovereignty, and cultural recognition in order to address the root causes of environmental injustices. In the documentation and coding on the environmental justice cases, it

was also concluded that environmental justice started receiving more attention since the North Dakota Access Pipeline resistance movement that garnered media attention since 2016.

However, it is important to note that the environmental justice movement has been present among communities of colors for years before it was first introduced into policy by former President Bill Clinton in 1992. There is a lot of work to be done for environmental justice to be effectively integrated in policies and this thesis contributes to some of the scholarship that decolonizes the western notions that continue to govern and manage our environmental resources. The policy recommendations are important to integrate in order to dismantle the systems of oppression that continue to jeopardize our natural resources and health. Environmental justice is not a term that should be co-opted or romanticized among indigenous communities as that contributes the stereotype of the ecological noble savage that many indigenous peoples continue to face. This is why it is important that environmental justice scholarship and research centers the voices of the community advocates and laypersons who continue to be dismissed in western notions of knowledges and sciences. This is now more important due to the geopolitical climate the United States is facing due to denial of climate change and impacts by the current government.

5.2. Future Work

While this thesis has demonstrated the importance of indigenous pillars of environmental justice and provided policy recommendations for current environmental justice policy, many opportunities for extending the environmental justice atlas and scholarship remain. Some of the potential directions include (see Figure 23):

1. Continue the documentation of environmental justice cases. Environmental justice will not be reached by the Washington state tribes anytime soon due to the gaps identified in environmental justice scholarship, research, and policy. This is why the documentation of environmental justice cases will continue and this portion of the project will provide opportunities for undergraduate students who want to learn more about environmental justice and scholarship.
2. Integrating digital storytelling in the current environmental justice atlas. Digital storytelling will allow the community voices to be centered by providing a short video or photographs taken by the community advocates who were present at the environmental justice documented. This will allow for the environmental justice cases to be described from first hand experiences and document the community's resiliency and resistance for advocating for their indigenous pillars that are driven from cultural values, traditions, and principles.
3. Presenting findings to local Washington state tribes and policy recommendations to receive their feedback. It is essential to provide the findings to the tribes I will be working with for my dissertation project to advocate for policy changes in current environmental justice policy. Indigenous communities are vulnerable and it is important for scholars and researchers to ensure that their findings will not cause them more harm. Before any publications or further work is conducted, presenting this to the Washington state tribes is important.
4. Recruit blog posts from contributors for our blog entitled, 'Cedar Roots.' This blog is not only opened to scholars or academics, but also to community members without any specific guidelines on how or what they can write. Blogs are important ways of

disseminating information given that they not restricted to what information they can provide.

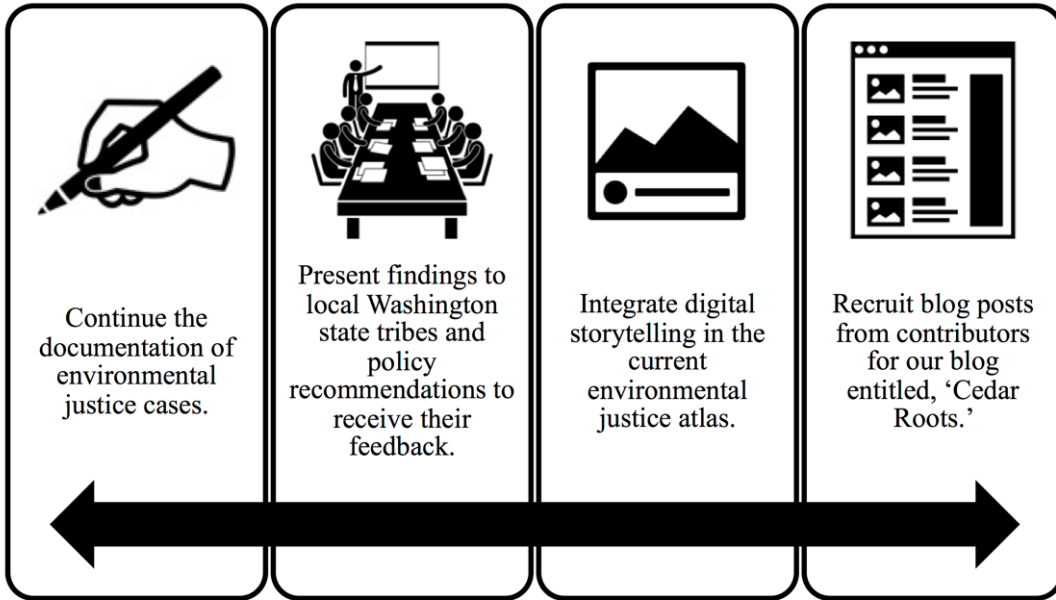


Figure 23. Future Work for 'Environmental Justice in the Pacific Northwest'.

