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## article

# You got to have fish: Families, environmental decline and cultural reproduction

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Tending, harvesting, preparing and consuming traditional foods including salmon, acorns, mushrooms and deer are family activities in Karuk culture. Families are important sites for cultural reproduction, especially in the context of structural genocide. In this article we examine how colonial violence continues to impact indigenous families today in the form of environmental degradation. Runs of salmon, lamprey, steelhead and other species in the Klamath River have declined precipitously in the past two decades, and availability of forest foods is also limited by a combination of non-Native regulations and environmentally degrading management practices. How does environmental decline impact indigenous families? Decline of salmon and other important foods has resulted in families spending less time together. Environmental decline thus limits the transmission of cultural knowledge, identity development of youth and the strength of social ties within families, and also appears to be associated with younger age of death, leading to further reductions in cultural reproduction within families.

**key words** environmental decline • indigenous people • Karuk • families • cultural reproduction  
• colonialism • ecological reproduction • colonial violence

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In order for this reality called ‘family’ to be possible, certain social conditions that are in no way universal have to be fulfilled. (Bourdieu, 1996)

Karuk people have been living along the middle portion of the Klamath River in northern California since time immemorial. Salmon have particularly important material and symbolic significance for Karuk people given that historically they accounted for over half the total calories and protein consumed, continue to be an important food source, and figure centrally in spiritual practices and the organisation of many people’s daily life (McEvoy, 1986; Salter, 2003; Norgaard, 2005). Karuk culture

is inseparable from its ecological context – traditional foods and ‘cultural use species’ flourish due to sophisticated Karuk land management practices including harvesting techniques, ceremonial regulation of the fisheries and management of the forest through fire (Lake et al, 2010; Lake, 2013). Today the Karuk are the second largest tribe in California, and their ecologically diverse region is the site of both ongoing cultural renewal and intense political struggle. Runs of salmon, lamprey, steelhead and other species have declined precipitously in the past two decades. Access and availability of forest foods including deer, elk and acorns are also limited by a combination of non-Native regulations and environmentally degrading management practices.

The Karuk Tribe has limited recognised jurisdiction over much of their ancestral territory, but works actively through the Department of Natural Resources to impact land management policy. Often this involves communicating Tribal impacts from non-Native land management policies to agencies such as the US Forest Service and the Environmental Protection Agency (Bridgen, 2005). Past research has outlined physical health effects to Karuk tribal members from denied access to traditional foods (Norgaard, 2005; Reed and Norgaard, 2010; Norgaard et al, 2011), which negatively influences the Tribe’s political sovereignty (Norgaard, 2014). Families are an important social unit in Karuk culture, and important for land management. The tending, harvesting, preparing and consuming of traditional foods such as salmon, acorns, mushrooms and deer are labour-intensive family activities. As Anderson and Ball (2011) have described, for many indigenous families, extended families form a core social unit in the larger Karuk community. While internal relationships within families are extremely important, extended family units also have specific skills and responsibilities that support community functioning (e.g., to provide fish, hold particular ceremonies and so on). Families are also key sites for passing down tradition, values and culture, especially in the context of government policies of forced assimilation, where boarding schools were explicitly set up to extinguish language and culture, as well as other ongoing mechanisms of colonialism that will be discussed later (Anderson and Ball, 2011; Whyte, 2013). Last, Karuk conceptions of other species including salmon and acorns as relatives extends the circle of who counts as family to the natural world. How, then, does environmental degradation impact Karuk families? To what extent are these impacts on families an extension of colonial violence? Does changing family structure have negative consequences for the natural environment? How do families resist these forces? We use interviews and public testimony with Karuk tribal members and descendants to explore how their families are currently being impacted by the degradation of the Klamath River Basin.

## Theoretical background

Social science literature engaging indigenous people’s experience is fragmented and dispersed across the disciplines in ways that are not accidental. Scholars in anthropology and the Global South – where the project of decolonising academia is further along – have better engaged both indigenous peoples and how the natural environment shapes social life than scholars in the Global North. Ongoing disciplinary and North–South divides in the content and approach to studying families, the environment and colonialism reflect problematic assumptions rooted in colonial hierarchies of ‘primitive’ and ‘modern’. Relatedly, within the disciplines that were set up to study the ‘modern’ world there is little engagement with indigenous experience, and the

environment has been theorised as an abstract nature existing outside society, rather than engaging with how the natural world influences social action. Until recently the limited work engaging indigenous experiences in our own discipline of sociology has most frequently subsumed Native experience into the framework of race relations or internal colonialism.<sup>2</sup> Sociological scholarship examining the dynamics of settler-colonialism as ongoing processes in ‘modern’ societies such as the US is recently catching hold (see, for example, Steinmetz, 2014; Glenn, 2015).

