



The Cooperative Economic Logic of Indigenous Environmental Practices: Lessons for a Sustainable Future

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Abstract

For millennia Indigenous peoples in their cultural and environmental practices have commonly treated nonhuman organisms and the places they occupy with respect and care. In the modern world, where capitalist forms of economic organization predominate, nonhuman natural organisms and their habitats are frequently treated as things subject to commodification for wealth maximizing purposes. For this reason, those organisms and their habitats fail to be utilized in an environmentally sustainable manner. To resolve modern existential threats to the biosphere posed by the global economy, a new logic of economic organization is needed to swing the biophysical pendulum away from destructive commodification. Case studies in this paper show how Indigenous U.S. tribes today, within a predominantly capitalist context, successfully follow a commons-based cooperative economic logic that recognizes nature's organisms and their habitats as deserving of respect and care. Indigenous economic and environmental practices thus offer lessons for implementing such a logic in the larger economy.

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For millennia Indigenous peoples in their cultural and environmental practices have commonly treated nonhuman organisms and the places they occupy with respect and care. In the modern world, where capitalist forms of economic organization predominate, nonhuman natural organisms and their habitats are frequently treated as things subject to commodification for wealth maximizing purposes. For this reason, those organisms and their habitats fail to be utilized in an environmentally sustainable manner. To resolve modern existential threats to the biosphere posed by the global economy, a new logic of economic organization is needed to swing the biophysical pendulum away from destructive commodification. Case studies in this paper show how Indigenous U.S. tribes today, within a predominantly capitalist context, successfully follow a commons-based cooperative economic logic that recognizes nature's organisms and their habitats as deserving of respect and care. Indigenous economic and environmental practices thus offer lessons for implementing such a logic in the larger economy.

Keywords: *Indigenous environmental practices, common pool resources, cooperative economic logic, sustainability, habitat restoration, capitalism, sovereignty*

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1. Introduction

A modern social tendency is to set the human species on a biological pedestal above other organic life and to treat nonhuman natural beings as things existing to serve human purposes.¹ The thinghood of nature's organic beings has been traced to the sciences and even religion², but its widespread acceptance among modern humanity is more likely connected to the historical emergence of capitalism and its quest to commodify as much of the material world as it can. Capitalism's basic logic as set out in Karl Marx's famous characterization is simple. Begin with money; purchase commodities; sell such commodities at a profit; and repeat.³ This procedure constitutes the path to capital accumulation, the modern version of which is known as "shareholder value maximization".⁴ In this process, a commodity is a "thing" that can be bought and sold, the materiality of which originates in organic nature. Commodification of nature's organic life renders it a means to material ends, not an end-in-itself. The historical growth of capitalism over two millennia, and the astonishing extent of its eventual reach, are chronicled by Sven Beckert in a pathbreaking work, *Capitalism: A Global History*.⁵ Considering this history, the predominant modern human characterization of nonhuman organic nature by "thinghood" is unsurprising. The

dices today are loaded against endowing nature's riches with any kind of intrinsic worth and bringing them into the realm of moral concern.⁶ The result is a global existential crisis threatening the well-being of nature's biological systems.⁷

While modern economic practices give little traction to the idea that nature's nonhuman organisms possess value for their own sake, this has not always been the case historically nor is it currently under the radar of popular perception. In their traditional beliefs, Indigenous peoples commonly accepted the idea that nonhuman natural beings lead lives much like humanity and deserve an equivalent degree of respect and care.⁸ In their relationship to nonhuman organic life, Indigenous peoples not only discovered and applied principles for the sustainable use of common pool resources, a modern version of which is described in the Nobel Prize winning work of Elinor Ostrom, but they also undertook to increase the productive capacity of those resources through habitat improvements historically and habitat restorations currently.⁹ An essential purpose in the pages to follow will be to offer evidence for this in three case studies involving U.S. Indigenous tribes. In these studies, a commons-based cooperative form of economic activity will be describe containing three essential features: (1) consumption of a naturally created common pool resource; (2) production of a common pool resources through habitat improvements; (3) and democratic

¹(Webb, 2025).

²(L. White, 1967).

³(Malm, 2013, pp. 279-326; Marx, 1990, pp. 178-257).

⁴(Lazonick & O'Sullivan, 2000).

⁵Raw materials of course had been extracted from nature for centuries in peasant societies and empires alike, but they became commodities only when they entered flows of trade and exchange (Beckert, 2025).

⁶For seminal works in the environmental ethics literature on the idea of applying intrinsic value to nonhuman natural beings, see (Goodpaster, 1978; Rolston, 1986).

⁷(T. Jackson, 2026, pp. 183-194; Lewis & Maslin, 2018; Moore, 2000).

⁸(A. L. Booth & Jacobs, 1990; Callicott, 1982; Deloria, 2012, pp. 201-214).

⁹(Ostrom, 1990; Thornton, Deur, & Kitka, 2015).

consensus-based decision making that leads to the sustainable use of a common pool resource. The theoretical underpinnings for the form of economic activity described will draw upon both the theory and practice of producer cooperatives and voluntarily managed common pool resources.¹⁰ In addition to describing the kind of commons-based cooperative production undertaken by these tribes, the question of whether such experiences offer repeatable means for creating an alternative global economic reality that fully considers the well-being of nature's riches will be taken up.

2. Indigenous Environmental Practices: Case Studies

Historically, Indigenous Americans lived close to nature in homelands where they accumulated detailed and intimate local knowledge of plant and animal behaviors, weather patterns, the functioning of wind and water, and landscape features.¹¹ This knowledge served as a foundation not just for material survival, but also for constructing stories about the transformative powers of mysterious human-like natural phenomena, the origins of human ancestors, and the necessity of respect for all of nature's beings. From the unique environments they lived in, different Indigenous groups formulated distinct beliefs about how the world around them functioned, yet their different worldviews possessed common patterns. Plants, animals, and natural phenomenon were frequently conceived of as nonhuman persons with their own communal forms of existence to which humans owed the same kind of respect as their own kin. For Indigenous peoples, nature is alive with a multitude of animate and inanimate beings and forces, each having their unique powers and behaviors, and each having an equivalent spiritual status.¹² In the terminology of modern biology, Indigenous Americans subscribed to a self-creative "autopoietic" view of the natural world.¹³

In considering the basic question posed here about the sources of success in sustainable common pool resource utilization, three cases of contemporary Indigenous natural habitat use, restoration, and protection will be considered: (1) wild salmon harvesting and habitat restoration in the Pacific Northwest; (2) bison re-introductions to northern Great Plains grasslands; and (3) the utilization and sustaining of old-growth forests in northern Wisconsin's Menomonee County. In each of these locations, Indigenous peoples lived relatively abundant and culturally rich lives sustainably for millennia, and each suffered significant losses and indignities from Euro-American colonization.

