









# WATERSCAPES IN WALLMAPU: LESSONS FROM MAPUCHE PERSPECTIVES

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**ABSTRACT.** This article reflects on the multiple worlds generated around waterscapes in the diverse Mapuche territory, Wallmapu. We contrast the responses of three Mapuche communities to external interventions and water availability in the Chimehuin and Lepá rivers in Argentina, and the Huenehue River in Chile. The comparison reveals the nature of Mapuche waterscapes, the tensions provoked by the global economy, and its impacts on water management. Mapuche communities establish an intersubjective relationship with water, securing and protecting their water supply. Waterscapes are constituted as living entities where human and nonhuman stories converge and on which biocultural memory is periodically enriched in its response to a changing environment. We conclude that coexistence between Mapuche and non-Mapuche worlds, however diverse the communities might be, is sustained through equivocal relations and partial connections. Established views of water management in Wallmapu could be greatly enriched by the Mapuche's views and practices. *Keywords:* *biocultural memory, equivocal relations, Mapuche waterscapes, partial connections, pluriverse.*

## WATERSCAPES AND PLURAL GEOGRAPHIES IN WALLMAPU

**F**or indigenous communities, waterscapes have profound significance that transcends their ecological and hydrological characteristics; rivers, lakes, and other waterbodies are living entities within which human histories converge. One basal idea in indigenous onto-epistemologies is the dual conception of “being-in-the-land and being-from-the-land,” a notion that takes precedence over others (Viveiros de Castro 2004; Cajigas-Rotundo 2017). Land is “an

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ecological intertwining of material, spiritual, social, and moral being and well-being for humans, plants, animals, rivers” (Burkhart 2019, 32). Places become agents in themselves (Cajigas-Rotundo 2017)—active participants in a process of coevolution (Blaser 2013).

In modern Western hegemonic views, rivers and their waters are generally considered as economic resources. For indigenous peoples, water acquires a life of its own—becomes a subject. They engage with water in terms of intersubjectivity (Di Giminiani 2018); water is life, the blood of the land, and the lifeblood of the sky (Burkhart 2019). This historically constructed relation to water is driven by what Victor Toledo and Narciso Barrera-Bassols understand as a biocultural memory where the genetic, linguistic, and cognitive dimensions of human experience converge (2008). These generalizations are ingrained in a variety of daily practices and their world-making effects depend upon the historical setting in which they are enacted. In this sense, each locality is unique.

Two different geographies overlap in our analysis: Wallmapu and Patagonia. Wallmapu is the Mapuche ancestral territory, spanning southern South America between the Atlantic and Pacific oceans. The territory to the west of the Andes is called Gulumapu (today part of Chile), while to the east lies Puelmapu (now in Argentina). The historical northern limit of Gulumapu is the Biobío River, and the approximate southern limit is insular and continental Chiloé. Puelmapu covers the pampas and Patagonia between latitudes 37° and 42° south. Wallmapu is key in our analysis as it encapsulates Mapuche culture and explains the cohesion of the trans-Andean territory (Marimán and others 2006, 61).

The second territory, Patagonia, refers to a much larger area, generally recognized as the extreme southern portion of South America (part of Chile and Argentina), extending all the way to the tip of the continent. However, there have been multiple interpretations of Patagonia as a geographic unit. On the one hand, it has been defined according to its biophysical characteristics, particularly its geological history punctuated by volcanism and glaciations. On the other, Patagonia is a product of cultural, social, and political conditions. Historical imaginaries surrounding Patagonia have defined it as “the end of the world” or a vast, uninhabited, and wild territory with a “need for domestication” (Aliste, Folchi, and Núñez 2018). This perception justified colonization in the form of large livestock ranches and timber exploitation, together with the extermination and relocation of indigenous people. Hydropower generation and, increasingly, tourism sustain this colonial project. Contrastingly, Patagonia has been perceived as one of the “last pristine places” on Earth (Inostroza, Zasada, and König 2016) and a “reserve of life,” with conservationists, both public and private, pushing for the protection of extensive tracts. Emerging views focused on the region’s ecosystem services have given way to some myopic, financially oriented perspectives that stray from community

notions of well-being (Zagarola, Anderson and Veteto 2014). Consideration of the two territorial definitions provides a full visualization of historical and present-day tensions surrounding waterscapes. While Wallmapu provides a clearer interpretation of indigenous territorial tradition, Patagonia better captures the diverse and often contradictory Western motives and modes of intervention in the region.

As we approach the notion of waterscapes, we conceive the social realm as built, “at least partially, in and through engagements with water” (Stensrud 2016, 78). The aim is to address meanings of water and its materiality as anchored in the local territorial context. By referring to “the socio-natural process by which water and society make and remake each other over space and time” (Linton and Budds 2014, 170), we find a starting point for understanding the ways in which different Mapuche communities engage with water, recognizing its agency and role in structuring and disrupting social organization.