Within this context, we draw on three sets of literature to contextualise our findings: (1) Native studies scholarship on families, settler-colonialism and the importance of land for daily life; (2) scholarship from the sociology of the family on the importance of families for social reproduction and resisting racism; and (3) research from environmental sociology on social and ecological reproduction and impacts on families from environmental disasters. We use Bourdieu’s concepts of *habitus*, *cultural capital* and *social reproduction* as theoretical frameworks for understanding both the process of cultural transmission within families and its interruption via environmental decline.

## Native studies: colonialism, families and the importance of place

Native studies scholars point to the central importance of land and nature for indigenous meaning systems, identity, political sovereignty and economic organisation (LaDuke, 1999; Atleo, 2007; Jacob, 2013; Alfred, 2015). Relationships within the family and the community are both vitally important. These human relationships are set in an intimate ecological context. Whyte (2013: 3) describes how relationships across species ‘... may be integral to the maintaining of multiple family, social and political relationships within the community; some species may even be the basis of clans and other important social groupings.’ As with Native American tribes across North America, Karuk people consider other species as kin – relations to whom individuals and families have serious social and spiritual responsibilities.

Colonisation involves the extraction of wealth through the material separation of indigenous communities from their lands. As noted by Anderson and Ball (2011: 60), indigenous family systems and structures were specifically targeted because these ‘Aboriginal family systems stood in the way of colonization.’ Duran, Duran and Brave Heart (1998: 63) describe how disrupting Native relationships with the land ‘not only created physical hardship’ but ‘also bankrupted many meaning structures that informed identity and mechanisms of socio-cultural reproduction and control.’ Native family structures were explicitly targeted through forced assimilation (Duran et al, 1998; Stremlau, 2005; Anderson and Ball, 2011; Leigh, 2009). The intentional removal of children and families from the land has been central to both the dismantling of Native kinship systems and the transfer of land into non-Native hands (Stremlau, 2005; Anderson and Ball, 2011).

Native studies scholars also emphasise that North American colonialism is not an *event of the past* but an *ongoing structure*, and emphasise the framework of settler-colonialism (Wolfe, 2006) to describe how colonialism manifests today in everyday discourses and the political and educational systems that continue to erode indigenous communities, political sovereignty and cultural systems. Family relationships are more important than ever in this colonial context. Whyte (2013: 519) describes how: ‘The capacity to build cohesive societies, vibrant cultures and subsistence economies may

require close-knit family, social and political relationships, such as elders' roles in the lives of youth, customs of child rearing and viable regimes of property rights and land use incentives.' There are sustained and successful efforts to reclaim Native lands (Wilkinson, 2005; Wetzell, 2009) and Native families remain a vital organisational unit of resistance to colonialism (Anderson and Ball, 2011).

## Sociology of the family

Given the absence of scholarship on indigenous people and the environment, it appears that our own discipline of sociology reveals a particularly stubborn vestige of the colonial dualisms between modern/primitive and nature/culture. Yet while key sociological insights about families have been mostly applied to non-indigenous peoples, a number of these concepts are relevant for understanding relationships between environmental decline, colonial violence and Karuk family functions, as well as how families are resisting these forces.

Families are recognised by sociologists as crucial sites of cultural and social reproduction (Bourdieu, 1977, 1996, 1998; Collins, 1998; Laslett and Brenner, 1989). Bosoni (2015: 242) describes families' importance for intergenerational transmission of 'values, norms, and shared behaviors,' arguing that not only is the family 'the first source of intergenerational continuity,' it is also a primary 'setting in which early socialisation of children' occurs. Bourdieu (1998) noted how families operate as a 'key site' in accumulating social and cultural different capital and transmitting them from one generation to the next. Bourdieu also highlighted the family as an important location of both social and biological reproduction, thus maintaining social order by reproducing social relations. Bourdieu spoke of three categories of *cultural capital* that are important for cultural reproduction: an *objectified form*, an *institutional form* and an *incorporated form* (Sallaz and Zavisca, 2007). Objectified cultural capital is the possession of material goods that are highly regarded within the specific cultural context; institutional cultural capital refers to the formal certification of particular 'skills and knowledge' granted by institutions; and incorporated cultural capital is 'an embodied disposition' held by individuals and groups, which 'expresses itself in tastes and practices' (Sallaz and Zavisca, 2007: 23–4).

Scholars also examine how families may operate as sites of resistance and social change. Collins (1994) describes families as important sites for challenging racism, and argues that the reproductive labour or 'motherwork' 'women of color' do within the family is part of 'a collective effort to create and maintain family life' despite forces that seek to 'undermine family integrity' (Collins, 1994: 47). For Collins, this 'motherwork' is part of an understanding that 'individual survival, empowerment, and identity' is linked to the survival, empowerment and identity of an ethnic group (1994: 47). Similarly, Udel (2001: 50) asserts the importance of motherwork 'for the physical survival' of both the children and the community in Native families specifically. Along this vein Vasquez (2010) explores how specific mothering strategies deployed by Chicana mothers foster resilience to racism in their children. Yet while these sociologists highlight the family as a site of social reproduction and resistance to racism, until recently almost no sociological scholarship has addressed either how families may be impacted by colonialism beyond directly engaging with child removal (for example, van Krieken, 1999), or how they serve as mechanisms for its resistance.