2.1. Saving the Wild Salmon in the Pacific Northwest

In the Pacific Northwest, huge runs of salmon, returning from ocean waters to spawn in high-mountain streams where they were easily caught, served as a primary source of sustenance for Salish-speaking peoples prior to colonization. Salish origin stories speak of spiritual transformers who in legendary times changed original people of a single kind into the variety of animals and humans that

populate the world today. Animal persons subsequently lived like humans in their own villages and long houses but could cloth themselves in their animal form for interactions with human beings. Legend has it that immortal salmon persons lived beyond the sea and emerged periodically in their animal "salmon" form from a hole in the wall that separated them from humans and entered waters where humans could catch them and eat their flesh. Humans would be allowed to catch salmon only if done so in a proper "respectful and caring manner", without which salmon would withdraw and not allow themselves to be caught. To demonstrate their good behavior, Indigenous groups performed "first salmon ceremonies", ritual communal feasts of the first salmon caught from a run with its skeletal remains carefully returned to the waterway for reformulation into a salmon person capable of returning home beyond visible waters and spread the word about humanity's good (or bad) behavior among their fellow salmon people.¹⁴

In the pre-Columbian Puget Sound region, Indigenous Salish-speaking families congregated for the winter months in permanent villages and, for the rest of the year, ranged widely over the area fishing at traditional sites along shorelines and in rivers and streams flowing down from the Cascade and Olympic Mountains, hunting in and on the edge of forests, and gathering useful plant materials in mountain meadows and low elevation prairies sustained by periodic burnings. Marriages across villages were common, creating kinship linkages over the full extent of the area. Fishing sites often belonged to families or village groups and were overseen by family and village leaders who managed the construction and maintenance of weirs, traps, nets, and other equipment, the timing of fishing access to sites, and the volume and distribution of the catch. Northwest Coast Indigenous peoples likely explored the full length of streams on hunting and gathering expeditions and in their observations gained a basic understanding of salmon reproduction and the importance of letting an adequate number of spawners to escape upstream.¹⁵

Economic reasoning about commons suggests two different kinds: (1) a resource open to all whose consumption by one "precludes" consumption by another; and (2) a resource open to all whose consumption by one "fails to preclude" consumption by others. An example of the first kind is a population of wild fish (i.e., salmon) and the second kind a public ceremony or celebration (i.e., a first salmon ceremony). The second example is a creation of human activity while the first is a creation of nature. To enjoy the first requires a human act of harvesting fish, but the resource itself is a gift of nonhuman nature. When a common is an object of human cultivation, it becomes a joint product of nature and humanity. Humanity thus engages in producing the commons in addition to enjoying the consumption of it. The "tragedy of the commons" arises when humans consume too much of it rendering it extinct. To prevent the latter requires human restraint in commons consumption. Northwest Coast indigenous peoples acted cooperatively to restrain salmon consumption, and there is evidence that they also cultivated the commons to increase its productivity, acting as both consumers and producers of the commons.¹⁶ Catching salmon advanced a private interest of fishers in meeting their nutritional needs; cultivating the salmon through habitat improvements advanced the interest of fishers as a whole and the salmon itself as a species.

¹⁰For background on producer cooperatives, see (Dow, 2018; Jossa, 2014; Thomas & Logan, 1982), and for common pool resources see (Ostrom, 1990). For a comparison of cooperatives and voluntary commons governance principles, see (Guttmann, 2021).

¹¹(Basso, 1996; Cordova, 2007, pp. 186-200).

¹²These conclusions are supported in the works of two Indigenous philosophers, Vine Deloria and V.F. Cordova (Cordova, 2007, pp. 100-126; Deloria, 2012, pp. 201-214). For a summary of works on similarities in Indigenous worldviews despite their "place based" orientation, see (Piccolo, 2024). Piccolo emphasizes that scholars frequently express a positive view of Indigenous life in its connections to nature as a commonality for different Indigenous peoples in addition to the negative experience of colonial exploitation and degradation.

¹³(Weber, 2016; Weber & Varela, 2002). An autopoietic perspective on the natural world hypothesizes that all units of organic life are self-creative beings.

¹⁴(Collins, 1952; Ebert, 2010; Gunther, 1926).

¹⁵(Langdon, 2007).

¹⁶(Campbell & Butler, 2010; Lepofsky & Caldwell, 2013).

The modern approach to avoiding the “tragedy of the commons” by Euro-Americans in Pacific Northwest fisheries today is through the intervention of public authorities to limit harvests to sustainable levels.¹⁷ The alternative is a voluntary approach outlined in the works of Elinor Ostrom. Since Northwest Coast indigenous peoples survived and prospered for millennia utilizing salmon as their primary nutritional resource without a single overarching governing authority, they must have successfully developed voluntary social arrangements for preventing its overexploitation. To avoid overexploitation, Ostrom suggests that common property resource users should commit to rules that clearly define: (1) who can use the resource, (2) the volume and methods of use allowed, and (3) penalties for unauthorized use.¹⁸ The rules posed by Ostrom are intended for a modern audience seeking private benefit maximization from common pool resources while the Salish based their treatment of the salmon resource on the obligations of kinship and spirituality. This is exactly what Salish kinship groups did with the fishing sites under their control. Kinship leaders at their family-owned fishing sites possessed the authority to establish who had the right to participate in the harvest, the volume of fish taken, the method of harvesting, and the final distribution of the harvest to individual families. In addition, they were responsible for punishing trespassers on the site. These leaders also abided by cultural traditions that treated non-human persons such as salmon with “respect and care” as done in first salmon ceremonies.¹⁹

This way of life in the Puget Sound region was disrupted and much of it was lost with the coerced signing of 1855 treaties by local tribal leaders. Treaties required families to move from their villages to reservations that were insufficient in size and content to support their usual way of life. While the treaties gave the tribes the right to fish, hunt, and gather in lands ceded to the United States, the reality turned out to be very different. Once Euro-American settlement took place, much land became “private property” whose owners could exclude use by Indigenous peoples, and the salmon fishery was commercialized.²⁰ Euro-American colonists arriving in the 19th Century transformed the Puget Sound salmon commons from a resource whose consumption was cooperatively and sustainably regulated by Indigenous groups to a lightly managed, open-access resource unsustainably exploited for income generating purposes through the sale of processed salmon in global markets.²¹ While being forced to live on tribal reservations according to 1855 treaties, Indigenous Americans negotiated for treaty rights to fish off-reservation at accustomed sites as they had in the past. In practice, they were prevented from doing so by the placement of Euro-American fish traps at Indigenous reef net sites and by state government fisheries regulations that limited the use of nets in streams and imposed restrictions on the days when fish could be taken.²² The volume of fish caught on open waters by Euro-American gill netters, trollers, and purse seiners substantially reduced the number of fish reaching streams where the Salish did much of their fishing. Indigenous peoples could little afford the capital costs of the kind of fishing boats and equipment used by Euro-Americans on Puget Sound and were effectively precluded from sharing in the huge

volumes of fish taken there.²³ Despite treaty promises, the Puget Sound Salish could no longer engage fully in the one activity that supplied much of their daily nutrition and was the centerpiece of their cultural existence.

