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Back to the future: Indigenous relationality, kincentricity and the North American Model of wildlife management

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ABSTRACT

For more than a century, wildlife conservation in the United States has been built on the notion that nonhuman animal populations are resources to be regulated by law and managed efficiently, according to the best available science and in the public trust. This approach, known as the North American Model of Wildlife Management, has come under increasing criticism for excluding diverse viewpoints that have the potential to advance both conservation and environmental justice goals. How might the greater inclusion of Indigenous worldviews and Indigenous Studies concepts, such as *radical relationality* and *kincentricity*, improve western wildlife management? In this paper, we review three case studies of tribal wildlife stewardship programs in the land currently known as California—the Maidu Summit Consortium's beaver restoration project, the Karuk Tribe's elk management program, and the Yurok Tribe's condor recovery effort—that illuminate generative connections among ecological restoration, Indigenous cultural practices, community wellbeing, and environmental justice. Radical relationality and kincentricity offer enormous potential for informing stewardship and recovery efforts that produce more just outcomes for both people and wildlife.

1. Introduction

For more than a century, wildlife conservation in the United States has been built on the utilitarian notion that wild animal populations are public trust resources to be regulated by law, funded through consumptive use, and managed efficiently, according to the best available science. Known as the North American Model of wildlife management (NAM), this approach has been credited with limiting the overexploitation of wildlife by European settler colonialism (Mahoney and Geist, 2019). However, in recent years, the NAM has come under increasing scrutiny regarding its engagements with history and governance, especially with respect to Indigenous people (Peterson and Nelson, 2017; Mahoney and Geist, 2019). Eichler and Baumeister (2018) make the argument that the NAM actively contributes to environmental injustice by upholding settler colonial notions of property, human-animal relations and science while actively eroding Indigenous notions of the same. They go on to argue that the NAM's uncritical acceptance of the public trust doctrine and terra nullius worked together to invisibilize Native peoples while dispossessing them of their lands and turning over those lands to settlers or the state (Eichler and Baumeister, 2018). Additionally, terms like "wildlife resources" imply a relationship between humans and the world in which humans' primary role is as consumer. This orientation runs counter to the relational and kincentric way in which many Indigenous communities view themselves in relation to their world.

Hessami et al. (2021) offer a conceptual re-imagining of the NAM, detailing its potential alignment and integration with Indigenous-led conservation efforts in Canada, and describing a framework they call "Indigenizing the North American Model (I-NAM)." Similarly, Artelle et al. (2021) developed a decolonial model of environmental management to support Indigenous led resurgence and place-based approaches to management. The tenets of that model highlight the connection of stewarding resources to concepts like sovereignty and the stewardship of interconnectedness among humans, species, and their environment. Here we build on the valuable theoretical work developed in both Hessami et al. (2021) and Artelle et al. (2021) by describing work in

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practice in three case studies in California, USA that reveal the challenges and opportunities of weaving Indigenous-led and traditional NAM approaches. State and federal agencies throughout North America have long dismissed approaches like these by denying Indigenous governance, excluding Indigenous leadership, and dismissing Indigenous science (Norgaard, 2019; Vinyeta, 2022). However, Indigenous people have built coalitions to insert themselves into governance and stewardship processes and current projects spearheaded by sovereign Indigenous Nations and, through innovative collaborations, offer illustrative examples of Indigenous led approaches as well as their potential for improving wildlife stewardship within and beyond the NAM. Each case study presented here reflects the importance of these approaches in shifting and expanding wildlife stewardship towards a caretaking ethic that recognizes the agency of wildlife and our collective responsibility to create thriving ecosystems. Indigenous-led wildlife stewardship brings us closer to climate and environmental justice because it expresses an Indigenous futurity beyond avoiding crisis and moves us towards thriving and interwoven social ecological systems. This perspective is a critical expansion of current state-led approaches that rely on the NAM. We conclude that approaches developed based on Indigenous stewardship concepts of *kincentricity* and *radical relationality* offer enormous potential for a broader ecosystem focus that is intentional about healing the land and the relationships to culture that ensure long term caretaking both of Indigenous homelands and critical habitat.

