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DOI: 10.1016/j.marpol.2016.09.034

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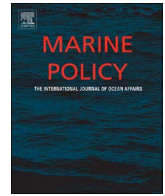
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Discourses, risk perceptions and the “green” profile of the New Zealand salmon farming industry

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ARTICLE INFO

Keywords:
Discourse
Risk perception
Narratives
Salmon farming industry
New Zealand

ABSTRACT

The New Zealand salmon farming industry is building its salmon farming brand on a green image of a clean industry operating in pristine environments and thus producing a high-quality premium product. The paper pursues the discursive dynamics behind this green profile by investigating how different stakeholders reveal industry related risk perceptions in claims and narratives. Completing this it is demonstrated that the risk perceptions are strongly linked to an environmental discourse, but also that the particular risk society behind this is set under pressure by current ambitions of industrial expansion

1. Introduction

The New Zealand salmon farming industry has been acknowledged to have a “green” profile, indicated by its top ranking on the Global Aquaculture Performance Index (GAPI) [1] and in the Global Salmon Initiative Sustainability Report on key environmental and social factors [2], and by its sustainability commendation by the US consumer guide *Seafood Watch* [3]. The aim of this paper is to explore the dynamics behind this green profile in particular by examining the influence of the regulatory regime and risk perceptions on practices in the industry. To accomplish this, the article draws on the concepts of *modern risk society*, *discourse*, *stakeholders* and *corporate social responsibility* (CSR). According to the risk society thesis, a distinctive feature of modern industrial societies is an underlying fear of the perceived risks created by the duality of science and an expert-based industrial production system [4,5]. To follow up, the article asks what the relationship is between stakeholders’ risk perceptions and the green profile of New Zealand salmon farming. To discuss this question, the discourses, related narratives and claims that characterize the salmon industry in New Zealand are scrutinized. A strong concern for environmental risks across stakeholder positions directs the industry towards a green profile, but currently this is under pressure from new regulations, a stronger emphasis on the social responsibility of firms and the growth ambitions of industry actors.

2. Risk society, discourse, stakeholders and CSR

The theory of the modern risk society is that the process of

industrialization has produced new and invisible risks as a by-product of its overarching goal of wealth creation and increased use of science [4,5]. Because of the invisible nature of risks, risk mapping is often seen as being within the domains of scientific experts and public regulatory bodies. Nevertheless, as science increasingly fails to foresee, prevent and address risks, its knowledge monopoly is deteriorating, and new groups such as the media and nongovernment organizations (NGOs) have gained power in the struggle to define risk [6]. Accordingly, an understanding of the dynamics of risk perception, requires an understanding of the discourses and reflexive processes in which stakeholders participate. In addition, in the wake of the new challenges in the modern risk society, there has been a growing interest in academic research and in society in how stakeholders pressure businesses to adopt CSR strategies. This focus on stakeholders and CSR has developed partly because of increased attention to environmental and health risks from consumers and society at large, which is related to an increased awareness of corporate production standards and corporate management strategies [7].

First, the concept of discourse is considered. Foucault [8] views discourse as the fundamental structure of the world, and believes that it constitutes the basis for all social practice, whereas Fairclough [9] and Laclau and Mouffe [10] stress discourse analysis and the practices of “articulation” of claims, as they see these as attempts to fix meaning in political struggles. Our approach draws less on Foucault and more on Laclau and Mouffe, and Fairclough. Yet to capture the interest of stakeholders in industry development, it is useful to supplement the concept of articulation of claims with the concept of narratives. Discourse is defined as the process of producing meaning on a certain

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topic in a way that inherently structures the perceptions and practices of the participants, who do not necessarily have conscious knowledge of being controlled [11], while narratives are defined as the specific perceptions or modes of explanations promoted by an actor or group of actors located in a certain discourse [12,13]. The argument for introducing narratives into the analysis is that this provides us with a reflexive tool intermediating between “unconscious” discourses and “spontaneous” claims.

