

CARBON OFFSET AS RESTORATIVE SOVEREIGNTY

THE YUROK TRIBE'S GROUNDBREAKING
APPROACH TO CLIMATE CONSERVATION

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Introduction

Nestled along the Klamath-Trinity River, which carves its path from the Pacific Ocean deep into the redwood forest, the Yurok Tribe of Northern California cultivates their community of land, water, and people. According to the tribal website, the Yurok—who refer to themselves as the Oohl—are culturally “known as great fishermen, eelers, basket weavers, canoe makers, storytellers, singers, dancers, healers and strong medicine people (Yurok Tribe 2021).” At their core, they carry the responsibility of preserving the river biodiversity and resource sustainability.

Recently, this responsibility has evolved to confront the growing concerns of climate change. In 2019, the Tribe was awarded the Equator Prize by the UN Development Program, created to “recognize outstanding community efforts to reduce poverty through conservation and sustainable use of biodiversity (Equator 2020).” In the past decade, the Tribe has excelled in land management and restoration. They were the first Tribe to fully harness the benefits of the California Carbon Offset program, and with the funds received, the Yurok lead groundbreaking initiatives in land reclamation, watershed restoration, and community development. Through a unique combination of traditional ecological knowledge and western tools and methods, the Yurok are reclaiming their spiritual calling, cultural identity, and sovereign right to heal the land.

In regard to this story, this research asks the following guiding questions: 1) How has the Yurok Tribe utilized the California Carbon Offset program, to enforce sovereignty, bolster their communities, and combat climate change and environmental degradation?; 2) How does the Tribe’s Indigenous approach to sustainability differ from the Western approach, and why is this perspective different?; 3) What does the successful Yurok Carbon Offset program say about the future of climate change policy?

Historical Context

Although the Yurok Tribe claims to have faced non-Indian settlement later than other California tribes, the impact of settler-colonialism continues to threaten the livelihood of the river and its people. After years of persecution, the mid-1800s introduced a new threat; The California gold rush brought an intense flux of settlers to the land who had no intention of respecting the dominion of the Yurok people. State-sponsored genocide and bloodshed ensued between the settlers and the Tribe, resulting in massacres with a staggering death toll of 75% of the Yurok population (About Us 2021). Their preamble reads,

Our social and ecological balance, thousands and thousands of years old, was shattered by the invasion of the non-Indians. We lost three-fourths or more of our people through unprovoked massacres by vigilantes and the intrusion of European diseases (Yurok Tribe 1993).

Yet, this was only the beginning. Throughout the 1900s, the U.S. government enforced a non-stop series of violent removal policies, which separated families, stripped away culture and language through boarding schools, and terminated tribal sovereignty (Ramos 2016). Given this long history, the Yurok Tribe has faced an unimaginable number of attempts to repress their way of life.

When the Yurok Tribe was federally recognized in 1986, their territory was much less than the original 500,000 acres they tended to in 1800. In just 200 years, the land reserved had shrunk to just 5,000 acres. (Blumberg and Johnson 2021). By then, the Klamath River was stripped by industrialization. Four dams erected along the river, which completely disrupted salmon spawning times and routes. Logging companies clear-cut the forest along the river, causing erosion and unnatural sediment buildup. In 2002, the Yurok faced a breaking point, when they watched as thousands of dead salmon littered the shore of the Klamath (Hampson

2019). Despite such devastating history, the Yurok Tribe persists in their prioritization of environmental protection. Today, the Tribe has over 6,300 members, and is leading the way for climate resilient restoration projects along the Klamath River (Blumberg and Johnson 2021).

Research and Examples, Discussion

The California Carbon Offset program, more broadly known as cap-and-trade, launched in 2013 as a market-based solution to reduce greenhouse gas emissions. The state met its initial goal in only three years, and is continuing the program with hopes to achieve carbon-neutrality by 2045 (California Cap and Trade). Like other cap and trade programs in China, South Korea, the European Union, and the broader United States, California's approach was to target the top industries and businesses who are responsible for the majority of greenhouse gas emissions (California Cap and Trade 2021). Conservation is accomplished by putting a cap on the amount of emissions allowed to be released, and establishing credits in a new market for the amount of allowable emissions. The companies can then purchase (or trade) those credits with one another in order to negotiate the need for more emissions.

