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# SHELLFISH AND SEAPLANT FARMING IN NOVA SCOTIA

Scaling Toward Sector-Based Regulation

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## Summary

Nova Scotians have a rare opportunity to forge a new regulatory relationship with their shellfish and seaplant farmers—one founded on farmers’ contributions to *community food security* and to a *stronger regional food system* supported by rural and coastal development.

Nova Scotia’s Department of Fisheries and Aquaculture (DFA) recently published a 5-year review of provincial aquaculture policy recommending that the Province move to “right-size” its regulatory environment. By tailoring that environment to the local working conditions of farms growing shellfish and seaplants, Nova Scotia could become a world leader in developing a proportionate, adaptive and facilitative regulatory regime that responds to the needs of farmers, their surrounding communities, and all Nova Scotians who rely or could rely on these products as an important food source.

This research report sets out a framework for proposed legal reforms focused on shellfish and seaplant farming in the regional food system. It briefly explains how we arrived at the current moment of regulatory change (*Section 1: Getting to “Right-sized”*); lays out a food-systems approach to “right-sizing” (*Section 2: “Right-sizing” for the Regional Food System*); sketches the motivations for regulatory change based on available data (*Section 3: The Demand for “Right-sizing”*); and provides a series of ideas for change based on a review of comparative evidence and lessons from other jurisdictions (*Section 4: Toward a Sector-Based Approach*).

The key message in this report is that “right-sizing” aquaculture regulation in Nova Scotia can be pursued most effectively through a *sector-based approach* to reform that addresses shellfish and seaplant farming directly and distinctly from the fin-fish aquaculture sector. While the full realization of this model in Nova Scotia might take time, concrete steps are feasible now and can contribute significantly to a stronger food system in the short and medium term.

# 1 Getting to “Right-sized”

Nova Scotia has been active over the past decade in planning and evaluating its aquaculture regulations. In 2012, the DFA released its strategy for aquaculture, *Creating Sustainable Wealth in Rural and Coastal Nova Scotia*.<sup>1</sup> Its core message was clear: aquaculture has the potential to help sustain rural and coastal communities and maintain their quality of life while stemming out-migration by providing more year-round jobs.

As part of this strategic plan, the DFA committed to undertake a review of provincial legislation, regulations and policies with the aim of modernizing Nova Scotia’s regulatory regime to improve competitiveness and transparency and to address environmental impacts. The following year, the Province appointed a two-member panel to lead development of a new regulatory framework for aquaculture (the “Doelle-Lahey Panel”). The Panel’s *Final Report*, published in 2014, made a series of recommendations for reform pursuant to its mandate around “integrating and advancing environmental protection, social well-being and economic opportunity” across “the whole of industry” (both marine and land-based finfish, shellfish and plant-based aquaculture).<sup>2</sup>

Some but not all of the Panel’s recommendations were adopted as part of legislative changes introduced by the Province in 2015. Other changes to the regulatory regime—such as the new uniform licensing process applicable to most standard aquaculture applications—departed from those recommended by the Panel.

Along with the 2015 regulatory changes the Province established the Nova Scotia Aquaculture Regulatory Advisory Committee (NSARAC) to provide expert and stakeholder advice related to ongoing regulatory oversight. With input from the NSARAC, the DFA recently commissioned the consulting firm Davis Pier to conduct a 5-year review of the initial reforms. The

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<sup>1</sup>Department of Fisheries and Aquaculture, *Aquaculture Strategy: Creating Sustainable Wealth in Rural and Coastal Nova Scotia* (Halifax: Government of Nova Scotia, 2012).

<sup>2</sup>Meinhard Doelle & William Lahey, *A New Regulatory Framework for Low-Impact/High-Value Aquaculture in Nova Scotia* (Halifax: Schulich School of Law, Dalhousie University, 2014).

