

The Impact of Climate Change on American and Canadian Indigenous Peoples and Their Water Resources

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Summary

Access to water is a fundamental climate change issue in North America and internationally. It is related to significant political, social, and ecological struggles that indigenous peoples face, and governments and courts so far have done little to address these inequities. This Article, adapted from Chapter 10 of *CLIMATE JUSTICE: CASE STUDIES IN GLOBAL AND REGIONAL GOVERNANCE* (ELI Press 2016), discusses case law and international law instruments that indigenous peoples may employ to vindicate their rights, specifically the right to water, in light of global warming and the loss of their lands and way of life. It highlights indigenous peoples in Canada and the United States who live on extra-rural reservations and in remote and climate-vulnerable locations, and provides recommendations for mitigation and adaptation measures for these communities.

Across the world, indigenous communities face threats to their access to water as a consequence of climate change. Indeed, water management is one of the most fundamental climate change-related issues in North America and internationally. It involves issues of equity, and is related to significant political, social, and ecological struggles that indigenous peoples face. These characteristics are defined as both cause and symptom of the precarious life on reservations, other tribal territories, and urban areas and their relation to climate change.

To date, national, state/provincial, and local governments have done little, if anything, to address the problems of access to water and the impacts of climate change on that access. Courts have also been unreceptive to these issues. These inequities have caused conflict between indigenous peoples and governmental authorities.

Two responses to these conflicts and inequities include (1) mediation, and (2) a program for the long-term sustainable development of water resources in the face of climate change. Such efforts require the participation of the very public whose human rights have been abused. However, those people that are most affected by the scarcity of water in the areas in which they live are also those least likely to participate in policy and governance organizations. Their ability to participate is limited by the time demands of fetching water, and making a living, and because they do not trust “the system.”

This Article addresses the indigenous peoples of Canada and the United States. It reviews international and national laws, relevant case law, and commission reports. The international laws addressed are the 1966 International Covenant on Economic, Social, and Cultural Rights (ICESCR), the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the United Nations *Convention on the Rights of the Child (CRC)*, the ILO Convention Concerning Indigenous and Tribal Peoples in Independent Countries (ILO No. 169), the International Convention on the Elimination of All Forms of Racial Discrimination (CAFRD), and the Inter-American Declaration of Human Rights (IADHR).

The United States is not a Party to the ICESCR, the CEDAW, the *CRC*, or ILO No. 169. Canada, however, is a Party to all of these conventions. Canada and the United States are both Parties to the CAFRD and the Inter-American Convention on Human Rights (IACHR), except that the United States does not recognize the jurisdiction of the Inter-American Court. Indigenous peoples face several challenges in seeking protection under these international law instruments to address climate change impacts on their lands and cultures. One significant hurdle is causation, i.e., the difficulty a litigant faces in proving that climate change impacted his or her access to water. On the national level,

Canada and the United States each has treaties with their indigenous peoples—the American Indians/Alaska Natives in the United States and the First Nations in Canada—and there are applicable municipal laws and court rulings.

Numerous indigenous communities lack access to fresh and potable water and sanitation, and climate change will impact these peoples' continued access to this resource. For example, the recent drought in California impacted the Bishop Paiute, California Valley Miwok, and the Fort Mojave Indians more than other Californians because these indigenous communities do not have the modern conveniences or resources that most other state residents enjoy.

Part I of this Article introduces how climate change is impacting select U.S. and Canadian indigenous communities' natural resources and cultures. Part II addresses international law instruments that are potentially applicable to these indigenous peoples' efforts to adapt to climate change impacts. Part III examines the right to water for American and Canadian indigenous peoples. Part IV concludes the Article by offering recommendations to help secure justice for these peoples.

I. Climate Change Impacts on Indigenous Communities in the United States and Canada

There are approximately 570 federally recognized American Indian tribes and Alaska Native (AI/AN) villages in the United States.¹ They vary significantly in terms of their culture, economic status, land base, language, location, and population size. Despite these distinguishing features, many of these tribal communities share several characteristics. Specifically, the majority are situated in isolated and often environmentally challenging areas,² such as deserts, extra-rural areas, or regions far from any major population centers. The U.S. Census Bureau has identified some 25% of AI/AN that live below the national poverty line, contrasted with about 9% for non-Hispanic whites.³ Indeed, the U.S. Environmental Protection Agency (EPA) has also noted that throughout Indian country and in Alaska Native villages a disproportionate percentage of tribal homes lack access to safe drinking water and safe wastewater disposal. According to 2007 data from the Indian Health Service (IHS), approximately 13% of AI/AN homes do not have safe water or wastewater disposal facilities. This is an extremely high percentage compared with the 0.6% of non-native homes in the United States that lack such infrastructure as measured in 2005 by the

U.S. Census. The lack of access to these basic services in Indian country continues to threaten the public health of tribal communities.⁴

Climate change is a daunting global regulatory challenge. Climate change impacts will be variable; harsher in some areas, and less harsh in others. A recent study⁵ recalled that less than 2°C of global warming for the earth was the target agreed by leaders at the 21st Conference of the Parties climate conference in Paris in November 2015.⁶ However, such targets may fail to communicate the urgency of reducing carbon dioxide emissions. Regional hot spots cited are the Mediterranean countries, Brazil, and the United States, where 2°C of global warming could translate into local temperature increases of more than 3°C. But the region expected to suffer most is the Arctic, where nighttime temperatures are predicted to soar by 6°C.⁷

In 2015, the U.S. National Oceanic and Atmospheric Administration (NOAA) issued a report card on the state of the Arctic.⁸ It disclosed that the annual average air temperature was 1.3°C above the long-term average.⁹ This increase is a peak since the keeping of modern records in 1900.¹⁰ Moreover, temperatures topped 3°C above the average, from 1981 to 2010.¹¹ The record heat has been attended by shrinking levels of ice. In 2015, “[t]he Arctic Ocean reached its peak ice cover on 25 February—a full 15 days earlier than the long-term average and the lowest extent recorded since satellite records began in 1979. The minimum ice cover, which occurred on 11 September, was the fourth smallest in area on record.”¹²

Climate change poses multiple threats to indigenous communities' natural resources and cultures. These communities' close ties to the land make them especially vulnerable to climate change impacts. Lack of precipitation, attributed to climate change, has proven to be disastrous to indigenous peoples' subsistence cultures in the United States' North Country.¹³ For example, in 2012, for only the second time in the past decade, the Ojibwe Bad River Reservation in northern Wisconsin and the Fond du Lac Band of Lake Superior Chippewa near Duluth, Minnesota, had to cancel their manoomin (wild rice) harvests.¹⁴

4. *Id.* at 4.

5. Sonia I. Senerviratne et al., *Allowable CO₂ Emissions Based on Regional and Impact-Related Climate Targets*, 529 NATURE 477, 477 (2016).

6. *Id.* at 477–78.

7. Kate Ravillious, *Global Warming: Uneven Changes Across Planet*, THE GUARDIAN, Feb. 10, 2016, <http://www.theguardian.com/news/2016/feb/10/weatherwatch-ravillious-global-warming-limit-climate-change-uneven-arctic-europe-us>.

8. Oliver Milman, *Record High Arctic Temperatures in 2015 Having “Profound Effects” on Region*, THE GUARDIAN, Dec. 15, 2015, <http://www.theguardian.com/world/2015/dec/15/arctic-noaa-report-record-high-temperatures-diminishing-sea-ice>.

9. *Id.*

10. *Id.*

11. *Id.*

12. *Id.*

13. Indian Country Today Media Network Staff, *The 7 Most Alarming Effects of Climate Change on North America, 2013 Edition*, INDIAN COUNTRY, Feb. 22, 2013, <http://indiancountrytodaymedianetwork.com/2013/02/22/seven-most-alarming-effects-climate-change-north-america-2013-edition-147835>.

14. *Id.*

1. U.S. ENVIRONMENTAL PROTECTION AGENCY ET AL., INFRASTRUCTURE TASK FORCE ACCESS SUBGROUP, MEETING THE ACCESS GOAL: STRATEGIES FOR INCREASING ACCESS TO SAFE DRINKING WATER AND WASTEWATER TREATMENT TO AMERICAN INDIAN AND ALASKA NATIVE HOMES 6 (2008), <https://www.epa.gov/sites/production/files/2015-07/documents/meeting-the-access-goal-strategies-for-increasing-access-to-safe-drinking-water-and-wastewater-treatment-american-indian-alaska-native-villages.pdf>.

2. *Id.*

3. *Id.*

Over the past few years, the contiguous United States has witnessed record heat and the most severe drought since the 1950s.¹⁵ Moreover, January 2013 was warmer and wetter than the average for the 20th century.¹⁶ This has had a profound impact on Indian country.¹⁷ For example, the wildfires that have swept the western United States beginning in 2011 and continuing through 2015 have seen some of the worst seasons in recorded history.¹⁸ “In Indian country that translated into damage or outright devastation on several reservations, including the Northern Cheyenne Indian Reservation, where the 2,000-population town of Lame Deer, the tribal hub, was briefly evacuated in August 2012 after a fire in southeastern Montana made its way onto the reservation.”¹⁹ Fires in New Mexico threatened both the Fort Apache and the San Carlos Apache reservations, which have seen hundreds of thousands of acres burned to the ground, impacting farming and other interests.²⁰

The tribes discussed below were selected for this discussion because they are among the poorest and will be some of the most impacted by climate change. Additionally, poverty on a reservation increasingly means that members of the tribes addressed do not have indoor plumbing, and that they will have to rely solely on other sources of water such as streams and water holes. As these sources dry due to droughts and high temperatures associated with climate change, access to water will become more problematic.

