

SALMON AQUACULTURE, CUISINE AND CULTURAL DISRUPTION IN CHILOÉ

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Abstract

La Isla Grande de Chiloé, located off the southern coast of Chile, is the second largest island on the Pacific coast of South America.¹ 2002 census figures identified the population of the island and its smaller outliers (henceforth referred to collectively as Chiloé) as close to 155,000,² representing approximately 1% of Chile's overall population. An undeveloped regional 'backwater' for most of the 19th and 20th centuries, Chiloé has risen to play an increasingly prominent role in the national economy since the establishment of commercial salmon aquaculture in the region in the early 1980s. This article examines the environmental, social and cultural impacts of the salmon industry in Chiloé with particular regard to regional food culture. Assessing these impacts, the article also analyses the manner in which local artists and writers have deployed traditional folkloric figures and motifs to critique the industry. In these regards, the article addresses the tensions and intersections between two contrasting impulses: the modernisation/industrialisation that has resulted from the region's incorporation within a global salmon aquaculture enterprise; and a more cautious local engagement with modernity that attempts to value and sustain aspects of pre-modern Chilote³ culture in contemporary contexts.

Keywords

Chiloé, salmon, aquaculture/mariculture, cuisine, tourism, folklore, visual arts

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Introduction

The post-War economic development of South America has affected the continent's non-metropolitan regions in various ways. Some regions have experienced stagnation and/or the depopulation caused by rural-urban drift while others with desirable primary resource assets have experienced economic surges of various intensities and durations. In an attempt to understand and manage the socio-economic character and vectors of non-urban regions, South American researchers have developed a concept of *los territorios rurales* ('rural territories') that refers to "the landscape covered by a group of people, their economic activities, and their relationships with the surrounding economy, society and environment" (Berdegué et al., 2010: 2). The leading organisation associated with research in this area is the Centro Latinoamericano para el Desarrollo Rural (commonly referred to as RIMISP), established in 1986. The organisation has identified its primary goal as development (*desarrollo*), defined as "strengthening the capacity of different social groups in the rural sector, and enhancing the freedoms enjoyed by the people who make up rural society in our region" (RIMISP, n.d: online). As part of the organisation's thematic agenda for 2008–2012, RIMISP prioritised expanding "regional spaces and mechanisms for exchange and dialogue". Within this, it identified three specific thematic foci: social learning for rural development, market transformation and rural territorial dynamics (ibid). The theme of rural territorial dynamics focussed on the "determinants and institutional processes that enable access into dynamic markets of products and services with a cultural identity, which have significant effects on the economic and social development of poor rural territories so reinforcing their cultural identity" (ibid).

In 2007 RIMISP identified Chiloé as a key case study of regional dynamics and held workshops, interviews and focus group sessions there in 2008.⁴ Drawing on Pierre Bourdieu's theorisation of forms of capital (1986), RIMISP described the conceptual framework of the project applied to Chiloé as one that understood the (rural) territory "as a social field in which different social actors hold different forms of capital: economic, political, cultural identity and natural" and went on to argue that "territorial dynamics can change the position of these actors in relation to each of the

capitals, which can be exchanged by modifying the system of formal or informal rules and norms” (RIMISP, 2008: 12). Reflecting on fieldwork, the researchers identified a number of key factors about Chiloé’s experience with aquaculture that were pertinent to its regional dynamics. Along with the industrial-environmental factors (discussed later in this article) a key finding was a significant division within the territory’s population caused by “inequality” of “access to opportunities and to the results of economic growth” (ibid: 13) leading to significant “differences between urban and regional areas and within each of them” (ibid). With particular regard to local institutions and their powers, the report noted that: “any social actor or coalition of social actors that can mobilize resources in order to impose its strategies has the upper hand” (ibid); a situation that, in Chiloé, has led to:

External investors, who are familiar with norms, laws and regulations, and can commission technical studies and legal services in order to promote their interpretation of the institutional framework, obtain access to natural resources and establish resource use guidelines that are favourable to them. This has been detrimental to local agents, who have lower levels of the various types of capital involved, including economic and political capital. (ibid: 13)

This article complements the nature of RIMISP’s research and reflection on Chiloé in two inter-related ways that specifically address the cultural consequences, responses and ramifications of the industry’s development and of the local “institutional myopia” (Berdegué et al., 2010: 5) that has supported it. The first concerns the *patrimonio cultural* (cultural heritage) of the region and how it has been impacted and (as will be argued) ‘activated’ in response to profound disruption of the region’s socio-economic structure. The second addresses the tensions and disjunctures between traditional Chilote food production and consumption (as a specific form of *patrimonio cultural* innately linked to a sustainable use of local resources) and the arrival of salmon as a premium value export product and tourist commodity. As this summary suggests, the article is (necessarily) inter-disciplinary in orientation. Through its consideration of environmental issues alongside cuisine, it embraces the latitude and character of contemporary Food Studies, identified by Long as an emerging field that “tends to cross the usual boundaries between the humanities and sciences, as well as between academic and public (or applied) research” (2009: 9).