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final report and recommendations from that review (the *Regulatory Review*) were published in March 2023.<sup>3</sup>

A key theme from the findings of the 5-year *Regulatory Review* is “regulatory right-sizing”. The final report offered ten recommendations related to scaling regulation, ranging from the need to “increase efficiency and effectiveness” in the application, review and decision-making process surrounding aquaculture licensing to changes in various aspects of regulatory oversight and monitoring.<sup>4</sup> The authors of the *Regulatory Review* emphasized that a “‘one size fits all’ approach to regulation has created disparities within the [aquaculture] sector” but offered few details about nature of those disparities or how they are affecting different actors and interests within the sector as a whole.

The *Regulatory Review* provides needed groundwork to motivate scale-appropriate regulations for aquaculture in Nova Scotia. Next steps will require a clearer regulatory framework on which to rest those changes and must identify concrete ideas for reform.

This research report addresses these next steps toward “right-sizing” regulations for marine-based shellfish and seaplant aquaculture in Nova Scotia. It does not address related but distinct issues about scaling regulations for finfish aquaculture. This approach is based on the recognition, from several sources, that these different sectors (shellfish and seaplant versus finfish) are developing along very different trajectories and confront unique concerns that are best addressed through a targeted, sector-based approach.

The ideas for regulatory change in this report relate to a key proposal by the Doelle-Lahey Panel—one that has so far gone unaddressed: to establish licensing requirements and procedures for shellfish and seaplants that differentiate them from finfish. From this starting point, we would see the DFA and others go further to craft a regulatory regime that is progressively tailored to shellfish and seaplant farmers over time and that is focused primarily on small and medium sized producers at this stage. At the heart of this proposal is the idea that regulations should recognize and support the potential for shellfish and seaplant farmers to firmly establish and grow their contributions to community food security within in our regional food system.

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<sup>3</sup>Davis Pier Consulting, *Nova Scotia Department of Fisheries and Aquaculture Regulatory Review: Final Report and Recommendations* (Halifax, 2023).

<sup>4</sup>*Ibid* at 18–22.

## 2 “Right-sizing” for the Regional Food System

There may be several good reasons for developing scale-appropriate regulations for shellfish and seaplant aquaculture in Nova Scotia, which we outline below. But those reasons rarely, if ever, acknowledge that shellfish and seaplants are local foods for Nova Scotians, whose production and availability are linked the kind of sustainable and resilient regional food system now championed inside and outside of government. This basic point—that seafood is *food*—is all too often lost among the weeds of regulatory design.

From a food systems perspective, the idea of regulatory “right-sizing” in aquaculture engages two interrelated issues. The first is a question of how to tailor and make flexible regulations to accommodate aquaculture businesses of different sizes operating in different markets. This question asks primarily about the impact of regulations on individual producers.

The second issue linked to “right-sizing” addresses the *collective* impact of the regulatory environment on our food system at the regional scale. A food-system focus asks how aquaculture regulations shape who can produce which foods where, when, and in what quantities. It foregrounds questions about what kind of regional food system we want going forward and how to go about realizing that vision as part of the multiple and interconnected regimes regulating food.

*Community food security*—which prioritizes access to healthy, safe and culturally-appropriate foods through a sustainable, resilient and equitable food system supporting community self-reliance—<sup>5</sup>has been moving up the policy agenda in our region.<sup>6</sup> This policy approach integrates food with social, economic, environmental and cultural forces that shape and support local communities. Such interconnections have started to emerge in new legal forms such as legislative targets on the consumption of locally-produced foods in Nova Scotia’s *Environmental*

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<sup>5</sup>Michael W Hamm & Anne C Bellows, “Community food security and nutrition educators” (2003) 35:1 Journal of Nutrition Education and Behavior 37–43.

<sup>6</sup>Peter Andree et al, “Structural constraints and enablers to community food security in Nova Scotia, Canada” (2016) 11:4 Journal of Hunger & Environmental Nutrition 456–490.

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*Goals and Climate Change Reduction Act*.<sup>7</sup> A focus on community food security has also drawn together a range of government and non-government actors to link different policy areas and to connect large urban populations to the rural communities who grow and harvest many of the local foods we eat. In one recent example, the Halifax Regional Municipality endorsed an ambitious *Action Plan* aimed at advancing policies to build community food security across the region.

