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Corporate Strategies in Environmental Governance: Marine Harvest and Regulatory Change for Sustainable Aquaculture

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Introduction

Aquaculture – the breeding of fish and other aquatic organisms – has become the world’s fastest growing food-producing sector. Fish farming can help to meet the growing global demand for seafood without exacerbating the depletion of wild stocks, but the sector must resolve various challenges in order to become an environmentally viable option to capture fisheries.

The aquaculture industry is governed by production-country regulation, but state regimes have been criticized for being too fragmented and lenient to resolve the sector’s environmental challenges. Perhaps paradoxically, much recent progress towards more sustainable aquaculture practices can be attributed to market trends and non-state governance, like retailer product requirements, voluntary certification schemes and corporate self-regulation.

This article examines the role of business as a potential entrepreneur for sustainable aquaculture regulation. After a short historical account of the development of fish farming (salmon in particular) and the challenges that emerged with its industrialization and governance responses, it presents a neo-pluralist framework for understanding the role of corporations in its regulation. The case study focuses on the world’s largest salmon producer, Marine Harvest (MH) ASA, with an empirical account of MH’s strategic approach in aquaculture governance, —as shown by the company’s position and activities vis-a-vis two government proposals for revision of existing state regulation of growth in Norwegian salmon farming. Subsequently, the article identifies and systematizes strategic drivers that can help to explain why an aquaculture giant like MH has chosen to become a proactive, regulatory entrepreneur for sustainability. In conclusion, it considers the implications of the findings for understanding the role of corporations in environmental governance more broadly.

Global Aquaculture and the Blue Revolution

Fish farming is an ancient tradition, comparable to agriculture in degree of human control and intervention (Asche, 2012; Anderson, 2002). As early as 2500 BC the Chinese were breeding fish in lakes (FDA, 2013); later, Romans raised fish-stock in

ponds as a means of providing inland populations with food. During the European Medieval and Renaissance eras, aquaculture was practised on a modest scale throughout Europe, the Americas and the Pacific.

With the industrialization of capture fisheries in the nineteenth and twentieth centuries, however, aquaculture became a supplementary sector, representing a miniscule percent of global seafood supply (Smith, 2012). It was not until the 1970s, with the recognition that commercial overfishing was depleting wild fish-stocks and causing stagnation in growth, that aquaculture expanded significantly. From the 1990s onwards, new and increasingly advanced production technologies propelled rapid industrialization, the ‘blue revolution’. By 2006, farmed-fish production had reached a staggering 67 million tonnes annually, amounting to 42% of global seafood supply (FAO, 2011). Today, aquaculture accounts for about half of the world’s fish consumed as food, with future growth expected to come mainly from farming (FAO, 2014). Almost 180 countries are involved in production and export, and 39% of all seafood is traded internationally (FAO, 2010).

Atlantic salmon is considered the most significant farmed species, highly valued on global markets (Asche, 2012). Modern production methods for farmed salmon began in the late 1960s off the Norwegian coast, where local producers experimented with raising salmon in net pens in protected salt waters. During the 1970s these techniques developed into a distinct, rurally entrenched activity that spread to Scotland, Ireland, Canada, Chile, the USA and elsewhere. By the turn of the millennium, salmon production had increased thirteen-fold – accounting for the bulk of global aquaculture trade and controlled by a dozen multinational corporations (Naylor, 2003; Asche and Khatun, 2006; Liu et al., 2013; Olesen et al., 2010; White Paper, 2013). Norway has the greatest production output; major consumer markets are the USA, the European Union and Japan (FDA 2013).

However, the proliferation of large production facilities located close together in fish-farming zones has created biological and environmental problems. Various forms of viral and bacterial fish disease – like Infectious Salmon Anaemia (ISA) and Pancreas Disease (PD) – have emerged in response to overcrowding, temperature fluctuations and inadequate oxygen levels in aquaculture pens, weakening natural defence mechanisms and facilitating rapid transmission (Meyer, 1991). Vaccinations and antibiotics have been employed widely, without overall success: fish disease has become a serious threat to the surroundings (Bellona, 2013; IMR, 2014a).

A related problem is sea lice, a parasite that kills and makes fish more prone to disease. Sea lice are not abundant in the wild, because the salmon’s periodic change of habitat from fresh to salt water prevents the lice from thriving. But their growth in aquaculture pens has resulted in transmission and unprecedented levels of sea lice in surrounding natural habitats, with serious damage to wild salmon’s natural defence mechanisms, and high mortality rates (Bellona, 2013; IMR, 2014a).

Escapees from aquaculture pens have also become a major problem. Farmed salmon may escape facilities due to storms, marine mammal predation and human error – whether larger catastrophic incidents, or chronic, low-level leakage (Naylor, 2003). Escaped farmed salmon cause hybridization of the gene pool by breeding with the wild population. Evidence indicates that in rivers with high numbers of escapees, the natural salmon population gradually becomes dominated by escapee offspring and hybrid salmon, causing stocks to lose characteristics crucial to surviving and adapting to conditions in the wild (Bellona 2008).

Furthermore, aquaculture sites pollute the local environment. While the effluent load is considerably less than from agriculture, the discharge of a wide range of substances – pesticides, hormones, antibiotics, pigments, chlorine and sodium hydroxide – may prove significant locally, disrupting the marine ecosystem (Bellona, 2013; Smith, 2012).