Currently no sociological scholarship examines the potential interconnections between colonial violence and environmental degradation for indigenous families.

## Environmental sociology

Considerable research across multiple disciplines engages the social impacts of escalating environmental decline. Environmental sociologists theorise about relationships between ecological and social reproduction, highlighting how these processes are simultaneously disrupted under capitalism. For Salleh (2010), capitalistic production jointly undermines social and ecological reproduction as 'surplus' wealth is extracted from both labourers and the land. Marx's notion of a 'metabolic rift' between social and ecological systems in the face of environmental decline is particularly useful for theorising linked impacts to Karuk cultural and ecological reproduction (Foster, 1999; Foster et al, 2010).

Research outside sociology, especially from the Global South, has done more to specify relationships between family structures and the natural environment. For example, the developmental economist, Agarwal, has produced a significant body of work exploring intersections of gender, family, community and environment in South Asia (see, for example, Agarwal, 1994, 2014). Biddlecom et al's population studies in Nepal links fertility patterns to environmental decline (2005). Similarly, Haq (2011) explores relationships between environment and fertility and family size preferences in indigenous families in Bangladesh. In the few cases where US environmental sociologists have studied families, they have focused on biological reproduction and/or identity relating to contamination and activism rather than how environmental change may impact familial relationships. An emerging scholarship has begun to address how environmental decline may influence family form and functioning in the context of environmental disasters (Burger et al, 2008). Research on Hurricane Katrina highlights the challenges parents face in disasters, including how kinship connections and support networks were disrupted during displacement and relocation (Peek and Fothergill, 2008; Fothergill and Peek, 2015). Disasters represent very specific circumstances of environmental decline, however, and virtually no sociological work attends to the potential family impacts of the more pervasive chronic environmental degradation, let alone how environmental degradation might impact indigenous cultures whose traditional conceptions of kinship do not fit a Western nuclear family model. We describe here how environmental decline forms an extension of colonial violence to indigenous families by disrupting ecological and social reproduction.

## Study area

The Klamath River begins in Southern Oregon and flows into the Pacific Ocean in Northern California. The middle portion of the river is home to the Karuk Tribe. Particular places such as fishing sites, gathering sites and ceremonial grounds hold profound and unique importance for Karuk people (Salter, 2003; Baldy, 2013). Karuk tribal members and descendants are taught they have responsibilities to care for the food and cultural use species they consider as relations through land management activities. For example, over three-quarters of Karuk traditional food and cultural use species are enhanced by the use of fire (Tripp, personal communication).

Karuk lifeways have been under assault through direct genocide in the 1850s and continuing into the present with forced assimilation and natural resource policies from forest practices to fishing regulations or water quality standards designed to benefit non-Native actors (Norgaard, 2007). The Karuk are federally recognised, but Congress has never ratified treaties they signed in 1851 and 1852 (Heizer, 1972). The un-ratified treaty has led to a limited recognised right to hunt, fish or gather and manage foods (Heizer, 1972). Instead, nearly all Karuk ancestral territory is officially under the jurisdiction of the US Forest Service. Land management techniques since the early 1900s have emphasised fire suppression, leading to radical ecological changes including high fuel loads, a decreased habitat for elk and deer, a reduction in the quantity and quality of acorns and an alteration of growth patterns of basketry materials (Lake, 2013).

Explicit forced assimilation of Karuk and other Native people into the dominant culture occurred through boarding schools. Like youth from tribes throughout Canada and the US, Karuk children were separated from families at young ages and taken to boarding schools in Oregon and California for the specific purpose of assimilation. Karuk people are still struggling today to recover economically, socially, politically and mentally from the devastation of these policies. When it comes to the river, dams have blocked access to 90% of the spawning habitat for spring chinook salmon since the 1960s. Dams have also fostered the growth of a dangerous cyanobacteria, which has been detected in some traditional foods downstream. From a Karuk perspective, ongoing forced assimilation continues today via the ecological degradation resulting from non-Native management practices and the criminalisation of traditional cultural activities (Hillman and Salter, 1997). Environmental decline is thus a central feature of colonial violence in the Karuk community today. Despite these powerful forces, Karuk people have not only endured but also gained remarkable achievements in recent decades, including Federal recognition, the establishment of Tribal programmes and infrastructure, and the revitalisation of ceremonies and cultural practices.