According to Mapuche geography (Boccaro 2006), three aspects are relevant to the question of how indigenous people position themselves relative to water. First, the overlap between human activities and water represents a form of enacting a reality that varies according to conditions over which people have no control (Blaser 2013). Second, the different enactments of waterscapes deserve attention in a context of increasing environmental, economic, and political stress. Third, current challenges demand efforts to identify and promote viable avenues for water management and human survival.

Within the study of Wallmapu waterscapes, we assume the complexity of the historical processes that provoke the convergence of different societies and identities, and their respective worldings<sup>1</sup>. In approaching this heterogenous scenario, we incorporate the notions of pluriverse, partial connections, and equivocal relations, a theoretical corpus that allows us to understand the coincidence, but not the commensurability, of different societies that coexist alongside one another.

Globally, the intense frictions generated by the expansion of capital and changing climatic patterns motivate diverse responses and accommodations from indigenous peoples (Tsing 2005). In Wallmapu, mounting interest in resource exploitation exposes the region to increasing pressures (Zunino, Matossian, and Hidalgo 2012; Núñez, Aliste, and Bello 2014). The biocultural diversity of Mapuche communities offers an interesting context for studying the waterscape dynamics that result from the climate crisis and from local and regional policymaking (Fernández-Llamazares and others 2015).

In this work, we analyze and compare the responses of three Mapuche communities to external interventions and highlight the importance of their traditional practices, perceptions, and expectations as drivers of cooperation and conflict. In the case studies selected, we discuss whether local indigenous ontology is abandoned or transformed under the pressure of modernization. Are there aspects of this ontology that prevail under changing circumstances? Do they

influence historical indigenous resilience and positioning when interacting with actors such as the state and the private sector?.

#### BIOCULTURAL DIVERSITY OF MAPUCHE COMMUNITIES IN WALLMAPU

The Mapuche people on both sides of the Andes have long organized their lives around rivers (Bengoa 2003). They have undergone expulsion by colonial military campaigns and following the formation of the new nation-states, driven towards the most distant and desolate reaches of the Southern Cone (Schindler 1972; Zavala 2000). Their varied trajectories in Wallmapu have traced rivers, springs, and lakes, resulting in the dendritic distribution of sometimes interconnected lineages (*lof*) and sublineages (Skewes and Silva 2007; Skewes and others 2012). The long-standing Mapuche relation with water has conditioned their contemporary responses to diverse ecological and historical circumstances—responses that recreate their biocultural memory (Toledo and Barrera-Bassols 2008).

In their daily lives, they reenact their relation with water under conditions that escape their control (Blaser 2013), generating diverse waterscapes. Ingrained in the Mapuche biocultural memory is a rich repertoire of foreign elements (Skewes 2019). Juana Aigo and Ana Ladio highlight, for example, the appearance of post-Hispanic animals and saints within the pantheon of water guardians as symptomatic of cultural transformations triggered by the Conquest (2016). Such transformations may also reflect the influence of socio-ecological changes on the construction of flexible and dynamic local knowledge (Molares and Gurovich 2018).

This biocultural memory includes knowledge that remains resilient in the face of contemporary challenges (Skewes and Guerra 2004). Some authors suggest that local knowledge becomes hybridized, proposing a growing consciousness of the mismatch between proposed intervention models and local practices (Gómez-Baggethun, Corbera, and Reyes-García 2013). However, Eduardo Viveiros de Castro's notion of "equivocation" suggests that what in fact prevails is a difference in perspective (2004). A lack of comprehension leads to understanding based on imaginary forms of "seeing the world," whereas equivocal relations are related to real worlds that are being seen: existence in multiple worlds implies protecting the differences while neither reducing conflicts nor surrendering to hybridity (Pazzarelli and Lema 2018).

On a daily basis, indigenous communities confront the world represented by the colonial ontological occupation of their territories (Law 2015). "Different ways of worlding sustain themselves even as they interact, interfere, and mingle with each other" (Blaser 2013, 552), giving rise to the emergence of a pluriverse, a concept that allows us to analyze and understand the intermingling of heterogeneous realities. The pluriverse recognizes the many worlds comprised of multiple, complex relationships between human beings and between human beings and other-than-human beings (Escobar 2018). Di Giminiani (2018) suggests an intersubjective relation between two sentient entities: land and people.

Engagement with sentient land is a relation of affection—an ontological reconfiguration of the subject-object divide. The emergence of a pluriverse is open to new worldings (Escobar 2018, 4) comprising what Strathern (2004) defines as partial connections. Partial connections describe a perception of social relations that simultaneously belong and are outsiders to different parties in a situation where compatibility may work without comparability. As such, partial connections imply relations of more than one but less than many (De la Cadena 2015). This view not only allows us to assume a variation in the ideas of meeting and mixing, but also to think about the pluriverse of Wallmapu waterscapes.

