

1-1-2012

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Davis, Kelly. "Salmon People in an Era of Depleting Salmon: The Swinomish Indian Tribal Community's Climate Adaptation Action Plan as a Manifestation of Tribal Sovereignty." *Tribal Law Journal* 13, 1 (2013). <https://digitalrepository.unm.edu/tlj/vol13/iss1/1>

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“Salmon People” in an Era of Depleting Salmon: The Swinomish Indian Tribal Community’s Climate Adaptation Action Plan as a Manifestation of Tribal Sovereignty

Kelly Davis*

INTRODUCTION

“Indeed, it is the enduring heart, spirit, and strength of our community in facing previous challenges that shows us the promise of the future. If adaptation is to be our future, we at Swinomish have already proved ourselves equal to the challenge.”¹

Coast Salish people of the Pacific Northwest region, including members of the Swinomish tribe, self-identify as the Salmon People, but their salmon resources are indelibly depleting due to climate change.² Climate change presents novel challenges to indigenous peoples striving to maintain their place-based subsistence cultures and traditional governments. Climate change is altering physical environments drastically, and tribes are already experiencing the detrimental impacts. Adaptation is thus a necessary undertaking to preserve indigenous lifestyles.

The Swinomish Indian Tribal Community (“Swinomish”), a Coast Salish tribe in Skagit County in northwestern Washington State, has taken the initiative in tribal climate change adaptation efforts.³ In 2010, the Swinomish’s Office of Planning and Community Development issued a thorough Climate Adaptation Action Plan, which delineates strategies the vulnerable coastal, salmon-dependent tribe must take to adapt to a changing environment.⁴ While the Climate Adaptation Action Plan is a pioneering achievement with many positive implications for prospective tribal prosperity, it is not a cause for elation.⁵ In an era of climate change, depleting salmon, rising seas, and flooding lands, adaptation is a mere means to an end: survival.

American Indian tribes are well-versed in the plight for survival. American federal Indian law and policy historically has been fluid and overwhelmingly destructive, aimed at severing cultural bonds between Indians and their environments and communities.⁶ In enduring these antagonistic phases to reach the present period of self-determination and sovereignty, tribes have demonstrated remarkable resilience. Resilience is the capacity to “tolerate change, to persist, and to adapt in

* J.D., University of New Mexico School of Law (2013). The author would like to thank the editors and staff at the Tribal Law Journal for their hard work and dedication.

¹ M. Brian Cladoosby, Chairman, Swinomish Indian Senate, in *Swinomish Indian Tribal Community, Swinomish Climate Change Initiative: Climate Adaptation Action Plan* (October 2010), available at http://www.swinomish.org/climate_change/Docs/SITC_CC_AdaptationActionPlan_complete.pdf, hereinafter *Climate Adaptation Action Plan*.

² Katie Campbell & Saskia De Melker, Northwest ‘Salmon People’ Face Future Without Fish, PBS NewsHour broadcast (July 18, 2012), available at http://www.pbs.org/newshour/updates/climate-change/july-dec12/swinomish_07-18.html.

³ *Climate Adaptation Action Plan*, *supra* note 1, at 7.

⁴ *See generally Id.*

⁵ *Id.* at v.

⁶ Patrice H. Kunesch, *Constant Governments: Tribal Resilience and Regeneration in Changing Times*, 19 KAN. J.L. & PUB. POL’Y 8, 10 (2009).

an unpredictable and variable environment.”⁷ Resilient social systems, like American Indian tribes, are capable of anticipating and planning for the future.⁸ Thus, tribes are particularly capable of climate change adaptation, which requires both forethought and perseverance for future physical and cultural survival. In the wake of climate change, which threatens the vulnerable environments and lifestyles of indigenous peoples, adaptation transcends survival mechanisms and becomes a manifestation of sovereignty. As demonstrated through the Swinomish’s Climate Adaptation Action Plan, tribes that adapt on their own terms by incorporating traditional law and indigenous knowledge, voices, and rights in their progressive climate adaptation policies, do so as an exercise of tribal sovereignty.

Part I of this paper provides background on climate change, adaptation, and the detrimental impacts climate change will effectuate in the Pacific Northwest region. Part II analyzes the chthonic legal tradition and the history of the Swinomish Indian Tribal Community in relation to the Climate Adaptation Action Plan. Finally, Part III explores the Climate Adaptation Action Plan and its inclusion of traditional ecological knowledge, public participation, and traditional treaty rights to fish as a manifestation of tribal sovereignty.

I. CLIMATE CHANGE, INDIGENOUS PEOPLES, AND SALMON

Climate change is the long-term shift in the Earth’s climate.⁹ Nearly all scientists agree that climate change is occurring and that human activity is its dominant cause.¹⁰ Greenhouse gases, particularly carbon dioxide, drive modern anthropogenic climate change.¹¹ Greenhouse gases are released into the atmosphere through the industrial processes of contemporary society.¹² These gases create heat-trapping feedback loops that increase the global temperature.¹³ Over the past century, the Earth’s average temperature has risen 1.4 degrees Fahrenheit.¹⁴ Over the next century, the Earth’s average temperature will rise another 2 degrees to 11.5 degrees Fahrenheit.¹⁵ These seemingly small temperature variations have profound consequences on climate and weather patterns.¹⁶ Climate changes have already impacted physical, biological, social, and economic systems.¹⁷ Impacts include a decline in the quality and quantity of fresh water; an increase in violent storms such as hurricanes; an increase in flooding, droughts, food shortages, species extinction, melting polar ice caps, glacier loss, rising sea levels, ocean acidification; and the

⁷ *Id.* at 13.

⁸ *Id.*

⁹ Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report*, 30 (Nov. 2007), available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

¹⁰ United Nations, *Climate Change*, <http://www.un.org/en/globalissues/climatechange/> (last visited December 15, 2011).

¹¹ Jacqueline P. Hand, *Global Climate Change: A Serious Threat to Native American Lands and Culture*, 38 ENVTL. L. REP. NEWS & ANALYSIS 10329, 10329 (2008).

¹² *Id.*

¹³ *Id.* at 10339.

¹⁴ U.S. Environmental Protection Agency, *Climate Change Basics*, <http://www.epa.gov/climatechange/basics/> (last updated Sep. 9, 2013).