In light of the growing emphasis on community food security it is notable that this idea is almost entirely absent from the many reports and recommendations concerning aquaculture in Nova Scotia. Apart from the occasional mention of rising consumer demand for seafood, neither the Doelle-Lahey Panel's *Final Report*, nor the recent 5-year *Regulatory Review*, nor any of the research monographs or other materials supporting these processes we reviewed make any serious attempt to understand aquaculture's place in the regional foodshed.

**Why does this food-system lens matter?** First, it suggests that concerns around “right-sized” regulations are not unique to aquaculture. They are shared across small and medium food businesses of all types. For example, the need for scale-appropriate regulation has featured prominently in recent governance concerns raised by land-based farmers, food processors and retailers around the province.<sup>8</sup>

Scholarship on scaling food regulations both in Canada and globally has described the goal of “right-sizing” as one of regulatory design free from assumptions about “an ideal form of food production or market structure”.<sup>9</sup> Work in this area has shown that too often the people and institutions tasked with developing food regulations have taken large-scale entities and increasingly consolidated markets as their baseline for regulatory design—a critique that applies to aquaculture as much as it does to terrestrial agriculture. Unfortunately our conventional approaches to regulating fail to recognize the genuine diversity of participating actors in food production and they lack the dedicated commitment needed to ensure that small and medium-sized entities can fairly compete and thrive as a essential participants in our food system.

Second, a food-system lens helps to set specific priorities for regulatory change in aquaculture. The goal of strengthening and supporting community food security establishes a core justification for distinguishing shellfish and seaplant aquaculture regulation from the finfish context that has—understandably—tended to capture so much of the public's attention in this area.

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<sup>7</sup>*Environmental Goals and Climate Change Reduction Act*, SNS 2021, c 20, s 14(b).

<sup>8</sup>Karen Foster, Jamie Baxter & Anna Giddy, *Working At Odds: How Food Businesses Experience Regulation in Nova Scotia* (Halifax: Dalhousie University, 2022).

<sup>9</sup>Laura B DeLind & Philip H Howard, “Safe at any scale? Food scares, food regulation, and scaled alternatives” (2008) 25 *Agriculture and Human Values* 301–317 at 312.



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The central organizing concept of the Doelle-Lahey Panel's *Final Report* was “high-value, low-impact” aquaculture. This concept provided a useful starting point for the Panel's comprehensive review of the aquaculture sector but it was also broadly applied. At this stage in the regime's evolution greater emphasis should be placed on the best ways of strengthening aquaculture's contributions to community food security and system resilience.

The sectors best positioned to pursue this end will be ones that tend not only to be (1) low-impact and well-adapted to local coastal ecologies, but also have (2) strong participation from small and medium scale and owner-operated enterprises and (3) a significant orientation toward producing food for local consumption. Shellfish farming in Nova Scotia meets each of these criteria and is thus a good candidate for regulatory changes tied more directly to the regional food context. While seaplant farming remains a nascent sector in the province, its prospects in each of these dimensions are apparent and encouraging.

## 2.1 Environmental Impact

Shellfish and seaplant farming have the potential to be significant sources of sustainable, locally-produced food in Nova Scotia—though of course the assessment of impacts on the marine environment and on carbon emissions is complex and specific to individual cases, farming methods and ecologies. In this respect, shellfish and seaplant farms appear well-suited to tailored environmental evaluation and monitoring. Present concerns about the ecological impacts of shellfish farming on the marine environment, where they arise, are not generally of the same type or at the same order of magnitude as those related to finfish. Notably, the Doelle-Lahey Panel observed that feedback collected during their consultations “suggested that concerns about the environmental impact of aquaculture are largely focused on finfish aquaculture”<sup>10</sup> and in fact no specific environmental concerns related to shellfish or seaplant farming arise anywhere in the Panel's final report.

From a food-systems perspective, environmental impacts related to shellfish and seaplant farming should also be assessed in comparison to other food products. For example, recent research comparing nutrient density to production-related greenhouse gas emissions of various seafoods worldwide found that farmed bivalves scored among the best in the study sample (i.e. highest

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<sup>10</sup>Doelle & Lahey, *supra* note 2 at 17.