2. Indigenous worldviews: kincentricity & radical relationality

> "We are a part of the land, and the land is us." Brittani Orona, Hupa scholar
>
> *(as quoted in* Reed, 2020*)*

Throughout the United States, there have been immense efforts by Tribes and Indigenous activists to reclaim cultural stewardship of their homelands and the wildlife that live there. Indigenous people across various communities are working towards reinstituting Indigenous stewardship of wildlife in order to bolster the health of ecosystems and, in turn, reclaim ceremonies, traditional foods, language, and material culture (Adlam et al., 2021; Norgaard, 2019; Anderson, 2013). At the same time, Indigenous and allied scholars across disciplines have worked with cultural practitioners to put forward theories and frameworks that meaningfully engage Indigenous knowledge and worldviews in order to advance Indigenous governance, collaboration, and stewardship (e.g., Tuck and Gaztambide-Fernández, 2013, Yazzie and Risling Baldy, 2018). In this paper, we will argue that one way to advance wildlife conservation is by centering Indigenous worldviews like *kincentricity* –which is "a view of humans and nature as part of an extended ecological family that shares ancestry and origins" (Senos et al., 2006, 397). Under this worldview. agency is extended to many parts of a socioecological system, including wildlife that can at times serve as teachers and elders (Bhattacharyya and Slocombe, 2017). R*adical relationality is* a view of relationality that brings together Indigenous feminist framings of kinship to name the ethos of living that results from this worldview (Yazzie and Risling Baldy, 2018). This framework builds on previous frameworks such as Kim TallBear (2017) concept of caretaking which argues that caretaking is an expression of "obligations of human kin with our other kin" and Moreton-Robinson's (2000) assertion that relationality means experiencing the self as a part of others. It also draws from Harsha Walia's ethos of "living well" which asserts that living well requires "interdependency and respect among all living things" (Harsha Walia, 2013, p255). This ethos challenges both capitalist and colonial systems which require a "logic of competition, commodification and domination" (Walia, 2013). Yazzie and Risling Baldy (2018) take into account kinship and the political realities in which kinship takes place to work towards collective and intersectional political organizing predicated on the values and ethos brought forward by these Indigenous feminists. To be in a relationship, as Kyle Whyte, (2018, 131) writes, means to be transformed into a "relative with reciprocal obligations." Both 'kincentricity' and 'radical relationality' have immense implications for improving current practices as many of the ways that Indigenous people have actualized these worldviews have bolstered our understanding around socioecological systems, uncertainty and rapid change (Bhattacharyya and Slocombe, 2017).

Taken together, kincentricity and radical relationality are important theoretical frameworks and practices that disrupt settler colonial assumptions and structures. Settler colonialism is characterized by a constant, daily assertion of sovereignty of the settlers over the land, water, air (i.e., resources) of the place they have colonized (Tuck and Yang, 2012). An important aspect of settler colonialism is its entrenchment in our society as a structure rather than as a single event (Wolfe, 2006). Settler colonialism works to undermine Indigenous worldviews to dislocate Indigenous peoples from their relations – including the land, water, flora, fauna, and each other – which further serves to isolate and oppress both human and nonhuman populations. This disconnection ruptures our collective relationships in a way that oppresses species and subjugates certain groups of people to others. Moreover, settler colonialism births a settler ecology, an ecological expression of domination, through which settlers completely reshape ecosystems to meet their needs and worldviews (Whyte, 2018). The NAM is one such worldview and has embraced settler colonialism through its basis in concepts like terra nullius and the public trust doctrine, both policies that explicitly omit the presence of Native people and deny Indigenous land tenure all while also constructing an American identity (Eichler and Baumeister, 2018). In doing so the NAM is complicit in replacement which is a key mechanism of settler colonialism (Tuck and Gaztambide-Fernández, 2013). The repeated and systematic disruption of these kinships forms harmful, positive feedback loops of ecological systems that continually and qualitatively undermines our responsibilities to one another, what Whyte (2018) refers to as "insidious loops," and feeds and accelerates environmental injustices, including those related to wildlife. For example, disrupting Indigenous salmon fisheries on the Klamath river in California first by overfishing, then by installing hydroelectric dams has led to additional injustices and environmental damage such as a lack of food sovereignty, fish kills, and environmental grief (Norgaard, 2019). In repairing these relationships, Indigenous frameworks as presented here provide the opportunity to reimagine how we collectively choose to relate to non-human beings, and in particular, how we steward wildlife.