In our discourse–narrative–claim setting, the article considers the topic of the green profile of New Zealand salmon farming and related discourses, and examine how risk perception and the claims of various stakeholders are linked to its development. Accordingly, the concept of stakeholders is key for us. Freeman [14] defined a stakeholder as “any group or individual who can affect or is affected by the achievement of the organization’s objectives.” This definition is applied when identifying and categorizing groups of stakeholders who have an interest in influencing the development of the industry. This is a significant task in this analysis because it is crucial to have a clear idea of whom the relevant stakeholders represent when identifying patterns of risk perception. In our setting, the various industrial, governmental and civil actors involved in the discourse represent three crucial stakeholder groups. By mapping the narratives and claims of the stakeholders, the risks are outlined as they perceive them.

Finally, to describe how industries respond to the narratives and claims of stakeholders, the concept of CSR is introduced. The main idea of CSR is that businesses have a responsibility to the parts of society and natural environments that are affected by their practices and strategies [15]. Jones [16] describes CSR as “the notion that corporations have an obligation to constituent groups in society other than stockholders and beyond that prescribed by law or union contract, indicating that a stake may go beyond mere ownership.” This can be seen as an early connection between CSR and the stakeholder literature. This connection has been made by more recent researchers, who argue that CSR incorporated into management strategies is a means for companies to respond to social, environmental and other discourses in society [17]. Thus, in addition to participating directly with (counter)narratives and claims in discourses, industry stakeholders can participate in and respond to discourses through CSR strategies [18]. The analysis is especially concerned with linking the CSR dimension to firms’ social obligations for local development.

In the sections below, the article outline how regulations and discourses in terms of the narratives and claims of stakeholders relate to the green profile development of the New Zealand salmon farming industry. It is argued that an industry’s willingness to participate in relevant discourses and its willingness to recognize the narratives and claims that governmental and civil stakeholders deem relevant demarcate the influence of stakeholders on an industry. Hence, in the analyze below it is demonstrated how a modern risk society in terms of discourses, narratives and claims of stakeholders relates to the (counter)narratives and claims of the industry. The analysis begins by charting the historical development and political regulation that characterizes the industry.

3. The protective approach of the New Zealand salmon industry

The salmon industry in New Zealand is a relatively new industry based on Chinook salmon (also known as “quinnat” or “king salmon”) brought to New Zealand from California at the beginning of the 20th century [19]. Because salmon are not native to New Zealand, and there are very few established salmon runs in New Zealand river systems, the salmon farming industry is not in conflict with wild salmon stocks. In its initial phase (1960–1970), the industry operated in fresh water locations, while the first marine cage rearing began around 1980 as an experimental farm run by British Petroleum on Stewart Island. In 1983, a change in legislation allowed marine farms to operate, and by

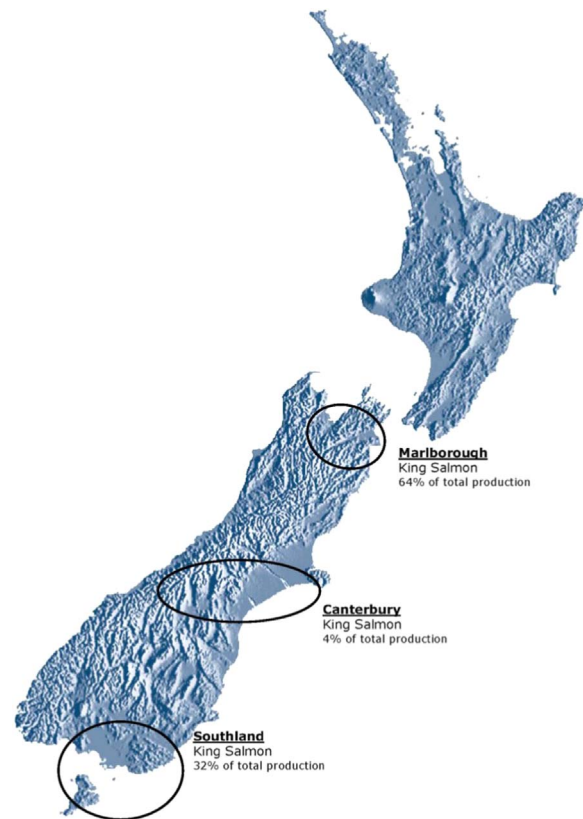


Fig. 1. Location of salmon production in New Zealand.