Similarly, the article also follows a recent tendency in Folklore studies to “address power structures, inequalities and disjunctures in communities and traditions” (ibid); and approaches its subject as an “aesthetic and experiential domain” (ibid) as well as one of more detached analysis. As importantly, the article identifies and amplifies the cultural ‘voices’ of the region that have been muffled by the ‘noise’ of the coalition of external investors and local facilitators, operatives and advocates who have promoted the economic development of the region over and above any more holistic consideration of its environment and heritage.



Figure 1 – Map of Chiloé and adjacent coast of Los Lagos region (source: www.commons.wikimedia.org).

History and cultural heritage

Throughout its history, Chiloé has maintained a significant degree of difference from the Chilean mainland due to its isolation (relative to Chile’s main metropolitan centres) and its distinct cultural history. The current population is primarily mestizo

(i.e. ‘mixed race’), comprising the descendents of Spanish settlers, who first arrived in the region in the 1600s, and the local Veliche (also referred to as Huilliche) indigenous people. The remainder of the population comprises surviving Veliche communities and émigrés from other regions of Chile (along with a small number of non-Chileans). Chiloé has long been one of the poorest and least developed parts of Chile, a situation that dates back to its incorporation into the newly independent nation of Chile in 1826, after sixteen years of local resistance to decolonisation. One significant outcome of the region’s isolation has been the preservation of a number of traditional cultural practices and beliefs.

Chilote folklore is particularly rich and complex. Along with beliefs in witches and other magical practices, the island is heavily populated by mythological figures that have emerged from the intersection of indigenous and Spanish cultures (see Lagos, 2001: 50–65). Along with the randy and rambunctious, goblin-like *trauco*, a male figure who has proven popular in modern iconography⁵; three of the most enduring and potent Chilote mythological figures are female, the *pincoya*, *sirena* and *sumpall*. Human in form, the *pincoya* is a powerful female entity, usually represented as an alluring young woman. The *pincoya* is closely associated with the sea, and the marine food resources it provides, and is the protector of fishermen. In recent interpretations of folklore, at least, the *pincoya* has assumed the status of a symbolic guardian of Chilote culture and environment (as reflected in Mauro Olivos Castillo’s painting ‘Pincoya salvando sueños’ [‘Pincoya saving/preserving dreams’]—reproduced below). The *sirena* combines two similar folkloric figures, the siren/mermaid of Western mythology (introduced by Spanish colonists and via other European contacts) and a local entity, the *sumpall*, whose appearance is essentially the same as a mer-person—i.e. lower-half fish and upper-half human. Distinct from (but sharing attributes with) the *pincoya* and the *sumpall*, the *sirena* is regarded as a guardian of the seas (and is particularly associated with Laitec island off the southern coast of Chiloé). While there are some mentions of male *sumpall*, female ones are more prominent in local legends, and are associated with rivers, lakes and inlets (see Tangol, 1972).⁶



Figure 2 – Mauro Olivos Castillo's painting 'Pincoya salvando sueños' ('Pincoya saving/preserving dreams').

Chiloé's material culture is also accomplished and distinct. The region's wooden architecture has received international attention and UNESCO listed its wooden churches as world heritage assets in 2000.⁷ Another rich cultural asset increasingly acknowledged in Chile, is the region's *mestizo* and Veliche heritage of cuisine, folklore, song and dance. The latter practices were recognised, documented and promoted by Chilean folklorists during the 1960s but their exploitation as a tourist asset largely derives from the period following the dissolution of the Pinochet dictatorship in Chile in 1990. Today the region caters for a range of budget to mid-range tourists with a large majority being Chilean, mostly visiting around the peak summer season, January–February, when the local weather is at its mildest.⁸