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Appendix 1: EJSCREEN Report from the EPA, Bellingham, WA, Page 1/3



EJSCREEN Report (Version 2016)

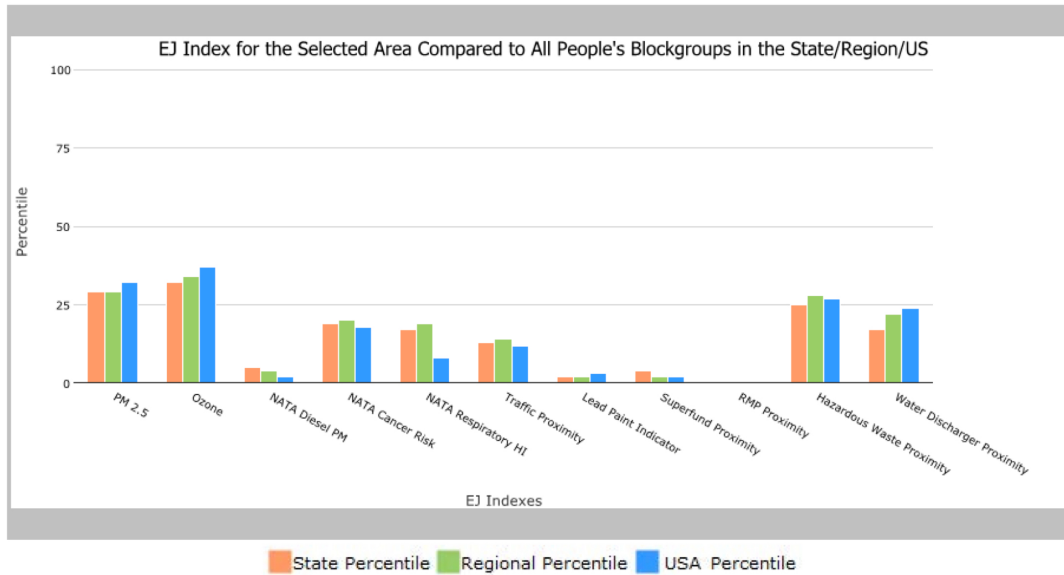


1 mile Ring Centered at 48.759546,-122.488218, WASHINGTON, EPA Region 10

Approximate Population: 11,173

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	29	29	32
EJ Index for Ozone	32	34	37
EJ Index for NATA* Diesel PM	5	4	2
EJ Index for NATA* Air Toxics Cancer Risk	19	20	18
EJ Index for NATA* Respiratory Hazard Index	17	19	8
EJ Index for Traffic Proximity and Volume	13	14	12
EJ Index for Lead Paint Indicator	2	2	3
EJ Index for Superfund Proximity	4	2	2
EJ Index for RMP Proximity	0	0	0
EJ Index for Hazardous Waste Proximity*	25	28	27
EJ Index for Water Discharger Proximity	17	22	24



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

Appendix 3: EJSCREEN Report from the EPA, Bellingham, WA, Page 3/3



EJSCREEN Report (Version 2016)