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nutrient density per unit of emissions) and also compared favourably to conventional land-based sources of animal protein such as beef and poultry.<sup>11</sup>

## 2.2 Small and Medium Scale

Nova Scotia's current shellfish farming sector—like others around the world—also has a distinctive market structure characterized mainly by small and medium-sized producers.<sup>12</sup> While historical similarities in the scale of shellfish and finfish farming may have justified a uniform regulatory regime early on, those similarities have likely dissipated over time. Shellfish farming in Nova Scotia remains largely owner-operated and relatively small-scale.

Based on current data from the DFA,<sup>13</sup> there are 92 different licenced shellfish farmers in Nova Scotia (as compared to 9 different licenced finfish operators) who operate at 162 different locations. Sixty-four (70 percent) of those shellfish operators hold a licence for a single location, with only seven operators in total holding licences for 4 or more provincial locations. Sixty-six percent of shellfish licences in the province are held by operators who are based in Nova Scotia. The median area of a shellfish lease is 7.91 hectares.

There are also some compelling reasons to think that differences in the scale of shellfish and finfish farms are durable and related, in part, to economic features specific to each sector. A key factor here is labour costs, which tend to be higher on shellfish farms compared to finfish aquaculture, where technological innovation has enabled considerable labour cost savings at scale.<sup>14</sup> In this respect, shellfish farming may have similar dynamics to land-based agriculture, where the persistence of small-scale, family-based farms has been tied to transactions costs related to labour oversight and contracting.<sup>15</sup>

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<sup>11</sup>Marta Bianchi et al, “Assessing seafood nutritional diversity together with climate impacts informs more comprehensive dietary advice” (2022) 3:1 *Commun Earth Environ* 188.

<sup>12</sup>Russel Griggs, *A Review of the Aquaculture Regulatory Process in Scotland* (Edinburgh: Scottish Government, 2022) at 13.

<sup>13</sup>Department of Fisheries and Aquaculture, “Licenced Aquaculture Sites in Nova Scotia”, (June 2023), online: <<https://novascotia.ca/fish/aquaculture/public-information/>>.

<sup>14</sup>S S Coffen & A T Charles, “Production economics of shellfish aquaculture in atlantic canada: A preliminary analysis” (1991) 22:2 *Aquaculture Research* 193–202 at 194; Yajie Liu & Ussif Rashid Sumaila, “Economic analysis of netcage versus sea-bag production systems for salmon aquaculture in british columbia” (2007) 11:4 *Aquaculture Economics & Management* 371–395 at 379.

<sup>15</sup>Mieke Calus & Guido Van Huylenbroeck, “The persistence of family farming: A review of explanatory socio-economic and historical factors” (2010) 41:5 *Journal of Comparative Family Studies* 639–660 at 648–49.

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Food systems researchers have long argued for supporting a diversity of regional food producers operating at different scales. Even in regions with heavily industrialized food production systems, small-scale producers continue to play a key role in “food provisioning, environmental and landscape protection, local community resilience, and rural economic viability”.<sup>16</sup> While large-scale food production and harvesting has been associated with improved productivity and lower consumer prices for some food items, a more decentralized production system that includes small and medium sized farmers and harvesters carries significant benefits in terms of long-term system resilience and adaptability—especially in the face of economic and environmental shocks. These features may be especially important in the context of changing environmental conditions such as ocean warming and acidification.<sup>17</sup>