Finally, because marine resources like fish-oil and fishmeal from small pelagic fish are used to produce feed for farmed fish, aquaculture also contributes to a ‘tragedy of the commons’ caused by overfishing.

That being said, there are also substantial environmental benefits associated with fish farming. Perhaps best known is how fish farming can ease the pressure on some wild stocks – given that increased production of farmed fish reduces the extent of capture fishing for consumption. A less-cited but increasingly acknowledged benefit is that aquaculture represents a form of protein-food production that does *not* contribute significantly to climate change. Today, oceans and waterways constitute only 2% of the global space utilized for food production; it is argued that more efficient utilization of waters could lessen the pressure on marginal land and forests. Moreover, compared to land-based meat production, seafood has a low carbon footprint: about the same footprint as chicken, half of that of pork, and only a tenth of beef, as aquaculture’s greenhouse gas emissions come mainly from fuel use and cooling systems used in transport and storage, and from feed production (Winther et al., 2009).

Nevertheless, aquaculture practices face a range of unresolved environmental problems that must be tackled if the sector is to become a sustainable source of food proteins. Arguably, government frameworks have not been adequately targeted. The only global standard for sustainable aquaculture is found in Article 9 of FAO’s voluntary ‘Code of Conduct for Responsible Fisheries’. Sustainability is also briefly mentioned in the regional ‘Oslo Resolution’ (1998) adopted by members of North Atlantic Salmon Conservation Organization (NASCO), calling on Parties to ‘minimize impacts from salmon aquaculture on the wild salmon stocks’ (Porter 2005, p.6). At the national level, state regulation is often extensive, but it is fragmented, unduly complex and too lenient on environmental issues. In the USA, for example, fish farms are subject to scattered jurisdiction under a plethora of federal pollution control, fisheries management and coastal use laws ineffective for dealing with the environmental challenges (Smith, 2012; Naylor, 2003). In Canada, the regulatory structure has been deemed too complex and lenient to be effective, requiring the cooperation of 17 departments and agencies that share responsibilities for licenses, permits and the protection of wild habitats (Liu et al. 2013). In Chile, the government hands-off approach was widely recognized as the cause of the ISA virus epidemic in 2007 and the ensuing collapse of the industry (Alvial, 2012). Norwegian aquaculture regulation is considered to be the most rigorous, especially as regards rules on nutrient wastes, fish disease and sea-lice levels, but has also been criticized for being fragmented and for prioritizing regional economic development over environmental stringency (Liabø, 2007; Sandersen and Kvalvik, 2014). In the European Union (EU), aquaculture has not been regulated as a separate sector, but is governed by general, trans-industry EU rules on feed and food safety, fish health and environmental protection. While these address sustainability issues such as fish-feed content, waste management and use of medicines, and make licences subject to environmental impact assessments, other problem such as escapees and sea-lice levels remain inadequately tackled (Carter and Cazals, 2015; Carter 2014).

Some blame the flaws of public regulatory regimes on the fact that aquaculture was seen as a solution to the ‘tragedy of the ocean commons’, which led to its own

environmental consequences being overlooked (Smith, 2012). Others have held that the sector was allowed to develop too quickly and without a firm scientific understanding of the environmental repercussions; or that globalization has resulted in a fear of production leakage among governments, and unwillingness to raise the regulatory bar unilaterally (Naylor, 2003).

Non-state governance is often considered a response to inadequate government regulation (Bush et al., 2013), which appears to have been the case in the aquaculture sector as well. Since the 1980s, when the environmental problems became evident, fish farming has been subject to systematic criticism from non-governmental organizations (NGOs). Through media campaigns, consumer boycotts and organized pressure on producers, restaurants and supermarket chains, opponent NGOs have framed aquaculture as something inherently *unnatural*; they have argued that it has unpredictable and irreversible environmental impacts, and criticized the use of pesticides, antibiotics and colouration chemicals, with slogans like ‘Wild Salmon Don’t Do Drugs’ and ‘Farmed and Dangerous’ (Young and Matthews, 2010). Groups representing hunters and anglers, with vested interests in leisure and sport-based capture fisheries, have also been highly influential opponents of aquaculture practices.

However, some environmental NGOs have adopted a more cooperative approach, recognizing the aquaculture industry as a legitimate sector but in need of more stringent governance. In parallel to lobbying governments for more and stricter regulation, they have put substantial pressure on market actors to develop and implement sustainability standards and good environmental management practices, and have worked to develop industry-wide codes of conduct and certification schemes. In 2004 the World Wide Fund for Nature (WWF) set up the aquaculture dialogues, a platform for cooperative discussions between the industry and NGOs that led to the establishment of the Aquaculture Stewardship Council (ASC), an independent, non-profit organization governing ‘responsible’ aquaculture at the global level. The ASC standard – a performance-based, international certification protocol covering 12 groups of different species – became operational in 2013. The standard covers such issues as escapees, sea lice, fish disease treatment, sustainable feed and local emissions. Once a fish farm is compliant and certified, its products can bear the ASC logo, providing customers and consumers with a sustainability guarantee.¹

In response to NGO pressure and criticism, retailers and supermarket chains, particularly in Europe and North America, have increasingly sharpened their demands towards suppliers of farmed fish to implement environmental self-regulation and/or adopt voluntary certification standards (Bush et al., 2013). For example, Whole Foods has its own certification system for sustainably farmed salmon, targeting problems like unsustainable feed, chemical use and predator control, and requiring suppliers to conduct annual third-party audits (DesMarais, 2013). Marks and Spencer requires suppliers to adhere to a sustainability protocol, which specifies the level of marine resources and the amount and type of chemicals used in production.² Many corporate standards build and depend on the enforcement of government legislation, creating interdependencies between public and private regimes (Carter, 2015).