Source: <http://www.salmon.org.nz/new-zealand-salmon-farming/farming-regions/> accessed 18.11.2015.

1989 Stewart Island had become the major center for salmon farming, followed by the Marlborough Sounds and Akaroa Harbor (see Fig. 1). In the 1990s, the industry continued to grow, but its growth slowed in the 2000s when a new system of legislation was developed and implemented. Along with these changes, the industry underwent restructuring. During the past decade, the number of firms operating marine farms has been reduced to three, while three firms operate in freshwater locations. All production is on a relatively small scale compared with the world’s largest salmon farming countries, where large international companies dominate the industry. The marine farms have a 90% share and the fresh water producers a 10% share of the yearly production of approximately 11,000 t [20]. Marine production is dominated by King Salmon, which operates five farms in the Marlborough Sounds (64% of marine production). Sanford Ltd. has two farms in Southland (32% of marine production), while Akaroa Salmon operates one farm in the Canterbury region (4% of marine production). Finally, the freshwater producers include three farms in Twizel run by Mt Cook Alpine Salmon, High Country Salmon and Aoraki Smokehouse (Fig. 1).

Since the early 2000 s, the growth in the industry has been remarkably relaxed compared with that in salmon farming regions elsewhere [21–23], and only a handful of new licenses have been granted. In particular, changes in the regulatory regime in New Zealand have slowed growth. In 1991, the New Zealand government passed the Resource Management Act (RMA). This introduced a dual consent process for new aquaculture farms, whereby marine farmers first had to apply for a coastal permit from the relevant regional district council before applying for a fisheries permit from the Ministry of Fisheries [24]. During the 1990s, the aquaculture industry grew rapidly. There was a steady increase in new farm locations as many applications were approved [25]. This changed in 2001, when a moratorium on new applications was announced by the government. This lasted from

November 2001 to December 2004, when it was substituted by the Aquaculture Reform Act and the New Zealand Coastal Policy Statement. In practice, these regulations restricted aquaculture activities to aquaculture management areas defined by regional district councils in regional coastal plans. However, they did not change the situation of the industry in terms of obtaining new farm licenses or new locations. To change this situation, the government launched the Aquaculture Reform Amendment Act in 2011. This once again permitted marine farms in protected coastal areas, as aquaculture management areas were rescinded. The Aquaculture Reform Amendment Act also made it mandatory for applicants for new marine farms to prepare an environmental impact analysis to determine how environmental effects would be avoided, controlled and/or monitored. Nevertheless, conflicts between development and concerns over the ecological and economic impacts of the industry have been reported [25–30].

The regulatory changes seem to have created a delicate situation whereby the salmon farming firms press for expansion and the environmental NGOs lobby for the status quo or a reduction in farming, while public authorities, in particular the regional district councils, act as intermediaries. To understand the present circumstances of a rather marginalized and economically stagnant industry, but one with a rather successful green profile, one must examine the stakeholder groups involved and the related discourses, narratives and claims more closely.

4. Discourses, narratives and claims in the New Zealand salmon farming industry

4.1. Stakeholder groups

It is reasonable to categorize the actors that engage in discourses on the New Zealand salmon industry into three groups. One group is the industry stakeholders, consisting of the salmon firms and their business association. A second assembly is the policy and expert stakeholder group, which includes public authorities such as regional district councils, the Ministry for Primary Industries, the Department of Conservation and the R&D institutions engaged in the industry. Finally, a civil society stakeholders group can be observed that embraces consumers, local communities, NGOs, Maori interest groups and others. The media can also be placed in this group. In this and other cases, it must be borne in mind that stakeholders sometimes operate across stakeholder groups. For example, the media, as promoters and providers of discourse, in principle act as a voice for any stakeholder. Likewise, R&D institutions are normally associated with the industry and civil society stakeholder groups. For example, the National Institute of Water and Atmospheric Research and the Cawthorn Institute are R&D actors involved in the discourses surrounding the New Zealand salmon industry. They define themselves as independent expert stakeholders providing research-based knowledge for the industry, public authorities, NGOs and others. Moreover, policy actors that influence the Resource Management Act and the New Zealand Coastal Policy Act through the Ministry for Primary Industries may also influence the industry by promoting industrial development through project funding and subsidies for development, research and marketing. Accordingly, the stakeholder groups do not always exhibit discursive homogeneity in terms of narratives and claims.