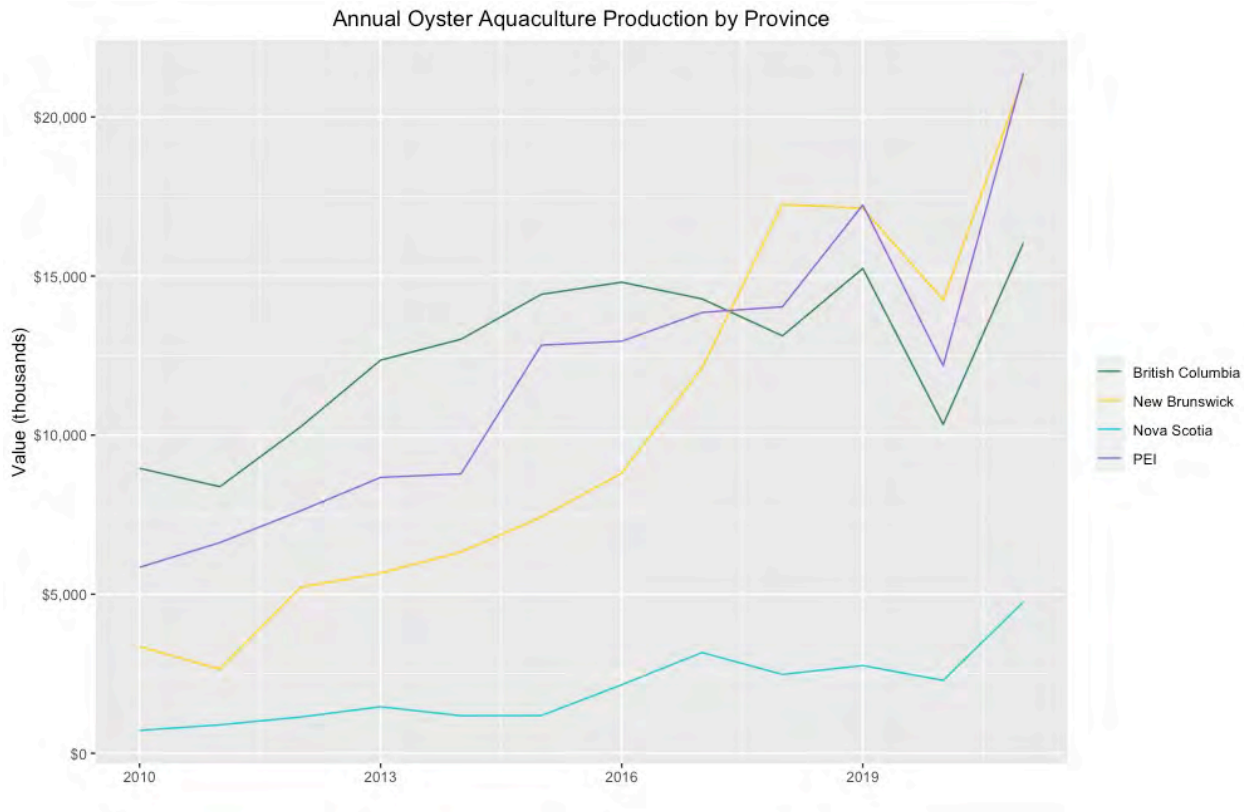
Small, owner-operated food businesses are also more likely to be directly embedded in their local communities and have significant shares of social capital, making them more responsive to local needs and opening new avenues to resolve or avoid conflicts around marine and adjacent uses where they arise.

Consistent with the recognized value in sustaining and supporting shellfish and seaplant farming in which small and medium-scale producers play a significant role, there appears to be potential to grow these sectors in Nova Scotia—especially by reducing barriers to new entrants.

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<sup>16</sup>María Rivera et al, “Assessing the role of small farms in regional food systems in europe: Evidence from a comparative study” (2020) 26 *Global Food Security* 100417 at 8.

<sup>17</sup>Kristen Marie Green et al, “Oregon shellfish farmers: Perceptions of stressors, adaptive strategies, and policy linkages” (2023) 234 *Ocean & Coastal Management* 106475.



**Figure 2.1:** Annual Oyster Aquaculture Production by Province

Using the case of oyster production as an example, Figure 2.1 shows that Nova Scotia lags far behind the production potential being realized in other provinces.<sup>18</sup> Under these circumstances and at such an early stage of sectoral development, an emphasis on supporting entry by—and competitiveness of—small and medium scale enterprises may be especially important.

<sup>18</sup>Department of Fisheries and Oceans, “Aquaculture Production Quantities and Value”, (2023), online: <<https://www.dfo-mpo.gc.ca/stats/aqua/aqua-prod-eng.htm#>>.