Framing relationships to land, water, and wildlife as kincentric and radically relational helps orient stewardship away from a settler colonial, binary view of these entities as either extractable or conserved resources. Instead, this perspective points towards a relational worldview that centers respect and responsibility to place. Indigenous ethics of care and responsibility have shaped landscapes by driving environmental governance and practice for thousands of years before European contact (Marks-Block and Tripp 2021; Lee et al., 2019). In practice, a shift away from settler notions of nature requires accountability, trust and consent (Whyte, 2018, 2020), which are necessary for meaningful relationships to take shape. Kincentricity is the centering of these kin relationships, from which systems, practices, and policies radiate.

In applying kincentric relations to policy, Reed et al. (2020) argue that Indigenous worldviews such as radical relationality can help reimagine what decolonized policy looks like. Radical relationality is a complementary theoretical framework that helps us to understand our relations beyond kin to one of "interdependency and respect among all living things" (Yazzie and Risling Baldy, 2018, 4). More specifically, Yazzie and Risling Baldy argue that radical relationality takes into account kinship and the political realities in which this kinship takes place to work towards collective and intersectional political organizing predicated on the values of "interdependency, reciprocity, equality, and responsibility" (Yazzie and Risling Baldy, 2018, 4).

In this paper, we engage kincintricity and radical relationality as they relate to wildlife management recovery plans, practices, and

policies for three important cultural and ecological species in Northern California - beaver, elk, and condor. We explore how Indigenous worldviews create innovative restoration partnerships that hold culture and environmental justice at the center.

3. The cases: sites & species

As scholars continue to develop kincentricity and radical relationality in the academic literature, these concepts are also being tested on the ground. As a group of environmental justice scholars who have had the opportunity to learn and work with California Native practitioners, we knew that it was important to also uplift and review the innovative work done by communities throughout the state. We also humbly recognize that there are many more examples of California Native people innovating in wildlife stewardship. These applied case studies offer important additional insights into how concepts like kincentricity and radical relationality are already being operationalized by Indigenous practitioners, what successes and challenges they have brought to light through their application, and along what axes these approaches might blend with or upset the North American Model of Wildlife Management (NAM). We examined three case studies of tribal wildlife stewardship programs in California – the Maidu Summit Consortium's beaver restoration project, the Karuk Tribe's elk management program, and the Yurok Tribe's condor recovery effort – that illuminate generative connections among ecological restoration, Indigenous cultural practices, community wellbeing, and environmental justice.

A kincentric and radically relational perspective influenced both the selection and analysis of the case studies we discuss below. Throughout these analyses, we work to "see with two eyes" (Reid et al., 2021) to identify the opportunities and obstacles that a kincentric and radically relational approach might bring to the NAM. Building off Mi'kmaw elder Dr. Albert Marshall's definition of two eyed seeing, which guides us to see through both the 'eyes' of Indigenous knowledge and other forms of knowledge, we seek to see through the eyes of these species and analyse three cases that constitute collaborations among agencies, western scientists, and California Tribes (Bartlett et al., 2012). Seeing through the eyes of each of the three species – beaver, elk, and condor – directed our attention to a unique and important consideration for integrating kincentric and radically relational approaches to contemporary wildlife management following the NAM. Through the beaver's eyes, near to the ground and attentive to work of building and maintaining dams that regulate whole ecosystems, we see the importance of logistical concerns of knitting Indigenous and western viewpoints, which we detail below with the case of the Maidu Summit Consortium. Through the elk's eyes, higher from the ground and attuned to interactions with other elk and with other species, we consider how communities and governments interact, as well as the entanglement of food, wildlife, and management. Finally, through the condor's eyes, which see a broader landscape during flight, we think more expansively about the permeation of these concepts beyond wildlife management and into broader culture.

Each of these species has suffered from relationships ruptured by the violence of settler colonialism, with its ideologies of domination, containment, racial hierarchies, and the assumption of primacy of humans *over* all others – trees, water, wildlife, ecosystems, and each other. Through these case studies we offer insights for wildlife stewardship and recovery rooted in a worldview of radical relationality that troubles the impacts of dominant forms of wildlife management, like the NAM, that have been grounded in a worldview of domination and containment. These case studies exemplify a 'third space of sovereignty' wherein communities can recognize and condemn the settler ideologies behind state-led approaches, while also working within these same systems to grow and expand to include Indigenous values and practices (Bruyneel, 2007). A combination of NAM-led and Indigenous-led governance systems is necessary in today's jurisdictional and political context. While many of these projects are "decolonial experiments" (Neale et al., 2019) aiming to find ways to fully reinstate Indigenous-led approaches, they also reveal important benefits of a shared two-eyed seeing approach to understanding best practices in wildlife stewardship. These case studies provide insights for alternative approaches to living with and stewarding these species as relatives to whom we have a responsibility. We present them in the hopes of beginning to repair the relationships violently torn asunder by settler colonialism.