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ Erika M. Zimmerman, *Valuing Traditional Ecological Knowledge: Incorporating the Experiences of Indigenous People into Global Climate Change Policies*, 13 N.Y.U. ENVTL. L.J. 803, 809 (2005).

spread of infectious diseases.¹⁸ The United Nations has asserted “we must stop and reverse this process now – or face a devastating cascade of natural disasters that will change life on earth as we know it.”¹⁹

There are three primary strategies to stop and reverse climate change impacts: prevention, mitigation, and adaptation.²⁰ First, prevention entails reducing greenhouse gas levels drastically to avoid any impact.²¹ However, at this point, prevention is moot.²² The levels of greenhouse gases in the atmosphere are persistent and cannot decrease meaningfully enough to prevent the inevitable consequences of climate change, which have already begun.²³ Second, mitigation entails reducing greenhouse gas emissions to a stable level that would allay the truly cataclysmic consequences.²⁴ However, because there are no binding global or domestic restrictions on greenhouse gas emissions, mitigation efforts are by and large ineffective.²⁵ Finally, adaptation presumes climate change consequences are unavoidable and the only choice is to adapt or succumb to the consequences.²⁶ Adaptation entails adjusting biological, governmental, social, and economic systems in response to climate changes.²⁷ Adaptation is not a new concept.²⁸ Humans and ecosystems have been adapting to environmental changes throughout history.²⁹ Modern adaptation efforts, however, necessitate much more rapid responses than ever before due to the unique circumstances of modern anthropogenic climate change and the persistence of greenhouse gases.³⁰ Accordingly, adaptation poses novel challenges.

Proactive adaptation is the adoption of strategies to manage social systems based on the awareness that conditions are or will be changing and that action is needed to meet management goals in the face of change.³¹ Two concepts are relevant to proactive adaptation: vulnerability and adaptive capacity. Vulnerability represents the ability of a social system to endure harm from a stressor, such as climate change, as a result of being exposed to the stress, the system's sensitivity to the stress, and the system's potential to cope with or recover from the stress.³² Related to vulnerability is adaptive capacity. Adaptive capacity is the ability of a social system

¹⁸ United Nations, *Gateway to the United Nations Systems Work on Climate Change: The Science*, <http://www.un.org/wcm/content/site/climatechange/pages/gateway/the-science> (last visited Dec. 14, 2012).

¹⁹ United Nations, *supra* note 10.

²⁰ Rebecca Tsosie, *Indigenous People and Environmental Justice: The Impact of Climate Change*, 78 U. COLO. L. REV. 1625, 1658 (2007).

²¹ *Id.* at 1627.

²² *Id.*

²³ *Id.*

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at 1660.

²⁷ *Id.* at 1659.

²⁸ U.S. Environmental Protection Agency, *Adaptation Overview*, <http://www.epa.gov/climatechange/impacts-adaptation/adapt-overview.html> (last updated Sep. 9, 2013).

²⁹ *Id.*

³⁰ *Id.*

³¹ Keith A. Rose, *Tribal Climate Change Adaptation Options: A Review of the Scientific Literature*, 6 (Jan. 6, 2010), available at http://www.tribesandclimatechange.org/docs/tribes_183.pdf.

³² *Id.*

to adapt to the effects of climate change.³³ The underlying purpose of proactive adaptation is to reduce vulnerability while increasing adaptive capacity.³⁴ For tribal communities, proactive adaptation is imperative to survival against changing climates. Tribes are highly vulnerable to climate change effects and, while they may be well-versed in adapting to survive culturally and politically, they often lack the economic and structural capacities to fully cope with climate change consequences.

A. Climate Injustice

Indigenous peoples stand to suffer the devastating cascade of climate change consequences at disproportionately higher magnitudes than non-indigenous peoples.³⁵ This phenomenon of disproportionate climate change burden is known as climate injustice.³⁶ Climate injustice is two-tiered. Globally, developed, industrial countries, including the United States, are responsible for over two-thirds of greenhouse gas emissions, but underdeveloped and developing countries will experience the most severe impacts to climate change.³⁷ Domestically, subsistence-based tribal communities have contributed the least to greenhouse gas emissions, but tribal communities will experience the most severe impacts to climate change.³⁸ The impacts will be most severe for tribal communities because tribes generally lack the capacity to cope with climate change consequences and because tribal culture is place-based.

1. Lack of Capacity

Although tribes have proven to be resilient to extreme societal changes due to their strong cultural adaptive capacity, tribes lack the physical and structural capacity necessary to properly cope with environmental impacts. Not only are adaptation mechanisms overwhelmingly expensive, meaning many tribes cannot properly fund initiatives, but individual tribal members face independent risks. Members of industrial communities, in contrast, have stronger economic power and more advanced technologies that may alleviate climate change consequences, such as air conditioning, proper heating units, and climate-risk insurance, e.g., flood policies.³⁹ In addition, industrial communities are more mobile, and therefore have greater capacity to flee worsening climate situations.⁴⁰ Tribal members often depend on public transportation, which may be disrupted in severe weather events.⁴¹ Other public services, such as water and energy, may also be disrupted in severe weather events, leaving tribal communities vulnerable to a host of adverse risks.⁴² The

³³ *Id.*

³⁴ *Id.* at 6-7.

³⁵ Sarah Krakoff, *American Indians, Climate Change, and Ethics for a Warming World*, 85 DENV. U. L. REV. 865 (2008).

³⁶ *Id.* at 888.

³⁷ *Id.* at 888-889.

³⁸ *Id.* at 865.

³⁹ U.S. Environmental Protection Agency, *Impacts on Vulnerable Populations*, <http://www.epa.gov/climatechange/impacts-adaptation/international.html> (last updated, Sep. 9, 2012).

⁴⁰ Hand, *supra* note 11, at 10330.

⁴¹ U.S. Environmental Protection Agency, *supra* note 39.

⁴² *Id.*

Swinomish Climate Adaptation Action Plan aims to improve existing structural capacity to better cope with future environmental impacts.