Traditionally a subsistence economy, the inhabitants of Chiloé have utilised the rich marine environment of lakes, inlets and offshore waters as the source of a variety of nutritious foods, including various types of fish (such as hake, bass and bream)⁹, shellfish (including mussels, oysters and sea urchins) and types of seaweed (*luche* – *Porphyra columbina* and *cochayuyo* – *Durvillaea antarctica*).¹⁰ Further protein has been obtained from sheep and cattle. The region is also notable for its variety of

potatoes. Potatoes originated from the west coast of South America, where they appear to have been a staple food crop for over 10,000 years (with around 99% of current varieties being traced to original stock from southern Chile)¹¹; and Chiloé has a profusion of varieties (*papas nativas*), with seeds for over 200 held in the Chiloé Technology Centre bank in Castro¹² (including the island's unique *clavela azul* blue potato). Apples are also grown extensively (allowing for the production of a local form of aged cider¹³ known as *chicha*, made utilising traditional techniques¹⁴). As Sahady et al. (2009)¹⁵ have identified, the Chilote *cocina* (kitchen/communal parlour) has traditionally been an important site for communal interaction in a region whose often-inclement weather (particularly on the Pacific coast) frequently necessitates indoor food preparation and a variety of associated social interactions. As a result, the authors also argue, the *cocina* has historically been a crucial "hot spot where cultural and economic interests converge" and where "legends and mythologies are woven around the heat of the fire" (ibid: online). But, as the researchers also emphasise, the growth of a market economy, in which familiar foodstuffs can be purchased and newer forms of convenience food obtained, has reduced the need for a variety of time-consuming food preparation activities (such as fish curing and smoking and rehydration of dried seaweeds¹⁶); has diminished related social interactions; and, indeed, led to a reduction in the size and centrality of the *cocina* in Chilote homes.

One particular form of traditional cuisine that has endured is the *curanto*, a mixed dish cooked in a pit-oven in a similar manner to the Maori *hangi*.¹⁷ *Curanto* ingredients, usually shellfish, meat, *chapalele* (a form of potato bun), potatoes and vegetables with *ajo chilote* (a mild, garlic-like root bulb) and, traditionally, *luche* are layered in sections separated by the leaves of the *naica* (Chilote rhubarb), or other plants, in a pit usually of around a metre and a half in width and depth. The dish is prepared for communal consumption on festive occasions and now forms a focal element of the numerous local fetes that occur in summer where it is avidly consumed by Chilote and Chilean tourists alike (the latter usually aware of the dish as a distinctive form of the cuisine of Chiloé and the wider Los Lagos region). A more compact cooking approach suited to smaller festive and family gatherings

(referred to as *curanto en olla* or *pulmay*), combines similar ingredients in a large stewing pot heated over a bonfire or, in more recent times, a metal pressure cooker.



Figure 3 – A traditional curanto at a fete, Cento village (January 2010) – photograph by Sandra Garrido.

Aquaculture and its impacts

The capture of fish and harvesting of shellfish has been a staple activity in Chiloé since the earliest phases of human habitation but in recent years these practices have been supplemented by the introduction of marine aquaculture (also known as mariculture), the ‘farming’ of marine resources in the estuaries and bays around the main island’s indented east coast. While salmon aquaculture has been the most prominent activity in recent years, it was preceded by another practice that has proved more environmentally sustainable.¹⁸ Mussels have been a staple diet for Chilote for at least 6000 years (as evidenced by their presence in early middens¹⁹) but became critically over-exploited in the 1940s as a result of over-aggressive harvesting. After a series of experiments, a method of nurturing mussel growth was adopted in the 1960s that comprised seeding mussels in nets and subsequently transferring young stock to long trailing lines to mature for between 1–2 years. Unlike cultivation of the alien salmon species, the native mussels require neither

feeding nor antibiotics and their cultivation has had a minimal effect on other species and the quality of coastal waters. Mussel cultivation has ensured that contemporary Chilote cuisine can continue to include the local shellfish as an ingredient in traditional *curantos*, in various stews and also as a filling in *empanadas de mariscos* (seafood pasties), with minimal environmental or symbolic disruption.