3.1. The beaver

The beaver's (*Castor canadensis*) ground-level window into the world provides us an opportunity to see how past management frameworks inform contemporary approaches and how Indigenous approaches to wildlife stewardship rooted in kincentricity and radical relationality have begun to re-emerge. The riparian lands the beaver calls home are all but gone in much of Northern California and the beaver was nearly extirpated by humans desiring their fur (Maidu Stewardship Proposal 2010). Because of the immense historical and contemporary benefits beavers provide to landscapes across California as ecosystem engineers (Brazier et al., 2021), there is increasing interest among diverse stakeholders–including ranchers, conservationists, and Indigenous communities– in advancing beaver stewardship (Lundquist and Dolman, 2018). However, the management of beaver is within the California Department of Fish and Wildlife's (CDFW) purview. Although research evidences the immense benefits that beavers provide to ecosystems, there are no policies that promote beaver stewardship or restoration by the CDFW (Lundquist and Dolman, 2018). Though recent scholarship has shown beaver is native to California (Lanman and James, 2012), based in part on work with Indigenous communities (Long and Lake, 2018), the beaver is currently classified as a "detrimental species" because it might pose a threat to other native species (Lundquist and Dolman, 2018). These policy delineations, which typically follow the NAM, create barriers to preserving and restoring beaver in California. For example, only CDFW staff can translocate beavers to try to restore populations in their historic ranges across the state. The state also prioritizes a landowner's right to depredation which allows for the killing of beavers perceived to be nuisance animals. These policies reinforce a wildlife management model rooted in settler colonialism that ruptures relationships with beaver and the meadowlands the beaver calls home. The current model restricts stewardship efforts since CDFW is the only entity legally allowed to relocate live beavers, making it necessary for sovereign tribes to work with CDFW, a state agency, to restore beaver to their lands (Lundquist and Dolman, 2018).

To restore the beaver, and its home, the landscape, Indigenous communities are implementing interventions that express Indigenous worldviews of kincentricity and radical relationality. One example is the ongoing efforts of the Maidu Summit Consortium (MSC), a non-profit consortium of nine Mountain Maidu groups working to preserve and protect Mountain Maidu homeland (Cunningham, 2007; Spagna, 2015). The MSC have re-acquired some of their ancestral lands, Tásman Koyóm, in Humbug Valley, in Northern California, in which lies Big Meadow, the center of the Maidu Mountain people's home, where beaver is still mostly absent. The MSC's mission is.

> "To preserve, protect, and promote the Mountain Maidu Homeland with a united voice. The MSC envisions re-acquired ancestral lands as a vast and unique park system dedicated to the purposes of education, healing, protection, and ecosystem management based upon the Maidu cultural and philosophic perspectives, as expressed through traditional ecology" (MSC 2021).

These efforts can help repair, restore, and heal the meadowlands of the MSC's ancestral lands (Maidu Stewardship Proposal, 2010).

Applying Indigenous worldviews to riparian ecology, the MSC collaborates with multiple partners, including CDFW and the Sierra Fund, to re-establish Tribal stewardship of beaver and to transform the meadowlands (CDFW 2021; MSC 2021). One such project is to build up habitat for beavers, through beaver dam analogue structures (BDAs), to

prepare for and encourage the return of beaver to Tásman Koyóm (MSC Water Board Notice 2020). This project to repair and restore beavers to ancestral lands follows the guiding principles of the Stewardship Council Beneficial Preservation Values, which include education of traditional ecology and social justice perspectives, healing, recreation, and stewardship (Maidu stewardship proposal, 2010). Re-establishing the beaver, a keystone cultural and ecological species–meaning that it has great significance for both cultural identity and the ecosystem and without which the meadowland habitat would be vastly different (e.g., Garibaldi and Turner, 2004; Hossack et al., 2015; Brazier et al., 2021) - would, in the words of the MSC, be, "yet another step in the process of restoring Humbug Valley to what it was at the time of European contact in the valley" (Maidu Stewardship Proposal, 2010, 22).