## RESEARCH METHODS

### CASE STUDIES

We focus on three river basins: Huenuehue (Los Ríos, Chile), Chimehuin (Neuquén, Argentina), and Lepá (Chubut, Argentina) (Figure 1). These host numerous Mapuche communities, many of which sought refuge following displacement or forced migration (Díaz 2003). The basins are located along a northwest-southeast climatic gradient between Andean Patagonian rainforest (6000 mm annual rainfall) and extra-Andean Patagonian steppe (300 mm) (Smith and Evans, 2007).

This environmental gradient, combined with the political conditions of the region, present scenarios of water abundance, water scarcity, and induced water scarcity (Table 1) that relate to emerging water ontologies, i.e., the reciprocal positioning of human beings and water in terms of identities and differences, subjective dispositions, and the formation of moral communities (Descola 2013; Di Giminiani 2018).

Chimehuin represents a scenario of abundant water (Figure 2). At the headwaters, around the Huechulafquen and Paimún lakes, the Raquithue and Lafquenche Mapuche communities, locally known as “lake communities,” have ancestrally inhabited this territory in a state of intimate contact with these waterbodies. Since the nineteenth-century military campaigns against the Mapuche, state agencies have actively intervened in the area to establish national sovereignty and exploit natural resources. Tourism-based development strategies began in the 1930s (Bessera 2008) with the invention of Argentine Switzerland, a toponym used to refer to northern Patagonia (Navarro Floria 2008), and the creation of the National Parks Administration (NPA). The Chimehuin River is now best known for recreational fishing, while creation of Lanín National Park in 1937 triggered severe social and environmental conflict with local Mapuche communities, resulting in the expulsion of most families from their ancestral lands (Díaz 1997).

Costa de Lepá constitutes a scenario of water scarcity resulting from alterations to the hydrogeological cycle and reduced supply at the headwaters due to

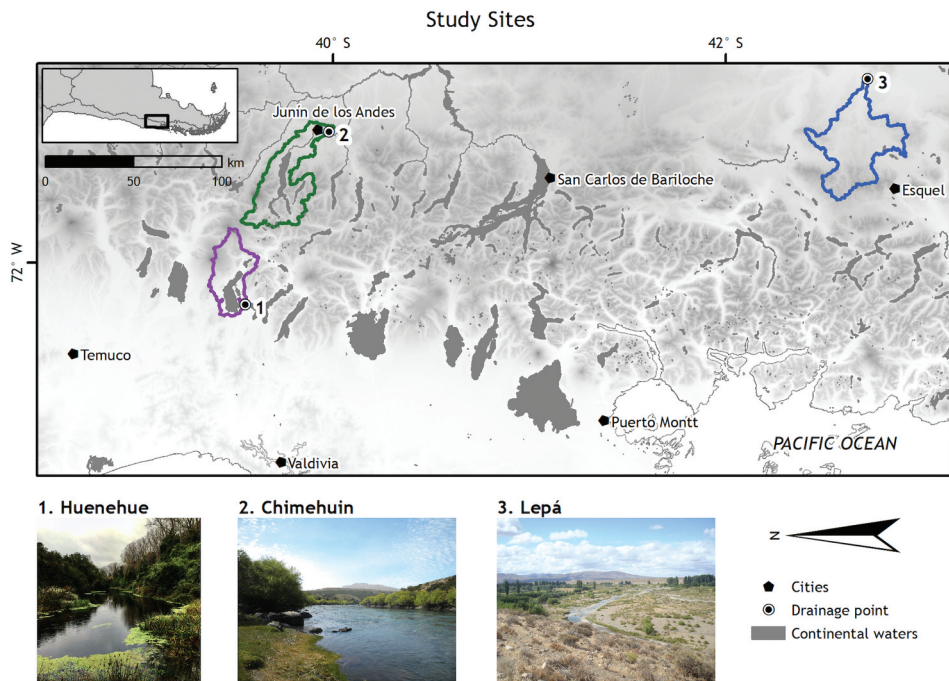


FIG. 1—Study Sites. Three Mapuche waterscapes: 1: Huenehue, Los Ríos, Chile (induced water scarcity); 2: Chimehuin, Neuquén, Argentina (water abundance) and 3: Lepá, Chubut, Argentina (water scarcity).

TABLE 1—CASE STUDIES

WATER SCENARIO	WATER ABUNDANCE	WATER SCARCITY	INDUCED SCARCITY
Name of river	Chimehuin	Lepá	Huenehue
Main river basin name and area (km <sup>2</sup> )	Limay (58.800)	Chubut (57.400)	Valdivia (5.267)
Study basin area (km <sup>2</sup> )	1.298	1.661	784
Administrative unit	Huiliches Department	Cushamen Department	Panguipulli District
	Neuquén Province Argentina	Chubut Province Argentina	Los Ríos Region Chile
Population/km <sup>2</sup>	7.2 (Neuquén)	2.6 (Chubut)	21.9 (Panguipulli)
Administrative unit area (km <sup>2</sup> )	4.012	15.274	16.250
Population	15.274 (Census 2010)	20.919 (Census 2010)	34.539 (Census 2017)
Main pressures	Tourism Urbanization Water pollution from sewage	Water scarcity Climate change Overgrazing	Hydroelectric Urbanization Tourism
Number of interviewees	16 women, 9 men	21 women, 15 men	9 women, 7 men