1 mile Ring Centered at 48.759546,-122.488218, WASHINGTON, EPA Region 10

Approximate Population: 11,173

Input Area (sq. miles): 3.14

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	7.38	7.42	42	7.53	44	9.32	13
Ozone (ppb)	31.4	35.2	24	37.9	13	47.4	3
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	2.68	1.39	92	1.05	95-100th	0.937	95-100th
NATA* Cancer Risk (lifetime risk per million)	50	40	81	39	80-90th	40	80-90th
NATA* Respiratory Hazard Index	3.3	2.8	64	2.8	60-70th	1.8	90-95th
Traffic Proximity and Volume (daily traffic count/distance to road)	310	440	71	380	72	590	70
Lead Paint Indicator (% Pre-1960 Housing)	0.66	0.24	91	0.23	92	0.3	85
Superfund Proximity (site count/km distance)	0.47	0.2	89	0.14	93	0.13	94
RMP Proximity (facility count/km distance)	2.1	0.4	97	0.39	97	0.43	96
Hazardous Waste Proximity* (facility count/km distance)	0.059	0.091	54	0.086	52	0.11	43
Water Discharger Proximity (facility count/km distance)	0.18	0.19	69	0.23	66	0.31	59
Demographic Indicators							
Demographic Index	23%	29%	42	29%	40	36%	36
Minority Population	14%	29%	29	26%	35	37%	32
Low Income Population	30%	30%	55	33%	47	35%	47
Linguistically Isolated Population	1%	4%	45	3%	50	5%	49
Population With Less Than High School Education	4%	10%	32	10%	29	14%	22
Population Under 5 years of age	7%	6%	61	6%	60	6%	62
Population over 64 years of age	11%	13%	43	13%	42	14%	40

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <https://www.epa.gov/national-air-toxics-assessment>.

+ The hazardous waste environmental indicator and the corresponding EJ index will appear as N/A if there are no hazardous waste facilities within 50 km of a selected location.

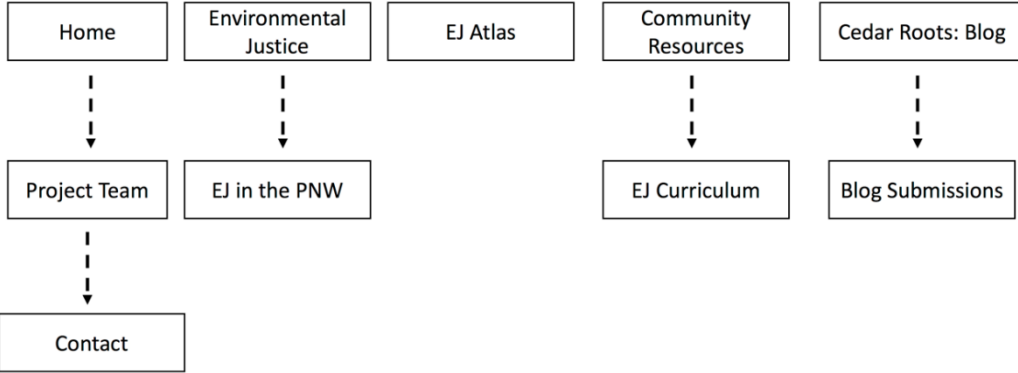
For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

