

Climate change is leaving its mark on Indigenous-owned food businesses

Extreme weather and climate disruptions burden Indigenous farmers and ranchers already fighting for stability

by [Ray Levy Uyeda](#) May 6th, 2022

An American Bison, also called Buffalo, grazes in the Yellowstone National Park July 09, 2020. (Photo by ERIC BARADAT/AFP via Getty Images)

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Kelsey Scott is a fourth-generation rancher raising 250 head of cattle on the banks of the Missouri River, which passes through the Cheyenne River Sioux Indian Reservation where she and her family live. She's the 125th generation to steward the Great Plains land, but the violent wheel of colonization has drastically shifted how and why Scott raises cattle. Human-generated (or anthropogenic) climate change has generated an ongoing cycle of climate disruption and destruction, impacting both her business and her community.

Like many other Indigenous-owned and run food businesses, DX Beef, the direct-to-consumer ranch Scott operates, holds key information about how we can collectively address the climate crisis through land stewardship, food sovereignty, and tribal sovereignty. But challenges abound for Native producers, who often have [less land](#) for farming to begin with, more [difficulty acquiring credit](#) to establish a farm, and [experience effects](#) of climate disruption to a greater degree than non-Native people.

“We’re still a business that has a financing system that is directly tied to a calendar year that does not match the production year,” Scott said, highlighting how climate change has forced her to shift her business. “We have to make a lot of these decisions on the spectrum of being somewhat financial and being somewhat ecosystem-based.”

Managing the local consequences of global climate disruption, such as increasingly hot summers or deep freezes in winter months, is a delicate balance to maintain while simultaneously working to mitigate the impact of droughts or harsh winters. But navigating unstable and uncertain environmental futures doesn’t just present business or financial dilemmas, it also jeopardizes Scott’s longer-term goal of solidifying a regenerative food economy and helping to ensure that Native people living on her reservation have access to healthy, good-tasting beef that was raised in partnership with the land rather than against it.

Scott’s method of raising cattle on a mixture of grasses—like gramma grasses, western wheat, and bluestem—rather than with corn, is tied to her goal of revitalizing Indigenous diets. It’s a diet more accurate to what bison ate on the plains, and one healthier for both people and the land.

“There’s science now that [directly correlates](#) a healthy soil microbiome with a healthy human gut microbiome, which is found to be one of the leading indications of a healthy immune system and a healthy individual—so it does all [intersect],” Scott said.

In other words, navigating climate change, food insecurity, and tribal sovereignty may seem like different aims, but the solutions start from the same place.

From wildfire to extreme drought, what climate impacts look like

In 2020, lightning sparked individual fires that grew into the [LNU Complex fires](#), which raged from Aug. 17 to Oct. 2. It became the fourth largest fire in California's recorded history, ultimately devastating over 12,000 acres of the Yocha Dehe Wintun tribal nation's land. According to Jim Etters, the tribe's director of land management, the nation's food business, Séka Hills, was forced to cut down its entire wine grape crop. It had absorbed the wildfire smoke as the land burned unrelentingly in Yolo County, irreversibly tainting the grapes' flavor and rendering them useless. Insurance payments helped to bely the growing cost of the lost crop, and luckily the vines recovered enough to produce a good grape crop in 2021.

Séka Hills sells a range of products like wine, honey, and olive oil. When Etters started working with the tribe in 2003, the farming operation consisted of 1,000 acres of land in addition to the tribe's reservation land of about 250 acres. In the 19 years since the tribe acquired an additional 24,000 acres for farming and ranching and 750 acres of additional reservation trust land. The goal has always been to expand the tribe's food products and increase its economic sovereignty, but the consequences of climate change have ballooned over the years.

According to Etters, the writing was on the wall as far back as 2007. As Séka Hills laid out their water plans for the coming years, they expected that water availability would become more and more scarce. It did. And then it got worse. Etters says this is the first year there will be zero water delivered down Cache Creek for irrigation.