FIG. 2—Interventions in the Mapuche waterscapes. A: Chimehuin; B: Lepá; C and D: Huenehue.

climate change (Garreaud 2018). These changes threaten the livelihoods of Mapuche communities (Figure 2), causing crop loss and animal mortality (Roveta 2008). The jurisdictional overlap of agro-productive arid lands generates tensions between shepherds, small farmers, and state agricultural agencies, triggering changes in socio-productive configurations and the emergence of complex relationships that seek to mitigate water scarcity.

Huenehue represents a scenario of induced water scarcity. The river is just one link in the binational Valdivia basin, a complex fluvial system that connects nine glacial lakes. Conflicts have arisen as a result of water control and management by a hydropower company in a context where water is otherwise abundant (Figure 2). Flow was redirected to the power plant in 2005, and by 2008, the original watercourse had dried up, causing water shortages and threatening Mapuche livelihoods.

#### FIELDWORK AND DATA ANALYSIS

Fieldwork was conducted by different teams in each basin, beginning in 2016. Data collection involved semistructured and in-depth interviews, observation, walking interviews (Evans and Jones 2011), and conversation in a context of *nütram*—an encounter where traditional knowledge (*kimün*) is orally transmitted (Catriquir and Llanquiao 2017). Data analysis was primarily descriptive-interpretative, focusing on aspects concerning waterscape construction, including access, distribution, treatment, disposal, perceptions, rituals, and uses. We also considered water politics, including both internal and external conflicts and cooperation (Linton and Budds 2014). Sources of information were triangulated, and a group of participants was selected (Table 1) using intentional sampling (Albuquerque and others 2014). In all case studies, ethical criteria of confidentiality and anonymity were safeguarded through letters of informed consent (ISE 2006).

## MAPUCHE WATERSCAPES IN WALLMAPU

Different displaced Mapuche groups maintain similar relationships with waterbodies despite their contrasting experiences and political and institutional contexts. Argentina has a federal government and each province has total control over its continental waters. Water is considered a public good and the state mediates between different actors and indigenous communities, resolving conflicts by political decision. By contrast, Chile has a centralized government whose agency regarding water management is limited, as distribution and access is regulated by the market. Water is a public good but is controlled by means of rights or concessions that function according to the logic of private property.

Contrary to legal definitions, a common characteristic of the communities studied is their perception of water as a living entity or subject to whom they are related. Lakes, rivers, and other waterbodies are bestowed with rights that ought to be respected by the people. Regardless of their different forms of water management, it is according to their stories, realities, and experiences that communities recognize agency in a world that is only partially controlled by human action.

Currently, individual Mapuche families living in the Chimehuin basin exercise diverse forms of distribution, access, and management of water. Their vision, however, is recreated from generation to generation, and according to many accounts from community members, “the water remains a living being.” Perceptions of the different *ngenko* (guardians or spiritual owners of the water) are revealed in the stories of the older inhabitants interviewed (Aigo and Ladio 2016). Far from being regarded by community members as supernatural or something of the past, the *ngenko* are central to Mapuche beliefs and considered guides for proper water-related practices. As one community member asserts: “In the lake is the *cuero del agua* [water hide], but also several other animals. There are bulls, sheep, and water horses, and my mother says that they go by different names, each having, as in the mountains, their own *ngen* [guardian].”

In scenarios of abundant water, such as the Huechulafquen and Paimún lakes, the bond between the Mapuche communities and water translates into a complex waterscape of interwoven parties (Aigo and Ladio 2016). Even in Costa de Lepá where water is scarce, the older people perceive the springs as powerful, animate entities, and many traditional families protect them, safeguarding the underground waters from external intervention: “If one bothers them, the springs get angry. When outsiders arrive, they begin to bubble or spurt because they are jealous. They can dry up.”

Mapuche waterscapes pervade the entire fabric of community life and daily routine. Preferred drinking water comes from either creeks or the ground. In Costa de Lepá, the community obtains it from groundwater-fed springs. Water has profound significance beyond its material benefits and is associated with feelings and memories, codifying concepts of community wellbeing: “The water



is tasty and fresh. We've always used it: my parents, my grandparents, since we were children. We used it and would never be sick." One of the fundamental premises is that if water flows, then it is alive and drinkable: "The living water leaves the bacteria on the banks and we can use it; it works with the *berro* [*Nasturtium officinale*] that grows on the banks and is a barrier that filters bacteria." Rivers and streams are open-access waterbodies that can be used by several families (even from outside the community) to graze cattle, cultivate the banks, collect medicinal plants, and cool off in summer.