After some initial experiments, salmon aquaculture began in Chiloé and on the adjacent mainland coast in the early 1980s, almost exclusively rearing stocks of *salmo salar* (i.e. 'Atlantic Salmon'). Surveying the first phase of salmon aquaculture, Larrain identified that by 2002 the salmon industry employed 4500 people, with substantially more involved in "parallel activities" such as "freight, laboratories, cleaning service networks, services, moorings, divers, packaging materials, specialized transport" (2000: 14); and identified this expansion as the key factor in the mainland city of Puerto Montt's population rise from 129,000 in 1992 to 175,000 in 2002 (ibid). Over two decades, salmon aquaculture has expanded to become one of Chile's principal exports (after copper), earning US\$2.4 billion in 2008 (Salmon Chile statistics, 2008)²⁰, with the USA comprising the largest export market (33.2%) followed by Japan (29.8%) (ibid). Indeed the rapid pace of its expansion, the money-earning opportunities on offer and lack of regulation have created a 'gold-rush' like situation in one of Chile's poorest areas. The industry has grown rapidly and safety is poor with high accident and mortality rates for the 4000 divers employed to work in the sea pens, often with minimal training, poor equipment and a lack of hyperbaric chambers (for divers who are injured by ascending too quickly) (see Anderson, 2007).

As Barrett, Caniggia and Read (2001) have identified, the context for this development derived from a decline in Chile's offshore fishing industry in previous decades:

The salmon farming phenomenon has occurred in the context of neoliberal free trade policies and deregulation in the capture fishery. The deregulatory climate associated with Pinochet's regime precipitated an over-fishing crisis in the [national] marine harvesting sector. Privatization, industrialization and

concentration of ownership led to over-expansion and over-capitalization in the industry. By the late 1980s the state introduced new regulatory measures to stop the industry from imploding [which] have led to a scenario of investment stagnation in the capture fishery. (ibid: 9)

In this context, salmon aquaculture was one of the few paths open for investment and market expansion in fisheries. Its potential was seized upon by entrepreneurs who exhibited all the classic attributes accorded them by Schumpeter (1934), being a small body of agents who reacted to changed circumstances (the opening up of a formerly 'common' resource – the sea) and who prevailed over opposition in order to create a new industry. Their expansion proceeded without any of the processes of consultative marine spatial planning and environmental impact studies necessary to any sustainable development. This proved doubly problematic in that it both neglected a crucial resource, local ecological knowledge, and alienated many involved in traditional marine resource extraction. As Szuster and Alhasri (2010) have identified:

Not only can local ecological knowledge supplement or even improve upon more typical government information sources... it can also offer important opportunities for group discussions, problem solving and conflict resolution at the community level... Local and expert perspectives are not mutually exclusive, but complementary, and the inclusion of both sources of information is required to ensure a comprehensive approach to mariculture site suitability analysis on island communities. (2010: 246–247)

Instead of such mediated and informed consent to the introduction of salmon aquaculture, a coalition of commercial and Government interests delivered it as a fait accompli for the inhabitants of Chiloé.

Environmental impact studies would have undoubtedly been problematic for the nascent industry. When salmon are cultivated in enclosures they impact on the local marine environment and established marine resource exploitation in a number of ways. One concerns the water pollution that occurs around pens. This includes the 'overspill' of food pellets (containing antibiotics, fungicides and flesh colouring

agents) outside the netted area; the discharge of salmon faeces into the waters and the pollution caused by the practice of leaving diseased and dead stock to decay in pens. Indeed researchers working with Chile's environmental group Fundación Terram have identified that "the waste created by salmonid farming is more than four times the amount of waste generated by the resident human population" of the regions in which salmon aquaculture occurs (Buschmann and Pizarro, 2002: 6).

While the industry, understandably, attempted to downplay any environmental impacts of its activities in the 1990s and early 2000s, the report of a team of scientists who conducted research in the region in 2002–2003, published in *ICES Journal of Marine Science* in 2004, detailed a series of major effects on local biodiversity and fish stocks:

The environmental impacts of the salmonid farming industry in Chile were reviewed in 1996, and evidence at that time did not suggest significant adverse effects. However, after almost ten years of sustained growth, current evidence indicates that significant loss of benthic [i.e. sea-floor] biodiversity and localized changes in the physico-chemical properties of sediments have occurred in areas with salmonid farms. Furthermore, the presence of these farms significantly increases in pulses the density of dinoflagellates [protozoa]. Data suggests that escaped farmed fish may have an impact on native species, although their survival in the wild appears low. The abundance of omnivorous diving and carrion-feeding marine birds increased from twofold to fivefold in areas with salmon farms compared with control areas without them. (Buschmann, Riquelmea, Hernández-González et al., 2004: 1338)

Based on these findings the report emphasised that it "is urgent that an ecosystem approach be implemented to assess all impacts of salmonid farming on coastal ecosystems in southern Chile" (ibid)—a recommendation that has not so far been adopted by the industry or relevant government offices. Indeed, Mojica (2010: 1–2) has summarised the range of continuing impacts on indigenous fish stocks and traditional fisheries as comprising: a 50% loss in species diversity in some areas, contamination of indigenous fish with antibiotics (leading to concern about human consumption) and changes to the flavour of wild fish itself.