The return of the beaver is just one example of how the MSC engages Indigenous worldviews to promote and preserve the Mountain Maidu ancestral lands. Regarding the importance of the opportunity to steward these lands accordingly, the MSC writes:

> "Through years of intimate interaction with and dependence upon the resources of this land, the Maidu have come to think of resources such as rocks, waters, plants, and animals as types of peoples who must be treated with respect and great consideration or else are capable of withholding vital energies, and even of leaving an area bereft of their presence and ecosystem role…These lands represent a unique opportunity for the Maidu to interact with the land according to their freely exercised traditional landscape perspective. The chance to dedicate sizable portions of land to the demonstration of a landscape management methodology and philosophy that was created within that same landscape over untold amounts of time is extremely rare and will make these lands unique in the northern Sierra Nevada mountains." (Cunningham, 2007, 12, 28).

As is evident in the above passage, worldviews of kincentricity and radical relationality, with their deep sense of responsibility to landscapes and other species, foster interventions to regenerate the meadowlands of Big Meadow, advance subterranean recharge, re-habitat beaver, and repair the ancestral lands of the Maidu Mountain people. As communities advocate for a return of their homelands, they are demonstrating the relational responsibility to also return species removed by the violence of colonialism. This case study demonstrates the challenges in ensuring that Indigenous voices and oral history are heard at the decision-making table. Knitting together the logistical challenges from advocacy, to science, to land tenure can be a daunting, and tedious task, however, it is essential work to be done within the current political landscape. The Maidu Summit Consortium's success is one example of how Indigenous worldviews inform a stewardship strategy to repair the landscape (Long and Lake, 2018), restore a keystone species, and work to heal from the long and devastating legacies of settler colonialism.

3.2. *The Elk: íshyu'ᵘx*

Through the elk's eyes, we can better understand how species relationships to broader ecological patterns and processes benefit from a kincentric, radically relational approach to wildlife stewardship. California's four subspecies of elk were present throughout much of the state prior to European colonization. Contrary to narratives that stubbornly persist today, Native communities in California intensively managed the state's elk populations, primarily through the use of fire (Kimmerer and Lake, 2001). However, research continues to substantiate the extent and intricacy of pre-colonial fire management practices, which shaped the composition and patterns of forested ecosystems (Martinez, 2003). In Northern California, the Karuk tribe managed fire to enhance more than three quarters of their food and cultural resources, and these practices are drivers of the rich biological diversity of the Klamath river region (Karuk Tribe, 2019). Elk, or íshyu'ᵘx, are particularly sensitive to forest composition and patterns, and are also an important food source for the Karuk people, meaning that food access, food sovereignty, and fire management are reciprocally bound with elk management.

European settler colonists promoted fire suppression as a management goal and, as a result, fire rapidly disappeared from the Klamath River region and from much of California (Kimmerer and Lake, 2001; Taylor and Skinner 1998; Ryan et al., 2013). Fire suppression practices helped enable rapid colonization efforts, including drastic alterations of landscapes in which species like elk had previously thrived (Norgaard, 2019). Expanding European settlements fragmented elk populations, and hunting and conflicts with new agricultural practices, especially intensive monocrop agriculture and livestock production, further decimated the elk and imperilled the food security of the Karuk people (Klamath National Forest, 2007).

Over the past 50 years, conservation groups, hunting groups, and state and federal agencies have sought to reintroduce and restore elk populations, including in the Klamath River region (CDFW, 2018). Only recently, however, have these restoration efforts acknowledged and considered the long-standing interest of the Karuk people in elk stewardship. In particular, recent collaborations between CDFW and the Karuk tribe have begun combining traditional fire management with western ecological science to explore how these practices might promote elk recovery even in a landscape heavily altered by a history of colonization and fire suppression (Karuk Tribe, 2019).