Relationships with water in the three observed communities are ruled by respect, care, and reciprocity, and compliance guarantees the integrity of these moral communities. These principles permeate emotions, attitudes, and behavior, as a Chimehuin woman recalls: "Water deserves respect as we respect a person. Before crossing the lake, my grandmother would kneel on the shore and ask for a safe crossing and return. She also told us that we should take care because the *ngenko* of the springs move if angered."

The rivers of Wallmapu have been and continue to be places of extraordinary social and ritual life. In Chimehuin and Huenehue, we observed how birds, fish, frogs, and other native fauna are of considerable value in food and productive activities. Powerful waterscapes are enacted here, reflecting strong links with water and its associated beings within "a mutual parenting network" (Lema 2014). According to one of our interviewees: "When we were children, our elders talked to us a lot; when we entered the water, they told us that we had to respect water. When my father cut canes and washed them in the water, he used to tell us: 'if you are going to enter the water, be very careful, ask for permission.' We are very careful with water. When we do the ceremony, the *llepun* [or *wenupun*], we always ask for water, for the hill, for the wood, for the animals."

Water, as we observed in Huenehue, is connected to a variety of elements, including birth, health, luck, love, and spiritual protection. Drinking two teaspoons of water is held to facilitate a newborn's language acquisition, and although the practice is prohibited by public health conventions, it is nevertheless performed with the complicity of health workers. For this community, water is not only a part of life in general, but of human life in particular, and of human culture as expressed through language.

Water is life giving and its interruption means decay and death. "No one should alter the water and its components; on the contrary, water deserves respect," is a sentiment echoed in all three of the localities studied. Flowing water is the grid that sustains human and other-than-human life. The river is part of the community and the community is part of the river. As one Huenehue resident states: "The life of the river ... the river is life: the little birds, the fish. I would be happy if they gave us at least a little water so that the river could be brought back to life, because, right now, the river is dead."

In Costa de Lepá, the configuration of the territory and the people's bond with the land are expressed and renewed annually during community ceremonies attended generally by older people, such as the *Wüñoy Tripantu* (Mapuche New Year), during which people bathe in the springs and ask for rain and a good year. As an older Mapuche woman tells us: "I wash my face in the spring in the morning and I know how it is to feel like the breeze. The water is more temperate. I ask for water and a good new year. I do not lack water. You used to ask permission to take water or to gather plants as if they were people too. The spring water is a blessing."

The three communities define water as a "life companion" and describe their relationship with rivers as an exchange through which the survival of both the river and themselves is guaranteed. The rivers provide fish that community members sparingly catch, avoiding excess and commercial profit. As one Huenehue resident remarks: "the river was what we needed to live. We sold nothing of what we took from the river; nothing was meant to be sold, except to buy some sugar or salt. It was for us." In Chimehuin, a woman recalls: "My father used to fish for *chalhua* [fish] in the stream, and he only caught the fish we needed to eat. If he did not need food, he did not fish. He told us that fish are not meant as a source of money; nature is not for making money, just as the *piñón* [*Araucaria araucana* seed] is not to be sold. Now tourists catch all the fish."

While planners, state actors, and extractive industries view water as an inert entity with the capacity to generate capital, these Mapuche communities understand it to be an active and powerful entity bound up with all forms of life. The mutual accommodation implied by the Mapuche approach guarantees resilience for both the people and the water, and this distinction is crucial to their worlding practices.

#### LOCAL RESPONSES, EQUIVOCATIONS, AND PARTIAL CONNECTIONS

The situations of the Mapuche communities in these three basins present various aspects of global capitalist expansion. Pressed by modernity and the trading of natural resources, communities creatively accommodate their biocultural memory to the challenges posed by changing circumstances, recreating themselves by adopting new approaches but never abandoning their identities. A young Mapuche in Huenehue insists: "We can dress as we please, but we're of Mapuche blood." Association with external agents does not detract from their indigenous identity, and aspects of their biocultural memory are applied to engagement in multiple equivocal relationships with outsiders. As Veronica Lema suggests, they accommodate, incorporate, and transform, allowing dialogue without synthesis (2014). As a result, they have diverse ways of revitalizing and reaffirming their Mapuche identity.

## LOCAL RESPONSES

In Huenehue, diversion of water to the hydroelectric plant caused a water shortage that impacted on all aspects of the local indigenous community. Spaces for human and animal activities were fenced off in order to avoid contact with contaminated water, separating neighbors with physical barriers. A *kimche* (community elder) drew a sketch to illustrate the change brought about by the induced water shortage (Figure 2). His drawing showed a *metahue* (clay jug), below which was the same jug but smashed. “This is what we used to be; this is what we are now,” he says.

A woman resident of Huenehue complains: “That [to obtain medicinal plants] is not possible. The *lawen* [Mapuche medicinal herb] ought to grow where it belongs. The plants require water at all times, just as they did when they grew by the river.” The image of a healthy river involves running water. “Nowadays only bushes grow over there,” they complain. No longer the friendly, central component of the waterscape, water is stagnant, a source of fear and rejection. From both a sanitary point of view and the Mapuche perspective, still waters offer nothing but sickness and anguish.