The under-regulated and rapid expansion of the salmon industry has not only endangered the marine environment and native fish stocks, it has also endangered the industry itself. In 2008 infectious salmon anaemia spread rapidly through crowded aquaculture pens causing a high percentage of deaths of fish stocks, tarnishing the country's export reputation²¹ and resulting in a large number of staff lay-offs. It was largely due to this factor, rather than environmental concerns, that the Chilean Government began to tighten up regulation of the industry in 2009, although it is as yet unclear what effects the new policy will have.²²

Despite the salmon industry's advocacy and propaganda and the support of those keen to increase local employment opportunities; the negative impact of salmon aquaculture on regional society was recognised as an issue of concern during its first decade of operation. In one regularly cited research project, whose results were first presented in 2001, a team of Canadian and Chilean researchers produced a cautiously optimistic characterisation of the social situation, with their field research leading them to conclude that:

the traditional lifestyle... of fishing-farming subsistence households, which has characterized Chiloé for generations is not being abandoned as rapidly as expected... Overall, communities seek to adapt to the new conditions presented to them. (Barrett, Caniggia and Read, 2001: 4)

Using a cultural example to support their contention, the researchers identified that they witnessed a community event in "the extremely remote" Isla Cailin when the community "prepared a *curanto*... and passed the afternoon playing the guitar and singing folkloric songs within a stone's throw of a large salmon farming site" (ibid 31). But despite Barrett, Caniggia and Read's characterisation of the spatial co-existence of different socio-cultural activities, ethnographic research conducted in Chiloé close to a decade after their survey for this article showed a marked polarisation of attitude amongst the local population. While summer festivities continue to feature *curantos* and traditional dances within sight of salmon pens, there has been a growing deployment of local folkloric concepts and motifs as a cultural

response to the socio-economic logic of the aquaculture industry, its industrial allies and political supporters.

Cultural stress

As the centre of Chiloé's tourist industry, the regional capital of Castro hosts a number of restaurants primarily catering for the seasonal tourist market. The older of these are located along the city's waterfront, with a number of newer, more upmarket eateries located close to the city's central square and its more expensive hotels. Seafood is prominent on the menus of these establishments and salmon is a standard inclusion, usually served grilled with simple accompaniment and minimal flavouring as the standard culinary form of what Lien described as the "global universal artifact" (2007: 169) of *salmo salar*. In perhaps the only significantly localised preparation of the fish, it also features on the menu of the ceviche stalls at the waterfront craft market, where it is served raw in lime or lemon juice, together with onions, herbs and chile, as one of the three seafood ingredients on offer (along with sea-urchins and mussels). While rendered 'authentic' by the simple bench-top preparation and delivery of the dish to consumers, and open to perception as traditional by its location alongside various crafts stalls, the dish is a confection aimed almost exclusively at tourist consumption.

One of the most striking expressions of the cultural changes that Chiloé is experiencing as it modernises and draws on its traditional folklore as a resource occurs in and around the 'Encuentro Nativo' (literally, 'native encounter') restaurant in Castro. The restaurant, which advertises itself as providing *delicias nuestras* ('our' – i.e. local – 'culinary delicacies') is located at the top of the hill up from the picturesque waterside village of Palfitos de Gamboa. Situated on a promontory a short distance from Castro's commercial centre, the restaurant represents the emergent upmarket face of Chilote tourism: its stylish interior reflecting a particular vision of Chiloé via paintings by local artists and individually carved wooden table settings. A large wooden sign on the outside of the building (Figure 4) announces the restaurant's name to passers-by over a mythologically-themed image of a woman blended with a tree, her flowing hair forming its branches, her legs morphing into

the tree's roots. In combination with the restaurant's name, the image suggests a derivation from regional folklore but the connection is only slight. While the image has faint echoes of the supernatural figures of Chilote legends, there is no traditional model for the figure represented on the restaurant sign and the image has a less local and more generically 'New Age' association.



Figure 4 – Encuentro Nativo restaurant sign, Castro (January 2010), photograph: Philip Hayward.