A. The Pine Ridge Indian Reservation

Located in South Dakota, the Pine Ridge is the eighth-largest reservation in the United States and one of the poorest. The reservation is home to the Oglala Lakota Sioux Nation. Established in 1889, the Pine Ridge Reservation today is 3,469 mi² (8,984 km²) in size.²¹ The Lakota population of the Pine Ridge Reservation suffers from major health conditions, which include high mortality rates, alcoholism,²² and malnutrition. For example, the reservation’s average life expectancy is approximately 47 years for men and 52 for women,²³ as compared to approximately 79 years of age for the average American.²⁴ These are the

lowest life expectancy figures in the Western Hemisphere outside of Haiti.²⁵

Ninety-seven percent of the reservation’s population lives below the federal government’s poverty level of \$24,250,²⁶ with the median income of \$2,600 to \$3,500²⁷; the unemployment rate hovers in excess of 85%²⁸; at least 60% of homes lack running water, connection to electricity, or sewage systems²⁹; and the infant mortality (age 1–4 years) is the highest in North America, and is 300% higher than the U.S. national average.³⁰ Health care access is also limited and inadequate as compared to that in urban areas and “many reservation homes lack stoves, refrigerators, beds and/or basic furniture.”³¹

The federal government, which is the trustee for the American Indians, has to date not expended a great deal of money to improve these native peoples’ lives and it does not appear that it will.³² This lack of caring continues to demonstrate the United States’ disregard for human rights³³ and second and third generation rights.³⁴

The Oglala Lakota will have difficulty adapting to the impacts of climate change on temperature and

of longevity for men at 48 years and women at 52 years. See A Pine Ridge Story, *Pine Ridge Today*, <http://www.pineridgesioux.com> (last visited Aug. 24, 2016).

25. American Indian Humanitarian Foundation, *supra* note 23.

26. Obamacare Facts, *Federal Poverty Level*, <http://obamacarefacts.com/federal-poverty-level> (last visited Aug. 24, 2016).

27. American Indian Humanitarian Foundation, *supra* note 23.

28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.*; Re-Member, *supra* note 21.

32. See, e.g., The American Presidency Project, *Special Message From President Richard Nixon to the Congress on Indian Affairs* (July 8, 1970) (“The first Americans—the Indians—are the most deprived and most isolated minority group in our nation. On virtually every scale of measurement—employment, income, education, health—the condition of the Indian people ranks at the bottom.”), <http://www.presidency.ucsb.edu/ws/?pid=2573>; U.S. COMMISSION ON CIVIL RIGHTS, A QUIET CRISIS: FEDERAL FUNDING AND UNMET NEEDS IN INDIAN COUNTRY iii (2003) (“This study reveals that federal funding directed to Native Americans through programs at these agencies has not been sufficient to address the basic and very urgent needs of indigenous peoples. Among the myriad unmet needs are: health care, education, public safety, housing, and rural development.”), <http://www.usccr.gov/pubs/na0703/na0204.pdf>.

33. *Special Message From President Richard Nixon*, *supra* note 32 (“This condition is the heritage of centuries of injustice. From the time of their first contact with European settlers, the American Indians have been oppressed and brutalized, deprived of their ancestral lands and denied the opportunity to control their own destiny.”); Native American Rights Fund, *Promote Native American Human Rights* (“American Indian and Alaska Native individuals, like all people, are entitled to inalienable, fundamental human rights. In addition, tribes have fundamental collective human rights.”), <http://www.narf.org/our-work/promotion-human-rights> (last visited Aug. 24, 2016).

34. First generation rights are defined as follows:

civil and political rights such as free speech and conscience and freedom from torture and arbitrary detention Second generation rights are social, economic and cultural and include the rights to reasonable levels of education, healthcare, and housing and minority language rights Most recently third generation rights have shifted focus from the individual person (first generation rights) and the communities in which they live (social, economic and cultural rights) to the natural world, such as the right to a clean and healthy environment, and the right to species biodiversity.

Helen Stacy, *Second and Third Generation Rights in Africa*, (Stanford Center on Democracy, Development, and the Rule of Law 2011), http://fsi.stanford.edu/research/second_and_third_generation_rights_in_africa.

15. *Id.*

16. *Id.*

17. *Id.*

18. *Id.*

19. *Id.*

20. *Id.*

21. Re-Member, *Pine Ridge Indian Reservation*, <http://www.re-member.org/pine-ridge-reservation.aspx> (last visited Aug. 24, 2016).

22. *Id.* (“Alcoholism rate estimated as high as 80%; 1 in 4 infants born with fetal alcohol syndrome or effects”).

23. American Indian Humanitarian Foundation, *Pine Ridge Statistics, Pine Ridge Reservation Humanitarian Rescue, Statistical Data*, <http://www.4aih.org/id40.html> (last visited Aug. 24, 2016).

24. S.C. Kulkarni et al., *Falling Behind: Life Expectancy in U.S. Counties From 2000 to 2007 in an International Context*, 9 POPULATION HEALTH METRICS 16, 18 (2011). A 1998 study estimated life expectancy in Oglala Lakota County to be the lowest of any county in the United States; men—56.5 years, women—66 years. C.J.L. MURRAY ET AL., U.S. PATTERNS OF MORTALITY BY COUNTY AND RACE: 1965–1994: THE U.S. BURDEN OF DISEASE AND INJURY MONOGRAPH SERIES (Harvard Center for Population and Development Studies 1998). The Harvard School of Public Health has reported estimates

water wells.³⁵ Their cattle ranching and farming operations will surely be impacted.³⁶ Moreover, scientists do not yet know what effect the melting permafrost in Alaska and northern Canada and the concomitant melting of the Arctic ice sheet will have on this region of South Dakota.³⁷

Nevertheless, the Oglala Lakota community has not stood still in the face of climate change impacts. Indeed, it has taken steps to fight these potential effects, as well as the impacts of other environmental changes.³⁸ Since a large percentage of the reservation is suitable for grazing, and some farming, that effort has been successful, but for the lack of water.³⁹ Moreover, despite its natural beauty, Pine Ridge is geographically isolated and has limited water resources, which have made it quite difficult for the Lakota to launch themselves economically. The droughts that have impacted the western United States have had harsh impacts on the Lakota reservation, and have made a bad situation worse.⁴⁰ Over time, climate change will increase its toll on the reservation.⁴¹ That is why the federal govern-

ment's Bureau of Indian Affairs has to increase its footprint in Indian country.

The burdening of vulnerable and marginalized communities is not limited to Indian country. Similarly, as was observed in March 2016 with regards to the Flint, Michigan, contamination of water by lead (Pb), "Congress, which has refused to invest sufficiently in the nation's public works and has been antagonistic to environmental protection, must also learn from the crisis. For years, poor and minority communities have suffered disproportionately from environmental degradation."⁴²

In the case of Flint, residents alleged racial discrimination over the change in drinking water from Lake Huron to the Flint River and high incidences of Pb in the water. The change in water source was initiated by Michigan's Republican governor, Rick Snyder.⁴³ In an effort to save money, the city manager, apparently in consultation with the governor's office and the Michigan Department of Environmental Quality, unhooked the city's potable water source and hooked up the water works to the toxic Flint River. The city undertook these actions even though it was warned by EPA that doing so would be dangerous for the residents. According to Michael Moore, a former resident of Flint, "[w]hen the governor's office discovered just how toxic the water was, they decided to keep quiet about it and covered up the extent of the damage being done to Flint's residents, most notably the lead affecting the children, causing irreversible and permanent brain damage. Citizen activists uncovered these actions."⁴⁴

B. Alaska Natives

In indigenous communities in Alaska, the impacts of climate change have been evident for almost a decade. For example, in 2007, the Fourth Assessment Report of the United Nations Intergovernmental Panel on Climate Change's (IPCC's) Working Group II⁴⁵ recognized that "American indigenous communities are among the most sensitive to climate change in North America."⁴⁶ Moreover, "indigenous communities in northern Canada and Alaska are already experiencing constraints on lifestyles and economic activity from less reliable sea and lake ice (for travelling, hunting, fishing, and whaling), loss of forest resources from insect damage, stress on caribou, and

35. See, e.g., Daniel Cordalis & Dean B. Suagee, *The Effects of Climate Change on American Indian and Alaska Native Tribes*, 22 NAT. RESOURCES & ENV'T 45, 45 (2008) ("Climate change will affect American Indian tribes differently than the larger American society. Tribal cultures are integrated into the ecosystems of North America, and many tribal economies are heavily dependent on the use of fish, wildlife, and native plants. Even where tribal economies are integrated into the national economy, tribal cultural identities continue to be deeply rooted in the natural world. As global warming disrupts biological communities, the survival of some tribes as distinct cultures may be at risk. The loss of traditional cultural practices because important plants and animals are no longer available may prove to be too much for some tribal cultures to withstand on top of the external pressures they have faced during recent generations.") See also Press Release, The White House, Fact Sheet: What Climate Change Means for South Dakota and the Great Plains (May 6, 2014) ("The Great Plains is a diverse region where climate is woven into the fabric of life. Daily, monthly, and yearly variations in the weather can be dramatic and challenging. The region experiences multiple climate and weather hazards, including floods, droughts, severe storms, tornadoes, hurricanes, and winter storms. In much of the Great Plains, too little precipitation falls to replace that needed by humans, plants, and animals. These variable conditions already stress communities and cause billions of dollars in damage. *Climate change will add to both stress and costs.*") (emphasis added), https://www.whitehouse.gov/sites/default/files/docs/state-reports/SOUTHDAKOTA_NCA_2014.pdf.