Considerable progress towards more sustainable aquaculture practices can be attributed to NGOs and market trends. The next section presents an analytical

¹ <http://www.asc-aqua.org/>

² <https://corporate.marksandspencer.com/plan-a/our-approach/food-and-household/product-policies-standards/raw-materials-and-commodities/fish-and-seafood>

framework for understanding the role of private actors in environmental governance, to help structure the subsequent analysis of one corporation that appears committed to promoting sustainable aquaculture regulation.

The Role of Business in Environmental Governance: A Neo-Pluralist Framework for Analysis

‘Governance’ is a vague concept, used to connote various phenomena. There is consensus, however, that *environmental governance* refers to the broad and combined range of political, economic and social structures that serve to guide and constrain actors’ behaviour towards the environment (Levy and Newell, 2006). This article focuses on the key dimension of *regulation*, defined as the processes of making, implementation, monitoring and enforcing rules with environmental repercussions (see Mattli and Woods, 2009, p.1).

Political scientists have long recognized the influence of business in regulatory processes (see Olson, 1965; Stigler, 1971; Becker, 1983). To pluralists and public-choice theorists, who saw regulation as a process of bargaining between actors who stood to gain or lose from regulatory change (Lindblom, 1977), corporations were utility-maximizing agents with interests contrary to the public good (Olson, 1965). Business influence in regulation, therefore, was commonly associated with *capture* (Wilson 1980), defined as regulatory outcomes that reflect and serve the interests of narrow and vested business interests. It may imply the absence of regulation, non-enforceable regulation, regulations that do not safeguard social preferences, and/or regulations that eliminate competition for affected groups (Mattli and Woods, 2009).

The assumption that corporate influence leads to capture features prominently in the structuralist scholarship on business and global environmental governance. Early debates on globalization and the growing power of market actors portrayed corporations as unitary, destructive forces capable of preventing common-interest regulation, a power derived from their being the primary source of economic growth, employment and innovation in capitalist societies (see, e.g., Stopford and Strange, 1991). Early studies of environmental governance often alleged that business power as such resulted in a regulatory race to the bottom, a very limited range of feasible regulatory options on the table, and/or government adoption of overly ‘market-friendly’ ineffective regulatory approaches. Many empirical studies have shown how business can be destructive in regulatory processes for mitigating environmental problems (e.g. Levy and Egan 1998, Newell and Paterson 1998, Newell and Glover 2003, Clapp 2005).

However, neo-pluralist scholars of environmental governance propose an alternative view of business interests and influence, one which recognizes corporations as ‘privileged’ but opposes the view of business as a monolithic bloc. Instead, business is conceived of as a diverse group of actors with diverging interests, who enact different strategies in response to the same issues (McFarland, 2004; Falkner, 2008). Divisions and conflict within and between business are considered equally likely to limit the influence and ability to define the rules of the game. Corporate interests stem from firm-specific factors, like competitive positioning or technological advancement, important in determining their position and strategy regarding regulatory processes – so business interests and influence must be analysed on an issue-by-issue basis (Falkner 2008). Neo-pluralism does not take business opposition to environmental regulation as a given, or assume that this influence will necessarily result in capture.

A growing literature has documented that corporations can have vested interests in common-interest environmental regulation, and that they may initiate, support and

contribute to voluntary regulatory schemes that extend beyond existing government requirements (Hauffer, 2001; Gulbrandsen, 2004; Clapp 2005; Büthe and Mattli, 2010). Further, corporations may, for various reasons, choose to promote new and stricter government rules and legislation (Vormedal, 2011; Bled, 2009; Orsini, 2011).

A constructive approach to environmental management and regulation is defined here as a *proactive corporate strategy*. This refers to practices that go ‘beyond compliance’ with the law, doing more than what is required by government legislation (Eikeland and Skjærseth, 2013). A proactive corporate strategy requires, firstly, the corporation’s recognition of the specific environmental challenges and the need to implement targeted, beyond-compliance management strategies to meet them; and secondly, targeted government lobbying in support of (stricter) environmental regulation that would ultimately enforce more sustainable, industry-wide, corporate practices.

To identify the drivers behind proactive strategies, this analysis distinguishes between those deriving from simple and from mixed motives. *Simple motives* refer to ‘traditional’ business interest: rationally calculated, profit-maximizing and risk-managing, based on evaluation of the costs of different behavioural and strategic options (see Ambec et al., 2011). *Mixed motives* refer to interests that entail such cost-benefit and risk calculations, but are informed by a normative ‘do-good’ agenda as well. This may mean that factors deemed to affect the economic bottom-line are seen as linked to or filtered through perceptions of how the market expects them to respond to common-good discourses such as ‘sustainable development’ (see Falkner, 2008).