Construction of the dam and the canalization of the river fragmented the Mapuche waterscape: “Before the dam walls were built, many people came to visit during summertime.” The channel itself and the fencing around the installation physically separated communities. Chilean employees and their families enjoyed better housing and schooling in the isolated settlement of Pullinque, away from the local indigenous people.

The draining of the river not only harmed the local community but drove people to review their acquired knowledge and forms of organization. The new context demanded new responses. Although the traditional *lof* serves to maintain internal balance, it is inadequate for dealing with private corporations or the state. The entire social fabric has undergone profound transformations, among which is the accommodation of legal discourse. As suggested by Piergiorgio Di Giminiani, indigenous water ontologies and legal ontologies are conceptually antagonistic, but they interact in practice, provoking transformations in the Mapuche discursive construction of the conflict (2018).

An example of this is the transformation of the river from a congregational site to a focus of political mobilization. The main religious celebration, the *nguillatun*, was held in a sacred space close to the river where the two neighboring *lof* met to express their gratitude to *Chaw* or *Ngechen* (human spirits) for the harvest. The two *lof* now meet there in an effort to recover the water that they believe has been stolen from them, reviving their historical connection and traditional knowledge to oppose the company. “I know how far the water goes,” says one elderly woman. “Just by looking at the banks of the river you can see the highest level ever reached by the water.”

Community members stress the meaning of the hydronym Huenehue as “place of friends.” This emphasis is new and is intended to foster emerging friendships that go beyond kinship and ritual relations. The recently formed Territorial Council of Indigenous Communities, a political organization, now promotes protection of the river and proposes a well-defined project for its recovery.

In striving to reclaim their rights, community members recreate a waterscape of sites anchored in their biocultural memory, reviving the community’s history and territorial origins. This emerging waterscape becomes central to the territorial dispute in which the community, albeit experiencing substantial changes, remains fiercely Mapuche.

The approach adopted by the Costa de Lepá community for dealing with climate change-induced water scarcity is quite different. Here, local appropriation of the spatial and temporal dimensions of the waterscape is based not only on their political organization and monetary transactions, but on ecological and symbolic exchanges, and cooperative management. They explore the territory in search of springs, diversifying their options throughout the year and reducing pressure on certain springs that dry up in summer. Construction of small dams and irrigation channels helps to control flow throughout the year in response to seasonal fluctuations. Thus, exploration of environmental heterogeneity, comprehensive knowledge of the territory, and respect for underground waterscapes help the more traditional families to access groundwater reserves and mitigate uncertainty produced by the scarcity of surface water.

Abundance of water in Chimehuin is ideal for tourism. The national and provincial governments have strongly promoted tourism, beginning with a National Park conservation model aimed at keeping landscapes “pristine.” The policy transformed the lives of communities, prohibiting or limiting their use of land. One resident recalls: “When National Parks arrived in the territory, the restrictions came. They told us that we couldn’t plant as much; they started charging us. We couldn’t have animals; they charged us for grazing and water permits. We couldn’t gather dry wood for heating, nor even repair animal fences. Nothing. We weren’t allowed to *piñonear* [gather *Araucaria araucana* seeds]. We had to pay for everything. People used to have up to 600 animals; then they started charging us and people couldn’t have them anymore.”

In recent years, the communities of Chimehuin have succeeded in reversing the process through constant resistance and defense of their rights. As a young member of the community comments: “We resist being labeled as predators and we can now better fulfill our demands and expectations to use and be part of Nature.” Resorting to their fertile biocultural memory, they have developed a more flexible approach to traditional practices within Lanín National Park and, since 2000, have worked alongside the NPA towards state-imposed conservation objectives (Trentini 2011). The notion of conservation represented an opportunity to apply their resilience and Mapuche relational ontology in a new context. They seek to preserve their own

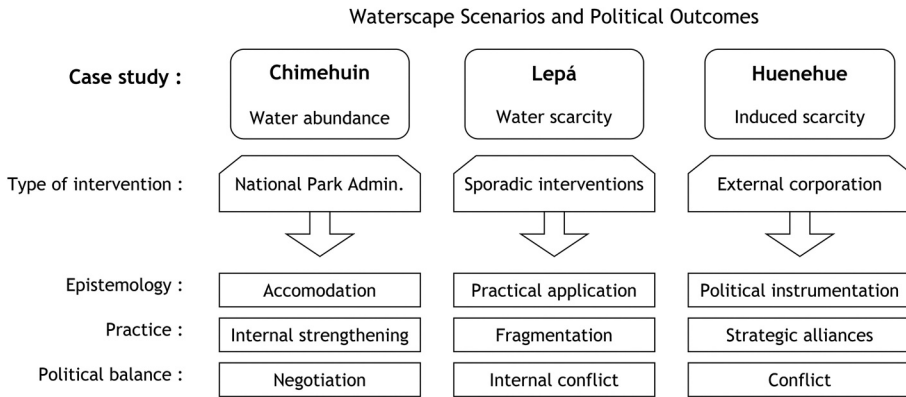


FIG. 3—Political outcomes of cosmological confrontations.

communication with water and the forest, revitalizing the mapudungun reflected in the toponymy, while maintaining a respectful dialogue with the NPA and tourists. Mapuche names of lakes, rivers, streams, valleys, and hills reflect an ontology that persists in waterscape making. As expressed by one female resident: “One is not alone here at the lake. We must always ask permission so that nothing will happen to us; permission from the mountains, from the water, from the volcano—because everything has its power and you are not alone.”