36. Press Release, The White House, *supra* note 35 ("Changes to crop growth cycles due to warming winters and alterations in the timing and magnitude of rainfall events have already been observed; as these trends continue, they will require new agriculture and livestock management practices.")

37. See generally Justin Gillis, *As Permafrost Melts, Scientists Study the Risks*, N.Y. TIMES, Dec. 16, 2011, <http://www.nytimes.com/2011/12/17/science/earth/warming-arctic-permafrost-fuels-climate-change-worries.html>.

38. See generally Cordalis & Suagee, *supra* note 35; Tom Weis, *Why a Climate Activist Fasted Nine Days for Immigrant Families*, THE HUFFINGTON POST, Dec. 13, 2013 ("The moment you step into the fasting tent, you know you have entered a different dimension. It's not something I've experienced often with people I don't know (the last time, I felt it was in ceremony with my brothers and sisters of the Great Sioux Nation). In the tent, mutual respect reigns and egos melt away. Here, everyone is equal. Here, everyone has a voice. In the tent, you're family.") (emphasis added), http://www.huffingtonpost.com/tom-weis/why-a-climate-justice-act_b_4409357.html.

39. Press Release, The White House, *supra* note 35 ("Rising temperatures are leading to increased demand for water and energy. In parts of the region, this will constrain development, stress natural resources, and increase competition for water among communities, agriculture, energy production, and ecological needs.")

40. *Id.*

41. *Id.*

42. Editorial Board, *The Racism at the Heart of Flint's Crisis*, N.Y. TIMES, Mar. 25, 2016, http://www.nytimes.com/2016/03/25/opinion/the-racism-at-the-heart-of-flints-crisis.html?action=click&pgtype=Homepage&clickSource=story-heading&module=opinion-c-col-left-region®ion=opinion-c-col-left-region&WT.nav=opinion-c-col-left-region&_r=0.

43. Michael Moore, *10 Things They Won't Tell You About the Flint Water Tragedy. But I Will.*, <http://michaelmoore.com/10FactsOnFlint/> (last visited Aug. 24, 2016).

44. *Id.*

45. CLIMATE CHANGE 2007: IMPACTS, ADAPTATION, AND VULNERABILITY. CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (M.L. Parry et al. eds., 2007), www.ipcc.ch/ipccreports/ar4-wg2.htm [hereinafter IPCC FOURTH ASSESSMENT REPORT].

46. Cordalis & Suagee, *supra* note 35, at 45.

more exposed coastal infrastructure from diminishing sea ice.⁴⁷

Indeed, Alaska, because of its melting permafrost, is likely to experience the effects of global warming more than any other location on earth.⁴⁸ Furthermore, due to their northern location, Alaska Native tribes are among the first American populations to feel the impacts of global climate change.⁴⁹ Eighty-six percent of Alaska Native villages have suffered some degree of flooding and erosion, with the greatest impacts of this destruction having been felt along the Alaskan coast.⁵⁰

Increased variability in temperature, ice formation, wind speed, and ocean currents in the Bering and Chukchi Seas has occurred along the barrier island chain over the past few decades, changing the climate patterns to which the native villagers had been accustomed.⁵¹ Sea ice formation is occurring later in the fall due to warmer temperatures and high winds.⁵² The ice that builds up is often thinner, making it dangerous to cross and more susceptible to early breakup in the spring.⁵³

Precipitation patterns have changed, with little snowfall in the autumn and early winter, but heavy amounts in late winter and spring.⁵⁴ The lack of snow makes it difficult for polar bears and ringed seals to make dens for giving birth or, in the case of male polar bears, to seek protection from the weather.⁵⁵ These environmental stresses will cause polar

bears who go hungry to seek other sources of food, including in villages.

In response to the predictions of these impacts, speaking at the National Museum of the American Indian in Washington, D.C., Cheyenne elder Henrietta Mann, “issued an American Indian ‘Call to Consciousness’ on global climate change that calls ‘upon all the peoples of the world to awaken and respond to our collective human responsibility to the seventh generation.’”⁵⁶

Furthermore, a 2010 report⁵⁷ explored the links between energy and water insecurity in rural Iñupiaq Eskimo villages in Alaska’s Northwest Arctic Borough.⁵⁸ Required fuel-based transportation, such as snowmobiles, and high energy costs are two of the significant factors in domestic water access for the Iñupiaq community.⁵⁹ Dramatic increases in the costs of energy have led to decreased domestic water access, with adverse effects on household hygiene practices. The author of the report considers energy to be “a public health issue.”⁶⁰ Indeed, she traces the manner in which high energy costs regulate “water consumption from production to household acquisition and use.”⁶¹ Thus, the author posits that in order to improve sanitation and access to potable water necessitates bearing in mind the water-energy nexus⁶²: the amount and cost of energy required to treat and distribute water as well as manage waste.

Finally, with respect to water production, resource extraction, subsistence uses, and protection of instream flows,⁶³ it is essential that the federal government consider the disproportionate impacts of climate change,⁶⁴ water diversions, and water development on Alaska Native vil-

47. *Id.* (citing IPCC, FOURTH ASSESSMENT REPORT, *supra* note 45).

48. See, e.g., Randall S. Abate & Elizabeth Ann Kronk, *Commonality Among Unique Indigenous Communities: An Introduction to Climate Change and Its Impacts on Indigenous Peoples*, 26 TUL. ENVTL. L.J. 179, 183 (2013).

49. See *id.*

50. GENERAL ACCOUNTING OFFICE, ALASKA NATIVE VILLAGES: MOST ARE AFFECTED BY FLOODING AND EROSION, BUT FEW QUALIFY FOR FEDERAL ASSISTANCE (2003) (GAO-04-142 2-3).

51. See Peter A. Bieniek et al., *Climate Drivers Linked to Changing Seasonality of Alaska Coastal Tundra Vegetation Productivity*, 19 EARTH INTERACTIONS 1, 2 (2015) (“The [Alaskan] tundra region generally has warmed over the summer but intraseasonal analysis shows a decline in midsummer land surface temperatures. The midsummer cooling is consistent with recent large-scale circulation changes characterized by lower sea level pressures, which favor increased cloud cover.”), <http://journals.ametsoc.org/doi/pdf/10.1175/EI-D-15-0013.1>; see also NOAA, *Arctic Change, Human and Economic Indicators—Shishmaref* (“Sarichef Island (on which Shishmaref is located) is part of a dynamic, 100km-long barrier island chain that records human and environmental history spanning the past 2000 years . . . Erosion is occurring along the entire island chain, but it is exacerbated at Sarichef Island in part because of the hydrographic impacts of hard armoring of a sandy shoreface and permafrost degradation that is accelerated by infrastructure. Residents are experiencing the effects of coastal retreat on residential and commercial properties and there is a need to develop solutions, potentially including the difficult choice to abandon the island.”), <http://www.arctic.noaa.gov/detect/human-shishmaref.shtml> (last visited Aug. 24, 2016).

52. Bieniek et al., *supra* note 51, at 2 (“Many climatic changes have been documented in the Arctic summer over the satellite record and at longer time scales, most notably increasing surface air temperatures and a decline in sea ice.”).

53. *Id.* (“The decline in sea ice has had far-reaching terrestrial consequences not only for the climate but also for vegetation and other biota in the Arctic.”).

54. KEVIN GALLOWAY ET AL., ALASKA CLIMATE DISPATCH: A STATE-WIDE SEASONAL SUMMARY AND OUTLOOK (2014) (“Winter 2013–14 was memorable across Alaska not just for the records but for the significant impacts over many regions of the state. The National Climatic Data Center ranked this as the 8th warmest and 27th wettest mid-winter (December through February) statewide since 1915, and the impacts were from both individual weather events and the cumulative effects of the mild winter.”), https://accap.uaf.edu/sites/default/files/AK_climate_dispatch_mar14_final.pdf.

55. See generally Cordalis & Suagee, *supra* note 35, at 47; Mark Nuttall, *Chapter 12: Hunting, Herding, Fishing, and Gathering: Indigenous Peoples and Renewable*

Resource Use in the Arctic, in ARCTIC CLIMATE IMPACT ASSESSMENT—SCIENTIFIC REPORT 660 (2005).

56. Cordalis & Suagee, *supra* note 35, at 45 (citing Jose Barreiro, *A Call to Consciousness on the Fate of Mother Earth*, 8 NAT’L MUSEUM OF THE AM. INDIAN MAG. 34, 36 (2007)).

57. Laura Palen Eichelberger, *Living in Utility Scarcity: Energy and Water Insecurity in Northwest Alaska*, 100 AM. J. PUB. HEALTH 1010 (2010) (“I seek to demonstrate that sanitation, domestic water access, and hygiene practices in the Alaskan Arctic depend on the availability and cost of energy.”).

58. Northwest Arctic Borough, *About* (indicating that the population is 7,523 based on the July 2010 U.S. Census), <http://www.nwabor.org/about> (last visited Aug. 24, 2016).

59. Eichelberger, *supra* note 57, at 1010.

Lena: “Before, there was no payments.”

Ruth: “There were no bills.”

Lena: “The lights, the toilet . . . it spoiled us. But we can’t go back and unravel it.”

Ruth: “If there’s no fuel, there will be no electricity, there will be nothing. It will be hard time. We’ll go back to cutting wood and hauling water.”

—Two elderly Iñupiaq women

Id.

60. *Id.* at 1011.

61. *Id.* at 1010.

