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Ecological Relations and Indigenous Food Sovereignty in Standing Rock

Morgan L. Ruelle

Indigenous Food Sovereignty through Relations

Twenty years ago, in the ancient city of Tlaxcala, Mexico, La Vía Campesina articulated a vision of food sovereignty as the right and ability of communities and nations to determine their own food systems.[1] Indigenous people participated in the first gatherings of La Vía Campesina and have played a central role in the movement ever since. For indigenous communities and nations, food sovereignty is part of a broader struggle for political, cultural, and ecological autonomy, as affirmed by the 2007 United Nations Declaration on the Rights of Indigenous Peoples.[2] Centuries of abuse by settler states—including genocidal military campaigns, eradication of important plants and animals, illegal land seizures, forced displacement and sedenterization, and compulsory reeducation of children away from their homelands—have violated the rights of indigenous people and deliberately undermined their ability to determine their own ways of life.[3]

Food is much more than a volume of calories or nutrients; it is a relationship. A food system is comprised of ecological relations between humans, other living beings, and nonliving entities.[4] For many indigenous communities, such relations are sacred and profound, and therefore acknowledged on a regular basis. In Lakota, for example, almost all prayers, including those before a meal, begin with *mitakúye oyás'iŋ* (all my relations). It is an expression of respect, gratitude, and recognition of one's responsibilities to both human and nonhuman beings.[5] At a time when industrialization and globalization make it impossible to comprehend the geography of food, let alone determine the impacts of actions within food systems, food sovereignty is about strengthening ecological connectivity.[6]

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Loss of food sovereignty has disastrous consequences for the health and well-being of indigenous peoples. In most industrialized countries, an influx of cheap, sugary, salty foodstuffs is driving an epidemic of diet-related diseases; the disproportionate impact on indigenous populations is alarming.[7] In the United States, for example, the death rate due to diabetes is three times higher among Native males than whites, and four times higher for females.[8] Across the country, tribal governments, educational institutions, and organizations are responding through efforts to increase the availability, accessibility, and utilization of healthier food.[9] Many of these initiatives are focused on traditional foods derived from relations with local plants and animals.

This article focuses on the ecological relations of indigenous communities in the Standing Rock Nation of the Northern Great Plains. As a Euro-American ecologist and ethnobotanist, I have conducted research in Standing Rock since 2007, including interviews with elders and participation in community-based food projects. I begin by recounting how settler colonization has worked to disconnect Lakota and Dakota people from their habitat over the past 150 years, disrupting the ecological relations at the heart of their food sovereignty.[10] Second, I will describe some recent efforts to strengthen and restore ecological relations as a basis for food sovereignty. Third, based on my participation in some of these initiatives, I will reflect on how notions of tradition and sustainability are linked to food sovereignty.