While the State of California has seen a decrease of about 5.3 percent in greenhouse gas emissions, the cap-and-trade approach remains to be a controversial topic (California Cap and Trade 2021). However, more applicable to this paper, the program also provided a transitional framework for non-industrial entities to participate and benefit. The Carbon Offset program motivates the generation of natural carbon sinks by promoting tree and forest growth and discouraging cutting (Choi-Schagrin 2021). Through the program, landowners who can prove that they are maintaining their land to be climate resilient for the next 100 years, will be granted an offset credit that can be sold on the cap-and-trade market (Choi-Schagrin 2021). Credits are calculated based on the number of each metric tonne of carbon sequestered from the atmosphere.

Polluting industries may purchase this credit so that they meet emissions compliance (Kormann 2018).

Carbon offset offers a hefty financial incentive to sequester carbon. According to a 2021 study by the University College London (UCL) Trove Research Center, the average price for carbon sits at about \$5t/C02e today, however, these prices are expected to increase ten-fold by as soon as 2030. This increase would raise the price of one metric ton of carbon from five dollars, to up to 50 dollars per metric ton as more offset investments occur– and these prices will only continue to go up (Trove Research 2021). The offset program proposes an attractive sum of money to uplift communities in their preservation, rather than the extraction, of the carbon sinks on their land.

When the California Carbon Offset program opened its doors in 2013, the Yurok Tribe saw it as an opportunity to pay off a really important loan. In 2011, the Tribe decided to reclaim two of their stolen watersheds by purchasing land from a timber company (Blumberg and Johnson 2021). The Tribe borrowed money and purchased 37,000 acres, encompassing the Blue Creek watershed and the Pecwan watershed– both areas of important spiritual ceremonies, and home to a variety of cultural keystone species. The Tribe applied for the program, and began one of the first ever carbon-offset projects in the United States (Kormann 2018).

Soon, the tribe quickly paid off their loan, without having to subject their new land to logging and commercial fishing. Rather, they were able to bring it new life, and preserve their old-growth forests (Blumberg and Johnson 2021). In an interview with Frankie Myers, the Vice Chairman of the Yurok Tribe, Myers assures that carbon sequestering is, “a full time job” (Blumberg and Johnson 2021). Groups of the Tribe simply go out into the forest, measure the trees, report the data back to the California Air Resources Board, and obtain the offset credits to

be sold. Myers claims that now, they advanced to the point where they choose whom to sell their credits to, often opting out of any purchases from high-polluting industries (Blumberg and Johnson 2021). This idea is a common criticism of cap-and-trade— many claim that the policy is too easy on the high polluters who can afford to buy more credits (Roberts 2018). Through their autonomous ability to negotiate credits, the Yurok Tribe has practically circumnavigated this criticism. By simply preventing trees from destruction, the Yurok people were able to reclaim a piece of their physical sovereignty. However, they didn't stop there. The Tribe was motivated to continue to restore the forest to its original glory, and bolster its climate resiliency.

Since its launch in 2014, the program has generated millions of dollars in carbon credits (Hampson 2019), and the offset program is now the Tribe's primary source of income (Kormann), which Myers says has been used to buy back nearly a hundred thousand acres of their original half-a-million acres of ancestral land (Blumberg and Johnson 2021). The Yurok Tribe states that one credit is valued at about \$12 (Kormann 2018). Myers affirms that the extra funding that comes from the offset goes towards a variety of other important projects, like youth development, housing, infrastructure, governance, and investments in local businesses (Blumberg and Johnson 2021). Most importantly, the Yurok Tribe is putting this money directly back into the earth through watershed restoration projects that are reimagining the Tribe's relationship with the river. What's more, they are planting more trees, managing controlled fires, addressing erosion issues, and assessing water quality (Hampson 2019). By utilizing the offset program, the Yurok have found a way to enhance their role as stewards of the Klamath, and in doing so, they are affirming their sovereignty and ancestral purpose.