62. *Id.*

63. Instream flow is defined as “the water flowing in a stream channel . . . This simple concept belies the difficulty of determining what that flow should be among competing uses of water, such as irrigation, public supply, recreation, hydropower, and aquatic habitat.” NATIONAL RESEARCH COUNCIL (U.S.), THE SCIENCE OF INSTREAM FLOWS: A REVIEW OF THE TEXAS INSTREAM FLOW PROGRAM 32 (2005), <http://www.nap.edu/read/11197/chapter/5>.

64. HAROLD SHEPHERD, WATER JUSTICE IN ALASKAN NATIVE COMMUNITIES: A WHITE PAPER FOR REVIEW BY THE OBAMA ADMINISTRATION AND THE CURRENT CONGRESS 1 (The Center for Water Advocacy n.d.), http://www.trunity.net/files/61501_61600/61508/cwa_wp_water-justice-in-alaska.pdf.

lages, as well as the possible management by Alaskan tribal governments.

C. *The Piikani*⁶⁵ *First Nation Peoples of Alberta*

In 1991, the Supreme Court of Canada heard a case that involved Alberta's construction of the Oldman Dam, on the Oldman River.⁶⁶ Until that time, very few people outside of Alberta were aware of the Northern Blackfeet Piikani (Scabby Robe) First Nation people, even though this band has been in Alberta since time immemorial.⁶⁷ Their plight became publicized when the government of Alberta sought to build a dam that would flood portions of their reserved lands, and the Piikani (then-Peigan), sued the Canadian government to require an environmental impact assessment.

When the Piikani entered into a treaty with the government, they requested that the Oldman River, the Porcupine Hills, and Crow Creeks be designated as their home base, because these were their preferred buffalo hunting wintering grounds.⁶⁸ Following the slaughter of the buffalo by the white man, the Piikani were persuaded to learn agriculture and to move to their newly designated reserve.⁶⁹ However, climatic conditions made farming untenable, and they turned their energies towards ranching, an economic activity that they are still engaged in today.

Nevertheless, like all First Nations across Canada, the Piikani face challenging and unique economic conditions, specifically a consistently low standard of living.⁷⁰ Indeed, in Canada, which is rated by the United Nations as one of the top four economically advanced nations in the world, "First Nation people experience employment rates of approximately 50% (on reserve) and 61% (off-reserve)."⁷¹ As a consequence of these poor economic conditions, there is commonly an inability to cope with large-scale economic, social, and environmental changes in First Nation communities.⁷² One of the reasons for this inability to deal with these changes is that the First Nations' economies are generally based on subsistence income-generating activities, such as forestry and tourism.⁷³

These subsistence activities are vulnerable to changes in the climate.⁷⁴ Similarly, hunting and gathering of wild fruits and vegetables are also impacted by climatic condi-

tions. Although the Piikani have benefited from alternative energy projects in which their band is involved, e.g., hydroelectricity and wind,⁷⁵ they still remain vulnerable to the vagaries of the climate.

As the subsistence economy gives way as a result of climate change, there are no "short-term or medium-term prospects that the subsistence sector can be replaced by the wage sector and industrial economy"⁷⁶ because there are simply no jobs to be had or created on and off the reserves for indigenous peoples.⁷⁷ Moreover, current research demonstrates that "climate change is presently having an impact on many northern communities [north of the 60° parallel] and on their ability to continue subsistence activities."⁷⁸ For instance, numerous First Nation peoples have reported retreating and thinning ice, drying tundra, reduced summer rain, warmer winters, and increased storms, among others.⁷⁹ Although the 60th parallel lies just north of the Piikani peoples reserve, there is no question that as the climate changes in the decades ahead, this band's lifestyle will be impacted, perhaps severely, if temperatures warm to the predicted 3–5°C.

Each of these changes or effects will require adaptation and mitigation by the Piikani and other First Nation communities.⁸⁰ Indeed, such efforts will also require resources for capacity-building, e.g., changes in hunting and fishing will demand new types of gear.⁸¹ Given the lack of economic resources in these communities, it will be difficult to make the necessary transition without government aid. Provincial governments and the federal government have not provided the required financial assistance to First Nations.

II. *Applicable International Law*

This section describes international human rights instruments that may be employed by indigenous Canadians and Americans in pursuing protection and justice in light of the impacts of climate changes. Efforts to employ these instruments will likely not be fruitful, especially in the near future.

A. *The United Nations Charter*⁸²

Every State that is a Member of the United Nations is a Party to the Charter.⁸³ The Charter was signed on June 26, 1945, and entered into force on October 24, 1945.⁸⁴

65. The Piikani were formally known as the Peigan.

66. *Friends of the Oldman River Soc'y v. Canada (Minister of Transport)*, [1992] 1 S.C.R. 3.

67. See generally ALBERTA GOVERNMENT, *ABORIGINAL PEOPLES OF ALBERTA: YESTERDAY, TODAY, AND TOMORROW* 19 (2013), <http://indigenous.alberta.ca/documents/aboriginalpeoples.pdf>.

68. See Jay Hansford C. Vest, *The Oldman River and the Sacred: A Meditation Upon Aputosi Piikani Tradition and Environmental Ethics*, 2 CAN. J. NATIVE STUD. 571 (2005), http://www3.brandou.ca/cjns/25.2/cjns25no2_pg571-607.pdf.

69. See *id.*

70. CENTRE FOR INDIGENOUS ENVIRONMENTAL RESOURCES, *REPORT 3: IMPACTS OF CLIMATE CHANGE ON FIRST NATION ECONOMIES 1* (2006), http://www.afn.ca/uploads/files/env/report_3_-_climate_change_and_fn_economies_final_draft_001.pdf. For the level of disparity among indigenous and non-Aboriginal populations gathered by Statistics Canada, see *id.* fig. 2-1.

71. *Id.* at 8.

72. See generally *id.*

73. *Id.* at 1.

74. *Id.*

75. *Id.* at 36, app. 1.

76. *Id.* at 10.

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. U.N. Charter, Oct. 24, 1945, 1 U.N.T.S. XVI, <http://www.refworld.org/docid/3ae6b3930.html>.

83. Article 102 of the Charter makes it binding on all Parties that are Members of the United Nations.

84. United Nations, *The UN Charter: The 70th Anniversary*, <http://www.un.org/en/charter-united-nations> (last visited Aug. 24, 2016).

Articles 55⁸⁵ and 56⁸⁶ of the United Nations Charter provide in pertinent part:

Article 55. With a view to the creation of conditions of stability and well-being which are necessary for peaceful and friendly relations among nations based on respect for the principle of equal rights and self-determination of peoples, the United Nations shall promote: a. higher standards of living, full employment, and conditions of economic and social progress and development; b. solutions of international economic, social, health, and related problems; and international cultural and educational cooperation; and c. universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion.

Article 56. All Members pledge themselves to take joint and separate action in cooperation with the Organization for the achievement of the purposes set forth in Article 55.

Thus, the right of self-determination and the conditions of stability and well-being are paramount ends for each State Party. Charter rights are applicable to both Canadians and Americans. All United Nations Members are bound by Articles 55 and 56, by virtue of their status as Parties to the Charter and the United Nations' Universal Declaration of Human Rights, with which every Member, including the United States, must comply.

B. *The Universal Declaration of Human Rights*

The Universal Declaration of Human Rights⁸⁷ provides in relevant part that human dignity is the hallmark of all human activity. It states unequivocally that “[a]ll human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.”⁸⁸ Furthermore, Article 2 states that:

Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status. Furthermore, no distinction shall be made on the basis of the political, jurisdictional or international status of the country or territory to which a person belongs, whether it be independent, trust, non-self-governing or under any other limitation of sovereignty.⁸⁹

Article 3 further provides that “[e]veryone has the right to life, liberty and security of person.”⁹⁰ Simi-

larly, Articles 6⁹¹ and 7⁹² of the Declaration provide that every person must be recognized as a person before the law, and that all people are equal before the law. The underlying theme of the Declaration is the importance of human self-esteem and respect. Indeed, it establishes common standards of treatment for all peoples and all Member States. It set out, for the first time, basic human rights to be universally protected. These fundamental rights were subsequently incorporated in other international instruments, including the European Declaration of Human Rights.⁹³

C. *The 1966 International Covenant on Economic, Social, and Cultural Rights*⁹⁴

Economic, social, and cultural rights, known as second generation rights, encompass the rights to (1) adequate food, (2) health, (3) adequate housing, (4) education, (5) work, (6) social security, (7) participate in cultural life, (8) water, and (9) sanitation. The hallmark of the ICESCR is self-determination, as reflected in the following language:

1. All peoples have the right of self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.
2. All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic cooperation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.⁹⁵

The States Parties' obligations under the Covenant, specifically pursuant to Article 2, include a showing that they are making every effort to take concrete steps to implement the treaty.⁹⁶ One of these obligations is the duty to undertake administrative actions that will mitigate the effects of climate change. Such adaptation measures require providing indigenous populations with the opportunity for self-determination. Self-determination has been defined as the process by which indigenous peoples demonstrate that they

85. U.N. Charter art. 55.

86. *Id.* at art. 56.

87. Universal Declaration of Human Rights, G.A. Res. 217A (III), U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (1948).

88. *Id.* at art. 1.

89. *Id.* at art. 2.

90. *Id.* at art. 3.

91. *Id.* at art. 6. (“Everyone has the right to recognition everywhere as a person before the law.”).

92. *Id.* at art. 7. (“All are equal before the law and are entitled without any discrimination to equal protection of the law. All are entitled to equal protection against any discrimination in violation of this Declaration and against any incitement to such discrimination.”).