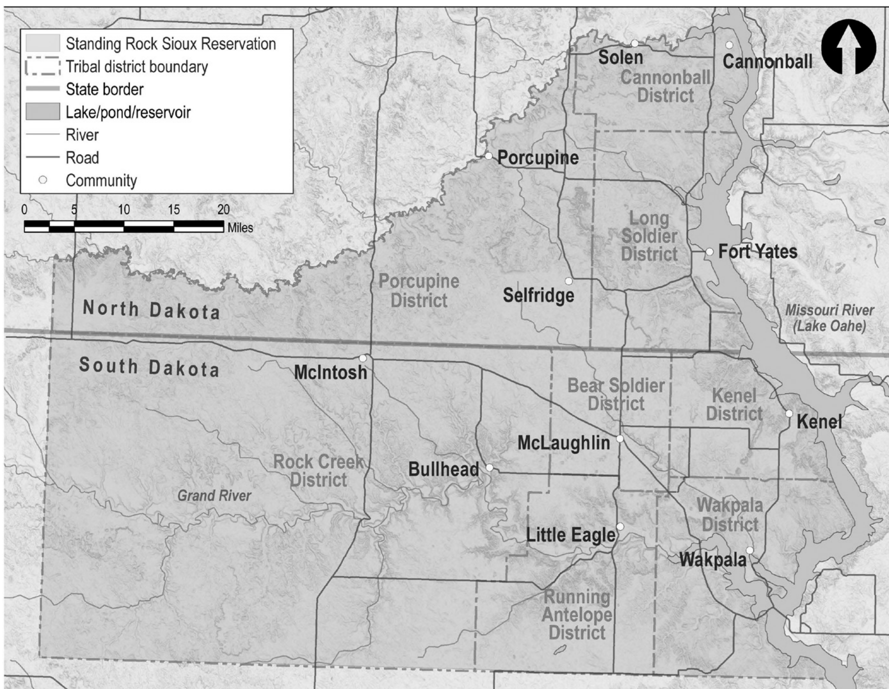

Figure 1. *Map of the Standing Rock Sioux Reservation, including communities, districts, roads, and waterways. Copyright Morgan Ruelle, 2017.*

History of Ecological Relations

The Standing Rock Nation is familiar to many readers as the epicenter of protests against the Dakota Access Pipeline, which, as of May 2017, crosses the Missouri River just upstream of its northern boundary. The reservation encompasses 2.3 million acres of rolling hills and river valleys (see fig. 1). The population of Standing Rock is 8,529, of which 77 percent are American Indians.[11] Most Native residents are enrolled members of the Standing Rock Sioux Tribe, which includes two major cultural groups: the Iháŋkthuŋwaŋna (Yanktonai, Western Dakota) and Thítȟuŋwaŋ (Teton, Lakota). The Standing Rock Nation is led by a seventeen-member tribal council, headed by a tribal chairman, whose offices are located in Fort Yates, the largest community in Standing Rock. The reservation is divided into eight districts, and tribal members elect district officers to manage community facilities and services.[12]

Indigenous and non-indigenous scholars offer differing accounts of the origins and historical movements of the Lakota and Dakota, based on oral traditions, colonial records, archaeological research, and linguistic analyses. Arguably, the most widely accepted narrative is that the Očhéthi Šakówiŋ (Seven Council Fires of the Dakota and Lakota)[13] once inhabited what is now central Minnesota, where they enjoyed access to tall-grass prairie, various types of forest, and numerous lakes. They therefore enjoyed a diverse diet derived from hunting, fishing, gathering plants, and cultivating domesticated crops.[14] Beginning in the mid-seventeenth century, they engaged the French in the fur trade and thereafter focused on hunting beaver. By the eighteenth century, due to conflict with tribes to the east and to take advantage of hunting and trapping opportunities, they began moving south and west.[15] The Lakota moved farthest, to the short-grass prairies west of the Missouri River. According to their own historical records, Winter Counts, they obtained Spanish horses sometime prior to 1707.[16] By the 1750s they had become talented with horses and were devoting most of their time to hunting bison. They exchanged meat and hides with neighboring tribes (especially the Arikara) for agricultural products, such as corn, beans, squash, and tobacco.[17] Meanwhile, the Yanktonai had also moved west, but stayed east of the Missouri where they could still trap beaver. While the Yanktonai also hunted bison, they adopted some of the practices of their neighbors—the Mandan, Hidatsa, and Arikara—and began fishing and planting crops along the Missouri and James rivers.[18]

In the first half of the nineteenth century, as Euro-Americans began traveling across the Northern Great Plains, the United States military occupied the region, sparking conflict with many of its indigenous nations and leading to a series of treaties negotiated with tribal leaders. The last of these treaties, signed at Fort Laramie in 1868, delineated a "Great Sioux Reservation" that encompassed most of present-day South Dakota and parts of North Dakota and Nebraska, including the sacred Pahá Sápa (Black Hills). The treaty also guaranteed that the Lakota could hunt in much of Nebraska, Wyoming, and Montana "so long as the buffalo may range thereon in such numbers as to justify the chase." However, in 1874, an expedition led by George Custer found gold in the Black Hills, and soon prospectors were streaming across Lakota territory in violation of the Fort Laramie treaty, leading to the Great Sioux War

(1876–1877), the death of Custer and his Seventh Cavalry at the Battle of the Greasy Grass (1876), and the US government's illegal seizure of the Black Hills (1877).