Their newly funded projects function with extreme intentionality, and often expose the outer sustainability movements to valuable insight of passed down ancestral knowledge. Some

carbon-offset forests purchased by large companies have burned up in the California Wildfires (Choi-Schagrin 2021). However, the forests of the Yurok remain intact due to their perceptive methods of adapting their land management to battle climate change and wildfires. Pulling from ancestral knowledge, the Yurok use prescribed burns. This method might seem counterintuitive to the observer, however, by burning fuel loads the tribe is reducing the risk of wildfires. These burns serve as an insurance plan for the carbon offset program, making sure that their carbon sinks aren't completely destroyed in an out-of-control fire (Kormann 2018). The benefits of these low-intensity burns are twofold– the smoke from the fires also shades the river, substantially lowering the temperature of the water, which is extremely important for the survival of their most prominent, protected cultural keystone species– the endangered Pacific Salmon (Blumberg and Johnson 2021).

The Yurok Tribe's cultural identity is woven throughout each living thing that prospers in the Klamath-Trinity, and this ideology sets the foundation for the tribe's current endeavors. Further, the survival of the Pacific Salmon is extremely important to the health of the river, and the livelihoods of the Yurok people. Frankie Myers tells a story of the river spirit, who showed a member of the Yurok Tribe a vision of the salmon slowly going away. In the story, the spirit says,

I showed you this so that you can understand that if there ever comes a time when there's no more salmon in the river, there'll be no more need for Yurok people here on Earth (Blumberg and Johnson 2021).

Through these stories, it is clear that the Yurok view the salmon with great importance, and see their existence in tandem with the livelihood of the salmon. Their perspective of the salmon is much more than a resource, but rather, an integral element to the cultural structure that makes up their community values.

The Yurok have also traditionally relied on the salmon as a food source and cultural keystone species (Karolyi 2021). However, due to a dramatic change in the land surrounding the river, there has been a sharp decline in salmon populations. The salmon is now considered to be endangered under the Endangered Species Act (Karolyi 2021). Historically, the Klamath River meandered naturally, giving the salmon a slow, rich environment to migrate and spawn offspring. This process is known as pooling, and without it, the uninterrupted water flow creates a warmer water temperature, discouraging salmon spawning (Hampson 2019). Owing to the construction of blockade dams, rise in river temperature, and the forced channelization of the river, the environment for salmon to migrate and reproduce is dwindling (Karolyi 2021). Enhanced conditions from climate change also have proven to alter the conditions of the river, with warmer temperatures offering more opportunities for toxic algal blooms, and increased flooding leading to erosion (Hampson 2019).

With the extra funding provided by the offset program, the Tribe has dedicated much of their allocation to successful restoration of the river and the salvation of the Pacific Salmon. Now, the Yurok Tribe has a hefty environmental program in addition to the Carbon Offset, including a water division, pollution prevention division, community & ecosystems division, and a center for environmental regulations, permits, reporting, and complaints (Yurok Tribe 2021). Their methods have been so successful that they are now serving as consultants for projects all across California. In a 2019 project, the River Partners of the Sacramento River asked the Tribe to consult on a plan to reconstruct an old channel along the Sacramento River, in order to bring back the Chinook Salmon. Frankie Myers says,

A lot of the work that we got recognized from, really was the hands-on approach that the Yurok took. We really dug in and, you know, put your hands in the dirt and moved earth to-back to how it used to be traditionally (Blumberg and Johnson 2021).

Within days after the first pooling channels were created, populations of Chinook had returned to the cool waters of the Sacramento (Karolyi 2021). Additionally, the Tribe is heavily involved in external restoration projects, such as the Klamath River Renewal Corporation, which is a cooperative nonprofit tasked with the removal of the four hydroelectric dams on the Klamath river (Our Story 2021).

The livelihood of the Yurok people is woven throughout their relationship with the water, the land, and the creatures that inhabit it (Hampson 2019). Dr. Seafha C. Ramos, a member of the Yurok Tribe, completed her doctoral dissertation on the philosophical approach of the Yurok people. She finds that the Tribe originates much of their purpose and identity in the process of “maintaining balance in the system by healing and renewing the earth (Ramos 2016).” Their place in nature is not founded on the sole concept of stewardship, but rather, a reciprocal relationship with the forest and their integral place in it as beneficiaries and responsible tenders.