For Puget Sound Salish peoples, the act of fishing for salmon and the ceremonial traditions surrounding it historically shaped their cultural identity, and more than a century of pressure to suppress and replace that identity with a Euro-American orientation failed to take hold. Instead, the predominant result was Native American psychological and social alienation and economic impoverishment.²⁴ The successes of the civil rights movement encouraged Indigenous fishers to resist state regulations that cut into their treaty rights to fish both on and off-reservations. In acts of protest, Indigenous Americans purposely and publicly violated state fishing regulations at organized “fish-ins” to bring attention to their cause and to bring court cases against the state for suppression of treaty rights.²⁵ Arrests of violators by state game wardens set the stage for court challenges to state regulation on the grounds that federal treaty rights took precedence so long as salmon runs were not under existential threats from fishing. The U.S. Department of Justice, responding to the 1960s winds of change in favor of minority rights, undertook a lawsuit against the State of Washington on behalf of several federally recognized tribes to prevent the state from restricting the exercise treaty fishing rights by tribal members. In 1974, Judge George Boldt ruled in favor of the tribes and interpreted the 1855 Treaty term, “The right of taking fish at usual and accustomed grounds and stations is further secured to said Indians in common with all citizens of the Territory”, as meaning that Indians had a right to at least half the harvested salmon catch.²⁶ For the commercial fishing industry on Puget Sound this was a cataclysmic decision, meaning that they would be required to give up half their normal catch to members of Indigenous tribes.²⁷

For tribes, this was both a material and cultural boon. From 1975 to 1985, the total annual tribal catch increased from about 1 million fish to more than 5 million.²⁸ The Boldt decision was a shot in the arm for tribal sovereignty. Before Boldt, tribal governments around Puget Sound had little authority to do much on behalf of their members and were substantially under the thumb of the Bureau of Indian Affairs and its quest to get Indigenous people to assimilate into the larger society. Before Boldt, belonging to a tribe brought few advantages, but after tribal membership became necessary to participate in harvesting up to the 50 percent Native American share of the allowable Puget Sound catch. After Boldt, each tribe gained the power to regulate salmon harvests at “usual and accustomed grounds and stations” jointly with the Washington State Department of Fisheries. To carry out this responsibility, Treaty tribes with mandated government assistance acquired their own fisheries management and enforcement staffs and joined together to form their own support organization, the Pacific Northwest Indian Fisheries Commission.²⁹

²³(Boxberger, 1989, pp. 61-62).

²⁴(Harmon, 1998; Wilkinson, 2024, pp. 101-116).

²⁵For a fascinating description of the so-called “fish-wars”, Indigenous activism, media attention to fishing rights pumped up with the help of Marlon Brando, and legal work leading up to the Boldt decision, see (Wilkinson, 2024, pp. 1-8, 117-139).

²⁶(Boldt, 1974; Wilkinson, 2024, pp. 117-201). Wilkinson’s description of the whole legal process is a must read for the full story.

²⁷(Boxberger, 1989, pp. 154-187; Harmon, 1998, pp. 218-244).

²⁸(Boxberger, 1989, p. 170; Breslow, 2014).

²⁹(Bowhay, 2013; Wilkinson, 2024, pp. 183-201). Western Washington tribes actively involved in fisheries management are members of the Northwest Indian Fisheries Commission, an organization that helps coordinate their fisheries management and habitat restoration activities. Joint Management didn’t really get going until after

¹⁷(Crutchfield & Potecorvo, 1969).

¹⁸(Ostrom, 1990; Trosper, 2002).

¹⁹(Ebert, 2010).

²⁰(Wilkinson, 2024, pp. 9-100).

²¹While Washington State instituted fisheries regulations, they lacked the rigor required to prevent declines in Salmon runs from overexploitation.

²²(Boxberger, 1989, pp. 40-60, 88-91; Parman, 1984). State law was used to weakly regulate fisheries prior to the 1930s with many of its provisions focused on impeding Native American fishing.

Colonization and settlement of the Puget Sound region from that late 19th Century on not only led to excessive fishing pressure on salmon populations, but also significantly degraded landscape features required by salmon for natural reproduction. A lengthy list of settler economic development practices such as clear-cut timber harvesting, hydroelectric dam construction, installations of fish-blocking culverts on roads, urbanization and its polluting runoff from impervious surfaces, and the draining of floodplains for agriculture destroyed or significantly degraded Puget Sound “wild” salmon habitats.³⁰ The one bright spot for wild salmon is a significant increase in salmon habitat restoration work spearheaded by Puget Sound treaty tribes in the form of salmon habitat restoration. The revival of “first salmon ceremonies” since the full restoration of fishing rights by the Judge Boldt decision suggests that traditional Salish spiritual values endure in the Pacific Northwest and are manifested in the “respect and care” for salmon populations exhibited by tribal habitat restoration efforts.³¹ Tribes are engaging in salmon habitat restoration for the sake of the species and to the benefit of all who love salmon, Indigenous and otherwise.

As a result of the Boldt decision, Puget Sound tribes have gained the technical capacity needed to manage salmon runs, to inventory habitat issues in their respective watersheds, and to mobilize tribal resources in the work of habitat restoration.³² But the extent of tribal resources for such work is modest and habitat restoration can be costly. Tribes have nonetheless proved to be effective in getting the work of habitat restoration done by exercising their new-found political power as “sovereigns” in the halls of government and the courts on one hand, and on the other in cooperating with government agencies that themselves seek salmon habitat restoration and possess the budgetary resources to do so.³³

Through astute applications of political pressure and lawsuits, Puget Sound tribes have been successful in bringing about the removal of two habitat blocking dams on the Elwha River³⁴; getting a federal court-monitored legal agreement with the State of Washington to repair more than 300 salmon migration-impeding culverts on state roadways³⁵; and winning a settlement with the City of Seattle to install fish ladders on three city-owned hydroelectric dams opening up prime salmon spawning habitat in the upper-Skagit river watershed.³⁶ These are large, costly projects whose completion will ultimately require billions of dollars in government expenditures. The blockage of salmon from reaching prime spawning habitats by dams and culverts is probably the single most damaging form of habitat degradation and therefore

an extensive and dangerous rebellion by commercial fishermen that feature extensive illegal fishing and violence against state fisheries wardens. The rebellion was ended by a federal takeover of the fishery and enforcement of fishing regulations. This came after an endorsement of the Boldt decision by the United States Supreme Court in 1979 (Wilkinson, 2024, pp. 202-233).

³⁰(Northwest Indian Fisheries Commission, 2016, pp. 6-13; 2020, pp. 5-8; 30-44; Waples, Pess, & Beechie, 2008).

³¹(Amoss, 1987).

³²For a summaries of tribal habitat restoration work, see the State of Our Watersheds Reports for 2016 and 2020 (Northwest Indian Fisheries Commission, 2016, 2020). Local habitat restoration work includes placing logs in streams to create pool and riffle habitats, reforestation to increase stream shading and storm water infiltration, removal of harmful invasive species, and debris removal from spawning and rearing sites.