## Methods

This project draws on data from a larger study conducted by Norgaard and Reed in the context of the relicensing of the Klamath Hydroelectric Project in 2004 (Norgaard, 2005), and a second follow-up study carried out from 2008 to 2013. Both projects used interviews to evaluate a broad range of impacts from the Klamath River dams for Karuk people.<sup>3</sup> The first set of interviews ( $n=18$ ) focused on the physical health consequences of the dams as they related primarily to harvesting and consumption of traditional riverine foods. The second stage of the project ( $n=26$ ) included interview questions about social, cultural and health impacts from changing forest conditions. These second interviews also contained questions on gendered and mental health dimensions of environmental impacts. In both cases, interviewees were selected via theoretical sampling to reflect a range of ages and experiences of people throughout the 100-mile length of the watershed within Karuk ancestral territory. Interviewees ranged in age from their early 20s to late 60s. Interviews were recorded and transcribed.

In both sets of interviews many individuals described how factors from the decline of salmon to reduced access to acorns as a result of the policy of fire suppression had impacted Karuk families. In order to better understand the family dimension of environmental impacts, Willett analysed the subset of interviews ( $n=17$ ) in which

these themes were most prominent. Overall, this study incorporates the voices of 14 different Karuk individuals and utilises 17 different transcripts (5 individuals were interviewed in both project phases). Transcripts were organised and recoded to explore specific issues related to family utilising the Dedoose web application (see dedoose.com). Coding began by looking for ‘naturally occurring’ similarities between the transcripts. Every mention of ‘family’ and ‘kinship’ was coded under a large umbrella of ‘family’. Excerpts were then coded a second time to separate specific connections of environment to family. Within this coding round, the main themes of ‘family memory’, ‘intergenerational consequences’ and ‘responsibility’ emerged. These categories were then recoded utilising focused coding (Charmaz, 2006). During this step the category of intergenerational consequences was divided into two directions, that is, knowledge transferred down to the next generation, and responsibilities of youth and adults transferred back to elders. Once the main themes emerged, interviews were recoded a final time utilising Bourdieu’s concepts of cultural reproduction. We shared the final paper with interviewees and received permission to use quotes in specific contexts. While confidentiality and anonymity are the norm in sociological research, best research practices in Native communities identify speakers to give credit for intellectual property (Smith, 1999). We asked people whether or not they wanted to be identified. Because this research was conducted by the Karuk Tribe, there was no university-based IRB (Institutional Review Board) process.<sup>4</sup>

## Findings

We begin by describing the traditional social practices and activities of Karuk families in relation to the natural environment, then discuss the changing environment of the Klamath region and its consequences for families. Last, we note some of the many ways that families are resisting both environmental decline and ongoing colonial violence.

### *Families as sites of social and ecological reproduction*

Families are an important social unit in Karuk culture. A larger ‘extended’ family is needed to care for the environment through activities such as burning to enhance particular food species and carrying out ceremonies. We find that as families work together to harvest fish, manage acorn stands, tend basketry plant patches and other activities, strong social ties are built and maintained, thus creating mutual relationships between social and ecological reproduction. These social ties and activities are the avenue for the passage of Karuk traditional knowledge, values and identity. Taken together, activities in the environment are the means through which families operate as sites of cultural reproduction.

### *Social ties and the environment*

For Bourdieu, the family system is the practical mechanism through which kinship relationships are continually maintained. Bourdieu wrote that kinship is something that is ‘continuously practiced, kept up, cultivated’, and that familial or kinship relationships, be it by blood or marriage, ‘tend to reproduce the conditions’ that made them possible (1998: 70). People we spoke with on the Klamath emphasised that participation in land management activities maintains family relationships. Karuk

descendant and cultural practitioner Frank Lake describes the importance of having access to salmon to his own personal relationships in the community:

‘It enriches my relationship with everybody else that I gift fish to. And you know, when the fish aren’t there, and I don’t carry on that role or capacity, you either find other mechanisms to develop that social relationship, or in some cases, because salmon was central, it just breaks down.’

The act of sharing food cements social relations with more distant relatives and friends up and down the river, as Bill Tripp, Deputy Director of Eco-Cultural Revitalization and traditional Karuk fisherman, notes:

‘I send eels to folks up the Salmon River. And to different people who want eels, like most of the time I end up givin’ to people but I always try to end up getting’ enough to can too.’

Lake describes the centrality of food at social gatherings, describing food as ‘the glue’ that connects families and social activities:

‘And with the ceremonies, when people come together, someone will bring a deer, someone will bring acorns, someone will bring huckleberries, whoever happened to have some abundance to share or even gathered for the ceremony. And certain families get to be known for what they can bring. That, then, becomes the reliance. So the food becomes the glue or an adhesive that holds all the other social or cultural or spiritual activities together.’

Lake’s descriptions fit Bourdieu’s claim that ‘familial acts of creation’ and the ‘countless acts of reaffirmation and reinforcement’ aim to produce ‘in a kind of continuous creation, the obliged affections and affective obligations of family feelings’ (1996: 22).