2. Place-Based Cultures

Tribal identities are often based in their environments, rendering tribes highly vulnerable to the extreme environmental fluctuations climate change will effectuate.⁴³ The Swinomish, self-identified as the “Salmon People,” represent this concept, as the tribe’s identity is intricately linked to the keystone of the surrounding environment. Most tribal communities are similarly spiritually, physically, and economically rooted in their reservation territories.⁴⁴ American Indians revere their lands and anoint place with high philosophical meaning.⁴⁵ Traditional religious and cultural systems of meaning center on place, and this worldview influences how Indians interact and form relationships with their ecosystems.⁴⁶ In addition to the meaning of place within traditional spiritualities, the environment often forms the basis of tribal subsistence, agricultural, and tourism-based economies.⁴⁷ Climate change will disrupt these relationships. Relocation to another environment, though theoretically an option, would sever fundamental ties that have long sustained tribal lifestyles and, therefore, is not a tenable consideration for many indigenous peoples.⁴⁸ As M. Brian Cladoosby, Chairman of the Swinomish Indian Senate proclaimed, “We are a place-based society. This is our homeland. The Swinomish have lived here for 10,000 years. We don’t go anywhere – ever.”⁴⁹ Thus, with relocation contrary to tradition, lifestyles that have developed in accordance with a place-based worldview are at risk of perishing in the wake of climate change.⁵⁰ Tribal control over climate change adaptation initiatives is necessary to ensure that intrinsic cultural ties to the environment are maintained in perpetuity.

B. Climate Change, the Pacific Northwest, and Salmon

While indigenous peoples generally are at risk to suffer severe and disproportionate climate change impacts, indigenous peoples will not experience the impacts uniformly.⁵¹ Climate change will manifest itself differently in varying environments.⁵² In addition, cultural compositions and relationships with the ecosystem vary significantly per tribe and per region.⁵³ In the Pacific Northwest,

⁴³ Daniel Cordalis & Dean B. Suagee, *The Effects of Climate Change on American Indian and Alaska Native Tribes*, 22WTR NAT. RESOURCES & ENV'T 45 (2008).

⁴⁴ Hand, *supra* note 11, at 10330.

⁴⁵ VINE DELORIA, JR., *GOD IS RED: A NATIVE VIEW OF RELIGION* 62 (2d ed. 1992).

⁴⁶ Krakoff, *supra* note 35, at 868.

⁴⁷ Hand, *supra* note 11, at 10330.

⁴⁸ Krakoff, *supra* note 35, at 872.

⁴⁹ Campbell & De Melker, *supra* note 2.

⁵⁰ Krakoff, *supra* note 35, at 872.

⁵¹ Jonathan M. Hanna, *Native Communities and Climate Change: Protecting Tribal Resources as Part of National Climate Policy*, NATURAL RESOURCES LAW CENTER, 5 (September 19, 2007), available at http://www.colorado.edu/law/centers/nrlc/publications/ClimateChangeReport-FINAL%20_9.16.07_.pdf.

⁵² *Id.*

⁵³ *Id.*

home to the Swinomish, climate change threatens traditional lifestyles and fishing treaty rights due to the depletion of salmon.⁵⁴

Salmon is an iconic species in the Pacific Northwest.⁵⁵ Salmon underlies the cultural, social, economic, and spiritual lives of Pacific Northwest tribes.⁵⁶ Salmon also lies at the heart of the historic Stevens treaties between tribes and the U.S. government, in which tribes ceded millions of acres of lands in exchange for the right to fish as they always had.⁵⁷ Through these treaties, salmon fishing was recognized as a fundamental facet of tribal cultures and was explicitly deemed a legal right.⁵⁸ The scope of this legal right was refined in several cases. First, in 1974 in *United States v. Washington*, a Washington district court determined that states must regulate fisheries so that tribes receive the amount of the fish to which they are entitled, and tribes are entitled to a “fair and equitable” share.⁵⁹ The decision was later affirmed by the Supreme Court.⁶⁰ Then, in another phase of the *Washington* litigation, the District Court in 1980 determined that the right to fish incorporates an implied right to fish habitat protection.⁶¹

The 1980 decision held that the implied right to fish habitat protection, however, only extends so far as is necessary to provide tribes their fair and equitable share of salmon and does not form the basis to a right to healthy salmon populations.⁶² Thus, salmon is not legally protected under the Stevens treaties. Nor is salmon safe. Under the Endangered Species Act, five species of Pacific salmon are listed as endangered and 23 are listed as threatened.⁶³ Commercial over-fishing, pollution, deforestation, hydropower dams, and urban development have severely depleted salmon populations in the Pacific Northwest.⁶⁴ Climate change will only compound the situation; climate change is expected to drive salmon to extinction.⁶⁵

Salmon is an anadromous fish species that hatches in freshwater before migrating to saltwater to mature.⁶⁶ After maturity, the salmon returns to its exact freshwater birthplace to spawn.⁶⁷ While this life journey may seem remarkable, it renders the fish extremely susceptible to environmental fluctuations.⁶⁸ Environmental fluctuations from climate change are causing temperature and hydrologic changes that salmon may not survive.⁶⁹ Temperature is an acutely critical

⁵⁴ *Id.*

⁵⁵ Jonathan M. Hanna, *Oncorhynchus Spp.: Climate Change, Pacific Northwest Tribes, and Salmon*, 22 NAT. RESOURCES & ENV'T 13 (2007) (hereinafter Hanna II).

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.* at 14.

⁵⁹ See *United States v. Washington*, 384 F. Supp. 312 (W.D. Wash. 1974).

⁶⁰ *Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658 (1979).

⁶¹ See *United States v. Washington*, 506 F. Supp. 187 (W.D. Wash. 1980).

⁶² *Id.*

⁶³ Campbell & De Melker, *supra* note 2.

⁶⁴ Hanna, *supra* note 51.

⁶⁵ Hanna II, *supra* note 55.

⁶⁶ *Id.* An anadromous fish is born in fresh water but lives most its life in the ocean except when returning to fresh water to spawn. See NOAA, <http://www.nefsc.noaa.gov/faq/fishfaq1a.html> (last visited Dec. 14, 2012).