Subjugation and sedenterization of the Lakota were driven by anti-Indian colonialism and the mythic entitlement known as manifest destiny. The United States military, having realized that the Lakota and many other indigenous nations relied on bison for food, clothing, shelter, and fuel, actively promoted their extermination. The Army organized and outfitted private hunting expeditions, and sanctioned the wanton slaughter of bison by soldiers with high-powered rifles and even cannon.[19] Rising demand for bison tongues and hides in Eastern cities and the construction of railroads across the Great Plains (from which travelers could fire into the herds) accelerated their eradication. Between 1850 and 1890, the population of bison fell from more than 10 million to just over 1,000.[20]

By eliminating their primary food supply, the US government forced the Lakota to settle near Indian agencies where they would receive military rations. The Standing Rock Indian Agency was constructed at the mouth of the Grand River in 1868 and moved north to Fort Yates in 1874. The Yanktonai, including the Wičhíyena and Húŋkpathina, were forced to move to the west bank of the river, primarily north of the agency, whereas the Húŋkpapȟa and Sihásapa of the Lakota were settled to the south. An Indian agent was charged with issuing rations of sugar, coffee, beans, flour, corn meal, bacon, hard bread, tobacco, and tea. However, shipments from the east were typically delayed or confiscated, so that rations were consistently late and insufficient.[21] Indian agents organized efforts to grow crops and raise livestock according to Euro-American tradition. These programs proved disastrously unreliable in the northern Plains, which are prone to drought and severe winters, and led to frequent crop failures and major losses of livestock.[22]

As had been promised by the Fort Laramie treaty, the US government set about building schools for Native children, run by the government itself or contracted to Christian churches (in Standing Rock, mainly Catholic and Episcopalian). These schools aimed at indoctrinating their students with technical skills and values that would facilitate their assimilation into Euro-American society. Some schools focused on teaching young people to produce food, such as the Farm School, which opened south of Fort Yates in the spring of 1876.[23] By the late 1870s, policymakers in Washington were arguing that in order to eliminate the influence of their families and communities, it was best to remove children to boarding schools away from their reservations.[24] Until the mid-twentieth century, many of Standing Rock's children were taken to boarding schools in Carlisle (Pennsylvania), Hampton (Virginia), Clonterf (Minnesota), St. Meinrad's (Indiana), and Chamberlain (South Dakota).[25] Opportunities to hunt, gather, garden, or prepare traditional foods were limited to short school vacations. On and off the reservation, young people faced an education system dedicated to eliminating their indigenous language, knowledge, and values.[26]

Perhaps no other US government policy has so broadly impacted indigenous relations with land as the General Allotment Act, commonly known as the Dawes Act, which was passed by Congress in the spring of 1887.[27] The provisions included that: (1) each family in Standing Rock was allotted 160 acres, replacing collective land

management with individual land ownership; (2) the allotments were overseen (held in trust) by the Bureau of Indian Affairs, greatly limiting the ability of families to make decisions about their own land; and (3) after each individual allotment had been assigned, any "excess" land was returned to the public domain and available for Euro-American settlers, which greatly reduced the land holdings of most tribes, even within their reservations.[28] Before the process of allotment had begun, President Benjamin Harrison ordered the breakup of the Great Sioux Reservation into five much smaller reservations (Standing Rock, Cheyenne River, Crow Creek, Rosebud, and Pine Ridge). Within the new Standing Rock reservation, more than half of the land was deemed "excess" and opened for white settlement. Much of this land remained unclaimed until the early twentieth century, when the Enlarged Homestead Act passed in 1909,[29] which increased allocations for homesteaders in semi-arid areas to 320 acres—an adjustment that confirms the 160 acres designated for each Native family had been insufficient.[30]