Entering the restaurant, you are immediately struck by the high, wide windows that look out over the inlet towards the opposite shore. Also impressive is the painting given pride of place above the bar. Its central image is a siren lying on her back on the sand (Figure 5). In one sense, the image of the *sirena* is clearly an appropriate one for a Chilote restaurant in which local seafood features prominently on the menu. But the painting and its associations create a more complex representation of contemporary Chiloé than mere folkloristic decoration. Scrutiny of the image reveals that it offers an unusual depiction of a siren. In the painting, she lies contorted on the shore, a hook piercing her shoulder close to her neck. The sky and light are dull and metallic, almost post-Apocalyptic. The image is one that requires interpretation; it

does not offer an obviously folkloric image in a comfortable pose but rather a freeze-frame from a narrative in which the water spirit is troubled and in trouble.



Figure 5 – Mauro Olivos Castillo's painting 'Cuando se acaben los salmones' hanging above the bar in the Encuentro Nativo restaurant, Castro (January 2010) – photograph by Philip Hayward.

The title of Castillo's painting 'Cuando se acaben los salmones' (which translates as, 'After the salmon are finished') refers to the impact of salmon aquaculture on Chilote life and environment. As the artist has detailed:

The sirena in the painting is a symbol of the impact of salmon aquaculture on Chiloé's people and their beliefs, an expression of how they have forgotten their traditions and culture, bewitched by the modern mirage of the salmon industries. The injured sirena is a symbol of the injury that has afflicted the totality of Chilote culture. It is not only local mythology and magical belief that has been abandoned, young people have also abandoned farms and traditional methods of cultivation in favour of employment in the salmon industry. When salmon aquaculture eventually collapses, Chiloé's people will have to return to their traditions of fishing and cultivation instead, using tradition and magical belief and thought to rebuild and re-invent their culture. (p.c. March 2010)



Figure 6 – Detail from Mauro Olivos Castillo's painting 'Caundo se acaben los salmones'.

The presence of such a powerful and resonant image 'hidden in plain sight' within a restaurant serving locally-reared salmon within a context specifically signed as "Nativo" underlines the complexity of issues involved and the nature of Castro as a site of clashing discourses. The city is, simultaneously, a major power base for the aquaculture industry and the focal point for a loose group of cultural practitioners who have expressed vociferous opposition to the industry. As Mojica (2010) has established, the area around Castro and the adjacent mid-east coast of Chiloé is the epicentre of the salmon industry, with the majority of Chiloé's population who work in the industry and its support enterprises living between Chonchi, to the south of Castro, Dalcahue, to the north and around Achao and Pulqueldon on islands in the adjacent bay. While a number of regional communities have successfully challenged the location of aquaculture sites through legal means (see Mojica, 2010: 5); and other communities have used direct action techniques to assert the need for reform (such as the blockades and demonstrations held at Quellón in May 2010 when local shellfish stocks became contaminated²³); the economic benefits of the industry that have elevated Castro's average incomes and educational opportunities over the last decade appear to have offset any general public concern about its negative impacts. But whatever the benefits of increased local prosperity, a significant number of

cultural practitioners have expressed support for an enduring *patrimonio cultural* closely aligned with notions of traditional Chilote respect and responsibility for the environment that provides their livelihoods and experiential domains.

Similar interpretations of the impact of salmon aquaculture to Castillo's painting are present in a range of other cultural forms. A number of musical ensembles have explored the topic in song. Grupo Madera, for instance (a musical ensemble based in Castro that reinterprets elements of Chilote musical heritage with a variety of Latin American, classical and jazz arrangements), addresses social and environmental issues in several songs on their debut album *Savia de Chiloé* ('The sap/'lifeblood' of Chiloé') (2008). 'Señor Salmón' addresses the issue directly, asking (in translation):

*And if the sea dies, and the lake becomes barren
Where can I find the thread? How can I unravel it?
And if the river becomes so polluted
That no one believes it can be restored
The force that powers the economy will end²⁴*

In a similarly poetic fashion, the band's song 'Tristezas de una Pincoya' ('The Pincoya's Sorrows') represents the crisis of the seas as having alienated the mythical pincoya:

*My soul can sense
The crash of the waves that try to escape
That try to escape
Together with the pincoya from so much evil
From so much evil, from so much evil
She doesn't dance on the beach anymore
She doesn't want to enchant us
Infinite sadness, so much sorrow
For our sea, for our sea²⁵*

The artist's and songwriters' concerns are well-founded since while the salmon industry experienced steady growth in the 1990s and early to mid-2000s, its inability

to contain outbreaks of infectious salmon anaemia in 2008 led to a significant decline in production that raised issues about the industry's continuing viability and the job security of its employees. The latter factor, in particular, prompted the launch of a joint Oxfam and Fundación Terram campaign in January 2008 to protect salmon aquaculture workers' rights in case of a sustained downturn in the industry (see Witte, 2009).