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ Hanna, *supra* note 51, at 7.

element of the salmon life cycle.⁷⁰ Waters above 70 degrees Fahrenheit are lethal to the fish.⁷¹ While glaciers keep river waters consistently cool, glacier loss from climate change causes river temperatures to rise, posing potentially dire circumstances for the salmon.⁷² By 2080, half of the streams in Washington are projected to have average weekly temperatures of at least 70 degrees Fahrenheit.⁷³ Salmon cannot persist under those conditions. Changes in the hydrologic cycle similarly impact salmon populations. Rising temperatures mean more precipitation in the form of rain rather than snow, which will flood streams in winter.⁷⁴ In spring, the stream flow will peak, earlier than typical, which will deliver salmon to saltwater before food sources are available.⁷⁵ Without proper food, many salmon will perish. Furthermore, because of this earlier stream flow peak, summer stream flows will be severely reduced, which will imperil salmon's return migration efforts.⁷⁶ The loss of salmon would devastate tribal cultures, economies, and worldviews, but remains a palpable consequence to climate change.

II. CHTHONIC LAW, THE SWINOMISH, AND CLIMATE CHANGE ADAPTATION

A. The Swinomish Indian Tribal Community

The Swinomish Indian Tribal Community, like most indigenous societies, is rooted in chthonic legal tradition. Like most modern indigenous societies, the Swinomish have developed formal governmental structures with written codes and records. Nonetheless, the Swinomish maintain lives in close harmony with the earth and continue to adhere to chthonic principles.

The Swinomish are federally recognized tribes that operate under a Constitution and bylaws adopted in 1936 pursuant to the Indian Reorganization Act of 1934.⁷⁷ The Swinomish Indian Reservation ("Reservation"), where the majority of Swinomish members live, was established in 1855 by the Treaty of Point Elliott.⁷⁸ The Reservation is on the southeastern peninsula of Fidalgo Island and is adjacent to the low-lying mainland areas of Skagit County in western Washington State.⁷⁹ The Reservation is surrounded by 27 miles of saltwater shoreline.⁸⁰ The Swinomish descend from Coast Salish bands originating in the coastal areas and the many bays, waters, and islands in the Skagit and Samish River Valleys.⁸¹ The Aboriginal

⁷⁰ *Id.*

⁷¹ Campbell & De Melker, *supra* note 2.

⁷² *Id.*

⁷³ *Id.*

⁷⁴ Hanna, *supra* note 51, at 7.

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ Swinomish Indian Tribal Community, *Government*, <http://www.swinomish-nsn.gov/government.aspx> (last visited Dec. 14, 2012).

⁷⁸ Climate Adaptation Action Plan, *supra* note 1, at 8.

⁷⁹ *Id.* at 7.

⁸⁰ Swinomish Indian Tribal Community, *The Swinomish People*, <http://www.swinomish-nsn.gov/who-we-are/the-swinomish-people.aspx> (last visited Dec. 14, 2012).

⁸¹ Swinomish Indian Tribal Community, *Who We Are*, <http://www.swinomish-nsn.gov/who-we-are.aspx> (last visited Dec. 14, 2012).

Swinomish, Lower Skagit, Kikiallus, and Aboriginal Samish tribes, Coast Salish groups who lived in the region for 10,000 years, were merged under the Treaty of Point Elliott to become the modern Swinomish Indian Tribal Community.⁸²

The Swinomish Indian Senate conducts the governmental and business affairs of the tribe.⁸³ The Swinomish citizenry elects members of the Senate.⁸⁴ The Senate governs the tribe through its 20 Senate committees and also through boards and commissions established by tribal ordinance.⁸⁵ In addition, the Senate participates in interagency boards and commissions with other tribes and organizations.⁸⁶ With limited exceptions, Senate Committees only make recommendations to the Senate at large and cannot exercise decision-making authority independently.⁸⁷

The Swinomish community is also highly active in self-governance. The General Council, which is comprised of all members of voting age, meets regularly to address issues facing the Swinomish.⁸⁸ The Swinomish community has about 900 members.⁸⁹ Although it is not a particularly large community, the Swinomish tribe has stated that:

[O]ur people have the same needs, hopes and dreams as all communities throughout the world. We want our families and our homes to be healthy. We want high-quality education for our children and loving care for our elders. We want safe neighborhoods and a clean environment. We want to preserve our traditions, culture, foods, dances, crafts; in essence, our way of life.⁹⁰

Accordingly, the Swinomish self-govern and make decisions that uphold their way of life.⁹¹ All decisions are approached with the next seven generations in mind, in accordance with the chthonic conception of time, because the tribe is “as permanent as the soil.” The Swinomish see grandparents and children as present in the lands.⁹²

Chthonic means living ecologically in close harmony with the earth.⁹³ Chthonic legal tradition looks within internal social structures to describe tradition.⁹⁴ Many indigenous peoples, including the Swinomish, live chthonic lives and their tribal composition is based on a chthonic legal tradition where culture is law.

⁸² Swinomish Indian Tribal Community, *supra* note 80.

⁸³ Swinomish Indian Tribal Community, *supra* note 77.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ Swinomish Indian Tribal Community, *Community*, <http://www.swinomish-nsn.gov/community.aspx> (last visited Dec. 14, 2012).

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ Christine Zuni-Cruz, *Toward a Pedagogy and Ethic of Law/Lawyering for Indigenous Peoples*, 82 N.D. L. REV. 863, 871 (2006) (citing H. PATRICK GLENN, *LEGAL TRADITIONS OF THE WORLD* 57, n.5 (2000)).

⁹⁴ H. PATRICK GLENN, *LEGAL TRADITIONS OF THE WORLD* 60 (2d ed. 2004).