The political response to change varies from case to case, reconfiguring the articulation of humans and nonhumans in each waterscape (Figure 3). The communities of Chimehuin have consolidated their traditional organization and secured the right to jointly manage Lanín National Park alongside the federal government. Facing a more constricted environment, some Costa de Lepá community members accept certain conditions for state interaction, adopting new technologies but accommodating them within their indigenous ontology. The communities of Huenehue, confronting water scarcity induced by a hydroelectric project, recover territorial meaning and interaction between communities through the goal of restoring water, the river, and the life it supports.

#### EQUIVOCATIONS

Chimehuin offers an example of the equivocal relations that rule the diverse worlds of their pluriverse. For Mapuche communities, waterbodies are animated and protected by spiritual beings. Their intersubjective relation of care and respect is dictated by reciprocal obligations; conservation is a byproduct of Mapuche worldmaking. Park managers, on the other hand, focus on the goal of conservation and define actions to achieve it. Despite their differences, these approaches converge and reach practical agreement within a comanagement setting, sustained by a partial connection between their respective realities.

In Huenehue, the community and the hydropower company both identify the river as the subject of dispute. However, they operate in quite different realities. The company views the river as no more than a means of generating electricity, diverting it and offering compensation to the community. For the Mapuche, the river is a waterscape that encompasses a multitude of associated beings. The riverbank, for example, is part of a highly complex Mapuche geography. It is not only a habitat for diverse animal and plant species, used especially by the *lawentuchefe* (expert in local medicine), but also part of a numinous waterscape from which living things draw strength and vitality. What, then, is in dispute? The community applies the concept of ecological flow, while the company's perception is completely different. On the banks of the Huenehue, two worlds collide.

A similar equivocal relation exists in a context of water shortage in Costa de Lepá. Over the past decade, state agencies have introduced technology (water pumps, tanks, and reservoirs), training workshops, and subsidies to address water shortages. Projects are usually evaluated as successful by those in charge, who stress the need for continuity over time but are not immune to cooptation and favoritism. Provincial agents and community members agree that there is insufficient water, but approach this reality very differently. For state agents, the shortage is a consequence of climate change and can be overcome using efficient technologies. Community members point instead to the intrusion of outsiders and the breaking of rules regarding springs, as well as unfair use of communal water by certain residents who violate social rules of coexistence and reciprocity. In other words, the problem is not misinterpretation but equivocation (Viveiros de Castro 2004): initial premises are drawn from differing ontologies.

#### PARTIAL CONNECTIONS

More than one, less than many (De la Cadena 2015), and “a circuit of connections rather than joint parts” (Strathern 2004, 54) aptly represent the pluriverse emerging in our three waterscapes.

The dispute over the Huenehue River illustrates how different worldings interact with each other. Water is the medium for a partial connection: the community and the hydropower company could agree on a system of water compensation that would return the river to its ecological flow. The way in which this agreement would feed back to each party defines new opportunities for renewed waterscapes. It would provide the Mapuche with opportunities for expanding their environment, inviting multiple beings to cohabit the river.

In Costa de Lepá, infrastructure provided by the state remain uninstalled or are repurposed. The supplies provided for drilling boreholes in order to extract high-quality water are accepted by the project's few beneficiaries, who conduct the training workshops but continue to drink from springs. The boreholes thus serve to diversify water sources, but are not used as intended by external



agencies, becoming an expression of a partial connection between the two worlds. The community response embodies the symbolic resistance to external intrusion. Rules of conduct, such as not disturbing the living and powerful beings of subterranean water, are upheld as principles of cohesion and environmental ethics present in their biocultural memory are enacted.

In Chimehuin, the tourism industry is an agent of change, and Mapuche communities have had to accommodate their subsistence activities alongside recreational offerings imposed by modernity and the hegemonic development model. They participate through partial connections, selling handcrafts and offering campsites, food, or lodging to tourists. However, Mapuche families remain detached from recreational fishing, a major element of local tourism. They hold some fish-related knowledge, but rarely consume fish or practice fishing, nor do they participate in activities associated with sport fishing, such as guiding or navigation. An element of cultural resistance underlies this disconnection: salmonids are perceived as elements of Western culture and thus “things of the *winka* [foreigners]” (Aigo and Ladio 2016). Moreover, Mapuche people have limited material or operational access to the activity. The regional offering is primarily fly-fishing, practiced largely by affluent national and international visitors who hire the services of large, specialized companies.