Our main data source was semi-structured interviews with stakeholders (six salmon companies and their business organizations, six public authorities, two R&D institutions, two NGOs and two media organizations). The interviews were conducted during fieldwork in 2013 and 2015. A total of 18 interviews were recorded. Our interviews covered questions on industrial evolution (both present and future), the green profile of the industry, political regulations, the (environmental) impacts of the industry and regional development issues. It is also applied secondary data from strategy documents, the firms' home

pages, newsletters and other sources.

4.2. The health discourse

From the analysis of the data, it is discerned a tendency for stakeholders to engage in narratives that either promoted the industry or opposed it. The narratives were expressed through claims and arguments and were mainly linked to discourses around health, environmental and social development issues. Of the discourses, the one on health issues is perhaps the least significant, yet in the 1990s, experts claimed that the salmon feed contained abattoir by-products from land-based animals [31]. More recently, it has been argued that the omega 3 levels of smoked salmon products were lower than reported [32]. It has also been reported that civil society stakeholders have expressed concerns over disease, viruses and parasites in salmon as a potential threat to food security, in particular in relation to a mass fish death from an unknown cause in the Marlborough Sounds in 2012 [33]. According to our informants, only representatives of the local media find reasons to question the nutritional value and dietary ethics of New Zealand salmon farming.

There is also a food security risk. There have been a lot of fish deaths in the past year (2012) and we don't know why that is.

(Civil society stakeholder—media)

I ate salmon before, but it shocked me what they were being fed. Whether or not you get omega 3 and 6, is it healthy compared to wild salmon? ...Until we've got some answers to that, I don't feel very secure eating salmon.

(Civil society stakeholder—media)

Not surprisingly, the industry stakeholders engaged in the health discourse communicate a counternarrative, highlighting the benefits of consuming salmon produced in New Zealand. They emphasize that the industry produces a top-quality nutritious product free of harmful chemicals and antibiotics. Thus, their concerns are not the potential health risks from parasites or diseases, but how misleading risk perceptions such as those expressed above could damage the industry's reputation and market base.

We used to be criticized for using fish meal and fish oil in our diets—the protein from Peru, or whatever it was. So we changed that; we used animal by-products: chicken, sheep, cattle and lamb. Now we get criticized for that. People just don't understand that it is just protein.

(Industry stakeholder—salmon farming company)

Compared to other salmon and seafood species, king salmon consistently contain some of the highest levels per serving of healthy long-chain Omega-3 oils.

(Industry stakeholder—salmon farming company)

In the health discourse, very few stakeholders expressed a real sense of risk connected with food safety. The lack of confidence in terms of a narrative portraying New Zealand salmon as a potentially unhealthy and unclean product has been effectively (and according to the industry, rightly) met by a counternarrative portraying New Zealand salmon products as nutritious, “clean” and “pristine.”

None of the New Zealand salmon farms use any antibiotics or any vaccines, and the same goes for the salmon on this farm. And we don't use any chemicals on our fish at all. We are extremely lucky in that we don't have the disease problems that the Chileans have got, and Norway has from time to time, and that Scotland has. New Zealand is so protected, and that is our market advantage. We don't feed antibiotics or vaccines, and we don't really have any issues, and the stocking densities in the farm cages are low compared to international standards.

(Industry stakeholder—salmon farming company)

The industry stakeholders described how food scares in European

countries had led to boosts in New Zealand meat production. New Zealand salmon in the Chinese market also benefitted from a food scare related to Norwegian salmon in 2014 [34].

We must have some capacity to increase our output, but if we start having issues, like the parasitic issue that you have in Norway, then that changes the landscape considerably. We have a very good reputation.