Chthonic law is profoundly interwoven with the beliefs of chthonic peoples.⁹⁵ Chthonic law encompasses how to cook, how to fish, how to behave in one's family, how to have honor.⁹⁶ There is no separation between law and morality, nor between law and culture, nor law and the ecosystem, nor law and anything else.⁹⁷ Chthonic law is the glue of the social structure.⁹⁸

One characteristic of chthonic legal tradition is orality.⁹⁹ In chthonic societies, tribal histories are often imparted and preserved through informal oral expressions and storytelling.¹⁰⁰ Thus, chthonic legal tradition rejects formality in the expression of laws.¹⁰¹ Orality functions as an extension of commonality.¹⁰² Without privileged scribes or expert historians, all members may participate in tradition.¹⁰³

Another characteristic of chthonic legal tradition is a place-based way of life, or living close to the land.¹⁰⁴ The tenets of chthonic law emerge from the land itself, as told by the people living close to the land through their personal relations.¹⁰⁵ Living in harmony with the land means limiting technologies that could destroy natural harmonies.¹⁰⁶ It also means there is no accumulation of wealth or personal, material property.¹⁰⁷ Chthonic peoples do not exert dominion over the natural world; rather, their relationship with land is one of collective enjoyment, or communal usufruct.¹⁰⁸ The natural world, including animals, is sacred.¹⁰⁹ The overarching goal of place-based living is to preserve the order of the sacred natural world.¹¹⁰

In societies with a chthonic legal tradition, then, the past is normative and must be preserved because it is sacred natural order.¹¹¹ Chthonic is thus akin to conservationist.¹¹² For chthonic peoples, though, the notion of time is not linear and instead simply surrounds.¹¹³ There is no past; there is no future; there is no distinction between dead, living, and yet to be born.¹¹⁴ Chthonic peoples therefore make decisions about the environment as surrogates for all those whose dependency on the natural world came before and will come in the future, not as conservationists.¹¹⁵ Change in chthonic societies is thus a unique concept. While

⁹⁵ *Id.* at 69.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.*

⁹⁹ *Id.* at 61.

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.* at 62.

¹⁰³ *Id.*

¹⁰⁴ *Id.* at 65.

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 66.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 66-67.

¹⁰⁹ *Id.* at 73.

¹¹⁰ *Id.*

¹¹¹ *Id.* at 75.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.* at 76.

¹¹⁵ *Id.*

change is present throughout—in living, in dying, in cycles of the natural order—maintaining ecological harmony is imperative, even in times of change.¹¹⁶ If this ecological harmony is disrupted or indelibly destroyed, chthonic tradition and chthonic peoples could no longer exist.¹¹⁷ Climate change, which is disrupting ecological harmony and may indelibly destroy indigenous environments, is thus the end of being for chthonic peoples unless chthonic peoples adapt to the shifting surroundings to communally enjoy a new natural order.

Salmon is the heart of the Swinomish chthonic way of life, and therefore self-governance and a new natural order center on salmon protections.¹¹⁸ The Swinomish is a fishing tribe and always has been.¹¹⁹ Prior to European contact, Coast Salish peoples derived wealth from abundant natural resources and extensive trade relationships.¹²⁰ Salmon was the primary staple, but shellfish, marine mammals, cedar, camas, berries, and wild game were also important natural and cultural resources.¹²¹ Traditional Coast Salish peoples resided in permanent longhouse villages in the winter and in encampments in the summer that followed the seasonal cycles of salmon from freshwater to saltwater and back again.¹²² Ceremonies celebrated salmon and other natural resources as an integral part of traditional chthonic law.¹²³ These ceremonies continue to the present day. For example, the annual First Salmon Ceremony marks the beginning of the fishing season and gives thanks to the first catch of the year.¹²⁴

Modern Swinomish society is beset with problems due to many factors, among them the history of federal restrictions on Indian cultural practices.¹²⁵ Tribal members suffer low graduation rates, high unemployment rates, low income levels, and high rates of drug abuse and violence.¹²⁶ Their health is also measurably worse than that of the American population as a whole.¹²⁷ In recent years, however, the tribe has begun reversing decades of decline with improvements in Reservation life.¹²⁸ The tribe has developed community facilities for health services, programs to meet social needs, new housing for tribal members, and new commercial enterprises.¹²⁹ Prospects began to improve for tribal members with judicial recognition of their fishing treaty rights in 1975, as they reasserted their rights to harvest customary fishing grounds that provide culturally and nutritionally important food staples, including salmon.¹³⁰ This reconnection with their traditional way of life provided a springboard for cultural revival.

¹¹⁶ *Id.* at 77.

¹¹⁷ *Id.* at 78.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ Climate Adaptation Action Plan, *supra* note 1, at 8.

¹²¹ Swinomish Indian Tribal Community, *supra* note 80.

¹²² *Id.*

¹²³ Climate Adaptation Action Plan, *supra* note 1, at 8.

¹²⁴ Swinomish Indian Tribal Community, *First Salmon Ceremony*, <http://www.swinomish-nsn.gov/events/first-salmon-ceremony.aspx> (last visited Dec. 14, 2012).

¹²⁵ Climate Adaptation Action Plan, *supra* note 1, at 8.

¹²⁶ *Id.*

¹²⁷ *Id.* at 10.

¹²⁸ *Id.*

¹²⁹ *Id.*

¹³⁰ *Id.*

Climate change, however, directly threatens this cultural revival. As stated by one Swinomish tribal member:

Our wealth comes from the salmon and it comes from the resources from the waters, and those continue to decline, we're going to be unable to pursue a livelihood in that way...Our biological cycles are attuned to the life cycles of the salmon, and when we have to force ourselves to adapt to other patterns, it's generally going to have a severe impact on our wellbeing, our mental, or social or psychological well-being. And it creates stresses that contribute to the weakening of the Swinomish tribal community as we know it today.¹³¹

Accordingly, in 2007, the Swinomish Indian Senate issued a climate change proclamation, which spurred climate change adaptation efforts.¹³² The proclamation was a response to severe weather events that impacted the Swinomish in 2006, including a storm surge that pushed tidal levels several feet above the normal shoreline and a violent winter storm that downed trees and power lines across the Reservation, isolating many tribal members for days.¹³³ The proclamation declared that the effects of climate change have the potential for significant impacts on the local Swinomish community. Since it is the Senate's duty and responsibility to provide for the well-being of tribal members and the natural world, the Senate supports a climate change initiative to determine all climate change consequences in the region; develop appropriate policies, strategies, and actions to adapt to the consequences; and to communicate and coordinate with all implicated parties throughout the process. These parties include members of the local community as well as state, regional, and national entities.¹³⁴ This climate change initiative eventually became the Climate Adaptation Action Plan.