93. *See, e.g.*, Protocol No. 13 to the Convention for the Protection of Human Rights and Fundamental Freedoms, May 3, 2002, E.T.S. 187, which states: “The Member States of the Council of Europe, signatory hereto, Convinced that everyone's right to life is a basic value in a democratic society and that the abolition of the death penalty is essential for the protection of this right and for the full recognition of the inherent dignity of all human beings”

94. International Covenant on Economic, Social, and Cultural Rights, Dec. 19, 1966, 993 U.N.T.S. 3.

95. *Id.* at art. 1.

96. *Id.* at art. 14.

have “particular ties to the territory whose fate is in question, ties which legitimize their participation in the vote.”⁹⁷

One area where self-determination and climate change intersect is health and health effects. A 2010 study found that

[t]he existing burden of ill-health increases the sensitivity of Indigenous peoples to the adverse impacts of climate change, which combined with a proportionally higher dependence of many Indigenous livelihoods on the environment, spiritual and cultural ties to the land, demographic trends, and experience of marginalization, makes Indigenous peoples particularly vulnerable.⁹⁸

Accordingly, the study’s authors recommend that public health interventions concentrated on indigenous peoples in North America are required in order to prepare for, avert, and manage climate change perils, such as adaptation.⁹⁹ Indeed, the authors note that “Canada has been a leader in vulnerability assessment in public health.”¹⁰⁰

D. *The International Convention on the Elimination of All Forms of Racial Discrimination*¹⁰¹

The International Convention on the Elimination of All Forms of Racial Discrimination (CAFRD) provides that segregation, as an outgrowth of colonialism and doctrines of superiority—including the white man’s burden, Social Darwinism, and racial discrimination—must be eliminated. Moreover, the Parties to the Convention undertook to stop engaging, as governments, in acts or practices that support or encourage discrimination. Below are some of the provisions from the Convention that are relevant to the protection of indigenous peoples.

Considering that the United Nations has condemned colonialism and all practices of segregation and discrimination associated therewith, in whatever form and wherever they exist . . .

Article 1

1. In this Convention, the term “racial discrimination” shall mean any distinction, exclusion, restriction or preference based on race, colour, descent, or national or ethnic origin which has the purpose or effect of nullifying or impairing the recognition, enjoyment or exercise, on an equal footing, of human rights and fundamental freedoms in the political, economic, social, cultural or any other field of public life.

Article 2

1. State Parties condemn racial discrimination and undertake to pursue by all appropriate means and without delay a policy of eliminating racial discrimination in all its forms and promoting understanding among all races . . .¹⁰²

A committee was established as part of the Convention. Referred to as the Committee on the Elimination of Racial Discrimination, it held its 85th session in August 2014, where the Committee considered reports, comments, and information that the United States and Canada submitted under Article 9 of the Convention.¹⁰³ The United States noted that with regards to discrimination against indigenous peoples, the United States asserted that there remain

(a) Obstacles to the recognition of tribes . . .

(d) Progress made to improve the situation of indigenous peoples, including poverty, unemployment, health-care gaps, violent crime, including violence against women, low levels of academic achievement and the lack of access to safe drinking water and basic sanitation.¹⁰⁴

In Canada’s submission, the country reported that its indigenous First Nation citizens still suffer from continuing racial discrimination as follows:

3. Situation of Aboriginal people:

(b) Discriminatory effects of the Indian Act on the rights of Aboriginal women and children to marry, own property and inherit on reserve lands . . . ;

(c) Overrepresentation of Aboriginal people in correctional facilities and their reintegration into the society: results of initiatives undertaken, in particular by British Columbia province . . . ;

(d) Enjoyment of economic, social and cultural rights by Aboriginal people: access to public and private labour market, conditions of work, qualification recognition, job security and education . . . ;

(f) Land issues, negotiation of treaties and land claims with Aboriginal people, including the Lubicon Lake case¹⁰⁵

97. Marie-Hélène Gillot et al. v. France, U.N. Hum. Rts. Comm., 75th Sess., para. 8.14, U.N. Doc. CCPR/C/75/D/932/2000 (2002).

98. James D. Ford et al., *Vulnerability of Aboriginal Health Systems in Canada to Climate Change*, 20 GLOBAL ENVTL. CHANGE 668, 670 (2010).

99. *Id.*

100. *Id.*

101. The International Convention on the Elimination of All Forms of Racial Discrimination, *opened for signature* Dec. 21, 1965, 660 U.N.T.S. 195 (entered into force Jan. 4, 1969) (Canada signed on Aug. 24, 1966, and ratified Oct. 14, 1970; United States signed on Sept. 28, 1966, and ratified Oct. 21, 1994), <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CERD.aspx>.

102. *Id.*

103. United Nations Human Rights Office of the High Commissioner, *Committee on the Elimination of Racial Discrimination: Membership*, <http://ohchr.org/EN/HRBodies/CERD/Pages/Membership.aspx> (last visited Aug. 24, 2016).

104. *International Convention on the Elimination of All Forms Racial Discrimination—List of Themes in Relation to the Combined Seventh to Ninth Periodic Reports of United States of America (CERD/C/USA/7–9)*, U.N. Comm. on the Elimination of Racial Discrimination, 85th Sess., Provisional Agenda Item 4, U.N. Doc. CERD/C/USA/Q/7-9 (2014), <http://docstore.ohchr.org/SelfServices/FilesHandler.ashx?enc=6QkG1d%2FPPRiCAqhKb7yhszO19YwTXeABruAM8pBAK2Wyp226L00wco36MQybB2d%2BztJSjxeRwa%2BjOQnvi2adxwohXw8hfhAG3Y3KR0EU4M6Aq7je1UwoxEwATkFSvr>.

105. *International Convention on the Elimination of All Forms of Racial Discrimination—List of Themes to Be Taken Up in Connection With the Consideration of the Nineteenth and Twentieth Periodic Reports of Canada (CERD/C/CAN/19–20)*, U.N. Comm. on the Elimination of Racial Discrimination, 80th Sess., U.N. Doc. CERD/C/CAN/Q/19-20 (2012), http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=CERD%2fC%2fCAN%2fQ%2f19-20&Lang=en.

Given the discriminatory effects of the Indian Act on the rights of Aboriginal women and children, specifically with regards to the rights of marriage, ownership of property, and inheritance on reserve lands, as well as the continued lack of access to public and private labor markets, including conditions of work, job security, and education, and violations of treaties and land claims, it appears that these peoples will not fare well in efforts to prepare for the impact of climate change. Furthermore, Canada has had decades to correct its colonialist ways in equalizing the treatment between its European and Aboriginal populations since it entered into the Convention, and yet it continues to fail to do so.

E. *The Convention on the Elimination of All Forms of Discrimination Against Women*

Canada signed the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) on July 17, 1980, and ratified it on December 10, 1981.¹⁰⁶ The United States has not ratified the Convention; however, its government signed the instrument on July 17, 1980.¹⁰⁷

The Convention defines discrimination against women as

any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field.¹⁰⁸

In assenting to the Convention, States Parties obligate themselves to assume certain procedures to put an end to bias against women in all forms, including:

- to incorporate the principle of equality of men and women in their legal system, abolish all discriminatory laws and adopt appropriate ones prohibiting discrimination against women;
- to establish tribunals and other public institutions to ensure the effective protection of women against discrimination; and
- to ensure elimination of all acts of discrimination against women by persons, organizations or enterprises.¹⁰⁹

On March 6, 2015, the CEDAW Committee found that Canada committed “grave violations” of the rights of Aboriginal women by failing to quickly and systematically

scrutinize the high incidences of brutality and cruelty that they suffer, including murder and disappearances.¹¹⁰

F. *The American Convention on Human Rights¹¹¹ and the American Declaration of the Rights and Duties of Man¹¹²*

The American Convention on Human Rights and the American Declaration of the Rights and Duties of Man cover the countries of the Americas—North, Central, and South—and both Canada and the United States are Parties. With regards to human rights, Article 21 of the Convention, entitled the Right to Property, provides the following:

1. Everyone has the right to the use and enjoyment of his property. The law may subordinate such use and enjoyment to the interest of society.
2. No one shall be deprived of his property except upon payment of just compensation, for reasons of public utility or social interest, and in the cases and according to the forms established by law.¹¹³

The lands (property) in Canadian reserves, American reservations, and Inuit and Alaska Native territories are degraded, primarily based on their location, but also because these lands are not served by sewage or water treatment services.¹¹⁴ This lack of basic services is a deprivation of property rights since other citizens, particularly those in urban centers, are provided these services. Moreover, the First Nations and the Inuit are not being justly compensated for the deficiency or denial of these services.

Article II of the Declaration provides that a fundamental rule of law is that “[a]ll persons are equal before the law and have the rights and duties established in this Declaration, without distinction as to race, sex, language, creed or any other factor.”¹¹⁵ In turn, Article VI further provides that “[e]very person has the right to establish a family, the basic element of society, and to receive protection therefore.”¹¹⁶

106. See The Convention on the Elimination of All Forms of Discrimination Against Women, *opened for signature* Mar. 1, 1980, 1249 U.N.T.S. 13 (entered into force Sept. 3, 1981), <http://www.un.org/womenwatch/daw/cedaw/cedaw.htm>.

107. *Id.*

108. *Id.* at art. 1.

109. *Id.* at art. 2.