By the time allotment ended in 1934, most of Standing Rock's Native families lived in the eastern part of their reservation, especially along the Missouri and its tributaries. The rivers were lined with forests of cottonwood, box elder, and elm. Since most of the reservation is open prairie, these forests were primary sources of wood for fuel and construction, offered the best habitat for hunting and gathering plants, and provided the richest soils for growing crops. Nonetheless, as part of a vast plan to control the flow of the Missouri, in 1944 Congress authorized the construction of five major dams along its main stem, each located within or just downstream of an Indian reservation. Against the protestations of the Standing Rock tribal government, the Army Corps of Engineers completed the Oahe Dam in 1959, which forced the relocation of hundreds of families and permanently inundated 55,993 acres of reservation land, including the vast majority of Standing Rock's forests.[31] Many elders remember watching the waters of Lake Oahe rise over their homes and communities. Although tribal members have received some reparations for their loss of land, the cumulative impacts on their ways of life, including the ecological relations that comprise their food systems, are immeasurable.

Despite the completion of the Oahe Dam, many Standing Rock families have continued to gather plants, sow gardens, and hunt and fish. However, the majority of food is now purchased from stores. Within the reservation, there are grocery stores in Fort Yates and McLaughlin, and convenience stores in Cannon Ball, Selfridge, McIntosh, and Wakpala. Many families drive to much larger grocery stores in Mandan and Bismarck, North Dakota (more than 60 miles north of Fort Yates), or in Mobridge, South Dakota (30 miles south of McLaughlin). Approximately 41 percent of the population is considered to live below the poverty line, and approximately 85 percent qualify for federal food assistance programs administered by the tribal government.[32] These include the Supplemental Nutrition Assistance Program (SNAP), better known as EBT because of its Electronic Benefits Transfer system; Food Distribution Program on Indian Reservations, known within Indian country as "commodities"; and the Special Supplemental Nutrition Program for Women, Infants and Children (WIC). Elders and their spouses are entitled to lunch at senior nutrition

centers located in each of the reservation districts, administered by Nutrition for the Elderly and Caregiver Support (NFE), a tribal government agency. NFE delivers meals to elders who are unable to travel to their senior center.

Food Sovereignty Initiatives in Standing Rock

As in many other indigenous nations, the loss of food sovereignty has directly impacted the health of Standing Rock families. A needs assessment of Standing Rock elders conducted by NFE in 2007 revealed that three out of four (76%) suffered from at least one diet-related disease, primarily hypertension (55%), followed by diabetes (46%) and obesity (40%). At that time, the diabetes rate for elders in Standing Rock was twice the national rate (23%).[33] Of elders with a diet-related disease, only 38 percent said that they were following dietary recommendations from their doctor or a nutritionist. When asked why, many elders explained that the foods that had been recommended were unfamiliar, or that the dietary restrictions were not culturally appropriate. Many elders believe they and their families would be healthier if they could eat more of their own traditional foods.

As will be explored, Standing Rock's food traditions are dynamic, and often incorporate ingredients and techniques gained from settler communities. However, most traditional foods are based on ecological relations with plants and animals found within Standing Rock. These include many non-domesticated plants, including wild turnips (*thíŋpsiŋla, Psoralea esculenta*), chokecherries (čhaŋpȟá, *Prunus virginiana*), and wild plums (*kȟáŋta, Prunus americana*).[34] While important plants have been eliminated from the reservation by the Oahe Dam, wild turnips are found on the prairie hillsides, and chokecherries and wild plums are common in wooded ravines.[35] Many elders have maintained their relations with these plants. During the 2007 needs assessment, 73 percent of elders said that they knew how to gather at least one species of edible plant. However, many of these elders mentioned that these plants are too difficult to gather themselves and too expensive to buy from others. Some elders said that they had taught their children and grandchildren to gather plants, but many expressed concern that young people are not learning how to do so.