This collaborative approach between the Karuk Tribe and CDFW has begun to weave together Indigenous-led and NAM approaches to living with elk. However, marked differences still remain in the worldviews of the Karuk people and state managers regarding both elk and fire. The state's elk management plan emphasizes the *uses* of wildlife – whether aesthetic or economic – and recommends management approaches in which scientific data and top-down action dictate outcomes (CDFW, 2018). By contrast, the Karuk Climate Adaptation Plan takes up a kincentric approach, emphasizing human responsibility and relationality to the more-than-human world (Karuk Tribe, 2019). As Kimmerer and Lake (2001, 38) write, "*The ethic of reciprocal responsibility underlies the Indigenous use of fire, an adaptive symbiosis in which humans and nonhumans both benefit from burning.*"

Recently, a sobering series of megafires in California has further emphasized the importance of reconsidering the human relationship with fire and with the non-human world more broadly. In fact, these megafires are caused, in part, by the suppression and dismissal of Indigenous cultural burning practices, which served many practical purposes including the management of fuel and the caretaking of culturally important plant and animal species (Anderson, 2013; Marks-Block et al., 2021). However, in addition to these practical purposes cultural fire practitioners have also expressed that "burning is a spiritual and ethical obligation to care for the land" and that "fire's numerous ecological benefits were integral for maintaining a relationship with other species based on reciprocity (Adlam et al., 2021, 580). Statements like these point to the importance of considering a relational worldview. Re-establishing relational practices and worldviews on Karuk homelands is a powerful case study in demonstrating the downstream effects on forest and wildlife restoration, and meeting collaborative goals put forward by the Karuk and by CDFW. This case study also demonstrates how Indigenous led stewardship centers the responsibility of maintaining landscapes abundant for both human and non-human communities. It emphasizes the opportunity for relational approaches to address questions of justice, including food and cultural sovereignty, which western managerial-dominant relations with the environment often mask and preclude. As our governance system is strained by climate change and other environmental injustices, it is imperative to turn to Indigenous leaders as they bring forward holistic strategies that care for entire social and ecological systems. Cultural burning is an important intervention for avoiding crisis, however unlike state-led prescribed burning, cultural burners express a futurity beyond avoiding crisis and therefore bring forward Indigenous futures in which we

retain reciprocal responsibilities to each other and our ecosystems (Long et al., 2021).

3.3. The Condor: *pre-go-neesh*

From the sky, condor helps us understand the reciprocal interactions between culture and land management. Kincentricity and radical relationality are central to the way that Indigenous people conceptualize and steward the environment. Traditional Ecological Knowledge (TEK) has been used to describe the many ways that Indigenous people implement their worldviews to know and care for the places they call home (Kimmerer, 2013). This caretaking is a direct expression of kinship and radical relationality. For example, Yurok people conceptualize TEK as a way of life and a deep responsibility to steward land. This is conceptualized as *hlkelonah ue meygeytohl* ("to take care of the Earth") which is "a system where Yurok people and wildlife collaboratively strive to create and maintain balance of the Earth via physical and spiritual management in tandem" (Ramos, 2019, 86). The vast physical efforts to return condor to Yurok homelands were spurred by the spiritual work of returning ceremonies, songs, and regalia that featured condor (Williams-Claussen, 2020). In 2003, as their inaugural project, the Yurok Tribe's wildlife program began efforts to re-introduce the condor or *Pre-go-neesh* into Yurok Ancestral territory (West et al., 2017). This initiative came in response to the extirpation of *Pre-go-neesh* from Yurok ancestral homelands (Williams-Claussen, 2020). In fact, throughout North America, condors were nearly driven to extinction as a result of poaching, habitat destruction and lead poisoning from the consumption of carrion containing bullets (Herring, Eagles-Smith, and Varland, 2018; West et al., 2017). In 1982, only 22 individuals remained of a species whose range was present throughout much of North America (Walters et al., 2010). Through persistent efforts from multiple state, federal and Tribal agencies and departments, the condor has made a comeback from the brink of extinction. Ceremonies, songs, and regalia are all extensions of Yurok people's relationship with condor, meaning a reintroduction of condor to Yurok homelands was a fulfilment of this reciprocal relationship. The hope of the Yurok program is that future generations of Yurok people will once again grow up around condor and continue reclaiming the ceremonies that were nearly lost with condor's disappearance from Yurok skies (Williams-Claussen, 2020).