110. See Press Report, United Nations Human Rights Office of the High Commissioner, Canada’s Failure to Effectively Address Murder and Disappearance of Aboriginal Women “Grave Rights Violation”—UN Experts (Mar. 6, 2015), <http://www.ohchr.org/en/NewsEvents/Pages/DisplayNews.aspx?NewsID=15656&LangID=E>. Although this chapter deals specifically with water security and climate change, the violence perpetrated against women by native and non-native men demonstrates the breadth of the issues that First Nations women must deal with on a daily basis.

111. American Convention on Human Rights, “Pact of San Jose, Costa Rica,” Nov. 22, 1969, O.A.S. Treaty Series No. 36, 1144 U.N.T.S. 123, <http://www.refworld.org/docid/3ae6b36510.html>.

112. American Declaration of the Rights and Duties of Man, May 2, 1948, O.A.S. Res. XXX, <http://www.oas.org/en/iachr/mandate/Basics/declaration.asp>.

113. American Convention on Human Rights, *supra* note 111, at art. 21.

114. See, e.g., DAVID R. BOYD, NO TAPS, NO TOILETS: FIRST NATIONS AND THE CONSTITUTIONAL RIGHT TO WATER IN CANADA—EXECUTIVE SUMMARY (n.d.) (“As of 2010, 49 First Nations communities have high-risk drinking water systems and more than 100 First Nations face ongoing boil water advisories (out of roughly 600 First Nations in Canada . . . Many of these deplorable situations have been dragging on for years and in some cases decades.”), <http://www.onwa.ca/upload/documents/first-nations-right-to-water-in-canada.pdf>.

115. American Declaration of the Rights and Duties of Man, *supra* note 112, at art. II.

116. *Id.* at art. VI.

The question that arises is how can one establish a family when one has no basic services, such as drinking water and sanitation? That endeavor is very hampered if not impossible. Moreover, it is commonly known that the family is “the basic element of society.” Nevertheless, the very society that an Aboriginal (First Nations or Inuit) is part of routinely deprives these indigenous persons of the basic necessities to raise a family. Indeed, the State is depriving indigenous citizens of basic services. Article II appears to foreclose such actions; however, this is what is occurring on the ground.

Similarly, Article XI of the Declaration states that “[e]very person has the right to the preservation of his health through sanitary and social measures, relating to food [which should include water], clothing, housing and medical care, to the extent permitted by public and community resources.”¹¹⁷ In turn, Article XIII provides in pertinent part that “[e]very person has the right to take part in the cultural life of the community”¹¹⁸ Native peoples in North America have a rich and varied culture, which includes the ability to feed and clothe themselves, and sustain their own languages and cultural traditions. For the most part, that culture is now destroyed. The lack of water and sanitation is an insult to the original injury of being pushed into reserves that are much less productive than their original lands.

Furthermore, culture includes a way of life. The native peoples of the Americas have an ethos that includes reverence for the land and water. When modern governments, such as the governments of Canada and the United States, maintain the underfunding of potable water and sewage systems on the reserves or reservations, they are depriving these peoples of their culture.

Similarly, Article XXIII states that “[e]very person has a right to own such private property as meets the essential needs of decent living and helps to maintain the dignity of the individual and of the home.”¹¹⁹ Native peoples’ original or now reserved property cannot meet their essential needs or maintain their dignity if they do not have potable water and sanitation.

The right to property was tested in an Inter-American Commission on Human Rights case, *Mary and Carrie Dann v. United States*.¹²⁰ There, the Danns, members of the Western Shoshone people, had their property condemned under the laws of the state of Nevada, under the normal due process rules of the state. The sisters sued to stop the condemnation but lost at all levels of the United States court system. They then brought their case before the Inter-American Commission, which held that both the American Declaration of the Rights and Duties of Man and the American Convention on Human Rights require that indigenous and tribal peoples’ property rights over their territories are equivalent to those of non-indigenous private property rights, because of the duty of non-discrimination.

117. *Id.* at art. XI.

118. *Id.* at art. XIII.

119. *Id.* at art. XXIII.

120. Case 11.140, Inter-Am. C.H.R., Report No. 75/02, OEA/ser.L/V/II.117, doc. 5 rev., para. 140 (2002).

The Commission also cited Article XIII, the Right to Property, and found that it was violated since the Danns belonged to the Western Shoshone people, and that the tribe had experienced historical forced expropriation from their lands, in violation of the Treaty of Ruby Valley. Moreover, the Commission found that the tribe was moved, without profiting from any of the guarantees provided by the U.S. Constitution that protect persons from arbitrary takings of property: a violation of Article XXIII.

Given the *Dann* precedent, the First Nations and Inuit of Canada, who were also moved without just compensation, can be seen as suffering violations of their property rights and their rights to legal process under Article II. Similarly, given that the Dann sisters’ facts are similar to those of their Canadian counterparts, a deprivation of property rights is sure to be found were a case filed before the Inter-American Commission. Indeed, the Commission would likely also find that these peoples’ cultural rights were also violated.

The United States generally hides behind its Constitution and uses that instrument as a shield against second and third generation human rights. Nevertheless, as was noted in the case of Mary and Carrie Dann, there are other avenues for enforcing basic human rights in forums outside the United States. The same provision of the American Declaration of the Rights and Duties of Man and the Convention on Human Rights that apply to Canada are applicable with equal force against the United States.

Indian tribes are separate nations or entities that have some degree of sovereignty.¹²¹ This fact has long been recognized by the U.S. Supreme Court. Tribal law and tribal courts govern Indian activity. Federal and state courts govern Indians where treaties, the Constitution, and federal statutes provide for jurisdiction.¹²²

The leading decision is *Worcester v. Georgia*.¹²³ That case upheld, against the pretensions of the state of Georgia, the treaty rights of the Cherokee Nation. In so doing, Chief Justice Marshall stated: “The Indian nations had always been considered as distinct, independent, political communities, retaining their original natural rights, as the undisputed possessors of the soil, from time immemorial.”¹²⁴

Federal courts thus have jurisdiction to hear most, if not all, cases that involve Indian issues.¹²⁵ They therefore can utilize as indirect precedents the cases cited above, with regards to discrimination in the provision of drinking water.¹²⁶ In the same vein, Sioux (and other tribes)

121. *Colliflower v. Garland, Sheriff of County of Blaine*, 342 F.2d 369, 374 (9th Cir. 1965).

122. *Talton v. Mayes*, 163 U.S. 376, 380–82 (1896). See *Cherokee Nation v. Southern Kansas Ry. Co.*, 135 U.S. 641 (1890).

123. *Worcester v. Georgia*, 31 U.S. 515 (1832).

124. *Id.* at 519.

125. See *Colliflower*, 342 F.2d 369.

126. Although the General Assembly of the United Nations voted 50-1 for the right to water, the United States cast the dissenting vote. See G.A. Res. 64/292, U.N. GAOR, 64th Sess., U.N. Doc. A/RES/64/292 (2010). Therefore, as in other areas of human rights, that provision will likely have no effect on the behavior of the government of the United States. Few, if any, American federal courts would adopt a right to water. For further discussion of the right to water, see generally Itzhak E. Kornfeld, *Constitutions, Courts*,

may sue for rights of sanitation. The basis of most of these suits is the U.S. Constitution's Fifth or Fourteenth Amendments, which require equal protection, before the law, for all citizens. Thus, if urban centers are provided with sanitary systems, tribal communities should likewise receive these services.

Treaty rights are also a basis for recovery. Thus, in *Tlingit & Haida Indians v. United States*,¹²⁷ the tribal entities were successful in their suit, which alleged that under certain federal laws, the United States impaired their title rights to certain land and water purchased from the United States and Russia.¹²⁸

A challenge to a regulatory scheme was the issue in *Akiachak Native Community v. Salazar*.¹²⁹ There, four Alaska Native tribes and one native person, brought suit to challenge the Secretary of the Interior's decision to leave in place a regulation regarding trust lands that treated Alaska Natives differently from other native peoples. The challenged regulation governed the taking of land into trust under §5 of the Indian Reorganization Act.¹³⁰ It also provided that, with one exception, the regulatory procedures "do not cover the acquisition of land in trust status in the State of Alaska."¹³¹

Plaintiffs argued that this exclusion of Alaska Natives—and only Alaska Natives—accordingly nullifies the regulation, as it discriminates among the various Indian tribes. The state of Alaska intervened to argue that the disparity in treatment is required by the Alaska Native Claims Settlement Act, which (upon the state's account) deprived the secretary of the statutory authority to take most Alaska land into trust. The secretary disagreed. The court concluded that the secretary retained his statutory authority to take land into trust on behalf of all Alaska Natives, and that his decision to maintain the exclusion of most Natives from the land-into-trust regulation violates 25 U.S.C. §476(g), which provides that contrary regulations "shall have no force or effect."¹³² The court therefore granted summary judgment to the plaintiffs, and ordered additional briefing on the question of the proper remedy. Here again, discrimination by a government entity was not tolerated or sanctioned by the courts.

Canada and the United States were the defendants in another case in which the primary cause of action was destruction of hunting grounds due to climate change.¹³³

Subsidiarity, Legitimacy, and the Right to Potable Water, 21 WIDENER L. REV. 257 (2015); see also CENTRE ON HOUSING RIGHTS AND EVICTIONS, RIGHT TO WATER AND SANITATION PROGRAM, LEGAL RESOURCES FOR THE RIGHT TO WATER AND SANITATION: INTERNATIONAL AND NATIONAL STANDARDS (2d ed. 2008), http://www.worldwatercouncil.org/fileadmin/www/Programs/Right_to_Water/Pdf_doct/RWP-Legal_Res_1st_Draft_web.pdf.