### *Ecological context of Karuk traditional knowledge and values*

A second theme was the importance of the natural environment for sharing Karuk knowledge and values. Traditional knowledge is living cultural practice that requires active participation for renewal. People described the importance of family interactions in the natural world for transferring cultural knowledge. Grandparents were particularly emphasised, but parents, aunts, uncles and other extended kin were also regularly referenced. These social ties are the avenue for the passage of traditional Karuk knowledge, values and identity. When Karuk elder and basket-weaver LaVerne Glaze was asked how cultural knowledge is passed on, she responded that, “if you’re close with your family, I mean it’s a given” and used an example of cooking with her grandchildren to describe how proximity provides the opportunity for sharing.

Glaze’s words echo Glenn’s (1985) description of families maintaining ‘racial and ethnic culture.’ Glenn notes how families achieve this ‘by transmitting folkways and language’ and by ‘socializing children’ into specific or ‘alternative value systems’ (1985: 103). Again, part of what is unique here is the vital importance of the material world or ‘more than human’ family members in this process. For Glaze, this socialising and intergenerational transfer of knowledge is currently occurring across four generations.



She explains how all her “granddaughters know how to weave” and adds that her eight- and ten-year-old “great-granddaughters also know how to weave.”

Others recollect extended family members such as uncles or cousins playing prominent roles in transferring knowledge. People we spoke with made clear that the process of cultural reproduction is contingent on, and embedded within, material practices in the landscape. Traditional fisherman and Karuk Cultural Biologist Ron Reed describes how gathering, harvesting and packing out fish with his extended family members form some of his earliest memories:

‘A lot of my first memories were harvesting resources – mushrooms ... even my uncles and my mom up there with her collecting mushrooms and shooting the deer, you know, while we were collecting acorns. Fishing down at the falls, packing fish out, smoking fish, giving people fish, packing fish out ... packing fish out.’

Here Reed speaks to the importance of larger interconnected family networks necessary for knowledge transfer and resource management.

When asked about the types of values children learn when they participate in gathering, Glaze, responds, “what values do they learn? They learn how to take care of the land! That’s a big one.” This concept of teaching larger social values alongside material practices within the family links directly to *habitus* as an internalised experience that occurs for individuals within the ‘early socialization in the family’ (Sallez and Zavisca, 2007: 25). Rabbit, a father and traditional fisherman in his 30s, also captures this sentiment relating to his early experiences: “the first thing you learn once you go into the Falls is respect for that river and you know, just for life.” He describes how the Falls are “just magical” and how you can “hear the raw power” of them. For Rabbit, the Falls are “like you’re on earth but you are in a different place at the same time.” He describes how for his nephews, “their experience down at the Falls are always beautiful ones and a learning experience.” Rabbit speaks of how when you are at the Falls “you learn respect from the river right there at the Falls.” Rabbit illustrates the importance of direct engagement with the environment (what Bourdieu calls *objectified cultural capital*) in transmitting an embodied understanding of appropriate cultural behaviour (e.g., Bourdieu’s concept of *incorporated cultural capital*). Rabbit’s words underscore that the ‘sense of place’ in the world central to *habitus* is also reliant on this interactive engagement.

Bourdieu’s (1990) concept of *habitus* serves to produce practices at both the individual and collective level, and in doing so, it ‘ensures the active presence of past experiences’ as ‘schemes of perception, thought and action,’ that tend ‘to guarantee the “correctness” of practices and their constancy over time, more reliably than all formal rules and explicit norms’ (1990: 54). Again, for those with whom we spoke, the natural world figured vividly in their sense of habitus. On the Klamath, access to elders serves as both a conduit for knowledge transfer and as a means to understanding environmental change. Karuk elder Glaze talks about how, “from hearing the old folks talk,” she can tell that gathering is different now. She adds “I’m an old folk now, but when I used to sit and listen to my grandparents, I mean, they had it made, because they could go out and burn ... to make a better product, it could be hazel sticks, it could be huckleberries, it could be acorns, it could be anything.” This cultural and social meaning and activity is also why Reed describes access to resources as about

much more than food: “that fish is a little bit more than a fish, that acorn is a little bit more than an acorn, it’s all about our ceremonies and our worldview, when you take something out of your worldview, then all of a sudden there’s a void.” Reed is essentially describing the importance of *objectified cultural capital* as the access to and possession of culturally esteemed material goods. And an intact natural world is a critical component of that cultural capital.

Both social ties and the presence of specific material ecological conditions are central to how boys and men come to internalise masculine identities. Karuk tribal member, Mike Polmateer, a traditional fisherman in his 50s, reflects on how he came to understand his importance in the community and develop a sense of responsibility in the course of providing for his people:

‘I killed my first deer when I was about 12 years old. It was a big four pointer and one of the things that really sticks in my mind right now, is that after my brothers cut it up, gutted it, at that time, I realised that I was an important part of our society, because I was able to give meat to my aunts, my great-aunts, my uncles.’

Taken together, activities in the environment, from hunting, fishing, harvesting, gathering, burning and more, are the means through which families operate as sites of cultural reproduction.