In Chimehuin, the impact of tourism on Mapuche daily life has been varied: while many families persevere with their traditional livelihoods, others have specialized in tourist services. This reality produces a dual waterscape that combines a tourism backstage with the normal pattern of life, although special measures and behaviors apply only to contact scenarios, beyond which normal practices resume. Thus, different waterscapes coexist and multiple resistance strategies emerge in response to the national and regional development model (Briones 2005; Moyano 2007).

## CONCLUSIONS

The Mapuche communities of Wallmapu conceive water as a living entity, a fact that calls for exploration of the different realities of the various occupants of this vast territory. The notion of waterscape offers insights into realities that may not be our own but which nonetheless are tied to our world through partial connections. The challenge lies in recognizing the equivocal relations that may be constructed by academics whose reality is far removed from that of Mapuche communities.

These communities challenge us not only in terms of their completely different geography but also their worlding, with which we must engage in order to understand. This worlding shows that, regardless of the differences among the histories of the different Mapuche communities or in the biodiversity of their territory, they share a biocultural memory that is anchored in attitudes and practices and adapts to everchanging waterscapes. For these communities, water availability results from

their intersubjective relation with waterbodies. Observance of certain codes and values, such as respect and care, regulate interaction with water, and by-products such as conservation provide connectors through which to engage in a pluriverse that encompasses other people and institutions.

Faced with changing historical, political, and ecological circumstances, the Mapuche communities of Wallmapu reinvent themselves in a variety of ways while remaining true to their own identity. Their resilience is manifested in their relations with external agents that result in dynamic identities based on biocultural memory. In a territory that has fallen under the rule of foreign entities, this memory harbors their coexistence with other-than-human beings. Although the relations formed between Mapuche communities and the state in the context of water access and environmental conservation are varied, antagonism is ever present. Relationships range from state recognition and governmental participation (Chimehuin) to partially accepted but predominantly ineffective technological assistance in contexts of water scarcity (Lepá), and outright violation of community water rights in favor of private interests (Huenehue).

Our case studies have revealed that state-led measures to halt harmful activities or to solve critical water-access situations are ineffective: different water management schemes on either side of the Andes have similar results. In Chile, water concessions lead to political conflict, while in Argentina, the public status of water often results in assistentialism. In each of our cases, the state uses the provision of water, potable or otherwise, as a mechanism to compensate communities, and although both states have in place legal provisions that determine the relationship of indigenous peoples with water (national legislation and adherence to International Labour Organization Convention 169), none of these measures have been formulated in conjunction with the indigenous peoples themselves. Furthermore, few provisions deal with basic demands such as access to drinking water or respect for traditions and beliefs.

In each of the three cases studied, Mapuche communities are able to reconcile their waterscapes with subjection to state rules by means of flexible responses to water abundance, scarcity, and induced scarcity. In Costa de Lepá, comprehensive knowledge of the locations of water helps to mitigate uncertainty of supply. In Chimehuin, biocultural memory protects the headwaters of the river. In Huenehue, knowledge of the river's behavior helps residents to face the catastrophic discourse of the hydropower company. These communities thus transcend the rigidity of water scarcity or the harshness of external interventions and reveal that distinctive waterscapes provide the foundations of an ever-changing Mapuche continuum that results in more sustainable, protective, and inclusive water management schemes.

We therefore echo Francisco Pazzarelli and Verónica Lema in recommending that we “take seriously” the way in which Mapuche communities define their conditions of ontological self-determination and establish symmetric

relationships with the state and other regional and national agents (2018). Water must be recognized as a bearer of both human and nonhuman life—a local quality that cannot be altered by extra-local interventions. Such recognition requires mutual adjustment based, as the experiences of Mapuche communities suggest, on an exchange that guarantees environmental resilience, transcending the utilitarian notion of water as a resource and accepting its status as a subject in any given historical circumstance. From a public policy perspective, recognition demands acknowledgment of water rights at a local level, and autonomy in its management.

In this context, internal and external variations between Mapuche communities must be recognized. The sciences need to develop conceptual frameworks for the interpretation of socio-ecological processes, and these must involve communities and their local knowledge and practices. Finally, recognition of autonomy and customary rights would contribute to securing the most precious wealth of Wallmapu: human and biological diversity. Without such diversity, meaningful and sustainable relations with waterscapes would be impossible. Scarcity can reach a point beyond which waterscapes may not be capable of meeting the challenge. The river as life is a fundamental premise in the development of Mapuche communities in Wallmapu.

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#### NOTE

1. Worlding is the unfolding of ongoing relations, is a coming together of materials in movement. Each thing is “issuing forth from a world that is itself worlding” (Ingold 2013, 85). In this sense, worlding is the perpetual becoming of emergent realities.

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