The analysis here also distinguishes between different simple and mixed motives by positioning them along a continuum ranging from *short- to long-term interests*. It makes sense to identify many simple motives, like that of strengthening competitive positioning or improving the economic bottom-line, as short- to medium-term interests (see Prakash, 2011; Kolk and Pinske, 2004). An example of a short-term, simple proactive strategy could be the formulation and implementation of environmental management if the firm expects this to lower the cost of compliance, or lead to market benefits like being able to sell to buyers who demand products subject to environmental standards. Some simple motives – like seeking to strengthen a corporation’s market position and leadership – may be more long-term. For instance, a simple, long-term motive might underpin a strategy to invest more in research and development of sustainable technologies, if the company expects the strategy to yield new techniques or products that can help it to capture a larger share of the market or gain a monopoly position. As for mixed motives, some can be defined as short(er)-term – like reducing societal and market risks, including safeguarding a good reputation and living up to the sustainability ideals of external stakeholders. Others are more long-term – like the perceived need to safeguard a social license to operate, or to develop a business model anchored in societal perceptions of what constitutes legitimate environmental impact. Managers’ attitudes on the need for a long-term sustainability strategy can be an important instigator for change; and, once adopted and successfully executed, may gradually become more ambitious and integrated with the firm’s core financial and competitive strategy (Papagiannakis, et al., 2013). Thus, normative ideals can act as a filter through which long-term economic interests are interpreted.

This study may also shed light on the concept of corporate ‘regulatory entrepreneurs’, defined as market actors both willing and able to press for regulatory change (Mattli and Woods, 2010). They compete for influence with civil society and state officials, and are considered central to explaining regulatory outcomes. The influence derives from their knowledge of regulatory effects and implementation, and

the substantial resources available for negotiation processes. Mattli and Woods propose four categories of corporate regulatory entrepreneurs: (1) *corporate consumers*, likely to advocate regulatory change that protects producers of goods and services they depend on; (2) *corporate newcomers*, who enter a market after capture regulation has been negotiated, likely to advocate regulatory change that removes the privileges and protection of established firms; (3) *corporations at risk*, whose economic viability or survival depends on a new regulatory model, likely to promote regulatory change; (4) *corporate levellers of the playing field*, who face costly regulation from which competitors in other, non-regulated regions are exempt; they will advocate regulatory change to ensure regional or international harmonization.

Methodology

The empirical case study draws on multiple sources of data, including interviews, official government documents (draft resolutions and bills, consultations, reports and white papers), written stakeholder position papers and consultation comments (corporations, industry organisations and NGO input to government proposals), market research reports, corporate reports and media/newspaper reports. To enable an account of MH's proactive strategy, this entailed close examination of MH's corporate reports dating back to 1997, in-depth interviews with two key employees, and an in-depth interview with a representative of WWF, MH's partner in sustainability strategy since 2008. While NGOs partnering with business may be at risk of capture, this analysis revealed no signs of dependency, or incentives for misrepresentation of interests. To provide an account of the state re-regulation processes and other stakeholder positions, two in-depth interviews were conducted, with the Norwegian Director General for fisheries, and an experienced aquaculture market analyst, in addition to close reading of all legislative proposals and the associated stakeholder comments, collected by the government and made publicly available.

A Proactive Strategy in Global and Norwegian Salmon Aquaculture

Marine Harvest (MH), founded in 1965 by Unilever, passed through the hands of many leading multinationals, including Bookers and Nutreco, until merging with Norwegian Pan Fish ASA and Fjord Seafood in 2006 to become the world's largest salmon producer. It now operates in 22 countries, supplying processed salmon to over 50 markets and controlling the entire value-chain for all its products – from egg fertilization and smolt production, to harvesting, processing, distribution and feed production. It farms in all major production regions, including Norway, Chile, Scotland and North America, and owns processing plants around the world, manufacturing finished salmon products for consumer markets like the EU, USA, Russia, Brazil, China and Japan.

MH's adoption of a proactive strategy can be traced back to 2007, after the major outbreak of infectious salmon anaemia (ISA) in Chile. Due to high sea-lice levels, ISA spread rapidly among production facilities. MH was forced to fallow stock sharply, leading to substantial downsizing and financial write-downs in the years to come. Also elsewhere the company faced sustainability-related problems. Unusually high levels of pancreatic disease were recorded in Norway, and environmental activists in Scotland found fish contaminated with diesel, causing a public scandal. Following these incidents, the company's 2007 annual report announced an emerging strategic focus on sustainability. According to the Board of Directors, the environmental risks facing MH

operations had become serious enough to warrant a strategic focus on improving the company's environmental footprint (MH 2007).