C. Swinomish Climate Change Initiative: Climate Adaptation Action Plan

In 2010, The Swinomish Office of Planning and Community Development issued the Swinomish Climate Change Initiative: Climate Adaptation Action Plan, a 144-page administrative policy piece that provides the environmental and cultural background and traditions of the tribe, a summary of potential climate change impacts, adaptation goals, an adaptation strategy toolbox, action recommendations and priorities, and an action plan implementation scheme.¹³⁵ This Climate Adaptation Action Plan represents contemporary chthonic law. While it is written, not oral, the plan remains flexible, pursuant to informality in the expression of laws, a chthonic principle. Additionally, the plan is centered on ensuring that relationships with the natural world persist in accordance with living close to the land. Climate

¹³¹ *Id.* at 18.

¹³² Swinomish Indian Tribal Community, *Swinomish Climate Change Initiative*, http://www.swinomish-nsn.gov/climate_change/project/project.html (last visited Dec. 14, 2012).

¹³³ Climate Adaptation Action Plan, *supra* note 1, at 10.

¹³⁴ Swinomish Indian Senate, *Proclamation of the Swinomish Indian Senate on A Swinomish Climate Change Initiative* (Oct. 2007), available at http://www.swinomish-nsn.gov/climate_change/Docs/Swinomish%20Climate%20Change%20Proclamation.pdf.

¹³⁵ Climate Adaptation Action Plan, *supra* note 1.

change adaptation might represent change, but the changes are necessary to maintain ecological harmony in response to uncontrollable stressors to the natural order.

The tribe developed a basic set of objectives to evaluate adaptation strategies, including comprehensiveness, long-term sustainability, dynamic/adaptive approach, fiscal feasibility, non-regulatory approaches, and community goals.¹³⁶ In the comprehensiveness category, the tribe considered whether the proposed strategy addresses the full range of anticipated impacts rather than having limited application.¹³⁷ Under long-term sustainability, the tribe contemplated whether the proposed strategy promotes a sustainable solution rather than a myopic fix.¹³⁸ For dynamic/adaptive approach, the tribe examined whether the application of the proposed strategy allows for flexibility rather than rigidity in changing circumstances.¹³⁹ Under fiscal feasibility, the tribe assessed the degree of fiscal impacts of the proposed strategy.¹⁴⁰ For non-regulatory approaches, the tribe reviewed the extent to which the proposed strategy encourages non-regulatory, cooperative approaches.¹⁴¹ Finally, for community goals, the tribe deliberated whether the proposed strategy aligns with the desires and needs of the Swinomish community.¹⁴² These adaptation strategies underscore the tribe's commitment to providing a long-term, communal solution to climate change that reflects tribal values and abilities.

The Climate Adaptation Action Plan identified key climate change impacts that will affect the Swinomish. In addition to potential salmon extinction, climate change will wreak havoc on many areas of Swinomish life. Shorelines, beaches, low-lying terrain, forests, and all resources therein will be impacted.¹⁴³ Fifteen percent of Reservation uplands are at risk of inundation from sea level rise.¹⁴⁴ These lands comprise the tribe's only agricultural lands, primary economic development lands, and sensitive shorelines.¹⁴⁵ Furthermore, 2,218 acres of uplands and 1,500 properties, with an estimated worth of \$518 million, are in a high risk zone for wildfires.¹⁴⁶ Roads and access links to the Reservation from the mainland are at risk of flood inundation, meaning the Reservation could be completely isolated during high tides.¹⁴⁷ Sensitive cultural sites in low-lying areas may become permanently inundated.¹⁴⁸ Increased ocean acidification and shifts in tidal zones will stress marine resources and habitats, depleting ocean resources.¹⁴⁹ Seafood may also become contaminated with increased toxins.¹⁵⁰ Drought in the forested regions will result in

¹³⁶ *Id.* at 1-2.

¹³⁷ *Id.* at 1.

¹³⁸ *Id.*

¹³⁹ *Id.*

¹⁴⁰ *Id.* at 26.

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.* at 31.

¹⁵⁰ *Id.* at 61.

species loss and increased pests.¹⁵¹ Flooding may contaminate drinking water supplies.¹⁵² Finally, the Swinomish population as a whole will be at risk of heat-related illnesses and respiratory ailments from increased pollutants.¹⁵³

The impacts of climate change to the Swinomish community are thus profound. The adaptation action goals identified in the Climate Adaptation Action Plan seek to strengthen natural resources and cultural practices so the community and environment may thrive as a place-based, subsistence society. Adaptation goals correlate to identified climate impacts and community needs.¹⁵⁴ While the goals are not exhaustive, they are indicative the adaptation goals the tribe has prioritized. These goals include restoring fishery and shellfish resources to maintain traditional lifestyles, seeking off-Reservation sites for shellfish harvest and cultivation, preserving the ability to fully exercise treaty rights and cultural practices to improve physical and spiritual health, reestablishing natural diversity in harvestable claim populations, preserving the aesthetic value and natural systems of the beaches, and balancing cultural, economic, and environmental goals.¹⁵⁵

The survival of the Swinomish depends on implementation of these adaptation goals. The Climate Adaptation Action Plan thus identified several effective implementation-guiding factors that demonstrate the values of the tribe. Due to the complexity of climate change, the plan emphasizes that the tribe should demonstrate flexibility in its approaches to implementation.¹⁵⁶ Impacts will not be uniform even within the Reservation, so adaptive responses might be needed in fluctuating circumstances.¹⁵⁷ Additionally, the tribe should enact public education and outreach campaigns so that communication, information, and training may build support within the community.¹⁵⁸ Similarly, the tribe should relate the climate change science and impacts to real world situations so the adaptation goals remain relevant to the community.¹⁵⁹ The tribe also should not shy from political realities and instead work to overcome institutional constraints through incentives.¹⁶⁰ Finally, the tribe should incorporate incremental and regional approaches.¹⁶¹ Phasing actions and cooperating with nearby regions may be necessary to promote effectiveness and overcome inertia or funding difficulties.¹⁶²

There are five community health factors that implicate tribal sovereignty. These are community cohesion, food security, ceremonial use, knowledge transmission, and self-determination.¹⁶³ First, community cohesion revolves around participation, cooperation, roles, and familiarity.¹⁶⁴ Community cohesion is thus

¹⁵¹ *Id.* at 31.

¹⁵² *Id.* at 69.

¹⁵³ *Id.* at 26.