One way to enhance the ecological relations underlying food sovereignty, therefore, is to provide opportunities for young people to learn about plants and animals from elders.[36] In 2009, the Standing Rock Diabetes Program's Native Gardens Project collaborated with the Grand River Boys and Girls Club to organize several events in which small groups of young people gathered plants with elders. The participants dug *thíŋpsiŋla* in the Porcupine Hills, gathered chokecherries and wild plums along the Grand River, and picked buffalo berries near the Prairie Knights Marina. I participated in and interviewed elders about these organized events. Drawing on their own experiences as children, they identified ways to enhance the next activity. For example, they remembered that when they gathered plants with their own families, they were more flexible as to the places they would go and the plants they might find, and suggested a more adaptive approach that would allow young people to take advantage of any opportunities they encountered. They agreed that one of the main goals of gathering

activities was to foster relations—not only between people and plants, but also young people and elders—and therefore recommended spending more time in small groups.[37]

Other traditional foods are prepared from plants grown in gardens, mainly corn (*wagméza*) and squash (*wagmú*). Many elders remember working in gardens and eating fresh vegetables as children; a survey conducted in the early 1970s confirms that nearly half (44%) of Standing Rock families had gardens at that time.[38] Although no comparable survey has been conducted since, elders agree that there are far fewer gardens.

I have observed or participated in numerous projects aimed at encouraging family and community gardens. For example, the Native Gardens Project tilled garden plots, constructed raised-bed gardens for elders, and established community gardens. Nutrition for the Elderly planted chokecherry trees, Juneberry bushes, and a garden behind its senior center in Fort Yates; for a few years, elders who came to the center were offered fresh vegetables with their meals. One of the main challenges facing many of these projects is the unexpected work required to keep plants alive through the hot, dry summer months.

One way to encourage gatherers and gardeners and thereby expand elders' access to fresh plant foods is to support farmers markets. In 2007, the Standing Rock Conservation District opened a new farmers market in Fort Yates. During its first year of operation, market attendance was low due to a lack of vendors and relatively high prices of produce. However, the following year, NFE secured funding from the USDA to start a Senior Farmers Market Nutrition Program (SFMNP). The Standing Rock SFMNP, one of nine such programs managed by tribal governments, provides elders and their spouses with vouchers that can be exchanged for fresh, locally grown fruits and vegetables at farmers markets and roadside stands, including the markets in Fort Yates, Bismarck, and Mandan. In the years that followed, many local gatherers began participating in the Fort Yates market. In addition to corn, squash, and other garden vegetables, elders could use their vouchers to purchase buffalo berries, chokecherries, Juneberries, prairie turnips, and wild plums.[39]

While the voucher program expands access to traditional foods, its contributions to food sovereignty are limited in two ways. First, as for all other federal food assistance programs, the USDA restricts the types of foods that can be included. For example, because they are not "fresh and unprocessed," plant gatherers must sell foods such as dried čheyáka (*Mentha* sp.) or chokecherry patties for cash, rather than exchange them for vouchers. Nonetheless, having used federal money to develop the skills and infrastructure to administer a voucher program, the tribal government could create a supplemental voucher program for dried plants, bison meat, and other slightly processed foods. By these means, federal funds can be used to strengthen the knowledge and relations that are the basis for indigenous food sovereignty.

Additionally, some Standing Rock residents expressed concern that markets might transform the relations within food systems. For example, some gardeners refused when asked if they wanted to participate in the voucher program, saying that they prefer to share what they grow with their friends and neighbors. It is important to consider the impact of markets on such traditions because they strengthen relations within communities and reinforce cultural values. Furthermore, markets might

encourage professionalization and commercialization of gardening and gathering, so that fewer people interact with plants and plants become regarded as a commodity.