³³For a discussion of ways tribes have participated in habitat restoration efforts by government agencies, see (Wilkinson, 2024, pp. 239-247).

³⁴(Mauer, 2021; Northwest Indian Fisheries Commission, 2016, pp. 58-73; 2020, pp. 82-102) Salmon are already found upstream beyond the Elwha River dam removal sites (NOAA Fisheries, 2024).

³⁵(Blumm & Steadman, 2009; Bowhay, 2013).

³⁶(Cason, 2023; Surma, 2023).

one of the most important to fix. The “culvert case” is especially significant in its extension of the Boldt decision to include not just Indigenous rights to a share of the salmon harvest, but also rights to the habitat required for sustaining those harvests.³⁷

In addition to unblocking significant amounts of salmon spawning habitat, Puget Sound Tribes have helped to energize a significant expansion of all-important estuary habitats. Puget Sound estuaries are important rearing areas for chinook salmon populations, some of which have been federally listed as threatened or endangered, bringing increased public attention to the problem of declining wild salmon populations. Between 1997 and 2018, a total of 72 estuary restoration projects were cooperatively undertaken by Puget Sound tribes and various local, state, and federal government agencies that added 147 ha and 410 km of tidal channel habitat to estuaries of nine key river deltas, resulting in an increase of 53 and 59 percent respectively of estuary channel area and length for the Puget Sound region.³⁸ These are significant additions to salmon habitat that should help in reversing downward trends in salmon populations.

To sum up, Puget Sound tribes use newfound sovereign powers to not only mitigate the problem of overconsuming a common pool resource, but also to engage in “common pool landscape production” through habitat improvements that increase the reproductive potential of salmon populations. Overcoming the “tragedy of the commons” is normally thought of as an “overconsumption” problem requiring management of a natural resource to limit harvests to sustainable levels.³⁹ In the modern world of natural habitat degradation, the problem of “landscape underproduction” rises in significance and must be addressed for there to be anything to harvest in the first place. In the case of the salmon, Puget Sound tribes are among the leading sovereign institutions cooperatively addressing both the common pool “overconsumption” and “underproduction” problems simultaneously.

2.2. Great Plains Bison Reintroductions⁴⁰

The Great Plains prairie grasslands emerged in the wake of the receding Wisconsin Glaciation some 11,000 years ago that left behind deposits of loess, a finely ground powdery soil that loses its water quickly and is especially suited to drought-adapted grasses.⁴¹ The prairie grasslands were a boon to herbivores such as bison, pronghorn and elk, and their predators including wolves and grizzly bears. The most significant grassland benefactor of all historically was the bison, reaching a total Great Plains population of as many as 30 million animals.⁴² The bison was a keystone species whose behaviors and disturbances shaped the prairie landscapes to the benefit of small mammals, birds, and arthropods. An exceptionally high concentration of bison in the western Great Plains, with a massive capacity to transform grassland energy into a useful material form, became a powerful attractor for Indigenous populations who hunted bison for thousands of years as a primary means of material sustenance prior to Euro-American contact.⁴³ Bison were considered by the Lakota Sioux to be of unique spiritual significance in their capacity to symbolize the whole of creation. Bison take on three forms in Lakota mythology: (1) as a natural species; (2) as immortal buffalo people who live beneath the earth

³⁷(Blumm & Steadman, 2009).

³⁸(Chamberlin et al., 2025).

³⁹(Ostrom, 1990).

⁴⁰This section is based on (D. E. Booth, 2026).

⁴¹(Madson, 1995, pp. 107-124).

⁴²(Epp & Dyck, 2002; Isenberg, 2000, p. 25).

⁴³As long as 8,000-10,000 years ago small Native American bands hunted bison on the northern Great Plains (Bryan, 1991, p. 45).

and possess the capacity to transform themselves into buffalo or people; and (3) as the Buffalo Spirit, the chief of the buffalo people and the embodiment of Lakota values. Above all, for Great Plains Indigenous peoples, bison were to be treated with respect and veneration in daily life, and failures to do so could harm the success of the bison hunt, or even be fatal to individual perpetrators of disrespect.⁴⁴

In the case of Great Plains bison populations, the overconsumption problem is currently nonexistent due to the absence of the animal from most of the remaining shortgrass prairies in the area. The replacement of bison by cattle as the apex grazer on the Great Plains has resulted in the degradation of prairie grasslands and the decline of grassland species populations, especially native birds. Unlike cattle, bison can go for long periods without water and don't need to congregate in, and degrade, riparian areas for frequent drinks. Also, unlike cattle, bison move constantly as they graze and in so doing avoided overgrazing and are able to nuzzle aside snow in winter to feed on desiccated but still nutritious grasses.⁴⁵ In their wake, bison leave a diverse and patchy landscape by creating open soil for forbs with their hooves⁴⁶ that otherwise would have had a tough time competing with grasses, and by favoring new growth and bypassing older tall grasses that offer concealed habitats for breeding birds and small mammals. The problem of Great Plains prairie degradation is essentially a "landscape underproduction" problem associated with the loss of its apex grazer, the bison, due to Euro-American colonization in the late 19th and early 20th centuries and its resulting extirpation of free-roaming bison herds.

Modern bison re-introductions today by Indigenous tribes are unusual in their capacity to simultaneously improve the health of the prairie landscape and provide much needed income-earning opportunities for tribal members in bison meat sales and tourism. Between 1970 and 2020, bison introductions were undertaken on the Fort Belknap, Fork Peck, and Blackfeet Reservations in Montana, and the Rosebud Reservation in South Dakota. On these reservations, bison herds adding up to about 3,700 animals are maintained with approximately 2,000 kept in "conservation" herds that are allowed to range freely over grassland landscapes. The remainder are kept under rotational grazing management in "production" herds for income earning purposes. Tribal community colleges and bison program staff engage in research and monitoring of both bison herd health and the effects of reintroduction on wildlife biodiversity in grazed areas. Herds are culled to maintain sustainable stocking rates and the surplus is provided for tribal food programs, bison related ceremonial events, meat sales, and income generation through public hunting. In an expanding retail market, cuts of bison meat comparable to beef sell at a premium and are generally healthier.⁴⁷ The human values behind bison reintroduction on Northern Great Plains by Native Americans are multidimensional. Needs by tribal residents for food security and employment are partially fulfilled by reintroductions, but so are desires to renew spiritual and cultural relationships with the bison. To repeat, the 19th Century Indigenous worldview attached significance to the bison as not just a source of material sustenance but as a spiritual being

to be respected and venerated. As David Posthumus notes, "The bison is both persistent and pervasive as a core religious symbol and identity marker among Lakota people."⁴⁸