¹⁵⁴ *Id.* at 32.

¹⁵⁵ *Id.* at 33-34.

¹⁵⁶ *Id.* at 76.

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ *Id.*

predicated on interdependence, respect, and trust between all members to harvest and prepare culturally and nutritionally significant food with proper thoughtfulness.¹⁶⁵ Second, food security relies on availability of natural resources, access to all resource use areas, and sharing resources to ensure everyone in the community, especially elders, receive resources pursuant to the Swinomish maxim that “when the tide is out, the table is set.”¹⁶⁶ Third, ceremonial use involves gatherings and giving thanks to heal, to feed the spirits of the natural resources and relatives who have passed, and to join in community with one another.¹⁶⁷ The presence of natural resources like salmon at ceremonies is indispensable; ceremonial events would be impossible without the resources physically present as offerings.¹⁶⁸ Fourth, knowledge transmission is based on teachings of chthonic law: how to gather, prepare, preserve, distribute, and employ natural resources, passed down from the elders as knowledge keepers to the youth as the future.¹⁶⁹ Fifth, self-determination promotes healing, restoration, and development at a community level with the freedom to internally decide good health.¹⁷⁰

III. ADAPTATION AS SOVEREIGNTY

Sovereignty is the inherent right or power to govern.¹⁷¹ In the environmental context, the crux of sovereignty is a tribe’s autonomy—the autonomy to make decisions about environmental regulations and the autonomy to control environmental impacts.¹⁷² For tribes with strong chthonic legal traditions such as the Swinomish, tribal sovereignty directly implicates cultural resilience since environment and tribal life are entwined. As the Climate Adaptation Action Plan recognized, resilience is important in climate change discussions because the impacts of climate change can cause grief and despair.¹⁷³ The loss of traditional fish, plants, and animals as well as gathering, hunting, and fishing locations can severely impact community health.¹⁷⁴

Tribal control and autonomy in climate adaptation initiatives is both a manifestation of tribal sovereignty and a means to bolster cultural resilience. Climate change consequences have the potential to decimate tribal life. Tribal responses therefore must incorporate internal needs and knowledge to ensure that tribal interests are properly accommodated. The Swinomish Climate Change Adaptation Plan identified three strategies to ensure tribal interests are properly accommodated in climate change adaptation: traditional ecological knowledge, environmental justice, and traditional fishing treaty rights. The incorporation of these strategies within the climate change adaptation plan manifests sovereignty because it provides the tribal government and members with autonomy in crucial environmental decisions. Although climate change is a global problem, it negatively impacts local

¹⁶⁵ *Id.* at 20-21.

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.* at 21.

¹⁶⁹ *Id.* at 22.

¹⁷⁰ *Id.*

¹⁷¹ WILLIAM C. CANBY, JR., *AMERICAN INDIAN LAW IN A NUTSHELL* 76 (West 5th ed. 2009).

¹⁷² Tsosie, *supra* note 20, at 1627.

¹⁷³ Climate Adaptation Action Plan, *supra* note 1, at 23.

¹⁷⁴ *Id.*

indigenous communities, so tribal control is necessary for appropriate adaptation efforts.

A. Traditional Ecological Knowledge

As defined by the Swinomish, traditional ecological knowledge (“TEK”) is the holistic, evolving practices and beliefs about the relationships between living beings and their environments.¹⁷⁵ TEK is cumulative, dynamic, historical, embedded, moral and spiritual, and passed down through the generations, often orally.¹⁷⁶ TEK is the embodiment of chthonic law. Like chthonic communities, TEK is place-based.¹⁷⁷ It is only relevant to the specific environment and culture that formulated it.¹⁷⁸ Daily immersion in the environment and on the land is required to formulate TEK because ecosystems constantly change, resulting in the alteration of TEK.¹⁷⁹

As part of the Climate Adaptation Action Plan, the Swinomish stressed the incorporation of TEK within adaptation efforts because TEK offers valuable insights and tools to respond to climate change and find solutions.¹⁸⁰ As part of effective adaptation planning, the Climate Adaptation Action Plan suggested integrating TEK into ongoing planning and programs, using a codification approach.¹⁸¹ Under this codification approach, TEK would be institutionalized by creating an ethical construct that indirectly represents sensitive knowledge concepts.¹⁸² This construct would respect and protect core knowledge and provide flexibility while also institutionalizing the knowledge so that it remains a primary tool in adaptation implementations.¹⁸³ The transmission of knowledge from the elders to the youth is especially important in maintaining cultural and ecological balance. As one Swinomish tribal member articulated:

Start pushing our children into the sciences of environmental protection – biology, fishery science, all the science that has to deal with the natural resources, even climate . . . then it allows us to remain in touch with those traditional laws that we’ve had here for thousands of years . . . It encourages our young people to go to the older people and to be reminded of what they knew, and what they grew up with, and what laws pertain to what. Even though some of the things may be lost . . . I don’t think that they ever go extinct . . . they will re-emerge . . . as we begin to take care of our homeland.¹⁸⁴

¹⁷⁵ *Id.* at 5.

¹⁷⁶ *Id.* at 15.

¹⁷⁷ *Id.* at 16.

¹⁷⁸ *Id.*

¹⁷⁹ *Id.* at 15-16.

¹⁸⁰ *Id.* at 15.

¹⁸¹ *Id.* at 24.

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *Id.* at 19.

Incorporating TEK within climate change adaptation is fundamental to exercising tribal sovereignty in a warming world. Climate change is a direct result of destructive environmental practices by industrial societies. These destructive practices go against chthonic principles. Industrial environmental practices value human health over ecosystem health and deny their interconnectivity.¹⁸⁵ Therefore, in general, indigenous peoples are forced to operate within the dominant American system that denies and dismisses their traditional principles.¹⁸⁶ Western science, which forms the basis of most federal environmental policy, rejects TEK as “anecdotal, non-quantitative, without method, and unscientific.”¹⁸⁷ TEK, however, is valid and useful, particularly in studying comprehensive climate changes on the local level.¹⁸⁸ Therefore, TEK is an integral part of tribal climate change adaptation initiatives because the tribes are asserting their worldview in the climate policies that will significantly shape their futures. Because the dominant American society is lacking in regard to climate change prevention, mitigation, or adaptation policies, tribal policies that incorporate TEK will serve as models to frame future initiatives. The inclusion of TEK thus serves to strengthen indigenous use of traditional knowledge and cultural principles while also advancing these principles against the flailing dominant society. TEK therefore promotes tribal sovereignty by directly incorporating traditional, chthonic principles in the climate decision-making processes.