Finally, food sovereignty may be enhanced by knowledge exchange between individuals with different expertise, which expands the ecological relations held within communities. Elders who came to the Standing Rock Farmers Market often told the organizers that they didn't know how to prepare some of the plants that were available. In some cases, elders remembered their parents using these plants, but had never learned to do so themselves, usually because they were away at boarding schools. Based on these requests, organizers of the market worked with elders to create opportunities where they could teach each other how to prepare traditional foods. Throughout the summer and winter of 2009, the Native Gardens Project provided ingredients and supplies for a series of workshops in a community kitchen adjacent to the market. Participants learned how to grind and toast corn *wasná*; can wild plum jelly; dry chokecherry patties; make box-elder syrup; and prepare medicine from elderberries.[40]

My interviews with elders as they participated in these workshops found that they were discovering a diversity of methods to prepare traditional foods. Elders have inherited unique knowledge from within their own families and have learned from life experiences. Studies of indigenous communities have often interpreted such differences in knowledge negatively, as a lack of cultural consensus. However, elders themselves regarded the diversity of knowledge as an asset that enables creative adaptation to new conditions.[41] In reflecting on workshops in which they had worked together to prepare traditional foods, elders emphasized that they value learning alternative methods from each other because they learn ways to modify their own practices if they want to make their food healthier, or to prepare them more quickly when they are pressed for time. Diversity of knowledge plays a vital role in food sovereignty, because it provides individuals and communities with options to determine their own food systems as they encounter change.

Sovereignty and Tradition

In Standing Rock, food sovereignty is closely associated with traditional foods, because traditional foods are based on ecological relations. As mentioned, some traditional foods incorporate ingredients and techniques introduced from settler communities. Some new technologies have made it easier to prepare and store traditional foods. Several elders have shown me the grinding stones their parents used to make chokecherry patties and remember guarding them from birds and flies as they dried in the sun. Some continue using this technology, although many elders prefer to use cast-iron meat grinders and electric dehydrators. Similarly, many elders are changing the way they store *thíŋpsiŋla*; rather than braiding their stems and hanging them to dry, they slice them first and store them in the freezer immediately after harvest. Slicing dried *thíŋpsiŋla* is difficult, whereas slices stored in the freezer are available for immediate use. These and similar innovations are evidence of food sovereignty in that they show how elders can adapt to new challenges and take advantage of opportunities while at the same time maintaining ecological relations.

Elders have also adapted traditional foods by substituting ingredients. For example, in the past, *wóžapi* (berry pudding) was prepared with fresh or dried berries, but is now often made with canned or frozen fruit. Fresh berries are expensive, difficult to gather, or unavailable; processed fruits are considered a reasonable alternative. In other cases, substitutions are made to improve the nutritional value of traditional foods. For instance, some elders use vegetable oil in place of kidney fat to prepare corn *wasná*. Finally, some substituted foods have served as place-holders. By the late nineteenth century, beef had to be used instead of bison, even when preparing sacred foods.[42] Now that bison meat is once again widely available—across North America, there are now more than 500,000 bison,[43] including at least six herds in Standing Rock—it often replaces beef and is regaining its place in traditional foods. One might even argue that Standing Rock communities were able to maintain relations with bison through their relations with cattle.

Sustaining Relations

The global food sovereignty movement associates self-determination with sustainability. The Declaration of Nyeleni, for example, states that food sovereignty is the right of peoples to food "produced through ecologically sound and sustainable methods."[44] While some may see self-determination and sustainability as distinct objectives, for many indigenous people they are interdependent. At a fundamental level, the ability of an indigenous community or nation to make decisions about its own food system requires that relations with plants and animals are sustained across multiple generations. When plants or animals are no longer available, a community loses the set of options that enables its self-determination.[45]