It is through this perspective that the Yurok Tribe believes they have been so successful. In indigenous climate studies, the common perspective is that for Indigenous peoples, climate change is less of a trend to expect in the future, but rather the continuation of colonial practices (Whyte 2017). Centuries' long wisdom gained from constantly having to respond to the trauma of forced colonial change, has better prepared Indigenous folks to play an important role in further climate mitigation. Frankie Myers says that the Yurok believe that the world was “created out of balance” and that it is the “responsibility of the humans to bring balance (Blumberg and Johnson 2021).” With this guiding belief, the Tribe has had to evolve constantly to fulfill the balance they are committed to, both through colonization and changes to the climate. They are like an ancient library of almanacs, full of transitional knowledge. Now, it is no surprise that the Yurok Tribe adapts through the combination of old ideas with new technology. By using

prescribed burns and sustainable logging practices, the Tribe is adapting their methods to satisfy this balance in a world of changing circumstances. They are actively reclaiming the use of heavy machinery and excavators, which ironically were originally used to destroy the river channels in their restoration (Blumberg and Johnson 2021). Controlled burns and logging create important prairie lands in between the forests that attract wildlife and enhance biodiversity. To complete the cycle, increased biodiversity helps the ecosystem become more resistant to natural disasters, because each element in the ecosystem supports one another through drastic changes (Kormann 2018). With every action of conservation, the Yurok Tribe is seeking this balance and using a variety of tools they have at their disposal.

Findings and Conclusions

Dr. Kyle Powys Whyte, leading scholar in Indigenous environmental justice, found in his research that Indigenous climate justice needs to incorporate systems of responsibilities and tendencies of collective continuance. Dr. Whyte defines systems of responsibility as “the actual schemes of roles and relationships that serve as the background against which particular responsibilities stand out as meaningful and binding (Whyte 2013).” In the case of the Yurok People, this issue could be identified as the cultural expectations and self identification with the Tribe’s spiritual and moral responsibility and place in the health of the Klamath River watersheds and forests. Dr. Whyte defines collective continuance as “a community’s capacity to be adaptive in ways sufficient for the livelihoods of its members to flourish into the future (Whyte 2013).” For the Yurok Tribe, their revitalization of the watershed through accessibility and adaptation to a changing situation is an expression of collective continuance, and is a potential explanation for their resiliency.

In conclusion, the Yurok tribe has utilized the Carbon Offset program to enable sustainable growth for the Tribe and the future of the planet. Through their core belief system of reciprocity and natural stewardship, the work of the Yurok Tribe sets a practical precedent for Dr. Whyte's theory. Now, the projects serve as a call to action for further Indigenous-led restoration projects all over the country, funded by cap and trade. Currently, seven other Indigenous groups are using the Carbon Offset program to generate income (Kormann 2018).

The Yurok Tribe's efforts show that when they return the sovereign right to utilize their own resources, incredible strides are made in the realm of sustainability, both environmental and economic. The cap-and-trade program has enabled the Tribe to base reliable, appreciable income on the same important work that forms the intrinsic basis for their cultural identity— a win-win scenario that demonstrates the power of indigenous-led movements. Furthermore their work shows a deep contrast from the typical Western approach to sustainability, and proves that by decolonizing sustainability, centering work around humans' broader role in the environment, and viewing each step as an opportunity for necessary adaptation, great work can occur for the sustainability of our planet. Finally, the approach of the Yurok suggests sovereignty-oriented climate change policy has the extreme potential to be successful. It offers a solution to the problem of ecosystem restoration, where there is little incentive within the colonial-capitalist structure. Overall, the intentional guidance by the Yurok Tribe is extremely insightful to the impacts of climate change that will soon be difficult to ignore. It provides a solid new framework for restorative projects going forward into a better future.

Further research, which could not be assessed in this essay, might be a broader look into the ways that the Yurok have been able to adapt, as a direct result of the trauma experienced since colonization. For example, how much of the tribe's ancestral knowledge comes from pre-

colonial land management, and how much comes from the learned experiences over centuries of deprivation, genocide, and displacement from colonialism? How have they merged these two wealths of knowledge to benefit future sustainability efforts, and what practices can broader non-Indian restoration projects employ in their projects?

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