Local poet Mario Garcia Alvarez has summarised the impact of aquaculture on traditional lifestyles with the phrase "salmon symbolises capitalism" (p.c. March 2010). Echoing Marxist critiques of the trauma that arose from the enclosure of formerly common lands for private animal grazing enterprises in England in the mid-1700s to early 1800s (see Thompson, 1991); Alvarez points to the enclosure of areas of the sea (and its pollution) as undermining traditional Chilote common resources. The right of commercial operators to claim exclusive areas of coastal waters was enshrined in the 1999 Chilean Fishing and Aquaculture General Law, which has been implemented by the Ministry of National Defense.²⁶ Alvarez also identifies salmon aquaculture as a key agent of generational rupture between traditional subsistence lifestyles (characterised by barter of goods, rather than use of cash) and traditional reciprocal working duties in the community, and the new form of paid employment by capitalist enterprises. Gerald Sidler noted a similar phenomenon in rural Newfoundland in the 1800s, caused by the development of commercial cod-fishing. Summarising its most profound impact in the succinct phrase, "Capital makes class", he defined the latter as "inequalities that emerge and are consolidated in (and expand well beyond) the organization of production over time" (2003: 12). For Alvarez, such ruptures, while significant in themselves, are all the more pernicious (and potentially devastating) since they break lines of transmission of knowledge (of traditional fishing, farming and construction practices); of principles, practices and etiquettes of reciprocity; and of the folklore that has traditionally been an important aspect of Chilote identity. Castillo's paintings, Alvarez's poetry and the songs of ensembles such as Grupo Madera are reactions against the disruption caused by the global and globalising salmon aquaculture enterprise and represent attempts to retain Chiloe's distinct local culture through activating folkloric symbols in new contexts (thus ensuring their

continuance as a lived cultural expression rather than quaint, romantic remnants of a ‘folk-ish’ past).

Conclusion

In a subtle and finely nuanced consideration of the introduction of Atlantic Salmon to Tasmania (an island to the south of Australia with much in common with Chiloé²⁷), Lien (2005) pointed to the need to move beyond analyses of introduced species premised on simple characterisations as indigenous/exogenous and instead attempted to “demonstrate how species and the spaces they inhabit are sustained by hybrid networks which extend across time and space and thus escape the timeless boundaries of contemporary conservationist visions of nature” (ibid: 659). She contrasted the salience of her focus on “hybrid networks” with Tasmanian environmentalists’ “vivid use of metaphors, through which the native is systematically linked to the need for protection, while the introduced is conceptually associated with theft, invasion and disease” (ibid: 669). Implicit in her characterisation was a critique of the latter and preference for the former. Leaving aside the particular nature of the regulation and monitoring of Tasmanian salmon aquaculture that gives space for such measured philosophy²⁸; her framework is a pertinent one that can be used to support and contextualise (rather than simply deconstruct) the “vivid” deployment of folkloric motifs by Chilote artists. In terms of regional dynamics, traditional Chilote fisheries, marine foodstuffs and cuisine have been impacted (in a multiplicity of ways) by the “hybrid networks” that have established the salmon as a key commodity in the modern economy of the region. As previously discussed, pollution has decreased native fish stocks and variety of species; communities have reported changes in fish taste; and employment within the cash economy has led to a decline in many traditional cooking and preparation techniques. At the same time, salmon remains a food principally exported or consumed by tourists. Its absence from local fish stalls and supermarkets (and hence dinner tables and general cuisine) arises from various factors. Its premium price is obviously a key factor (indeed minimal local consumption of premium value export produce is common internationally). The small-scale consumption of salmon that does occur in local contexts arises from extra-commercial activity, often attributed to consumption of escaped stock but also arising from pilfering (more major theft

usually being for purposes of delivery to off-island purchasers). Other contributory factors appear to be its lack of association with traditional Chilote cuisine and a more general sense of local dislocation from its commercial *raison d'être* as an export/tourist product.