Bison re-introductions by Indigenous peoples to prairie landscapes are nothing new and were instrumental historically in preventing their final extinction on the northern Great Plains. As bison populations were dwindling under pressure from settlers and market hunters in the late 1870s, Pend Oreille tribal members drove orphaned bison calves over the continental divide to open rangeland on their reservation east of Flathead Lake along the Flathead River. The few calves that survived formed the core of a bison herd that came under the stewardship of two tribal members, and by the first decade of the 20th Century the resulting herd had grown to more than 600. Meanwhile, wealthy, and politically powerful Americans, such as Teddy Roosevelt and William T. Hornaday, took on the task of "saving the bison." To make a long-story short, the Flathead herd was eventually split up with purchases by Yellowstone National Park and later by the Canadian government for their national parks. In 1908 under the direction of President Teddy Roosevelt, the U.S. government created the so-called National Bison Range that was forcefully and arbitrarily carved out of Flathead Reservation lands, much to the dismay of the Salish, Kootenai, and Pend Oreille peoples who shared the Reservation. The Range was initially populated by bison mainly re-purchased from Canada by wealthy members of the American Bison Society (founded by Roosevelt and Hornaday). After many years of partnering with the U.S. Fish and Wildlife Service in the management of the Bison Range on a sometimes-contentious basis, tribes finally re-gained full control of the Bison Range lands in 2021 that currently support about 500 head on an open range of some 18,000 acres.⁴⁹

Bison reintroduction has come about not by individual tribal efforts alone, but by tribes working in concert through the Inter-Tribal Buffalo Council, an organization that was founded in 1992 and currently includes 80 tribes as members. Since 1992, tribal bison herds have increased from about 1,500 to more than 20,000 animals today through the work of the Council and its member tribes. The essential function of the Council has been to move surplus bison from the Yellowstone National Park herd through quarantine to member tribal lands.⁵⁰

Briefly put, a significant number of Indigenous tribes within and beyond the Great Plains in the U.S. have participated in a surge of bison reintroductions to the material and cultural benefit of their membership and to the ecological health of prairie landscapes. To these ends, sovereign tribes are engaging in commons-based production of free-range bison motivated by material need, long-standing cultural norms, and ecological purposes. Bison reintroduction, herd management, and associate ceremonies and rituals provide a means by which Great Plains Indigenous peoples participate in the cooperative production of a common pool natural resource for its own sake, not just to satisfy material ends.

⁴⁸(Posthumus, 2016, p. 300). For descriptions of the cultural and social effects of bison re-introduction on tribal lands see (Shamon et al., 2022) and (Posthumus, 2016, pp. 297-301). Examples include the following: the incorporation of bison-related hunting and spiritual practices in pre-school and K12 curriculum including butchering demonstrations and visits to bison herds; tribal community college offerings on ecology that include coverage of bison reintroduction; multi-day community events celebrating the bison; the revival of traditional ceremonies and rituals based on the bison; the use of bison related beliefs in alcohol, drug and domestic abuse awareness and prevention programs; and artistic creations based on the sacred bond between people and the bison.

⁴⁹(Upton, 2015).

⁵⁰(P. J. White, 2024).

⁴⁴As paraphrased from (Posthumus, 2016, pp. 285-286).

⁴⁵(Allred, Fuhlendorf, & Hamilton, 2011).

⁴⁶Rangeland ecologists have developed biodiversity oriented grazing practices in recent years that mimic bison movements through the landscape to the benefit of prairie grassland ecology. To cope with uncertainty, ranchland owners have long developed grazing practices that work for them in sustaining the health of prairie grasses, and for fear of losing productivity and threatening already thin profit margins, they are reluctant to alter grazing practices for the sake of biodiversity (D. E. Booth, 2026).

⁴⁷(Callenbach, 1996, pp. 185-194; Shamon et al., 2022).

2.3. Menomonee Sustainable Forestry

Menomonee tribal land, coterminous with the county of that name located in north-central Wisconsin, stands out clearly and distinctly from its surroundings in any direction. To the south open farmlands dotted with woodlots dominate, and to the north is the Nicolet National Forests with its sparse stands of second and third growth trees. Within the tribal boundary, the landscape is thickly forested with a diversity of tall, massive old-growth trees including white and red pines, cedars, and hemlocks unmatched by stands of similar scale anywhere else in the state of Wisconsin. Prior to colonization, the Menomonee had been organized into bands that travelled extensively on waterways over their 8,000 square mile territory covering much of Northeastern Wisconsin and parts of Upper Michigan, fishing, harvesting wild rice, planting crops near waterway shorelines, and hunting and gathering in rich forest landscapes. Menomonee origin stories speak of a Great Spirit that formed human beings from existing animals and endowed them with a spiritual affinity to their animal ancestors. While origin stories are no longer taken as literally true, they are still foundational to Menomonee cultural practices as expressed in works of art and ceremonies. The forests are not just a commonly held material resource for tribal members but are central to Menomonee culture and solidarity among tribal members.⁵¹

At one time, old-growth timber stands such as the Menomonee's were the norm throughout the Northern Great Lakes region, but Euro-American colonization and row-crop cultivation of the Great Plains timberless grasslands to the west created a huge market for lumber in constructing farmsteads and townsites that fueled a Great Lakes logging and milling boom beginning in the 1850s. The connecting point between Great Lakes forests and the Great Plains was the Chicago railhead. Lumber capitalist, many of whom were based in Chicago, organized the cutting and milling of Great Lakes timber, and shipped lumber through Chicago on rail lines stretching westward into the Great Plains with its deep, rich prairie soils.⁵² Timber harvesting took place in the winter months when the ground was frozen and logs could be moved with relative ease to river banks to await spring freshets for driving them downstream to Lake Michigan for milling and shipment by water to the Chicago lumber market. Huge, tall old-growth white pine with its straight grain was the favored species, and often grew in uniform stands on old-burns where fire had facilitated its reproduction years in the past.

The Menomonee were, and are, a stubborn and persistent people. U.S. government policy beginning in the early 19th Century was to push Great Lakes Indigenous tribes westward beyond the Mississippi River and open land east of the river for white settlement. The Menomonee wanted above all to remain together as a people in their traditional homeland and they refused to budge. At one point in the 1840s they were forced to give up their entire land holdings in treaty negotiations, but they persisted in cajoling U.S. government negotiators, and in an 1854 treaty obtained a forested, well-watered reservation of 238,000 acres. This was a substantial comedown from their original holdings, but it was a place they could settle and attempt to sustain themselves as a tribe. The Menomonee quickly realized that survival within the boundaries of such a small piece of their original homeland, and in the confines of the American capitalist economy, was feasible only by becoming loggers. To keep their tribe intact into the future,

the Menomonee also concluded that tribal forests needed be kept under community-wide control and to be logged sustainably.⁵³