127. *Tlingit & Haida Indians v. United States*, 147 Ct. Cl. 315 (1959).

128. *Id.* at 342.

129. *Akiachak Native Cmty. v. Salazar*, 935 F. Supp. 2d 195 (D.D.C. 2013).

130. 25 U.S.C. §465.

131. *Akiachak Native Cmty.*, 935 F. Supp. 2d at 197.

132. *Id.*

133. The 163-page petition was filed on December 7, 2005, with the Inter-American Commission on Human Rights, and supported by testimony from 63 named Inuit from northern Canada and Alaska. Press Release, Inuit Circumpolar Council Canada, Inuit Petition Inter-American Commission on Human Rights to Oppose Climate Change Caused by the United States of America

The plaintiff's petition sought relief from violations of the human rights of the Inuit community, caused by global warming resulting from greenhouse gas (GHG) emissions from the United States.¹³⁴ Moreover, it documented existing and projected destruction of the Arctic environment and the Inuit's cultural and hunting-based economy, which the petitioners asserted was caused by global warming.¹³⁵

Indeed, the Inuit claimed that the specific rights they were seeking to protect were "the benefits of culture, to property, to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home."¹³⁶ Furthermore, they argued that the government of the United States ought to be held answerable for these violations so far as they resulted from two of its actions (or omissions): contributing disproportionately to GHG emissions and failing to take consequential steps to reduce GHG emissions and to counter climate change.¹³⁷

The Inuit petitioners faced a number of obstacles, not the least of which was the fact that the United States has not accepted the jurisdiction of the Inter-American Court of Human Rights. Thus, the petition could only be brought before the Commission, which only issues recommendations and not binding judgments.¹³⁸ However, a bigger hurdle for the Inuit was proving a causal nexus between the harm caused by climate change and the actions and omissions of the U.S. government.¹³⁹ Notwithstanding the Inuit's efforts, on November 16, 2006, the Commission dismissed their petition without prejudice.¹⁴⁰

III. The Status of American and Canadian Indigenous Peoples' Right to Water

In 1992, Prof. Stephen McCaffrey proposed a human right to water.¹⁴¹ Thereafter, the United Nations Committee on Economic, Social, and Cultural Rights found a human right to water,¹⁴² and issued its General Comment No. 15: The Right to Water, pursuant to the Con-

(Dec. 7, 2005), www.inuitcircumpolar.com/inuit-petition-inter-american-commission-on-human-rights-to-oppose-climate-change-caused-by-the-united-states-of-america.html.

134. *Id.*

135. *Id.*

136. *Inuit Circumpolar Conference v. Bush Administration: Petition to the Inter-American Commission on Human Rights Seeking Relief From Violations Resulting From Global Warming Caused by Acts and Omissions of the United States*, at 5 (Dec. 7, 2005), http://www.ciel.org/Publications/ICC_Petition_7Dec05.pdf.

137. *Id.* at 103–08.

138. Megan Chapman, *Climate Change and the Regional Human Rights Systems*, 10 SUSTAINABLE DEV. L. & POL'Y 37–38 (2010), <http://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1031&context=sdpl>.

139. *Id.*

140. *Id.*

141. Stephen C. McCaffrey, *A Human Right to Water: Domestic and International Implications*, 5 GEO. INT'L ENVTL. L. REV. 1, 12 (1992).

142. *Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social, and Cultural Rights, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, U.N. ESCOR Comm. on Economic, Social, and Cultural Rights, 29th Sess., U.N. Doc. E/C.12/2002/11 (2003), http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf.

vention's Articles 11 and 12.¹⁴³ Although not binding, the General Comment has been adopted by a number of national courts, including the Israel Supreme Court.¹⁴⁴ On July 28, 2010, the United Nations General Assembly unequivocally established a human right to water and sanitation¹⁴⁵ “and acknowledged that clean drinking water and sanitation are essential to the realisation of all human rights.”¹⁴⁶

Canada has yet to adopt either of these two instruments into its national law. Furthermore, since the United States is not a Party to the Convention on Economic, Social, and Cultural Rights, it is not bound by the Committee on Economic, Social, and Cultural Rights' General Comment 15, *The Right to Water*.¹⁴⁷ Thus, there is no right to or for water for any Canadian or U.S. citizen, regardless of whether indigenous or not.

As a Party to the Covenant on Economic, Social, and Cultural Rights, Canada must submit reports regarding its government's violations of human rights. Indeed, Canada has acknowledged that it has violated the human rights of indigenous peoples. That government has also acknowledged that it has violated the human right to water. These revelations were recently reported by the government's Department of Indian and Northern Affairs Canada. The agency issued a National Assessment of First Nations Water and Wastewater Systems—National Roll-up Report in 2011.¹⁴⁸ Similarly, in 2012, the nongovernmental organization Council of Canadians issued a report as part of its Blue Planet Project.¹⁴⁹ The latter report noted that in the two-year span between 2009 and 2011, Canada's federal government—as opposed to a provincial one—undertook an analysis of the First Nations communities' water and wastewater systems across Canada.¹⁵⁰

That assessment encompassed 571 First Nations communities, which represent 97% of First Nations communities in the country.¹⁵¹ The Council's report revealed that more than a third of these communities' systems were considered high risk for poor health, i.e., in 171 communities the water quality was so deficient that it was detrimental to these citizens' health and safety.¹⁵² Furthermore, some water systems were so run down that they would likely lead to substantial harm to health for members of the communities. Indeed, 143 communities, or 25% of the First Nations population across the country, were found to be served by high risk water systems.¹⁵³ A total of 312 systems were unable to meet Canadian health standards for drinking water.¹⁵⁴

Furthermore,

[a]ccording to Health Canada, as of April 31, 2012, 119 First Nations communities across Canada are under drinking water advisories. Some of these advisories have been in place for over a decade . . . Incidence of waterborne diseases in First Nations communities is 26 times higher than in the general Canadian population¹⁵⁵

The Council of Canadians has particularly focused on three First Nation tribal communities: the Ontario-based Attawapiskat First Nation, the Pikangikum First Nation, and the northern Manitoba-based Manitoba Keewatinowik Okimakanak. For example, in 2011, significant media attention was focused on the Attawapiskat. Living conditions were found to be so significantly decayed that the Canadian Red Cross was forced to provide the community humanitarian aid.¹⁵⁶

The situation for the entire First Nation community is even worse. A recent report observed that:

As of 2010, 49 First Nations communities have high-risk drinking water systems and more than 100 First Nations face ongoing boil water advisories (out of roughly 600 First Nations in Canada) . . . Many of these deplorable situations have been dragging on for years and in some cases decades . . . The federal government estimates that there are approximately 5,000 homes in First Nations communities (representing an estimated 20,000+ residents) that lack basic water and sewage services . . . Compared to other Canadians, First Nations' homes are 90 times more likely to be without running water¹⁵⁷

However, there is some collaboration between two Canadian government agencies: the Indigenous and Northern Affairs Department and Health Canada.¹⁵⁸ The

143. *Id.*; see also Comm.155/96, Social & Econ. Rights Action Ctr. v. Nigeria, AHRLR 60 (ACHPR 2001); Aoife Nolan, *Addressing Economic and Social Rights Violations by Non-State Actors Through the Role of the State: A Comparison of Regional Approaches to the “Obligation to Protect,”* 9 HUM. RTS. L. REV. 225 (2009).

144. See, e.g., C.A. 9535/06 Abdallah Abu Masad v. Water Comm'r (2011) (Israel). The opinion was authored in Hebrew; however, an English translation is available, <http://adalah.org/upfiles/2012/Supreme%20Court%20Ruling,%20Civil%20Appeal%20No.%209535.06%20-%20Abu%20Masad,%20Right%20to%20Water%20-%20English.pdf>.

145. *Resolution Adopted by the General Assembly on 28 July 2010, 64/292. The Human Right to Water and Sanitation*, U.N. GAOR, 65th Sess., U.N. Doc. A/RES/64/292 (2010), <http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E>.

146. United Nations Department of Economic and Social Affairs, *International Decade for Action “Water for Life” 2005–2015*, http://www.un.org/waterforlifedecade/human_right_to_water.shtml (last visited Aug. 24, 2014).

147. *Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social, and Cultural Rights, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the Covenant)*, *supra* note 142.

148. See NEEGAN BURNSIDE LTD., NATIONAL ASSESSMENT OF FIRST NATIONS WATER AND WASTEWATER SYSTEMS: NATIONAL ROLL-UP REPORT—FINAL (Department of Indian Affairs and Northern Development 2011), http://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/enf_wtr_nawws_rufnat_rufnat_1313761126676_eng.pdf.

149. See MEERA KARUNANANTHAN & JOHANNA WILLOWS, CANADA'S VIOLATIONS OF THE HUMAN RIGHT TO WATER—COUNCIL OF CANADIANS' BLUE PLANET PROJECT (2012), http://lib.ohchr.org/HRBodies/UPR/Documents/Session16/CA/CC_UPR_CAN_S16_2013_CouncilofCanadiansBluePlanetProject_E.pdf.

150. *Id.* at 3.

151. *Id.*

152. *Id.*

153. *Id.*

154. *Id.*

155. *Id.*

156. *Id.* at 4.

157. BOYD, *supra* note 114 (citing *Implementation of the International Covenant on Economic, Social, and Cultural Rights: Addendum to the Fourth Periodic Reports Submitted by State Parties, Canada*, U.N. ESCOR, 19th Sess., U.N. Doc. E/C.12/4/Add.15 (2004)).