### *Families and ecological reproduction*

The ecology of the mid-Klamath region, including the distribution and abundance of forest and upland species and the abundant fishery, has been fundamentally shaped by Karuk cultural practices. The Karuk Tribe draft *Eco-Cultural Management Plan* notes that ‘Fire caused by natural and human ignitions affects the distribution, abundance, composition, structure and morphology of trees, shrubs, forbs, and grasses’ (Karuk Tribe, 2010: 4). People burn to facilitate forest quality for food species like elk, deer, acorns, mushrooms and lilies. They burn for basketry materials such as hazel and willow, and also to keep open travel routes (Lake, 2013). These labour-intensive practices require a large extended family to care for the environment, leading to mutual relationships between social and ecological reproduction. As they care for the land, Karuk families enact the energetic and material exchange that Marx described as a socio-ecological metabolism. Traditional fisherman Kenneth Brink describes how each family has specific responsibilities that together ensure community-level management:

‘One family living up on this creek, one family living up on that watershed, and this family over here did all of its work ... if this family over here didn’t do their work, see it all grew back, and sucked up what little water that fish could have ... so it’s very important that everyone has to do their management part. Every little piece counts.’

Karuk family activities are a conduit of cultural transmission and maintain important social networks necessary for a functioning landscape management system. Hillman and Salter (1997: 8) describe how ‘Karuk beliefs – as exemplified in the world renewal

ceremonies and creation myths, connect people from childhood to an awareness of relationship and responsibility.’ Kenneth Brink describes the importance of this ceremony for ecological and cultural regeneration: “We have the World Renewal Ceremony to fix the world. We pray for the whole world because we believe it is a cycle that keeps us. We do our part, we manage our area the way the Creator intended us to.” The beliefs and cultural behaviours behind the World Renewal Ceremony represent an incorporated form of cultural capital.

### *Environmental decline impacts cultural reproduction within Karuk families*

‘Our ceremonies have been, you know, stripped down because of regulations ... now we’re only allowed to do certain things in our ceremonies, not allowed to do our traditional burns no more ... so in that sense we’ve lost a lot of our religious practices due to federal regulations and laws.’ (Kenneth Brink)

Environmental decline and other forms of non-Native interferences with Karuk access to land and management practices have made it increasingly difficult for Karuk people to provide for their families. These forces also impact families by weakening the strength of social ties between members, and the ability of families to operate as sites of cultural reproduction. Kenneth Brink describes how in the past, management activities such as burning the forest were fully supported by families, with their activities tied to their family relationships and a personal sense of responsibility:

‘Traditionally, the medicine man in our Tribe was able to take this pitch ... and he was able to light that up there ... and he would be able to roll it from the top of the mountain and burn it clear to the river. And everybody in the area would gather the fire and would be prepared for it. So before the medicine man did this, we are doing our thinning in our watershed, around our houses. So you might have the oldest grandmother out there with the youngest grandkid and everybody snapping brush, making brush piles.’

But in the present, “We have no management because Forest Service or Fish and Game, they control it all.” The stripping down of ceremonies and cultural activities represents a stripping down of the *incorporated form of cultural capital*. Brink goes on to note:

‘You need a permit to pick acorns, you want a permit to pick blackberries, they want you to pay to do everything, and in that sense everything is getting left out there and not being utilized. Instead of being able to be harvested and preserved and utilized, it’s just sitting there going to waste now ... and we have catastrophic fire from everything else just sitting out there going to waste.’<sup>5</sup>

Here regulations impact the *objectified form of cultural capital*, not only chipping away at the Karuk way of life by making it illegal for individuals to provide for their families, but also leading to the continuing destruction of Karuk land as it becomes vulnerable

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to large-scale, high-intensity wildfires in the absence of proper management, as happened with the 2014 Happy Camp-Seid fire (Norgaard, 2016).

### *Environmental decline weakens social ties between family members*

If the natural environment forms an integral component of family activities, then it should come as no surprise that many described environmental degradation impacting the social ties between family members. When there are fewer salmon in the Klamath River, the host of related social and cultural activities are impacted: fewer people interact at the fishing site of Ishi Pishi Falls where fishermen, families and spectators would otherwise gather, fewer interactions take place in the distribution of fish, and all the family activities associated with cleaning, smoking and canning fish are also diminished. In the face of the river's decline, Reed describes how things have changed at the Falls:

'It's not just a fishery. It's a social area. People come from all over the place still today. They go to Ishi Pishi Falls, to mingle, to get their fish, to share their wisdom, their knowledge about when they were kids. People come down to the Falls because they know there's something to come down to. And this year was awful quiet at the Falls because they knew there wasn't anything to come down to. It was very quiet down there this year, and it was very sad.'