For this to happen, the Menomonee persisted in a quest that lasted more than a century to obtain complete tribal control over their forests and sawmills and to institute sustainable forestry practices. Realization of this quest didn't come until the Menomonee obtained full tribal reinstatement in the 1970s after being decertified as a tribe in the 1950s. For more than 100 years, management of Menomonee forests and sawmills was in the hands of the Bureau of Indian Affairs (BIA). After a chaotic period between 1854 and 1890, during which upwards of a million board feet of timber was stolen from the Menomonee by independent loggers, Congress passed legislation authorizing a maximum annual cut and sale of 20 million board feet from the Menomonee forests, a figure that was probably less than the forest's net annual growth at the time. This legislation established the concept of limiting timber harvesting to protect the long-term productivity of the forest, and it was brought about in part by pressure from the Menomonee including trips by tribal leaders to Washington D.C. to lobby for sustainable forest harvests and practices. The Menomonee became skilled agitators and negotiators, dragging their feet on government policies they didn't like and complaining vociferously about BIA mismanagement of harvesting and milling operations. In 1908, the LaFollette Act was passed by Congress reiterating the 20 million board feet annual limit on harvesting of green timber. This Act also authorized the construction of a new lumber mill on the reservation, gave the Menomonee people priority for employment in the mill and on logging crews, and instituted U.S. Forest Service harvesting standards to ensure forest self-perpetuation.⁵⁴

Over the next three decades under the control of the BIA, forest management practices failed to fulfill the provisions of the LaFollette Act, and the Menomonee filed a Court of Claims lawsuit for resulting damage to the forest. The U.S. Forest Service began instituting sustainable management practices on the reservation after passage of the Act but were eventually forced off the reservation by the BIA. BIA foresters favored clear-cutting as opposed to selective harvesting and failed to carry out fire protection measures through the mid-1920s. Beginning in the late 1920s, the BIA logging superintendent did begin to experiment with selection harvesting as a measure to improve forest sustainability. BIA foresters from the 1930s on began taking the Menomonee views on sustainable forestry seriously, partly because of the pending Court of Claims lawsuit.⁵⁵ In 1951 the U.S. Court of Appeals awarded the Menomonee \$7,650,000 from the federal government for violating provisions of the LaFollette Act of 1908 by failing to follow sustained yield practices.⁵⁶

Despite the court award, the 1950s and 1960s turned out to be economically disastrous for the Menomonee because of a 1954 Termination Act which ended the Menomonee's tribal status and relationship to the federal government. Henceforth, the control of the forests and sawmills were transferred from the BIA to the newly organized Menomonee Tribal Enterprises which was required by the Act to manage the land on a sustained yield basis. While in theory this was what the tribe wanted, in practice the new need to pay taxes, and to seek profits as outside trustees of tribal assets mandated, meant that the tribe needed to generate income,

⁵³(Davis, 2000, pp. 62-71; Trosper, 2007)

⁵⁴(Davis, 2000, pp. 69-84)

⁵⁵The U.S. Forest Service under Gifford Pinchot in its early "idealist" days was still committed to selective harvesting to sustain the health of the forest as opposed to its later turn to clearcut harvesting (Davis, 2000, pp. 130-153).

⁵⁶(Davis, 2000, p. 147).

and this could only be done through land sales and a vacation development called the Legend Lakes Project.⁵⁷ In Addition, federal funding for health, education, and health services was lost, causing poverty and unemployment to mushroom among tribal members.

Following a tenacious struggle by a Menomonee political organization called DRUMS⁵⁸ led by Ada Deer, Termination was ended in 1976 with passage of the Menomonee Restoration Act by Congress. The Act restored the federal government trust relation with the tribe and reestablished government services taken away under Termination. For the first time, Restoration endowed the tribe full control over management of forestlands and sawmills ensuring the future of sustainable practices on Menomonee lands.⁵⁹ The Menomonee now manage their forests sustainably according to their own unique conception of what “sustainability” means. This is set out in a detailed and complex forest plan (Menomonee Tribal Enterprises Forest Management Plan), that is frequently updated to account for advances in the science of forestry and specific knowledge of the Menomonee forest’s ecological functioning and in changes to the internal and external economic and social conditions faced by the tribe.

The success of the Menomonee approach to sustainable forestry can be found in the data. The sawtimber growing stock in 1854 when the reservation was established equaled an estimated 1.2 billion board feet; today that number is 1.9 billion. Since 1854 an amazing 2.3 billion board feet have been harvested from the Menomonee forests.⁶⁰ Today, the Menomonee annual harvest rate per forest acre vastly exceeds that of nearby comparable national forests that were initially clearcut in the 19th and early 20th centuries.⁶¹ In Wisconsin, Menomonee and Ojibwe tribal forests contain more biodiversity and higher rates of tree regeneration than any nontribal lands. Deer overpopulation in Wisconsin and their browsing poses a serious threat to forest biodiversity, and the deer density on tribal lands is much lower than elsewhere through intense Indigenous efforts to keep deer herds in check. Biodiversity is also enhanced on Menomonee lands through exceptionally low human population and road densities. Menomonee forests support a diversity of species that thrive under old-growth conditions such as the American martin, Pileated Woodpecker, and a variety of lichens.⁶²

Unlike the conventional capitalist forest-based economy and society that surrounds the reservation, the Menomonee people have sought to both extract a sustainable material living from their forestland and to protect and expand its ecological integrity and biological productivity for more than a century and a half. They have been moved to do so both by material need and a spiritual commitment that calls for the protection and respect of all nature’s beings. The Menomonee tribe’s everyday forest-related economic activities serve the material and spiritual needs of a human community while at the same time respecting the nonhuman natural landscape in which that community resides.

3. Discussion: The Alternative Commons-Based Logic of the Indigenous Tribal Economies

The case studies covered in these pages are only a partial sampling of all the U.S. Indigenous tribes engaging in habitat restoration and protection and the sustainable use of nature’s material riches. Through inter-tribal organizations, the kinds of goals and practices considered in the three case studies extend beyond case study boundaries. The Northwest Indian Fisheries Commission, the first of the wildlife related inter-tribal organizations was formed following the 1974 Boldt decision to coordinate Indigenous fisheries management and habitat conservation efforts among twenty Western Washington tribes, not just the sixteen in Puget Sound watersheds. Following the Boldt decision, the Columbia River Intertribal Fisheries Commission was organized in 1977 by the Nez Perce, Umatilla, Warm Springs, and Yakima Confederate Tribes to assert their rights to participate in Columbia River basin fisheries and habitat management.⁶³ After courts had affirmed Indigenous fishing and hunting rights in Minnesota, Wisconsin, and Michigan, eleven Anishinaabe tribes founded the Great Lakes Indian Fish and Wildlife Commission in 1984 that was modeled on the Northwest Indian Fisheries Commission and focuses on the harvesting rights, preservation, and enhancement of plant and animals important to the Anishinaabe peoples.⁶⁴ As already noted, the Inter-Tribal Buffalo Council, founded in 1992, currently includes 80 tribes as members whose bison herds have increased from 1,500 initially to more than 20,000 today.⁶⁵ Yet another organization founded by a group of tribes is the Intertribal Timber Council formed in 1976 to serve as a forum for discussing and addressing forestry-related issues. The Menomonee Tribe was one of the Timber Council’s founders, and the Menomonee experience in forestry practices has significantly influenced a broader tribal movement towards sustainable forestry management among the 56 member tribes.⁶⁶ Forestry researchers in Wisconsin have found that sustainability and biodiversity are much higher on both the Menomonee reservation and on three different Ojibwe reservations in Wisconsin than they are on comparable federally managed forestlands. Commitments to principles of forest sustainability among Indigenous peoples have expanded beyond the Menomonee tribe alone. Forest management practices on federal lands, however, still have some way to go before achieving the ecological diversity and quality equal to that of Indigenous forests.