The 2008 report noted new efforts that reflected the development of a proactive strategy. According to the CEO, the company's financial crisis was the result of failing to take seriously the sustainability challenges in Chile. A major lesson, he argued, was that the industry should be cautious about meeting rising demand by increased production intensity, if that entailed exceeding an area's natural carrying capacity (MH 2008). Furthermore, in 2008 MH introduced efforts towards self-regulation, the Qmarine quality (QM) system, established to improve product quality and safety, animal welfare, social responsibility and environmental management. MH annual reports 2008–2013 present the QM system as becoming more stringent every year, with the strategic goal of placing MH ahead of competitors and government regulation on environmental issues (MH 2008, 2009, 2010, 2011, 2012, 2013). For example, MH implemented a policy for cleaning the fish-oil used in feed production, removing all environmental pollutants from wild-caught fish-oil – a voluntary measure not required by any national legislation.

In 2008 a partnership with the World Wildlife Foundation (WWF) was announced. Together, the partners developed a tailored sustainability strategy, with a defined set of company-specific environmental challenges, a vision for MH's role and responsibilities as a market leader, sustainability management priorities and a plan to lobby for more stringent government regulation (interviews Andour, 2014; Grindaaker, 2014).

MH CEO Åse Michelet explained this new focus on sustainability in an op-ed in the Norwegian financial daily, *Dagens Næringsliv*. For the first time on behalf of any Norwegian aquaculture corporation, Michelet recognized fish farming as more than a supplementary sector. It had become a large-scale industry facing major environmental challenges; and, she argued, the government should establish a 'new, robust and responsible production structure that could effectively deal with sea lice and ensure long-term sustainable development.' Meanwhile, the WWF advised MH to engage in the Salmon Aquaculture Dialogues, to support the development of a voluntary and global sustainability standard for the industry. When the Aquaculture Stewardship Council (ASC) standard for salmon farming was ready, MH committed to certifying *all* its farms by 2020 – a beyond-compliance measure (interviews Grindaaker, 2014, Heiberg 2014).

The company's activities as a regulatory entrepreneur are evident from 2007, when MH began lobbying the Chilean government for a stricter regulatory framework. From 2009 it started targeting the Norwegian government directly (MH 2008, 2009, 2010). Indeed, its 2009 comment on emissions in salmon transportation marked the first time any aquaculture company acted independently of the main industry association – the Norwegian Seafood Federation (NSF) – to influence regulations. Together with the WWF, MH has lobbied the Norwegian Parliament, requesting more resources for the Food Safety Authority – the agency responsible for monitoring and enforcement – and arguing that inadequate regulatory control was causing widespread noncompliance with sea-lice limits (interviews Grindaaker 2014; Heiberg, 2014; Andaour, 2014).

The case study presented here examines MH's proactive strategy in practice, as reflected in the company's position and activities vis-à-vis two government regulatory proposals that sought to change existing rules for salmon farming. Norwegian salmon production requires a government-issued license defining rights and obligations for the holder of fish-farming sites. Each license allows a maximum amount of fish in the farm-

pen, the *Maximum Allowed Biomass* (MAB). The standard MAB per license is 780 tonnes.³ MAB rules regulate all Norwegian output.

Between 2005 and 2012 overall production stayed well below the MAB limit, but by 2013 it had become evident that little room remained for increasing production intensity, especially during peak seasons (Pareto, 2014). This placed the issue of growth on the government agenda.

The government's long-term vision for salmon farming was a quadrupling of production by 2050, but it was recognized that such an ambitious growth scenario would require existing environmental problems to be resolved (White Paper 2013). Levels of sea lice and escapees were substantial, and government agencies as well as the industry were regularly criticized by environmental activists and the media for failure to deal with the problem. Stakeholders and the public were increasingly blaming the expansion of aquaculture for the poor health and high mortality rates among wild salmon stock.

For standard licenses, existing regulations allowed 0.5 adult sea lice per fish in the pens; for several newly introduced 'green' licenses, the limit was set to 0.25 (category B) and 0.1 (category C). But in 2010–2013, over 10% of farms were in breach of the 0.5 limit,⁴ and only 9% could document low sea-lice levels of 0.1 (IMR, 2014b), equivalent to the ASC standard. Regarding escapees, the only regulatory requirement was for farms to notify the Directorate of Fisheries of the number of incidents per license (Landmark interview, 2014). The recorded number fell from 368 000 in 2011 to 228 000⁵ in 2014, but data on wild salmon populations show that the genetic material has been significantly compromised as a result of hybridization (EA, 2014).

However, in October 2013, the government issued a growth-oriented, regulatory change proposal⁶ which, according to most observers, would have further aggravated the situation. The proposal recommended a *rolling average for Maximum Allowed Biomass* (MAB), a regulatory measure advocated by the National Seafood Federation (NSF) since 2010 (Lund interview 2014; NSF, 2014a). That would imply abandoning absolute limits of biomass and the use of average year limits, such that the average biomass measured over a 12-month period may not exceed 789/900 tonnes. In practice, that would allow fish-farmers to increase production intensity in certain periods by reducing it in others. According to the Ministry, the proposal was intended to contribute to more industrial, market-oriented production in the salmon- and trout-farming industry, to even out seasonal fluctuations, and facilitate a more *stable* production cycle (Landmark interview, 2014). However, many stakeholders argued that the proposal was clearly a closet measure to permit more growth (interviews Heiberg 2014, Lund 2014)

Leading salmon producers were divided in their responses, which forced the NSF to refrain from taking an official industry position (NFS, 2014a). While the companies Lerøy, Salmar and Norway Royal Salmon voiced their support, MH, Cermaq and Grieg Seafoods opposed it. They argued that a rolling MAB would create a build-up of biomass during the summer and autumn, when harvesting conditions are best but the environmental risks and sea-lice levels are also highest⁷ (Cermaq, 2014; Grieg

³ 900 tonnes for the northernmost counties of Troms and Finnmark.