(Industry stakeholder—salmon farming company)

To summarize, the health discourse has become a tool for the industry to differentiate itself from competing salmon production in other countries by highlighting the lack of harmful chemicals or antibiotics in its production. The industry's strong marketing strategy of a green profile and willingness to contest challenges on scientific grounds ensures a narrative in the health discourse of New Zealand salmon as a premium-quality product with health benefits for the consumer. Accordingly, the narrative of the industry stakeholders stressing that “New Zealand salmon is a product without the health problems experienced elsewhere in the global salmon industry” has established hegemony in the health discourse (Table 1).

4.3. The environmental discourse

Regarding the environmental discourse, stakeholders in the civil society group, such as NGOs, and those in the policy and expert stakeholder group are more vocal in expressing serious concerns. The perceived risks included a range of environmental degradation issues ranging from a fear of loss of special wild or untouched places for future generations, visual and noise pollution, negative impacts on the surrounding marine and fresh water ecosystems in the form of changes to the benthos or water column and eutrophication.

We must be honest about the impact of this industry on the fundamental ecosystem, and it is profound.

(Civil society stakeholder—NGO)

The main risks of salmon farming are environmental degradation (and) direct health issues through increase of harmful algae. ... There are already algae blooms here in the Sounds.

(Civil society stakeholder—NGO)

The thing is that we live in an integrated environment, and so just the presence of that structure in the water is already affecting the natural character and landscape and recreation and amenity values. ... I think for me one of the major issues is losing special places, and losing why they are special.

(Policy and expert stakeholder—public authority)

Within the policy and expert stakeholder group, our informants emphasized the role of responsible and scientific monitoring.

My personal view from a strong conservation background, where I see myself as a scientist for the environment more than anything else, is that it is a viable business ... but the effects of salmon farming are real, particularly in the area I work in, which is the seabed effects immediately underneath the farms. The seabed can

get in quite a nasty state under there, and that needs to be managed. (Policy and expert stakeholder—R & D institution)

Some of the bigger issues when we do risk assessments turn out to be biosecurity issues and water column effects—the wider ecosystem stuff that is harder to reverse. The thing with localized benthic effects is that they are all reversible. If you take the farm away, then within 5–10 years it will be back to normal. But with biosecurity, if for some reason the farms or the farming practices are responsible for introducing an invasive species and it escapes the farm and gets into the system, then it's permanent; you're not going to get rid of it. (Policy and expert stakeholder—R & D institution)

We are trying to find a balance between developing a sustainable well-managed farming industry whilst at the same time protecting some of the things that the community values around recreation and having unused areas that are free from industry and are more natural.

(Policy and expert stakeholder—public authority)

On the other hand, the industry stakeholders portrayed salmon farming as a clean, green and environmentally friendly industry, emphasizing the low environmental footprint compared with other more harmful land-based industries. The industry stakeholders expressed the view that complying with the regulations and related monitoring made them confident that they were protecting the environment they were utilizing. In addition, most of the salmon producers highlighted that their internal industry controls and standards contributed to low environmental impacts.

I think the standards that are set for us now are probably the best in the world.

(Industry stakeholder—salmon farming company)

My experience of salmon farms and salmon farm owners in New Zealand is that they are more green than the most radical green groups. We are extremely, extremely concerned about the environment. Because if we are not, then we don't have a business ... we cannot farm.

(Industry stakeholder—salmon farming company)

In short, there are conflicting narratives in the environmental discourse. According to the industry stakeholders, salmon farming in New Zealand with its prestige and green profile must be extremely concerned about the environment to keep its brand green. In contrast, the civil society stakeholder narrative is that salmon farming is unsustainable and is damaging the local environment where it takes place. However, neither of these narratives is hegemonic, as the narrative provided by the policy and expert stakeholders seems to be that such farming is sustainable as long as it is strictly regulated and monitored by experts (Table 1).

4.4. The local development discourse

Regarding local development, for a long time, the industry flew under the radar of the wider public before issues arose following the regulatory changes in 2011, when some stakeholders reacted to what

Table 1
Discourses and narratives of stakeholder groups in New Zealand salmon farming (hegemonic narratives in bold).