In summing up, human actions in Indigenous commons-based cooperative production are of two kinds: (1) production of tribal landscape commons through habitat restoration and (2) sustainable harvesting of commons for human consumption. Production of commons involves such actions as restoring and improving salmon habitats; introducing free-range bison to shortgrass prairies; and carrying out measures required for sustainable forestry. The human motivations for participation in such actions are mixed and include the satisfaction of both material desires and the fulfillment of creative, social, cultural, and spiritual wants. In the three case studies, commons-based cooperative production and consumption are rooted in well-defined communities with established historical traditions and consensus methods of group decision making.⁶⁷ Such decision-making is what renders

⁵⁷(Davis, 2000, pp. 85-89).

⁵⁸Determination of Rights and Unity for Menomonee Shareholders (Davis, 2000, pp. 82-84).

⁵⁹(Davis, 2000, pp. 151-153; Trosper, 2007).

⁶⁰(Mausel, Waupochick, & Pecore, 2017).

⁶¹(Davis, 2000, p. 20).

⁶²(Waller & Reo, 2018).

⁶³(Berger, 2024; Taylor, 1999).

⁶⁴(Berger, 2024).

⁶⁵(Berger, 2024).

⁶⁶(Trosper, 2007).

⁶⁷The norm in tribal decision making on issues of importance is traditionally kinship based with leaders of family groupings coming together to make a final

commons-based productive activities “cooperative” in its organization. The focus of productive human actions on jointly held common pool resources is what makes it “commons-based.” The result is the Indigenous instituting of moral concern for the full spectrum of “self-creative” organic life on effected tribal lands.

Until recently, Indigenous American tribes have been forced to live under the thumb of U.S. Bureau of Indian Affairs (BIA). The essential purpose of the United States government under the BIA has been the assimilation of Indigenous peoples into the larger population and the destruction of tribes as social organizations and preservers of long-standing Indigenous cultural practices and spiritual beliefs. Against this, tribal members have struggled for more than 150 years. Beginning in the 1960s following efforts in the 1950s to decertify federally recognized tribes, Indigenous peoples have begun to experience significant success in reasserting their sovereignty as self-governing bodies with independent powers over their common lands and its resources. For the first time, tribal governments can exercise sovereign rights promised in 19th Century treaties with the U.S. government that commanded tribes to relinquish most landscapes they had occupied for millennia.⁶⁸ Tribes have used their newly found sovereign powers to institute a commons-based cooperative form of economic activity that leads to the sustainable use of common pool resources. Most amazing of all, tribes have accomplished this despite having to address an array of difficult social and economic problems left in the historical wake of their economic and social oppression by the U.S. government bent on their disappearance as independent cultural and economic entities.

On the face of it, the Indigenous experience looks to be socially unique because tribes are sovereign entities with control over specific common pool resources. In the modern capitalist economy, shareholder corporations either hold private property rights to common pool resources (i.e., agricultural lands or mining sites that are, or once were, habitats for native plants or animals) or possess rights to freely utilize such resources as inputs required for their productive activity (i.e., waterways or the atmosphere for disposal of waste solid or gaseous materials). Such corporations are potentially subject to governmental regulations restricting the use of common pools in the public interest, but those same corporations by virtue of their wealth and power often possess the political means to weaken or forestall such regulations. In other words, corporations stand between the public and their sovereign interest in nature’s riches.

Nonetheless, in addition to Indigenous tribes, other forms of cooperative economic organization dependent on common pool resources may well exist in the larger economy. An obvious sector of the economy to consider is agriculture because of its heavy dependence on nature’s resources and its long history of cooperative organization by individual farm owner-producers.

determination on such issues through discussion leading to a consensus position (Graeber & Wengrow, 2021, pp. 320-321, 353-354, 471, 481-492). Such an approach has often conflicted with the actual functioning of tribal bureaucracies overseen by tribally elected representatives who sometimes engage in self-dealing. Such bureaucracies are often a legacy of past BIA administrative practices, and the imposition of constitutions required by federal legislation (Cornell & Kalt, 2000). For a fascinating discussion of how the Menomonee historically overcame self-dealing problems and arrived at a consensus on sustainable forest management practices, see (Davis, 2000, pp. 89-100). Similarly, the Ogalala Sioux passed an ordinance in 2013 approving the introduction of 1,000 free-range bison on the South Unit of the Badlands National Park despite a history of self-dealing in favor of ranchers who opposed such introductions. Survey research on tribal attitudes found that most tribal members supported bison introductions, a position that finally won out after years of successful rancher opposition. See (Egeli, 2019; Sherman, Van Lanen, & Sherman, 2010).

⁶⁸For a comprehensive historical account of this struggle for sovereignty, see (Wilkinson, 2005).

The big difference between Indigenous tribes and conventional agriculture is that farmsteads are individually owned, and tribal lands are collectively owned and controlled. Also, membership in agricultural cooperatives is voluntary as opposed to being kinship determined. Despite farmland being privately owned, farms draw on common pools in terms watershed resources, air quality, soil conservation, and wildlife and native plant populations. While the agriculture sector historically lacks a positive track record for protecting nature’s resources, the rising trend towards organic production may tell a different story. The historical emergence of Organic Valley co-op offers an example of organic commons-based cooperative production worth considering in speculations about future directions for the larger economy.

The Organic Valley cooperative, with its small-scale organic farmer membership, was created amidst a national farm crisis that hit the U.S. in the mid-1980s. The inflationary bulge of the 1970s drove up farm prices and fostered a substantial increase in the cultivation of corn and other grain crops fueled in part by rising farm debt. Driven by supply expansions and reductions in export demand for grain crops from an embargo against grain sales to Russia over its invasion of Afghanistan, crop prices collapsed at the same time as interest rates on loans were being driven up to as much as 21 percent by actions of the Federal Reserve to fight inflation. The result was declining farmland prices and rising farm bankruptcies and foreclosures. The advice of the day to farmers was to “get out or get big” and the trend was to larger farms, increased mechanization, and greater applications of fertilizers, pesticides, and herbicides to increase crop productivity.⁶⁹ In the hills and hollows of Wisconsin’s “Driftless Area”, small scale farming was the rule and getting big was rendered impracticable by a beautiful but undulating landscape. In the 1960s, “back to the landers”⁷⁰ and Amish were attracted to the area by relatively inexpensive land costs and avoided chemically based agriculture practices as a matter of philosophy or cultural commitment. Their neighbors were often small-scale traditional farmers, many of whom raised beef cattle or milked cows. Small holders in the area often grew tobacco on the side and belonged to a cooperative that pooled and dried their harvests which were sold at government established support prices. The farm crisis fostered political activism both locally and nationally aimed at increasing price supports in the 1985 Farm Bill, but the Reagan administration did exactly the opposite.