⁵ <http://www.fiskeridir.no/statistikk/akvakultur/oppdaterte-roemmingstall>

⁶ <https://www.regjeringen.no/no/dokumenter/horing-av-forslag-om-videreutvikling-av-id739000/>

⁷ <http://www.undercurrentnews.com/2014/03/07/uppig-norways-salmon-production-what-do-the-players-say/>

Seafood, 2014; MH, 2014a). Added to the 4.5% growth expected from green licenses,⁸ the regulatory change would result in a total growth of 20%. As MH wrote to the Ministry:⁹

The industry has in several countries learned that rapid growth and inadequate resources for regulatory control can have dramatic consequences. Marine Harvest is therefore against short-term growth at the expense of long-term sustainable development. The situation as regards sea lice, their effect on wild salmon stock and the transmission of disease between farms is not good enough to allow for this much growth [...] We warn the government against introducing a rolling MAB and recommend the continuation of existing rules. (MH, 2014a)

Norwegian environmental NGOs, the Food Safety Authority, the Fisheries Directorate and the Environment Agency shared this view (FSA, 2014a; FD, 2014a; EA, 2014; WWF, 2014a).

MH also voiced its opposition through the media. In a newspaper (*VG*) article titled ‘Aquaculture giant says no to four billion’, widely reprinted and cited, the CEO said a rolling MAB would provide MH with additional revenues of NOK 4 billion, but argued that ‘the sea-lice problem must be solved before the industry can grow further. We are willing to sacrifice short-term profits [...] because the long-term costs of not acting may be so much higher.’ And a key board member contended: ‘rapid expansion of production capacity in Norway at this time borders on the irresponsible.’¹⁰

In the midst of this process, Parliamentary elections resulted in a new, conservative minority coalition government. In June 2014, the new Fisheries Minister announced that the proposal would be dropped altogether, due to its negative environmental impacts. The government proposed an alternative regulatory change: allowing a 5% increase in the absolute MAB limit, but only to farms that would commit to a stricter sea-lice limit of 0.1 adult lice per fish, and a maximum of two chemical/medicinal treatments per production cycle.¹¹ Finally, the proposal pledged an additional NOK 10 million (approximately €1 million) to the Norwegian Food Safety Authority (FSA) to strengthen implementation and enforcement.¹²

The industry’s response to the new proposal was overwhelmingly negative. The NFS argued that implementing the sea-lice limit would be impossible. ‘While it is appropriate to increase the MAB limit, the (environmental) conditions for growth set by the Ministry must be rejected’ (NSF, 2014b).

However, MH, with Cermaq, supported ‘the government’s proposal to permit sustainable growth in aquaculture by implementing stricter sea-lice regulations on those who wish to accept the given growth opportunity [...]’, as MH wrote in its formal comment (MH, 2014b). ‘However, it is imperative that the FSA be provided with substantial resources to conduct more frequent monitoring and enable enforcement of the new regulations. Otherwise, the result might be higher overall levels of sea lice [...] MH has on several occasions pointed out that the FSA’s control over the industry is

⁸ In 2013 the government issued 45 new and ‘green’ salmon aquaculture licenses. Industry can purchase two licenses in exchange for one existing license, and applicants must document the use of cutting-edge technological solutions to tackle environmental challenges such as sea lice and escape.

⁹ All translations from Norwegian to English by this author

¹⁰ <http://www.vg.no/nyheter/innenriks/fiskeri/oppdrettsgigant-sier-nei-til-fire-milliarder/a/10138328/>

¹¹ A measure intended to spur innovation in non-chemical technological solutions, and prevent medicinal resistance

¹² Regulatory proposal to increase the MAB for aquaculture licenses for salmon, trout and rainbow trout: <https://www.regjeringen.no/no/dokumenter/Hoyring---forskrift-om-auke-av-maksimalt-tillaten-biomasse-for-loyve-til-akvakultur-med-laks-aure-og-regnbogeaure-/id764283/>

insufficient, and that there is need to scale up financing and capability for enforcement' (ibid.). A key point in the MH response was that the aquaculture regulatory system was in need of a revision to simplify and improve rules and their capacity to spur innovation to ensure long-term sustainable growth.

This view was partially shared by NGOs and government expert bodies. They welcomed the intentions of the proposal, but deemed the challenges of implementation and the increasing complexity of rules to be too great. Instead of adding another layer to existing regulations, the government should conduct a fundamental revision and adopt a single, all-encompassing sea-lice regulation, to avoid an overly complicated system with unclear responsibilities, it was argued. The Food Safety Authority and the Fisheries Directorate voiced concern that the proposal would provide an unintended incentive for industry to move biomass from facilities with high levels of lice to those with lower levels, and that actors would commit to the 0.1 limit without being able to implement it (FSA, 2014b; FD, 2014b). The WWF held that, since industry had not proved that it could operate sustainably within the current MAB limit, it would be unreasonable to consider further growth without any guarantee that the government would be able to enforce a stricter sea-lice limit (WWF, 2014b).