Petersen (2006: 102) describes the social importance of eels, and the impact of their absence on the Klamath:

Eeling is an important time for families to get together. Eel roasts used to be common during the springtime, bringing many families together for socializing. Today there are not enough eel to have these gatherings anymore. Many eelers commented on how eeling gives young people something to do. However, when there are not enough eel to make it worth while for them to go then they look for other activities to fill their time. In a rural area, these "alternative" activities often include alcohol and drugs, as well as "getting into trouble."

Lake describes how he misses the time with his family that he is losing as a direct result of the declining salmon run: "Fish is the essential thing that kind of bonds my relationship with my family. I know it's a big part of it. And, it's like, 'oh well fish aren't running so don't bother coming to the Klamath' . . . I miss that contact with my family and my extended family around fish." He talks about how he "ends up doing something else" – "I end up hanging out in Arcata or I end up buying pork or meat at the store rather than, the time it takes to collect the fish, be there with the elders." For Lake, "these are all the little things that ripple out from not having good healthy fish." The lack of access to salmon – an esteemed cultural good, part of *objectified cultural capital* – has a ripple effect throughout family relationships, affecting whether obligations and relationships with elders can be maintained. While these examples are specific to fishing, social ties are built around all forms of food gathering and cultural management, from hunting to acorn and mushroom tending and harvesting.

## *Environmental decline and cultural and ecological reproduction*

‘You got to have fish to teach them how to fish. You got to have fish to teach them about fish. It’d be hard, you know to tell your son how to dip when there’s nothing in there to dip.’ (Rabbit, Karuk dipnet fisherman)

These weakened social ties between families matter for all kinds of reasons, from affecting the self-esteem of youth, to the physical and mental health of elders. In terms of the process of cultural reproduction, environmental decline limits the transmission of cultural knowledge, values and the identity development of youth. Cultural and ecological reproduction are thus intertwined: restrictions on the ability of Karuk people to care for their forest and river ecosystem in turn mean that knowledge may not be passed along, creating further ecological problems. Hence we can understand environmental degradation as an interrelated issue of cultural and ecological reproductive justice.

These are active processes that require ongoing participation. People draw on family memories, connecting them to acquisition of knowledge of management activities, and describe passing this knowledge on to their own children and grandchildren. These responses highlight the importance of family activities as central to kinship connections and the reproduction of cultural ecological knowledge. Yet now, as a result of denied access to participation in traditional management practices, respondents spoke about their children growing up unequipped to fully participate in the future. As Rabbit points out, “you got to have fish, to teach them how to fish.” All three forms of *cultural capital* – the *incorporated*, the *institutional* and the *objectified* – are involved in, and impacted by, an inability to pass cultural knowledge down to the next generation.

Similarly, Brink expresses grief that without fish children are “not really learning the whole cycle.” He describes how children “always learned how to walk on the rocks ... how to gut fish, preserve fish ... that whole cycle.” He asks “[how do you] teach your kids how to respect your land” and “respect [for] your elders?” This concept of respect is another example of incorporated cultural capital. He describes again how this *cultural capital* is reproduced along with ecological knowledge within the family and on the land in “a cycle that goes around.” Brink reflects on how this cycle was taught to him:

‘It might have been through picking mushrooms, it may have been through gathering acorns. It’s certain, family values and family adventures like that you know. They get passed down from generation and family to family and on down the line. And it just ... if you don’t have some of these key elements that bring us together to learn morals and traditional values, which may be the mushroom or the acorn on the salmon, then we are missing our gathering, missing our food. We are missing the teaching right there.’

Brink emphasises that “by picking the right type of mushroom” you “teach your kids to do things you know, how to respect your elders and how you treat your land.”

Brink is not alone in lamenting the loss of intergenerational knowledge. Cultural practitioner and Karuk elder Marge Houston described how for many children today, they “have no net, no knowledge of how to make jerky ... no knowledge

of how to go out and kill this animal, or dress it, or prepare it.” She stated how there are “so many of our young people who don’t even know how to cook it, let alone do all the rest.” Traditional fisherman and father Chook Chook Hillman also captures this loss when he describes how “fish are a mystery” for many youth, and how it is very hard “to see your kids not know salmon like you know salmon.” Reed reflects on how important parts of ceremonies are also linked to consistent access to resources. He puts this particular loss into perspective as he reflects on how children are expected to develop into adults without being properly taught, for example, without receiving the *cultural capital* required to be adults:

‘I think that they are maturing, becoming young adults, our future leaders, yet there’s that transition period when the traditional puberty ... you know the flower dance isn’t occurring. If the process from childhood to manhood doesn’t occur properly, then all of a sudden you are an adult! Act like it! So what is that? How do you act like an adult if you’re not taught?’

### *Environmental decline, cultural reproduction and changing life expectancy*

‘I’ve been to way too many funerals the last couple of years and that’s not all right. That seems to me that they’re just getting younger and younger.’  
(Ron Reed)

Another dimension of the connection between environmental decline and cultural reproduction is changing life expectancies, given that environmental decline appears to be associated with younger age of death. Although there are many stories of Karuk ancestors living to very old ages, even 100 years or more, numerous tribal members reported that, as Karuk elder Judy Grant put it, “They seem to be dyin’ younger.”