With this national political failure, activists turned to local measures and focused instead on more immediate possibilities for boosting farm incomes. The one positive trend on the local agricultural horizon at the time was an emerging demand for organic foods in nearby urban centers such as Madison, Minneapolis, and Chicago for which growing numbers of consumers were willing to pay premium prices. In the past, it had been the function of traditional agricultural co-ops to pool member production to gain bargaining power relative to processors, wholesalers, and retailers. However, because many co-ops evolved historically to focus on maximizing their own profits and not on increasing member’s farm income, dissatisfaction among farmer-members set in. Discussions and interactions among regional farmers in and around Viroqua and LaFarge, Wisconsin led to the formation of the Coulee Region Organic Produce Pool (CROPP) for marketing organically grown crops in 1988 by 60 growers. A dairy pool with 9

⁶⁹(CROPP Cooperative, 2013, pp. 10-44; Yifat, 2016, pp. 91-105).

⁷⁰Many were former college students from regional campuses where they were part of the emerging environmental movement in the 1960s and early 1970s (Yifat, 2016, pp. 93-97).

producers was soon added, and CROPP selected “Organic Valley” as the brand name for its products and the commonly used name for the cooperative.

The path followed by Organic Valley differed from conventional agricultural cooperatives by focusing on achieving a life-sustaining income for its members. Rather than seeking to maximize cooperative profits, the goal of Organic Valley is to instead to maintain a stable price for raw milk paid to farmer-members that fully covers their unit production costs and provides them with a decent family income.⁷¹ In addition, Organic Valley sets organic production standards for dairy farmers that requires a commitment to organic pasture-based grazing and to the winter use of organically grown hay and feed. While Organic Valley continues in the business of purchasing and marketing member-produced organic vegetables and meats, its focus quickly shifted to purchasing member organic milk to be used in producing an expanding array of popular organic dairy products. Organic Valley in the U.S. includes approximately 1,600 family farm members on 440,000 acres, and by 2019 its total international sales reached \$1.1 billion.⁷²

The environmental virtues of land used for pasture-based versus confinement dairy are considerable.⁷³ Rotationally based grazed pastures fulfill some of the key ecological functions originally performed by native prairies on the Great Plains much of which was replaced by Euro-American row crop agriculture. These functions include building up a rich topsoil over time that sequesters atmospheric carbon, absorbing and slowly releasing filtered rainwater to local waterways, preventing soil erosion, and providing habitat for threatened grassland bird species. Chemically based row crop agriculture, on which confinement dairy is founded, has resulted in significant losses of topsoil to wind and water, the polluting of both local waterways and distant water bodies such as the Gulf of Mexico with excess nutrients, the poisoning of local well water, the loss of pollinator populations to pesticides, increased greenhouse gas emissions from the production of fertilizers, and the loss of habitat for native plant and animal species. Privately owned, pasture based dairy farms consequently serve important common pool functions in their mitigation of such environmental problems. Organic pasture-based dairy farmers consequently serve two purposes: (1) to produce a marketable product from which they earn an income, and (2) to serve as stewards for critical common pool functions of the land they own. To facilitate farmers in achieving these purposes, Organic Valley serves two supporting functions: (1) to facilitate the income earning capacities of their members; and (2) to establish the organic production standards followed by their member farmers that help preserve and protect the natural environment. Internally, Organic Valley management is responsible for their actions to the membership through democratic and consensus-based decision-making processes.⁷⁴

⁷¹Rather than allow the price of milk to fluctuate and bring the quantities supplied and demanded into balance as is the norm in competitive markets, Organic Valley sought to maintain a relatively stable pay price for milk by matching demand to supply using a variety of marketing and distribution strategies. At one-point, drastic measures had to be undertaken to deal with oversupply. During this period, careful negotiations by managers with member-farmers were undertaken to reach a painful consensus on the final solution—a temporary reduction in the farm gate pay price (Yifat, 2016, pp. 132-136). This instance illustrates the commitment by the co-op’s management to engage in consensus decision-making around important organizational issues (CROPP Cooperative, 2013, pp. 88-89).

⁷²(Organic Valley, 2020, 2025).

⁷³Confinement dairy refers to housing milked livestock in barns or sheds and feeding them on grains, hay, and alfalfa. Under pasture-based dairy milk cows get the bulk of their nutrition from grazed grasses. (R. D. Jackson & Gratton, 2026; Undersander, Temple, Bartlett, Sample, & Paine, 2020).

⁷⁴(CROPP Cooperative, 2013, pp. 88-89).

Consequently, Organic Valley and its membership constitute an example of commons-based cooperative production.

4. Conclusion

Briefly put, what the Indigenous tribal experiences establish in the three case studies is the possibility of implementing a cooperative economic logic within the context of a predominantly capitalist economic reality. Tribes have undertaken to improve the physical condition of their common pool resources while at the same time advancing the material well-being of their members. The essential conditions required for this was the regaining of tribal control over a common pool resource and a collective member commitment to the well-being of that resource not only for consumption purposes, but as something to be valued for its own sake. The lesson to be taken away from these experiences is that solving the world’s environmental problems can be facilitated through shifting to cooperative forms of production where members of economic institutions not only earn a living but also participate in cooperative decisions about environmental practices.

To do this requires that common pool resources come into the hands of cooperative collections of persons committed to the well-being of nature’s riches for their own sake as well as for the human benefits they deliver. While the circumstances of Indigenous tribes may appear unique in terms of creating economic institutions based on commons-based cooperative principles, the success of Organic Valley suggests that such principles can be applied in an entirely different social and cultural arena. The one commonality between the Indigenous tribal and Organic Valley experiences is that both originated in grassroots social activism, the former in response to attacks on tribal sovereignty in the 1950s and the latter in reaction to a national farm crisis in the 1980s. While the economic and social advantages of producer cooperatives are substantial, in the U.S. and elsewhere they nonetheless constitute a relatively small share of the total economy. The single most compelling explanation for this is the inability of capitalist entrepreneurs who organize new businesses to fully capture the financial rewards of such creations if they adopted a cooperative instead of a capitalist format since doing so would mean an equal sharing by all employees of surplus income above the costs of production and the absence of a special reward for entrepreneurship.⁷⁵ As shown here, this phenomenon nonetheless doesn’t rule out the formation of cooperatives by groups of like-minded social activists. In his history of capitalism, Sven Beckert argues that it originated centuries ago as small islands in a subsistence sea speckled with warrior-based empires and slowly rose over centuries to its current dominance of the global economy. In his final chapter, Beckert speculates that “Perhaps capitalism will end in ways that parallel its emergence. New noncapitalist islands will arise and eventually connect to each other and expand to form a different kind of society.”⁷⁶ The kinds of commons-based cooperatives recounted here may well play a formative role in such a process.

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