During the governmental hearings in August 2014, the debate on a rolling MAB resurfaced when Russia introduced a trade block on Norwegian salmon after the EU sanctions. In a letter to the Ministry, the NSF requested an immediate 10% increase in MAB to mitigate the negative economic effects of this ban. MH strongly and publicly opposed this demand, again on grounds of sustainability. 'The world's largest salmon aquaculture company provokes competitors and industry associations, and warns the government against allowing more salmon in farming pens', reported the major financial daily, *Dagens Næringsliv*.¹³ The Fisheries Minister met the NFS demand in part, by granting industry a temporary rolling average MAB increase of 6% until April 2015.

In June 2015, the government MAB regulations were officially amended in line with the MH-supported 2014 proposal, allowing industry to apply for a 5% biomass increase, conditional on the adoption of 0.2 sea-lice limits and a maximum of two medicinal treatments per production cycle.¹⁴

This review of MH's activities and strategic choices shows the development and implementation of a proactive strategy from 2007. The company has implemented environmental self-regulation, developed and committed to private certification standards, partnered with civil society, and lobbied government for more stringent legislation on sustainability. Its positions have often conflicted with those of key industry players, but been in line with the views of many environmental expert bodies and NGOs.

What are the underlying interests behind MH's attempt to position itself as a 'sustainability frontrunner'?

Proactive Strategy Drivers: A Company-Specific, Contextual Interpretation

Three *simple, short-term motives* stand out as key drivers behind the MH strategy.

¹³ <http://www.dn.no/nyheter/naringsliv/2014/08/15/2048/Havbruk/i-strupen-p-sine-egne>

¹⁴ http://www.intrafish.no/gratis_nyheter/article1414336.ece

First, MH believes that the risk of high costs resulting from poor biological and environmental farming conditions warrants stringent environmental management and government regulation. The Chile crisis clearly demonstrated how unsustainable practices can affect the economic bottom-line. ‘If sea-lice levels are moderate’, one MH respondent explained, ‘concerns relate mainly to the surrounding environment. But once levels climb beyond a certain point they also become a huge risk to our operations. High levels of lice cause stress to the fish and degrade their immune system, making the stock grow slower ... and this raises our costs’ (Heiberg interview, 2014). Furthermore, Chile demonstrated what can happen when regulation is lacking. ‘The crisis was an example of a tragedy of the commons’, the respondent continued. ‘Too many actors sought to maximize their own interests, which resulted in a collective fallacy. That’s why we work with governments in all our production countries to ensure that regulation can prevent the industry from crossing the line of what is sustainable.’ Thus, a desire to prevent costly sustainability crises in the short to medium term seems to underpin MH’s proactive strategy, while the Chile crisis acted as a tipping point for strategic change.

Second, the product requirements of international buyers and retailers provide an important rationale for adopting a proactive strategy. ‘If you don’t get certified, you won’t get any contracts with the big retail chains’ (Heiberg interview, 2014). Committing to standards such as the ASC is a strategy targeting the international consumer markets, where MH sell most of their salmon. ‘It’s a plus to be ASC-certified in Norway, but that’s not why we do it’ (Grindaaker interview, 2014). Thus, globalization and the requirements of large retail chains constitute a major driver behind the strategic choice to commit to private certification standards (Nøstvold et al., 2010).

Third, the desire to safeguard high salmon prices would lead MH to support any regulation that would not significantly increase Norwegian production intensity. There is a strong correlation between price and supply in salmon aquaculture. In 2007–2008, production volumes increased and prices plunged, but 2009–2010, following the Chile crisis, supply decreased and prices peaked again (Pareto, 2014). Such price fluctuations have severely affected MH revenues (MH 2007, 2008, 2009, 2010), making it rational to support a regulatory solution that can provide stable and high prices over time. As such, MH’s environmental advocacy may also be strategy for limiting supply.

One *simple, long-term motive* is also evident: to strengthen and assert MH’s competitive positioning and market leadership. Not all companies have the size and economic muscle needed to implement a sustainability strategy. ‘To contribute to long-term stability and predictability’, an MH representative explained, ‘you have to accept that there are costs, and that there may be expensive detours towards the long-term target everyone wants – a sustainable industry. It’s different for a small company that just wants growth next year’ (Heiberg interview, 2014). While many small and medium-sized companies protested against the recommendations of the Gullestad Report (2011), MH supported it. The report held that farming areas should be divided into larger production zones and practise regular and coordinated fallowing to combat parasites and viruses. This would be simple for MH, which can readily re-stock production among its many sites. But a small company with only one or two farms may not have such flexibility (interviews Andour 2014; Heiberg 2014). The potentially high costs associated with implementing stricter sea-lice limits are also bearable for MH, which is already a market leader. ‘To us, sea-lice mitigation is costly, but we think it’ll pay off in the long term’, an MH interviewee explained. ‘If you’re a small company, on the other hand, the short-term cost may put you out of business ... that’s why the smaller companies don’t buy our sustainability argument. They think we mean they don’t have the right to survive’ (Grindaaker interview, 2014). Thus, a sustainability

strategy may in the long run strengthen the competitiveness of a large company with great flexibility, like MH, which is better able to comply with stricter environmental standards than many smaller competitors, thus supporting a goal of expanding.

