



# The ISA crisis in Los Lagos Chile: A failure of neoliberal environmental governance?



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## ABSTRACT

This paper discusses the Infectious Salmon Anemia (ISA) crisis that affected the salmon industry in Chile between 2007 and 2009. For nearly 30 years, the salmon industry grew exponentially to become one of the top five exporting sectors, and the face of the new Chile: globalized and democratic. I argue that the crisis showed cracks in the neoliberal environmental governance mechanisms followed by Chile during that period, raising questions about the need for socially restructuring the political economy relationship with the environment by increasing state oversight over the use of the natural landscape in which the industry produced, while allowing firms to continue their exploitation pattern and global exports of commodities as their accumulation strategy. Furthermore, the political solutions that were introduced tested the ideological reliance of neoliberal environmental governance mechanisms on science and knowledge production for providing appropriate answers.

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## 1. Introduction

The salmon industry in Chile has been known for its successful and accelerated growth into one of the top producers and exporters of fish in the world, transforming local and regional economies (see Fig. 1 for a map of regions of influence) and exacerbating social differentiation (Barton and Floysand, 2010). However, in 2007 it was hit by a crisis that threatened its accumulation strategy, breaking apart the “picture-perfect” image of Chile as a model of economic integration into the global economy through natural advantages.

In July 2007, the country largest salmon company, Norwegian owned Marine Harvest, announced an Infectious Salmon Anemia (ISA<sup>1</sup>), a virus similar to the human flu virus, outbreak in Chiloé. While ISA does not affect humans, it produces high mortality rates among fish and a rapid deterioration of their physiology. Following the ISA sanitary crisis, the industry suffered severe economic conse-

quences: Many producers could not repay the loans they obtained during the industry’s boom to support further expansion, exposing its fragility and the effects of regional dependency on a single resource for development.

In this article, I discuss how the ISA crisis reflects the shortcomings of neoliberal environmental governance mechanisms and the role of science in providing inputs into the decision-making processes involved. While political ecology literature acknowledges the importance of knowledge production in environmental policy (Merchant, 1980; Prudham, 2003; Duffy, 2006; Robbins, 2006; Prudham, 2007) the issues of how and what kind of science is used both discursively and in practice remains a key topic for examination, particularly in resource-based economies where the science-policy-nature interaction is hybridized in neoliberal practices of governance and political action. In this way, I examine how socio-environmental conflicts are resolved (Barton and Floysand, 2010; Perreault and Valdivia, 2010) and the role of science in providing alternatives within political spaces of decision-making (Apostolopoulou, 2010; Horowitz, 2010).

I argue that existing environmental governance institutions created are incapable of considering scientific arguments, demonstrating the inability of the formal political system to address long-term ecological implications of environmental crises. The case of the ISA crisis shows that there are two moments in its treatment: first, a moment of framing, where scientific explanations were looked for but were not found in the form and themes needed for policy-making, and a second moment of intervention where the actual solutions focused on economic restructuring and financial considerations. In these terms, environmental governance

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<sup>1</sup> According to Toennessen et al. (2009, pp. 308–309): “The infectious salmon anemia virus (ISAV) is classified as the type species of the genus *Isa* virus in the Orthomyxoviridae family and is evolutionarily remote to the influenza viruses. ISA was first recognized as a disease in 1984 in farmed Atlantic salmon (*Salmo salar*) in Norway and has since been diagnosed in Canada, Scotland, the Faroe Islands, the US, and Chile. Fish in the terminal stage were found to be severely anemic, and this feature gave name to the disease. Field outbreaks of the disease have only been detected in farmed Atlantic salmon. There are no reported natural outbreaks in other species or in wild fish. The mortality can be higher than 95% during outbreaks, but low mortality also occurs. The disease causes large economic losses for the fish farming industry.”