"This [\[current\] drought](#), I've never seen anything like it," Etters said. "It's really challenging. It's gonna be really, really tough for a lot of farmers this year."

In California, as with many other western states, drought and wildfire are co-

conspirators of climate impacts: One parches the land and readies it for kindling, and the other follows, engulfing dry grasslands, oil-laden eucalyptus trees, and ancient redwoods in flames. In the Capay Valley, the traditional homelands of the Yocha Dehe peoples, wildfires turn grassland—or cattle feed—into ash, driving up the cost of feed and forcing the business to make an economic decision: either pay higher prices for feed or cut their losses and sell some of their head of cattle, which could shrink profit margins down the line.

Climate change has shifted what used to be predictable seasonal conditions, so much so that Etters doesn't believe in a "normal" season anymore. For instance, the record-high heat in a winter month of January tells the trees it's time to come out of dormancy, but months later, March and early April deep freezes kill new growth and buds that would otherwise have produced fruit.

"This year, we had a major freeze that froze all the almonds on our trees here in the valley," Etters said. "We're not going to be able to harvest any almonds this year due to that one or two nights of deep freeze."

Etters added that Séka Hills will lose about \$500,000 in revenue. While the Capay Valley almond trees survived the cold, none of the almonds will be sold this year.

How a history of colonialism and capitalism produced climate change

Farmers and ranchers increasingly find themselves having to navigate the social and economic consequences of climate change, which can be traced to an American system of production and consumption that profits from shortsightedness while jeopardizing future living conditions. The extractive nature of American industry and how it prioritizes individual enrichment at the expense of whole communities and their environment follows a direct line from the beginnings of the American colonial project, in which acres

upon acres of land were stolen from displaced and brutalized Native peoples, either by treaty or other forms of forcible removal and enslavement.

And it was on that land that non-Native white settlers were able to create wealth by establishing homes and businesses, one of which was the industrial agricultural operation. Intertwined with pharmacological and chemical corporations, the U.S. agricultural sector is one of the most polluting industries in the country. Food systems emit a [third](#) of greenhouse gas emissions globally, contribute to high rates of [cancer](#) in low-wealth Black and brown communities, and [produce](#) untold amounts of air and water pollution that leach into water and soil ecosystems.

According to the United States Department of Agriculture, farms and related businesses are a [trillion dollar](#) enterprise, whose financial externalities are pushed onto everyday people. It's not a new statement to say that climate change costs money, but there's no legal or industry standard for what pollution and [environmental degradation](#) accountability looks like in a world where producing at scale for short-term benefit has long outweighed the long-term health of humans and ecosystem communities.

Dawn Sherman, the CEO of Tanka Bar, a Oglala Lakota-run food business that produces bison meat snack bars that honor traditional foodways, says that colonization of the prairies decimated the bison, going from as many as 60 million to 1,000 by 1910. Bison are a keystone species, she explains, and play a critical role in preserving the plains as a carbon sink by aerating the land, [healing the soil](#), and creating a space for amphibians and insects to thrive merely by pounding the earth with their hooves, which breaks down nutrients and minerals in the soil. Sherman, an enrolled member of the Shawnee and Delaware Tribes, calls the settlers' slaughter of the bison "the first and largest destruction of a regenerative food system." Settlers

intended to “make way for cattle and to subjugate Native Americans ... specifically Lakota people,” she said.

Adding insult to injury, Native peoples were forced onto reservations and cut off from their traditional foods. Following the implementation of anti-Native assimilation, relocation, and termination policies that resulted in high rates of [water insecurity](#), [food insecurity](#), and [chronic illness](#) among Native populations, the latter half of the [20th century](#) saw the rise of industrial and harmful farming practices that have further abused the land and damaged even more of Indigenous people’s traditional food systems.