We can also identify two key *long-term, mixed motives*. First, the threat of negative publicity, with criticism for causing the spread of sea lice or simply being labelled a sustainability laggard, provides good reason for companies to develop a sustainability strategy. MH faces many pressures from stakeholders who expect the company to be a sustainability leader. Its large size, global presence and abundant resources make MH a key target for NGO collaboration and influence (interviews Heiberg, 2014; Andaour, 2014). ‘Ultimately’, according to MH, ‘we depend on a social license to operate, for our business model to be accepted by consumers and the public. It’s not good if many people think “sea lice” when they hear the word “farmed salmon” (...) Negative publicity really affects us in the long term’ (Grindaaker interview, 2014). This motive is ‘mixed’ because it entails elements of risk management while also constituting a response to the public discourse on corporate social responsibility (CSR), which expects MH to take sustainable development seriously.

Second, sustainable development, as concept and normative ideal, may be a motive in and of itself. Over time, sustainable development has become central to MH’s management approach and corporate culture.

Change takes time [...] There will always be forces working against new concepts ... voices that say, ‘we’ve always done it this way, so let’s keep doing it like that’. In the beginning, sustainability was a top-down thing, something a lot of our employees viewed as a hassle, and didn’t believe in. But today, it really has become something everyone is talking about and truly accepts (Grindaaker interview, 2014).

MH’s sustainability vision has been influenced by the ideas of WWF, corporate leaders like CEO Åse Michelet and key members of its Board of Directors (Andour interview, 2014).

As explained by an MH interviewee:

It’s not just one thing that motivates us. Among the board members, for example, some are mostly concerned with our social license, and some are really devoted to sustainable development itself. Others think sustainability is important for successfully managing risk and costs. But it’s all about short-term versus long-term thinking. We’re in it for the long run, and don’t intend leaving the business any time soon’ (Grindaaker 2014, interview).

Simple, short-term motives are important – but mixed, medium- to long-term motives appear equally central to MH’s proactive strategy.

Conclusions: A Neo-Pluralist Take

This systematization and analysis of the drivers behind Marine Harvest’s proactive strategy show that company-specific motives have been central. While contextual factors, like NGO pressure, globalization and consumer-market trends, have influenced strategic options and choices, they seem to have been filtered through a company-specific lens. With an aquaculture market leader like MH, several key motives stand out: i) to prevent environmental problems from escalating into a costly crisis – a major lesson from the Chile experience; ii) to maintain high salmon prices, iii) to sell salmon to buyers who impose environmental standards, iv) to protect and strengthen the company’s competitive positioning, v) to maintain a good reputation and avoid negative publicity, and vi) to safeguard the social license to operate by making sustainable development central to the company’s business model. Further, the analysis has shown how MH’s proactive strategy is driven by globalization, and made possible by the company’s large size and vast resources.

The centrality of company-specific drivers lends support to the neo-pluralist assumption that corporate strategies are a product of a firm's perceived and specific interests, and therefore cannot be determined *a priori*. This review of business positions as regards regulations for Norwegian salmon farming has shown that the aquaculture industry is not a united bloc, but a diverse and divided group practising various strategies on the same issues. This provides fertile grounds for business conflict. While the study has not traced or evaluated business influence, it does demonstrate the existence of business conflict. The varying positions of leading aquaculture corporations on the Maximum Allowed Biomass (MAB) rules and related environmental criteria led to a controversy within the National Seafood Federation (NSF), particularly between MH and pro-growth, environmental regulation opponents. This conflict has affected NSF's standing as the industry representative and compromised its ability to provide input to the regulatory process. Further research is needed to explain variations in strategic responses, but the fact that many corporations face the same contextual factors (like globalization, international markets, price fluctuations, environmental crises), indicates the centrality of company-specific variables.

Mixed motives related to sustainable development play an important role in proactive strategy formation, but these should not be confused with a purely idealistic agenda. Underlying business interests link a firm's response to sustainable development issues to the economic bottom-line. Sustainability – or promoting the image of being sustainable – makes good business sense.

This case shows that business cannot *a priori* be seen as a destructive force in environmental governance. As neo-pluralists hold, researchers should not assume that corporate interests are opposed to common-interest regulation, nor that such influence results in regulatory capture. The traditional assumption that business influence causes a regulatory race to the bottom is long outdated.

Finally, the case of MH shows that Mattli and Woods' (2010) conceptualization of corporations as regulatory entrepreneurs is too limited, as none of their categories help to explain corporation activities. MH *cannot* be seen as i) a corporate consumer seeking to protect goods and services it depends on; ii) a corporate newcomer seeking to enter the market after capture regulation has been negotiated; iii) a corporation struggling to survive within the existing regulatory model; or v) a corporate leveller of the playing field seeking to even the competitive landscape.

An alternative category of entrepreneurs might be proposed: 'corporations with a proactive strategy'. Within such an aggregate category, however, there are bound to be variations in the specific composition of drivers for proactivity. As this study has shown, it is a company-specific combination of drivers, including simple and mixed motives relating to internal and contextual factors, that can best explain a corporation's support for environmental regulation.

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