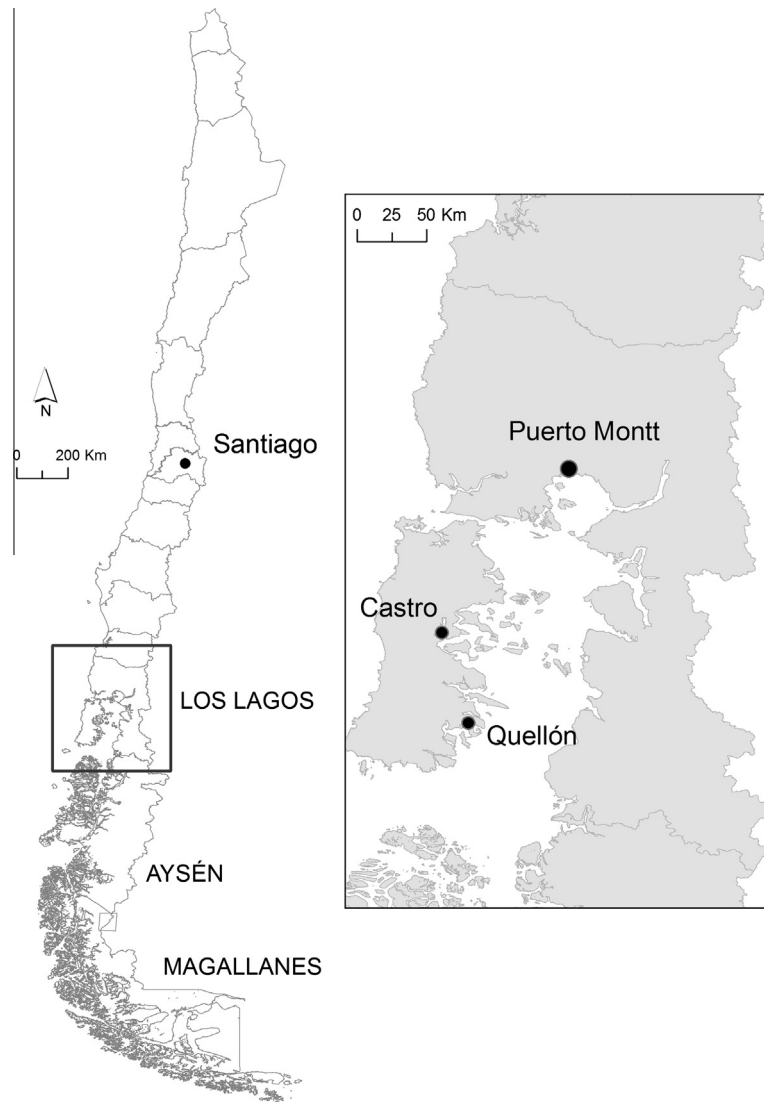


Fig. 1. Map of the area.

institutions did not use science to provide the solutions for nature as obstacle for capital accumulation, but instead, for providing the discursive justification for the financial restructuring of the circuits of accumulation for the salmon industry. In the process, the solutions are creating new circuits for capital accumulation (moving to new geographical areas, forcing firms mergers) at the same time as structuring the social relation with the environment, (Bridge and Perreault, 2009) by establishing new regulation but also changing perceptions on environmental exploitation.

To support this argument, I first discuss the science-policy-nature interface from a political ecology perspective, followed by a narrative of evolution of the ISA crisis to emphasize the role of science in building the environment for salmon-production and thus, the contradictions that arise for environmental governance. I conclude with a revision of the solutions proposed to understand the new social structure of nature-society interaction post-ISA and potential implications for the industry in Chile.

## 2. Environmental governance and science in resource-based economies

Scholars have broadly studied and presented Chile as an iconic example of neoliberal policies in action (Collins, 1995; Drake and

Jaksić, 1995; Harvey, 2005; Barton, 2006; Barton and Murray, 2009). It could more accurately be described, however, as an example of ongoing economic dependency on nature with an unresolved tension in its accumulation strategy. The economic and political system has been unable to absorb the costs of using nature as the backbone of the neoliberal export-oriented strategy (Cademartori, 1968; Meller, 1996; Quiroga and Hauwermeiren, 1996; Claude, 1997).

Barton and Floysand (2010) have studied the trajectories of the Chilean salmon industry as an example of globalization and the rising concerns for the social and environmental impacts of export-oriented economies. This article builds on that analysis and examines knowledge of nature as an obstacle for capitalist accumulation; “the material properties of the nonhuman world influence direct attempts by capitalists to profit from these” (Benton, 1991 in Castree, 2008a, p. 145). With the implementation of neoliberal policies – such as free trade agreements in the 1990s – the economic and political systems have paid attention to nature as a barrier to the economic strategy by implementing an explicit environmental framework based on experts and science for decision-making (Azuela, 1993). Such a framework requires the necessary intellectual discourses to support such purposes by identifying resources avail-

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