	Narratives by industry stakeholders	Narratives by policy and expert stakeholders	Narratives by civil society stakeholders
<i>Health discourse</i>	New Zealand salmon is a product without the health problems experienced elsewhere in the global salmon industry.	The industry should apply scientific knowledge and methodologies to determine and avoid unwanted health effects.	Salmon is a potentially unhealthy and unclean product.
<i>Environmental discourse</i>	Salmon farming in New Zealand, with its prestigious nature and green profile must be extremely concerned about the environment to keep its brand green.	Salmon farming in New Zealand is sustainable as long as it is strictly regulated and monitored by experts.	Salmon farming is damaging the local environment where it takes place.
<i>Local development discourse</i>	The opponents of new farm locations overlook the point that the salmon industry is an important contributor to the local and national economy.	It is relevant to discuss local development issues, but the claims made in the media are too inaccurate.	The farming industry is threatening local democracy and public resource management interests.

they saw as the industry's attempt to ignore local government decisions to protect certain areas from marine industry activity by bypassing local councils in their expansion of the application process. This was made possible by the 2011 reforms. The legislation stated that if a change was believed to have national significance, the application could be sent to the Environmental Protection Agency (EPA), bypassing the regional district council.

(We have) a government that has been driven by the global economic crisis to try to generate as much revenue as they can. And so they see the expansion of aquaculture, expansion of mining, expanded utilization of other natural resources as a logical way for them to grow the economy by growing exports. And they are prepared to override communities and shove things down communities' throats, so to speak.

(Policy and expert stakeholder—public authority)

The EPA process is a nasty process and it doesn't work in favor of small community groups or individuals.

(Policy and expert stakeholder—public authority)

The industry stakeholders did not seem to have expected such negative attention from local communities. In turn, they emphasized the importance of local employment and community engagement, as well as the point that the industry was a key benefit to the national as well as the local economy.

The government has put a lot of emphasis on aquaculture, because there is massive potential for exports in it. ... There is a huge drive to grow that industry and to keep on exporting.

(Industry stakeholder—salmon farming company)

Salmon farming is a big employer and keeps families here.

(Industry stakeholder—salmon farming company)

Nevertheless, representatives of both the policy and expert group and the civil society stakeholder group continue to express the view that the industry exploits public natural resources at the expense of local communities. They also express concern over the politics around public resource management, and what they see as a lack of policy involvement in regional and national resource management planning and decision-making. Some of this criticism is directed toward the industry for not recognizing the consulting rights of local communities. Further criticism is directed at central and regional governments for jeopardizing local democracy in their pursuit of national aquaculture growth.

The community hadn't been consulted, and they certainly hadn't with this new fast-track process that (name of company) had embarked on.

(Civil society stakeholder—media)

In particular, one case that arose after the change in regulation in 2011 raised the following issues. King Salmon applied for nine new salmon farm locations in the Marlborough Sounds. Most of these were in coastal areas where marine farming activities had been prohibited under the Regional Coastal Plan. This reopening of potential space for marine farming met with considerable resistance from environmental organizations. Thus, after the District Council of Marlborough approved four of the nine new locations, the Environmental Defence Society and Sustain Our Sounds appealed to the High Court over two of the decisions. The High Court dismissed the cases, forcing the environmental organizations to appeal to the Supreme Court. Here, one decision was decided in favor of the salmon industry and one in favor of the Environmental Defence Society. Subsequently, three new licenses were granted, one for partial substitution of an old farm site. Nevertheless, the three locations represent the most important change in farm sites since the turn of the millennium. This said, the stakeholder positions seem to be less clear-cut in the local development discourse than in the health and environment discourses:

The media has tended to show only one side of the story, and it hasn't given people the right picture about what is actually going on. There have been some articles that have been balanced and some that were just clearly not balanced. So, overall, I'd say the public aren't getting a good picture of what is going on.

(Policy and expert stakeholder—R & D institution)

So that was the sort of twist that kept coming into these stories; there was nothing about us having done a good job using fine raw materials for the production of premium products that people want to buy. [The industry] gives the New Zealand economy a boost and creates jobs.