In Chiloé the salmon industry and its opponents have been involved in a profound clash of cultures. The salmon aquaculture industry can be analogised to what Schumpeter (1934/1982) identified as one of the most successful types of entrepreneur: the 'creative destroyer', an entrepreneur who successfully overwhelms old modes of production and distribution and replaces established products with novel ones. As the previously discussed RIMISP research (2008) identified, Chilote agents whose agendas are not congruent with those of external investors and their local supporters have been economically and institutionally overwhelmed. Pitted against the tides of 'creative destruction' unleashed by the policies of the Pinochet regime, maintained by subsequent Centre-Left Governments and supported and facilitated by local power networks; a significant number of Chilote artists and activists have sought to marshal older cultural tropes and mythologies as a final line of defense. While this enterprise may lack sufficiently powerful symbolic force to overwhelm its foes in its own right; the critiques of local and national hegemony it offers provide an affective alliance with the legal and direct actions of regional communities whose traditional food sources, cuisine and the very eco-systems essential to their *patrimonio cultural* are most severely imperilled. In this regard, local cultural activists have provided an important contribution to the cultural identity and capital of the region and an important (if hitherto overlooked) intervention into the "dynamic markets of products and services with a cultural identity" that "have significant effects on the economic and social development of poor rural territories" (RIMISP, n.d.: online) and, thereby, their contemporary cultural identities.

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Endnotes

¹ After the sparsely inhabited Tierra del Fuego, located at the southern tip of the continent.

² Local estimates for the population in 2010 are around 170,000.

³ Also alternatively spelled 'Chilota'.

⁴ See program and links at:

http://www.rimisp.org/proyectos/seccion_adicional.php?id_proyecto=188&id_sub=363
(accessed November 2010)

⁵ Appearing in various popular signage and tourist souvenirs.

⁶ Complicating the separateness of the two folkloric figures, the *sumpall* shares a number of characteristics with European mermaids, sirens (and selkies), often luring humans into the depths – particularly by seductive song – where they die and/or are transformed into marine creatures.

⁷ See <http://whc.unesco.org/en/list/971> (accessed January 2010).

⁸ Chiloé has a cool temperate climate, with rainfall prominent across the four seasons.

⁹ Fish smoking, to preserve catches for consumption in winter when weather frequently impedes fishing, was also a common practice until recently. See Sahaday et al. (2009) for discussion.

¹⁰ See Le Vangie and Soto Quenti (2008: 8 and 15–16) for further discussion.

¹¹ See Reader (2009) for a history of the potato and its internationalisation.

¹² See Ochoa (1975) for discussion of the importance of preserving the variety of potato types as a genetic resource – an argument also acknowledged by the Chiloe Technology Centre, who established their first species bank in 1987.

¹³ Similar to English scrumpy, the cider is stored after fermentation of apples in wooden barrels, during which process its acetic quality, alcohol content and opacity increases.

¹⁴ Including the mashing of apples in a wooden tub (known as a *maja*) and subsequent squeezing through a wooden press.

¹⁵ A research team from Chile's architectural heritage organisation Instituto de Restauración Arquitectónica.

¹⁶ See Le Vangie and Soto Quenti (2008: 23).

¹⁷ The *hangi* has also played a prominent part in Maori tourist enterprises, see Zeppel (1997) and Whincup and Hemera (2011).

¹⁸ In marked contrast to the salmon aquaculture industry, Chilote mussel cultivation has attracted positive attention for its low environmental impacts. In October 2010, for instance, the Empresa Pesquera Apiao operation received accreditation for its production from the international NGO 'Friend of the Sea' (see <http://www.friendofthesea.org/>).

¹⁹ See Orquera and Piana (2009).

²⁰ These figures also include trout aquaculture, which uses similar techniques in similar areas.

²¹ There is also evidence that it tainted the region's tourist reputation. Discussion with several Western tourists visiting Chiloé in Summer 2010 revealed that coverage of Chiloé's salmon aquaculture pollution in international media had created a negative impression that

disinclined them to consume it and to express concern about environmental pollution in the region in general.

²² See the Pure Salmon Campaign (2009: online) for further discussion.

²³ See Unattributed (2010: online).

²⁴ Translation by Waldo Garrido.

²⁵ Translation by Waldo Garrido.

²⁶ NB In addition to the areas assigned to them, salmon aquaculturists have come to routinely assume that an additional 'exclusion zone' of 50–100 metres applies to their lots.

²⁷ In terms of their nature as lowly-populated southern regions of their respective nations, their significance as national and international centres of salmonid aquaculture, and the importance of the latter to their regional economies.

²⁸ See Crawford, Macleod and Mitchell (2002) for discussion of monitoring models for Tasmanian salmon aquaculture.

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