‘I think people are dying younger too. I think it’s the food. Because my husband’s father was 91 when he died. Diabetes is what killed him. When we were doin’ research on the family a lot of death certificates are from diabetes. Almost all of them.’ (Selma George, wife of Karuk tribal member)

Loss of salmon and other traditional foods is tied to artificially high rates of diabetes, heart disease, strokes and other diet-related conditions within the Karuk Tribe (Norgaard, 2005). One of the most significant consequences of diabetes is decreased life span (Brown et al, 2011). The decreased life span of elders in turn reduces contact time across generations, and thus the ability of families to carry out cultural and ecological reproduction. No systematic study has documented changing life span or causes of death in the Karuk community. However, in the 2005 Karuk Health and Fish Consumption Survey, tribal members were asked why family members died and their age of death. Patterns were visible in the appearance of diabetes as a cause of death for a husband/wife or partner, and less frequently listed as a cause of death for a parent or grandparent.

### *Families as sites of resistance*

Overcoming colonialism requires a group's ability to maintain its own longstanding social values, cultural practices and economic and political structures. Families constitute an important place of resistance to colonial practices. If the goal of colonialism is the 'elimination of the Native', then it has certainly not been achieved on the Klamath. Rather, Karuk families continue to resist colonial environmental violence on a daily basis in a wide variety of ways. Indeed, if forced assimilation aims to erase cultural activity, all engagement with cultural practices should be understood as resistance. Not only is there lots of cultural activity in the region, families continue to form a locus of a linked cultural and ecological reproduction through passing down language and knowledge, tending, gathering and eating traditional foods, holding dances and ceremonies and more. Families speak together at public testimonies regarding proposed Federal and state actions, attend rallies and protests together, and assist in the production of collaborative research projects including the research that forms the basis of this article.

### **Conclusion: families and colonial ecological violence today**

Historically, colonialism has impacted Native family structure through direct physical and cultural genocide. Testimonies indicate that environmental decline is understood as one key ongoing vector of colonialism today, in part through its disruption to families. We have described how social and cultural reproduction within Karuk families has been impacted by the degradation of the river and lack of access to traditional lands and land management practices. The decline of salmon, eel and other important foods has resulted in families spending less time together engaging with food-related activities. Lack of active engagement in management and harvesting activities interferes with people's abilities to transmit important cultural knowledge from one generation to the next. The decrease in these activities has a circular effect, as the resulting environmental decline further limits the transmission of cultural knowledge, identity development of youth and the strength of social ties within families. Recognising the impacts that environmental destruction has both on Karuk social and ecological reproduction enables us to explicitly centre the parallel theft and destruction of indigenous land and the assault on Native families as an interrelated issue of both environmental and reproductive justice.

We hope that our findings will be useful in moving forward a number of discussions within environmental sociology and the sociology of the family. First, we hope that our analysis will expand theorising on environmental and reproductive justice within environmental sociology. When it comes to the concept of an ecological rift, our data illustrate specific instances of how Karuk families reproduce both ecological systems and the social order, thereby carrying out this 'mediation between nature and society'. Second, we hope this snapshot into social life will expand theorising on both the environment and indigenous experiences within the sociology of the family. Just as feminists of colour have highlighted the importance of families as sites for resisting racism, Native families are central to both individual wellbeing and cultural resurgence and survival in the context of colonialism (see, for example, Anderson et al, 2012). In order to do this, sociologists must attend to the importance of many features of indigenous families, from the natural world to social relations, to conceptions of other

species as kin to whom people have serious social responsibilities. Finally, we hope our data and analysis will convince sociologists across the discipline to conceptualise Native experience in the context of settler-colonialism rather than theories of internal colonialism or race relations alone.

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### Notes

<sup>1</sup> Corresponding author.

<sup>2</sup> See Wilma Dunaway, James Fenelon, Thomas Hall, Brett Clark, Duane Champagne, Erich Steinman and Michelle Jacob for important examples of sociologists making critical contributions to indigenous studies.

<sup>3</sup> Note that the first project phase also examined medical, archival and survey data to evaluate relationships between physical health and the changing environment.

<sup>4</sup> The Karuk Tribe has since installed their own ethics review process (*Practicing Piyav: A guiding policy for collaborative projects and research initiatives with the Karuk Tribe*), but it did not yet exist at the time this research was conducted.

<sup>5</sup> Since this interview the California State and US Forestry Service/Bureau of Land Management tribal gathering policy and the Cultural Heritage Cooperation and Authority Act now authorises harvesting forest products for traditional and cultural purposes for free use for tribal members. While this is a major step forward, gathering and tending go hand in hand. Karuk people are still prohibited from doing many of the actions of tending to those species in the appropriate manner to maintain healthy populations.

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