By and large, there’s [little](#) to [no regulation](#) of the industrialized agriculture sector, which has a storied track record of climate negligence and community harm. Outdated laws, a federal Environmental Protection Agency that [some say is ineffectual](#), and in some cases [no available data](#) on polluting operations, are willful environmental negligences—ones that Native farmers and ranchers have no choice but to contend with.

“It’s in our nature as Indigenous people to see things through [a] living systems framework, and instead, we’re stuck having to navigate this ... very extractive and exploitative system,” Scott said.

More non-Native governmental entities and organizations are beginning to recognize the value of [Traditional Ecological Knowledge](#), the multiple systems of [knowledge creation](#) and [stewardship](#) of Indigenous peoples. In addition, the United Nations has reported that Indigenous peoples’ land stewardship practices essentially hold the key to mitigating climate change, as with California’s [seasonal controlled burns](#), an iteration of tribal cultural burns that the state once outlawed but which are now a component of official land and wildfire management.

However, despite the success of Native-owned farm and ranch operations

amid challenging conditions, the resilience and creativity of Native stewardship is often [disregarded](#) by [western science](#), which erroneously asserts that people are separate from the environment in which we live. Additionally, [Indigenous imagery](#) is often used to sell goods, dehumanizing Native peoples and relegating Native knowledge and influence to the superficial while denying them access to the profits from those goods. It's an irony that mirrors the long arc of history; how descendants of settler-colonizers continue to reap financial reward from stereotyping the peoples whose stolen land now foregrounds their businesses.

"Telling our story, our great authentic story of who we are [is part of our business model]," Sherman said. "That is the movement forward."

How to contend with climate change going forward

Transitioning away from fossil fuels and better managing water use, for which the Indigenous Food and Agriculture Initiative (IFAI) provides guidance to Native Nations, are key areas where tribal producers and ranchers are responding to climate impacts. Carly Griffith Hotvedt, associate director of the IFAI and citizen of the Cherokee Nation, says that the investment in industrial agriculture promoted the sale of goods thousands of miles from where they were produced, but keeping food local prevents a food supply chain from succumbing to the issues we saw from the pandemic, as well as alleviating one's carbon footprint.

"[Tribal governments have been] really committed towards making local and regional investments," Hotvedt said. "I think that's going to be a huge component to mitigate some climate change impacts."

Part of Hotvedt's work advocating on behalf of Tribal Departments of Agriculture and Native producers to the United States Department of Agriculture and Bureau of Indian Affairs, and she says that offering monetary

support to weather drought, wildfire, or flooding would be a significant help to Native producers. Additionally, federal programs providing disaster relief need to further tailor their programs to reflect the reality of climate change and its effects on the scope and scale of natural disasters. Without that adaptation, Hotvedt worries there will be considerable challenges for affected communities.

In addition to policy changes, some farms are shifting what crops they grow. In 2008, shortly after the Séka Hills leadership team evaluated water availability in the northern California Capay Valley, they decided to plant 500 acres of olive trees. Olive trees thrive in poor soil and hot temperatures; they're also drought tolerant and pest resistant, all of which make them a great climate change crop.

Similarly, bison know how to deal with extreme weather events, making them a compelling choice as livestock, and offer the added benefit of restoring soil quality and mitigating other climate impacts across their grazing territories. Sherman says that bison intuitively walk into and through snowstorms, so their numbers don't deplete as much as cattle populations. There's also a proven track record of how the increase in bison population—[now](#) between 500,000 and 600,000—strengthens their [surrounding environment](#).

Sherman notes that in areas where bison roam in larger numbers, species like the meadowlark and blackfooted ferret that had previously dwindled in number are now returning. The power of bison to regenerate the land purely through their presence is a powerful reminder of how food production systems don't require extractive practices that strip environments to the bone and can instead be based in a responsible and adaptive approach to land stewardship.

"People always forget that the bison were here first," Sherman said. "As we

empower more Native producers through our ecosystem[,] we have a direct and an indirect impact on the climate."