Appendix 4: Website Navigation Pages



Environmental Justice in the Pacific Northwest: Website Navigation Pages

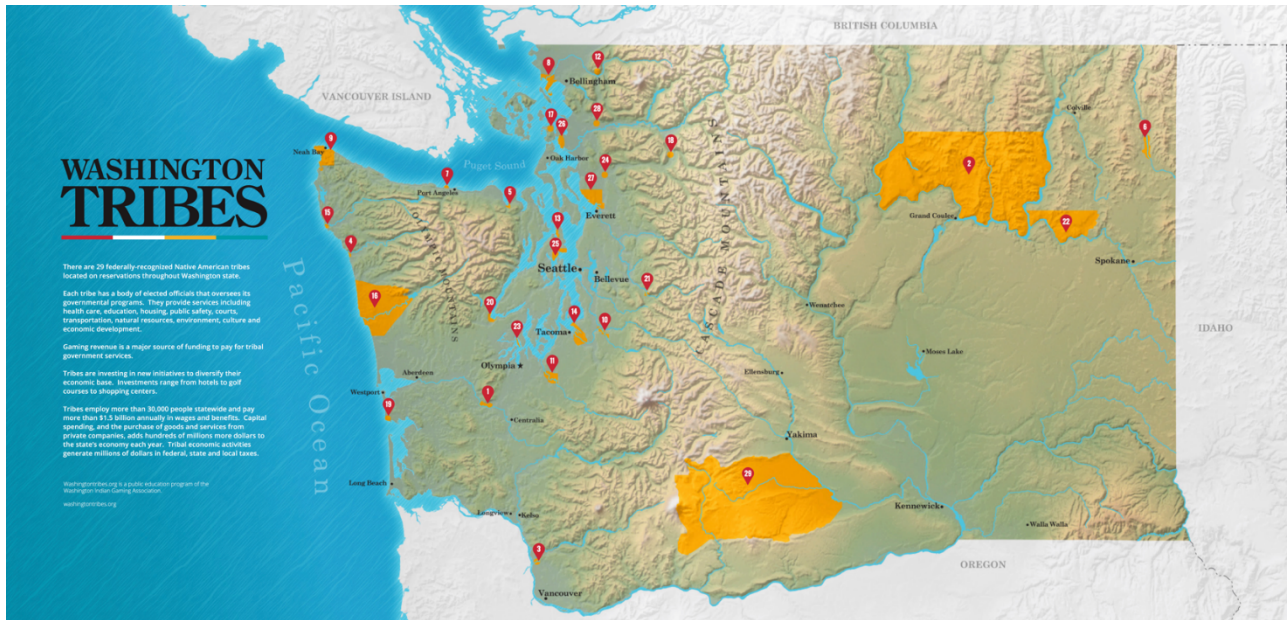


***EJ stands for Environmental Justice.*


Appendix 5: Environmental Justice in the Pacific Northwest Logo



Appendix 6: Washington State Tribes Map



Appendix 7: 'What is Environmental Justice?' Infographic



WHAT IS
**ENVIRONMENTAL
JUSTICE?**
WWW.EJPNW.ORG

ENVIRONMENTAL PROTECTION AGENCY
"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies."


NATURAL RESOURCES DEFENSE COUNCIL
"Environmental justice is an important part of the struggle to improve and maintain a clean and healthful environment, especially for those who have traditionally lived, worked and played closest to the sources of pollution."

ROBERT BULLARD
"Trying to address all of the inequities that result from human settlement, industrial facility siting and industrial development. What we've tried to do over the last twenty years is educate and assist groups in organizing and mobilizing, empowering themselves to take charge of their lives, their community and their surroundings. It's more of a concept of trying to address power imbalances, lack of political enfranchisement, and to redirect resources so that we can create some healthy, liveable and sustainable types of models."

ENVIRONMENTAL JUSTICE NETWORK
"The movement's response to environmental racism, environmental equity" is not environmental justice."

JESSICA HERNANDEZ
"A grassroots movement led by communities of color to protect and advocate for their well-being, livelihoods, resilience and Mother Earth."

Environmental justice cannot be a term with one sole definition as 'one size does not fit all.' In Indian Country, environmental justice is more complex due to tribal sovereignty.



What does Environmental Justice mean to you?

Environmental Justice in the Pacific Northwest | <http://www.ejpnw.org/>

Appendix 8: Questions and Answers (Q & A) Environmental Justice in the Pacific Northwest

QUESTIONS & ANSWERS (Q & A) ENVIRONMENTAL JUSTICE IN THE PACIFIC NORTHWEST



WHAT IS ENVIRONMENTAL JUSTICE (EJ)?

Environmental justice is a term integrated a theory and framework utilized to describe grassroots movements led by communities of color to protect and advocate for their well-being, livelihoods, resilience and Mother Earth.



HOW CAN SCHOLARS INTEGRATE ENVIRONMENTAL JUSTICE IN THEIR WORK?

It is important to understand that EJ is not a term that can be co-opted by scholars or academics who are not advocating for EJ by centering the voices of the community advocates leading the movement. The EJ movement has been led by communities of colors for hundreds of years and has recently been introduced into policies.



WHEN WAS EJ POLICY INTRODUCED?

EJ policy was introduced through the Executive Order 12898 by President Bill Clinton. It was implemented by the Obama Administration into the Environmental Protection Agency (EPA) in 2011. It was finally funded and defined by the EPA in 2014.



WHAT ARE SOME POLICY RECOMMENDATIONS FOR CURRENT EJ POLICY?