The Yurok Tribe decided to take on the immense task of bringing condor back to Yurok homelands because of the cultural significance of the condor (West et al., 2017; Cliburn and Hoffmann, 2021). The condor is seen as a relative and is a central character in world renewal ceremonies which are an integral part of Yurok identity (Williams-Claussen, 2020; Long et al., 2021). Condor is said to have offered his song to the Yurok people and to carry prayers of balance and renewal to the heavens. This song continues to be sung in ceremonies, and condor feathers are a part of ceremonial regalia (Williams-Claussen, 2020). Yurok wildlife biologist Tiana Williams Claussen notes the overlap in condor's history of near extinction and the efforts that were made to remove Indigenous people from the same landscape. She notes that both condor and Yurok communities were seen as less than human, which led to colonial violence that amounted to murder, removal and habitat loss, and a loss of food sovereignty (Williams-Claussen, 2020). This is why when the Yurok Tribal Park Task Force convened to decide the priorities for the wildlife program, *Pre-go-neesh* was one of the top priorities.

Since then, the wildlife program has been preparing for the return of condor. Efforts to steward and grow the condor population require extensive support and monitoring (e.g., D'Elia et al., 2019). From genetic analyses to ensure genetic diversity, to extensive field work to monitor and support birds that have been released, each program requires an immense effort. The Yurok tribe has, with its partners, conducted feasibility studies to check that there is sufficient condor habitat (West et al., 2017; D'Elia et al., 2019). They have also taken a multi-pronged approach to ensuring condors will be safe from environmental toxins. Studies have been conducted to check for organochlorine levels within marine mammal populations and a broad outreach program has worked with local hunters to stop the use of lead ammunition (Williams-Claussen, 2020, West et al., 2017). The Yurok tribe has also worked extensively to maintain and expand healthy forests and watersheds on Yurok landscapes. Many of these efforts have overlapping benefits. For example, cultural fire aimed at returning traditional plant foods and fibers has been shown to improve wildlife habitat for many endangered species, including condor (Marks-Block et al., 2021). This holistic approach to the return of condors is necessary for the success of the species but is also an integral part of Yurok culture and TEK. The Yurok tribe's practice of *hlkelonah ue meygeytohl* makes clear the deep relational connections that are integral to the broader concept of TEK. This case study demonstrates the value of expanding the knowledge on which we base wildlife management decisions (Eichler and Baumeister, 2018). While the NAM might dismiss knowledge held in ceremony and song, the Yurok tribe turned to these important knowledge sources to spur their wildlife stewardship. By reclaiming important ceremonies and practices, Yurok people are strengthening their relationship to condor and ensuring a healthy return of the species to Yurok homelands.

4. Conclusion & future directions

While the NAM offers considerable value to efforts aimed at protecting fauna in the face of myriad threats, we argue that Indigenous knowledge has a critical role to play in the future of wildlife management that is more just and more sustainable. In addition to the expansive ecological toolkit that Indigenous practitioners have, their accompanying worldviews and cultural practices are integral for wildlife stewardship (Hessami et al., 2021; Long et al., 2020; Artelle et al., 2021; Cliburn and Hoffmann, 2021). Indigenous ecological knowledge is inseparable from worldview, ceremony, art, food, and active cultural stewardship. Radical relationality and kincentricity help bring forward these connections and the complexity necessary to understand the holistic impact of Indigenous-led stewardship (Yazzie and Risling Baldy, 2018). Tribal governments throughout California have found ways to center practices of kinship and relationality in collaborative wildlife stewardship with colonial governments. Through their leadership and collaboration robust wildlife programs have succeeded in advocating for species and ecosystems. However, many tensions and questions remain. Indigenous communities are some of the most motivated to address environmental challenges and changes, and yet they face some of the steepest barriers to self-determined decision making over the stewardship of their homelands (Jantarasami et al., 2018). While collaboration has mitigated some of this imbalance by bringing Indigenous people to the table, there continues to be tension over sovereignty and self-determination in the way collaborations function (Marks-Block and Tripp, 2021, Diver 2016). As state and federal policymakers aim to include Indigenous science and worldview in environmental stewardship, it is important to note that this inclusion is not possible without Indigenous people shaping and leading land stewardship from beginning to end. These case studies demonstrate that many communities are already leading successful wildlife programs that can serve as excellent models for future stewardship. Indigenous communities are at the forefront of what ethical and relational stewardship can look like.]As Indigenous communities continue to recognize non-human relatives as autonomous, conversations about what stewardship in a consent framework would look like in today's colonial context will evolve. Moving forward, kinship and radical relationality will both be key lenses through which we can address these issues.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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