158. See, e.g., Health Canada, *First Nations and Inuit Health, Drinking Water and Wastewater*, <http://www.hc-sc.gc.ca/fniah-spnia/promotion/public-publique/water-eau-eng.php> (last visited Aug. 24, 2016).

latter assists portions of the First Nations community in assuring safe drinking water in their homes. Health Canada also provides environmental public health services to First Nations communities via its Environmental Public Health Program. As part of this program, Health Canada screens potable water quality and offers advice on potable water quality to First Nations communities and Indigenous and Northern Affairs Canada. Health Canada also provides wastewater programming such as public health inspections and public education in First Nations communities.

From a financial perspective, recent government outlays have also been positive. For example, before 2001, Health Canada was investing \$5 million annually in its Drinking Water Safety Program for First Nation communities and one of the few reports discussing data from April 2001 to March 2003 demonstrated that Health Canada invested an additional \$5 million to protect and enhance drinking water quality on reserves.¹⁵⁹

Furthermore, “[i]n the 2003 budget, \$600 million over five years was announced to support the implementation of the First Nations Water Management Strategy developed by Indigenous and Northern Affairs Canada and Health Canada to promote the safety of water supplies in First Nation communities from 2003–2008. Of the \$600 million, \$116 million was allocated to Health Canada to”:

- provide resources to monitor drinking water quality in distribution systems with five or more connections as per the latest edition of the *Guidelines for Canadian Drinking Water Quality*;
- provide resources to monitor drinking water quality in distribution systems with five or more connections as per the latest edition of the *Guidelines for Canadian Drinking Water Quality*;
- increase resources allocated to communities with water treatment plants identified as being at high and medium risk;
- build First Nations’ capacity;
- increase quality assurance/quality control of drinking water quality test results;
- increase accountability for implementation and delivery of the Drinking Water Safety Program;
- increase ability to make timely and informed decisions; and
- increase ability to detect potential drinking water quality problems.”¹⁶⁰

As for the United States, it has no federal constitutional guarantee for the right to water. However it has two statutory provisions that seek to enhance certain features of the

right.¹⁶¹ The two main statutes, the Safe Drinking Water Act¹⁶² and the Clean Water Act,¹⁶³ merely address water quality. With regards to the individual states, in 2012 California passed a law that acknowledges the human right to water.¹⁶⁴ Moreover, Massachusetts¹⁶⁵ and Pennsylvania’s constitutions recognize the right to water.¹⁶⁵

Indeed, in the United States, current governmental processes deprive groups who in the past have endured discrimination, of equal access to basic levels of safe and affordable drinking water.¹⁶⁶ In her review of conditions in the United States, following her country visit, the United Nations special rapporteur on the human right to safe drinking water and sanitation noted in 2011¹⁶⁷ that those “who are facing obstacles in the enjoyment of the rights to water and sanitation are disproportionately Black, Latino, American Indian, homeless, or otherwise disadvantaged.”¹⁶⁸ These communities lack access to water as a result of one or both of the following problems: they cannot afford a basic level of drinking water, or available drinking water is not safe for human consumption. Women and children face additional risks as a result of this situation.

IV. Climate Justice Recommendations for Reform

For generations, Canada and the United States have ignored the human rights of its indigenous peoples. The law has withered in the face of these injustices. One would be foolish to believe that these nations will suddenly address such inequalities and wrongs in the face of climate change, particularly in the United States, where a large part of the populace and the government believes it is a hoax or a natural process that does not require regulation. Lawyers and advocates must therefore urge governments to address the universal human right to a healthy, clean, safe, and sustainable environment.

One response that is worth pursuing is the continued efforts to wean these countries off of fossil fuels, which

161. See, e.g., *Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, Catarina de Albuquerque, Mission to the United States of America*, U.N. Human Rights Council, 18th Sess., paras. 7–13, U.N. Doc. A/HRC/18/33/Add.4 (2011), http://www2.ohchr.org/english/bodies/hrcouncil/docs/18session/A-HRC-18-33-Add4_en.pdf.

162. 42 U.S.C. §§300f–300k.

163. 33 U.S.C. §§1251–1387.

164. A.B. 685, 2011–2012 Leg., Reg. Sess. (Cal. 2012) (codified at CAL. WATER CODE §106.3 (West 2012)).

165. See MASS. CONST. art. XCVII; PA. CONST. art. 1, §27.

166. See generally INTERNATIONAL HUMAN RIGHTS LAW CLINIC, BERKELEY LAW, UNITED STATES GOVERNMENT CONSULTATION ON ENVIRONMENTAL ISSUES RELATING TO THE UNITED NATIONS UNIVERSAL PERIODIC REVIEW: A SUMMARY 8 (2014), https://www.law.berkeley.edu/files/UPR_Enviro_Consultation_Outcome_Doc_141208.pdf; INTERNATIONAL HUMAN RIGHTS LAW CLINIC AT SANTA CLARA UNIVERSITY SCHOOL OF LAW, THE HUMAN RIGHT TO WATER IN THE UNITED STATES (2015), http://law.scu.edu/wp-content/uploads/150915_IACHR-Water-Rts-Questionnaire_United-States_Santa-Clara.pdf.

167. *Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, Catarina de Albuquerque, Mission to the United States of America*, supra note 161.

168. *Id.* at 3. See also INTERNATIONAL HUMAN RIGHTS LAW CLINIC AT SANTA CLARA UNIVERSITY SCHOOL OF LAW, supra note 166, at 4.

159. *Id.*

160. *Id.*

will reduce climate change impacts on marginalized communities. As a result of these efforts, Alaska Natives and indigenous communities in the Arctic region of Canada would face less of a crisis in the potential loss of land, and loss of the ice required by polar bears and seals. Another proposal is to green investment treaties, particularly bilateral ones, which would include commitments to reduce GHGs and eliminate trade measures that conflict with climate change rules.

Other actions include the imposition of responsibilities on corporations to not only recognize, but to meet certain standards to reduce their carbon footprint and diminish their impact on human rights. Moreover, the United Nations' universal periodic review¹⁶⁹ process could be engaged to bring climate justice concerns to the broader population. Relocation is another issue that will have to be confronted. How and where to relocate Alaska Natives will be important adaptation responses by the United States. Similarly, planning will need to be undertaken to adapt to the flooding caused by climate change, such as the creation of flood insurance programs. Numerous other suggestions regarding the protection of human rights as a consequence of climate change have been made by the International Bar Association.¹⁷⁰

Finally, native peoples in the United States can rely on environmental justice precedent to seek justice in Indian country. For example, in *Kennedy v. City of Zanesville*,¹⁷¹ jury verdicts totaling approximately \$11 million were issued for the illegal denial, to a purely African-American community, of a water supply system for 50 years, while ensuring connections to all of the surrounding white neighborhoods. The verdicts were issued against the city of Zanesville, Ohio; Muskingum County, Ohio; and the East Muskingum Water Authority. The jury found that the defendants violated fair housing and constitutional protections afforded to the plaintiffs under U.S. federal law. Similarly, in *Dowdell v. City of Apopka*,¹⁷² the court concluded that the city engaged in prohibited discrimina-

tion by failing to provide access to water infrastructure in marginalized African-American neighborhoods. The court ordered that the marginalized community be provided water in an expedited fashion and that the remedy should be implemented before provision to any predominantly white neighborhoods was undertaken. These two cases can offer a foundation for environmental justice-based relief to support indigenous communities' right to access drinking water in the face of climate change impacts. Failing to ensure indigenous communities' access to water and use of natural resources may constitute a violation of treaty-based and federal trust protections.

Conclusion

This Article first discussed the status of American and Canadian indigenous communities and focused on specific tribes in North America. Following a brief introduction of Canadian and American indigenous peoples, it addressed the threats faced by these communities as a consequence of climate change. It then discussed case law and international law instruments that these indigenous peoples may employ in pursuing legal avenues to vindicate their rights, specifically the right to water, in light of global warming and the loss of their lands and way of life. It also highlights the fact that indigenous peoples in Canada and the United States, who live in extra-rural reservations and in remote and climate-vulnerable locations, will suffer much more than the non-indigenous populations in cities and the suburbs.

Finally, the Article provided recommendations for mitigation and adaptation measures for these indigenous communities. These proposals for reform include decreasing fossil fuel consumption through government action, imposing responsibility on corporations to reduce their carbon footprint and impact on human rights, and utilizing environmental justice case law precedent.

169. The United Nations Human Rights Office of the High Commissioner explains the process as follows:

The Universal Periodic Review (UPR) is a unique process which involves a review of the human rights records of all UN Member States. The UPR is a State-driven process, under the auspices of the Human Rights Council, which provides the opportunity for each State to declare what actions they have taken to improve the human rights situations in their countries and to fulfil their human rights obligations. As one of the main features of the Council, the UPR is designed to ensure equal treatment for every country when their human rights situations are assessed.

United Nations Human Rights Office of the High Commissioner, *Universal Periodic Review*, <http://www.ohchr.org/EN/HRBodies/UPR/Pages/UPR-Main.aspx> (last visited Aug. 24, 2016).

170. See generally *Climate Laws Inadequate to Protect Human Rights—New Legal Frameworks Needed, States New IBA Report*, INT'L BAR ASS'N, Sept. 22, 2014, <http://www.ibanet.org/Article/Detail.aspx?ArticleUid=96b93592-3761-4418-8a52-54a81b02c5f1>.

171. *Kennedy v. City of Zanesville*, Case No. 2:03-cv-1047 (S.D. Ohio July 10, 2008).

172. *Dowdell v. City of Apopka*, 698 F.2d 1181 (11th Cir. 1983).