Some of the policy recommendations for current EJ policy include;

1. Cultural Recognition: Integrate the important cultural values for tribes.
2. Tribal Sovereignty: recognize the tribe's political status as sovereign nations.
3. Community Mapping: Incorporate community and citizen participation.



Appendix 10: User Guide for Environmental Justice Atlas

How to navigate the Environmental Justice Atlas?



Step 1: Locate the plus and minus signs (upper left side of the map). Use the + sign to zoom in and the - sign to zoom out. Adjust it to your visibility.



Step 2: Locate the **RED** push pins. The push pins are the coded environmental justice cases. Once you click on them, the case description will appear on the left side of the atlas with a picture for each case.



Step 3: Use the map legend to identify the other coded features in the map. The **YELLOW** dots map the dams located in the state of Washington. The **PURPLE** areas map the tribal reservations, allocated land areas, land trusts, etc. There are several other functions in the map. Please refer to the map legend for additional features.



Step 4: There is a print feature integrated in the atlas. This feature will allow users to convert environmental justice atlas into a PDF format for easy printing (hardcopy).



Step 5: This environmental justice atlas has the function to allow users to share it through Facebook, twitter, google plus, and email. There is also a link and embedded code for websites.



Step 6: The basemap gallery allows users to change the topography and other features of the map.




Step 7: For additional help and support please contact us at ejpnworg@gmail.com.

Appendix 11: Contact Form to Report an Environmental Justice Case

>>----> REPORT AN ENVIRONMENTAL JUSTICE CASE >>---->

Our Environmental Justice Atlas is a community-based mapping tool that allows us to code several environmental justice cases that have impacted the Washington state tribes. If you want to report an environmental justice case for us to code, please use the contact form below. We are only coding environmental justice cases pertaining to the Coast Salish nations and tribes in the state of Washington.



Name *

Email *

Comment *

SUBMIT

Appendix 16: First Blog Post, 'Environmental Justice in the Pacific Northwest' by Vanessa Sanchez

ENVIRONMENTAL JUSTICE IN THE PACIFIC NORTHWEST

6/27/2017 0 Comments

By: Vanessa Sanchez

Environmental justice, while a fairly new concept to our government system has been present in many of the grassroots movements and organizations in communities of color for quite some time now. It was adopted by the Obama Administration in 2011 and implemented into the Environmental Protection Agency's policy procedures in order to make environmental action more equitable for communities. The Environmental Justice Movement however had been around since the 1980's prior to its manifestation into policy. Developed by the proclaimed father of environmental justice, Dr. Robert Bullard almost 30 years prior to Obama's initiatives strove to elevate and magnify the voices of those severely marginalized and effected by environmental injustices. Being a person of color himself, Dr. Bullard has been instrumental in the creation and continuation of a very real and honest conversation surrounding what it means to be a part of communities effected by a number of systemic and societal issues and injustices on the environment around you with no way nor tools to end them. While Obama was in many ways a game changer for the environmental justice movement, there is still a ton of work to be done in order to increase equity when it comes to who and what communities can live healthy lives within their living environment.

With the current state of our government and the support of any environmental advocacy on edge, it has become even more imperative that we learn and act on these issues on a local scale. While the Pacific Northwest is known for its tremendous respect, admiration and strong belief in environmentalism, it oftentimes tends to overlook and minimize the very real presence of environmental injustices across the land. Many marginalized communities of color, urban and rural, are effected by environmental racism; hazardous waste and toxic pollutant exposure; the stripping of treaty rights to land and resources; water pollution and access and so much more on a daily basis. Our governmental and societal systems perpetuate oppressive cycles that create a divide between those effected by these injustices and those on the other side of the issue that have the power to help fix it. Getting to know our communities issues and challenges can help us all by making us true agents of change for those within our living environment. We as people have to protect each other and our environment from harm. By banding together locally and forming coalitions on the ground and through networks, we are taking part in an even larger movement to bring to light and eventually end environmental injustices. Living a happy and healthy life should not just come down to equitable distribution of resources and goods, acknowledgement of inequities and fairness; that is only part of the story. Recognizing cultural values, and practices as well as these oppressive forces in all forms to make sure all voices are represented at the table when trying to solve environmental injustices is key to the advancement of the movement within the Pacific Northwest.

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