B. Environmental Justice

B. Environmental justice, like tribal sovereignty, means many things. The U.S. Environmental Protection Agency defines environmental justice as the fair treatment and meaningful involvement of all people with respect to the development, implementation, and enforcement of environmental laws and policies.¹⁸⁹ Current approaches to climate change may deny indigenous peoples environmental justice. Not only do indigenous peoples suffer climate change consequences disproportionately, but indigenous peoples have no voice in international discussions involving climate change laws and policies, which are dictated by nation-states.¹⁹⁰ Because of the status of tribes as domestic dependent nations, tribal interests are ignored by the powerhouse, industrial United States in international conventions and dialogues.¹⁹¹ Without a voice in these discussions, indigenous peoples are excluded from the meaningful participation that underlies environmental justice.

While tribal climate change adaptation initiatives cannot give American Indian tribes a voice in the international arena, the initiatives incorporate environmental justice as a manifestation of tribal sovereignty. The Swinomish Climate Adaptation Action Plan demonstrates this. Community involvement in

¹⁸⁵ Zimmerman, *supra* note 17, at 825.

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Id.* at 826.

¹⁸⁹ U.S. Environmental Protection Agency, *Environmental Justice*, <http://www.epa.gov/environmentaljustice/> (last updated Sep. 9, 2013).

¹⁹⁰ Tsosie, *supra* note 20, at 1653.

¹⁹¹ *Id.*

adaptation actions, implementations, and goals is an integral aspect of the adaptation plan and underpins the notion of environmental justice. This community involvement provides tribal members with a meaningful say in the environmental laws and policies that shape their lives and livelihoods. The community involvement espoused in the adaptation plan includes outreach, education, and public participation.¹⁹² While outreach and education empowers tribal members, public participation grants individual members with opportunities to directly assist in planning for adaptation.¹⁹³ The Climate Adaptation Action Plan was written with a built-in flexibility for meaningful involvement that strengthens community health. The incorporation of environmental justice in climate change adaptation thus demonstrates tribal sovereignty by reinforcing individual indigenous participation in self-governance and imbuing tribal members with decision-making powers. This demonstration of resilience should inspire the United States' platform in international conventions and dialogues, thereby increasing tribal participation in environmental-decision making on a grand scale.

C. Traditional Treaty Rights to Fish

Billy Frank, Jr., a member of the Pacific Northwest Nisqually tribe, has been jailed over 50 times for fishing.¹⁹⁴ The arrests were prior to litigation that affirmed traditional treaty rights to fish and declared that tribal members must receive fair and equitable portions of fish populations.¹⁹⁵ The result of these cases has been cultural revival within Pacific Northwest tribes. Community health has begun to improve as traditional fishing lifestyles re-emerge. Frank, Jr., who is now chairman of the Northwest Indian Fisheries Commission, has described this revival: "Our economy was built around salmon. We're trying to bring them back, to make that economy come to life within our tribes."¹⁹⁶ Climate change, however, threatens both traditional treaty rights to fish and tribal economies based on this subsistence lifestyle. If there are no fish, there is no right to fish.

Tribal climate change adaptation initiatives, particularly in the Pacific Northwest, manifest tribal sovereignty by analyzing potential impacts on their treaty rights. Because Pacific Northwest tribes ceded millions of acres of lands to secure traditional fishing rights, the loss of treaty-protected fishing due to climate change has profound implications for sovereignty. The Swinomish Climate Adaptation Action Plan has identified several actions to address the potential jeopardy of fishing rights. For example, tribes can seek assistance to replace fish resources via in-lieu claims against hydropower facilities whose impacts on fisheries caused resource depletion prior to the manifestation of climate change consequences.¹⁹⁷ Alternatively, tribes can seek cooperative, defensive, or TEK-sharing agreements with other local tribes or state entities to preserve or enhance impacted resources.¹⁹⁸ These actions

¹⁹² Climate Adaptation Action Plan, *supra* note 1, at 17.

¹⁹³ *Id.*

¹⁹⁴ Campbell & De Melker, *supra* note 2.

¹⁹⁵ *Id.* See also *United States v. Washington*, 384 F. Supp. 312 (W.D. Wash. 1974); *Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658 (1979); and *United States v. Washington*, 506 F. Supp. 187 (W.D. Wash. 1980).

¹⁹⁶ Campbell & De Melker, *supra* note 2.

¹⁹⁷ Climate Adaptation Action Plan, *supra* note 1, at 24.

¹⁹⁸ *Id.*

are in addition to the fishery science adaptation goals identified in the Climate Adaptation Action Plan that help augment fish populations. Because fishing is integral to the community health of indigenous peoples, ensuring continuance of fishing practices is necessary to ensure continuance of tribal traditions.

CONCLUSION

What makes us most healthy and strong is the education that's been passed down from our tribal elders from generation to generation... If we took the seed that was planted by our grandfathers, for our great-great-grandchildren, then we're going to be able to leave some type of legacy here that yes, we are a culture that won't vanish.¹⁹⁹

Climate change presents novel challenges to indigenous peoples and poses severe threats to their cultures, environments, and economies. But while American Indian tribes may lack physical adaptive capacity, they have proved culturally resilient to external stressors attempting to decimate their lifestyles. Tribes are thus particularly capable of initiating climate change adaptation. Adaptation will not be easy, though. It will require substantial shifts in governance and practices that may be demoralizing. It will require significant funds that may not exist. It will require significant dedication to chthonic traditions and place-based worldviews that may be difficult to maintain in the face of extinct keystones, flooding lands, and needs to relocate.

The Swinomish Indian Tribal Community's Climate Adaptation Action Plan is one such demonstration of resilience in the face of adaptation. It is a living document that strengthens traditional indigenous knowledge, community participation, and fishing treaty rights in the face of severe threats. And it is a model for other tribes facing similar threats.

¹⁹⁹ *Id.* at 19.