(Industry stakeholder—salmon farming company)

To summarize, until recently, the risk perceptions communicated by the industry have been absent from the local development discourse, while the narratives of the opponents of new marine farm locations overlook the important contributions of the industry to the local and national economies. Some in the policy and expert group and the civil society stakeholder group view it differently. In particular, stakeholders from the civil society and policy and expert groups show mistrust of the industry's capability and willingness to acknowledge and adhere to the rules of democracy. Nevertheless, there are policy and expert stakeholder voices expressing the view that the arguments and claims of their opponents are inaccurate. Hence, in this discourse, the hegemonic narrative has yet to be decided (Table 1).

5. Discussion

The discussion above illustrates the discursive foundation of the green profile of the New Zealand salmon industry. In tandem with strict government regulations, the health and environmental discourses have limited the expansion options of the salmon industry over recent years. Even if several narratives and claims exist within and across the discourses, the risk perceptions of all stakeholders support the retention of a strict regulatory regime monitored by experts. One result of this hegemonic narrative in the environmental discourse is an industry struggling to obtain new "locations" in terms of new marine farm sites. Conversely, the industry also capitalizes on this narrative when constructing its image of being a clean industry, operating in pristine environments and producing a high-quality premium product. The average price in December 2014 for exported fresh whole New Zealand salmon was 9.40 EUR, while the equivalent price for exported fresh whole Norwegian salmon, the market leader, was 4.89 EUR [20]¹; Accordingly, the limited expansion options for the industry in the new millennium, the costly and lengthy application processes, the temporary moratorium period between 2001 and 2004 and other factors have contributed to the green profile of the New Zealand salmon industry. As an alternative to providing quantity, the industry has emphasized quality and sustainability by connecting its products to the unique "natural" attractiveness of New Zealand as an uncontaminated and unspoiled country. The green profiling strategy is clearly visible in the individual companies' branding strategies. Many use the specific farm location as a brand name, emphasizing the importance of the green image and connection with nature and place (see, for instance, <http://www.kingsalmon.co.nz/>, <http://www.sanford.co.nz/> and <http://www.akaroasalmon.co.nz/>).

In contrast, the local development discourse is characterized by three narratives, none of which has established clear hegemony. However, this balanced situation has come under pressure recently. The court settlements commented upon above exemplify this point. In one case, a salmon farming company applied for a change to allow new farms to be established in currently prohibited zones, against the will of the Regional District Council. For many stakeholders, this was inter-

¹ <http://en.seafood.no/News-and-media/News-archive/Press-releases/Modest-fall-for-Norwegian-salmon-exports>

preted as a shift in power in favor of the central government and the industry. This made many policy and expert as well as civil society stakeholders express concern over a lack of community consultation in the industry's pursuit of financial gain. The claim was made that the industry, in cooperation with the central government, was overriding communities and local democracy in the interests of industrial development and economic growth. This discursive turn seems to have taken place in combination with a new government that is more economically focused than previous ones.

6. Conclusion

The risk society thesis stresses the duality of modern society impacts in terms of progress, unforeseen outcomes and related discourse between experts and various social and economic stakeholders. In the case of salmon farming in New Zealand, it is observed three main discourses and three stakeholder groups, each representing different narratives. The environmental discourse is most important, as all stakeholders share a fear of potential negative impacts on nature from the industry. The hegemonic narrative in this discourse is that salmon farming in New Zealand is sustainable as long as it is strictly regulated and monitored by experts. The industry stakeholders find this narrative useful in their marketing of the green profile. The policy and expert stakeholders make use of it to legitimize environmental governance, while the civil society stakeholder groups support it on behalf of nature. Nevertheless, there are unsettled issues and ongoing power struggles. In particular, disagreement exists over whether the salmon farming industry and the central government are fulfilling their democratic obligations toward the wider public. This has made stakeholders move the discourse from environmental issues to local development issues. A related disagreement is linked to the size of the industry, and some industry actors seem willing to test the limits of the green niche image by working toward growth in production locations and an expansion in overall production volume. How these discursive twists will impact the future profile of the industry is hard to determine, but a possible outcome is that the industry will exchange new farm locations for a stronger focus on local development.

Acknowledgements

This research was supported by grants provided by the Norwegian Research Council.

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