For example, *thíŋpsiŋla* (prairie turnips) are a key ingredient in *pápa* (dried meat) soup, one of the most important traditional foods in Standing Rock. Since the distribution of *thíŋpsiŋla* is limited to dry hillsides and it takes several years for the root nodules to grow large enough to harvest, it is not hard to imagine *thíŋpsiŋla* turnips becoming overexploited and even disappearing. *Thíŋpsiŋla* gatherers in Standing Rock have developed various techniques to facilitate its regeneration. Some lift the soil around the plant to access the root nodules from below, minimizing disturbance of the part aboveground; others replant the flower stalk so that it can reseed. Gatherers monitor the plant's abundance at their gathering sites, are careful to dig up only a small portion of those they observe, and avoid harvesting from the same site for multiple consecutive years. However, not everyone in the community knows how to care for *thíŋpsiŋla*. One gatherer told me that her favorite *thíŋpsiŋla* gathering area had been destroyed when someone dug up almost every plant in sight and cast aside the flowering stalks. Such experiences only reinforce the importance of conveying ecological knowledge to young people so that they understand the importance of sustaining relations with plants and animals.

The sustainability of indigenous ecological relations with plants and animals are reinforced by notions of reciprocity.[46] Across many indigenous ways of knowing, acting appropriately toward plants and animals—particularly when one is gathering, harvesting, hunting, or slaughtering is important to maintain good relations, so that they will

continue to give themselves to the individual and the community.[47] One powerful example of reciprocal relations in Standing Rock is *makȟá omníča* (*Amphicarpaea bracteata*), which elders know as "mouse beans" because the fruits are cached by mice or voles in riparian woodlands. Many elders told me that they remember their parents or grandparents gathering mouse beans from caches and that they would always replace them with another food, usually maize, so that the animals would have food for the winter.

Mouse beans are a further example of how the policies and programs of the settler state have eliminated many of the relations with plants and animals that once played important roles within their food system and clearly illustrates why the ability to sustain relations within a food system requires self-determination. With the construction of the Oahe Dam and inundation of forests along the Missouri, habitats for *makȟá omníča* have been lost, and exchanging maize for mouse beans is no longer possible. In eliminating the possibility for those ecological relations, the Oahe Dam not only disrupted the food system, but also robbed elders of an opportunity to convey the value of reciprocity to young people.

Many of the food sovereignty initiatives on Standing Rock are directly or indirectly supported with funds from the US federal government. Given the historical impacts of federal policies on indigenous communities, there is an ethical imperative for the same government to support the restoration of their sovereignty. However, one might reasonably ask whether federal funds can be used to enhance indigenous sovereignty without reinforcing the hegemony of the settler state. Understanding sovereignty through the lens of ecological relations—rather than in terms of territorial dominance and control—might reveal creative strategies for indigenous resurgence.[48] As unreliable as federal support might be, there may be ways it can be used to strengthen and sustain the relations that underlie sovereignty.

Conclusion

Indigenous people are indigenous in relation to land.[49] All over the world, colonialism has worked to break down that relationship, using an array of tactics to incorporate indigenous people into an industrialized state in which it is more and more difficult to maintain connectivity to our habitat. Decolonization requires strengthening relations to land. Food sovereignty is one part of this process, a movement for indigenous and other communities to regenerate their own food systems founded upon place-based knowledge and ecological relations. In Standing Rock and across other indigenous communities, there is widespread interest in revitalizing traditional foods and foodways. These efforts are not motivated by nostalgia; rather, traditional foods are a way to reconnect communities to nonhuman beings, and thereby secure the sovereignty of future generations.

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12. Unlike many other tribes, Standing Rock did not adopt a tribal constitution based on the Indian Reorganization Act of 1934, but continued to use a tribal constitution originating in 1914 and revised in 1959.

13. For several decades, scholars repeated an error that the Iháŋkthuŋwaŋna and the Iháŋkthȟuŋwaŋ (Yankton) spoke Nakota, when in fact, they speak Dakota. Nakota is spoken by the Assinaboine and Stoney, who live in Montana and Alberta and are not listed among the Očhéthi Šakówiŋ.

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