## 2.3 Local Consumption

Finally, Nova Scotia’s shellfish farmers and harvesters have tended to produce a large share of their food products for local consumption. Figure 2.2 demonstrates this in the case of oysters (farmed and wild caught) even in comparison to other Atlantic provinces, where the total share of annual production going to international and interprovincial export has been much larger than it is in Nova Scotia, although the overall quantities produced elsewhere are larger.<sup>19</sup>

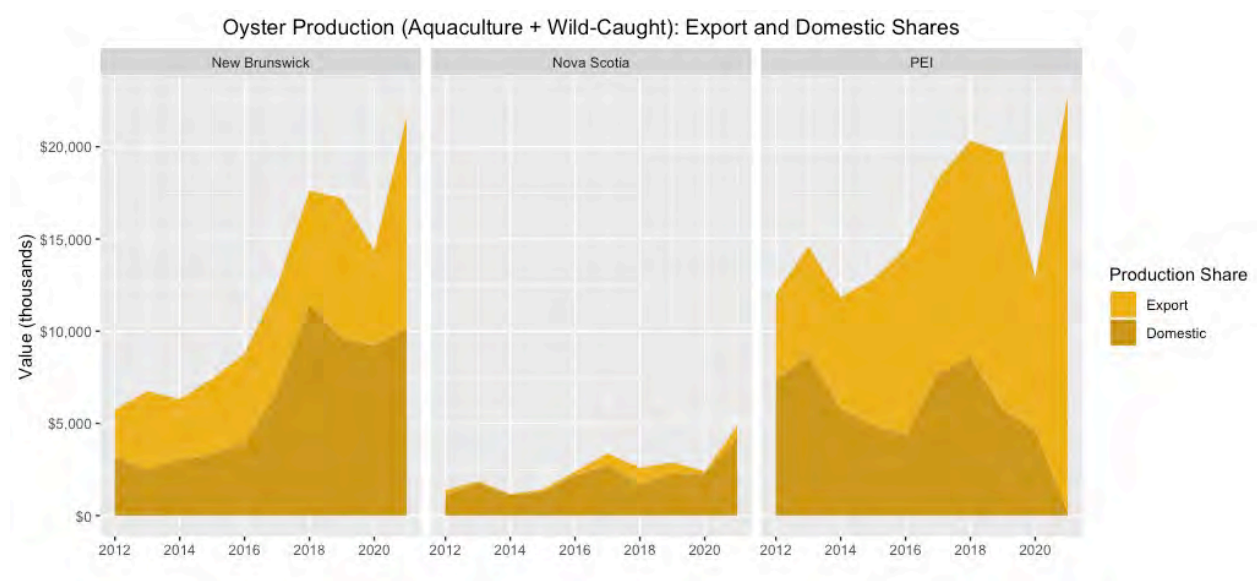


Figure 2.2: Oyster Production - Export and Domestic Shares

The local orientation of shellfish farming and harvesting in Nova Scotia is significant in the broader context of movements to “relocalize” seafood as an element of community food security. Canada as a whole exports much of the seafood it produces while simultaneously importing large quantities for domestic consumption. Shellfish flows track this trend. Canada exported over 60% (272,917 metric tonnes) of its farmed and wild caught shellfish in 2021 and it imported

<sup>19</sup>Government of Canada, “Trade Data Online”, (2023), online: <<https://ised-isde.canada.ca/site/trade-data-online/en>>.

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more than half as much again (141,725 metric tonnes) for domestic consumption in the same year.<sup>20</sup> To the extent that shellfish farming in Nova Scotia has to date resisted this trend toward export-driven development, the sector deserves greater attention in understanding why this is the case and how such localization can be supported and preserved.

Each of the characteristics specific to shellfish farming in Nova Scotia discussed above suggest that this sector—along with a budding seaplant farming sector that is likely to share at least some of these key features—is well-positioned to grow its contributions to building our regional food system.

None of this is to suggest, however, that shellfish and seaplant aquaculture are free from important community-based concerns that need to be addressed in any new regulatory process. As the Doelle-Lahey Panel found, many of these concerns will likely relate to potential conflicts over marine uses, including aesthetic issues, between farmers and those in surrounding local communities. Any regulatory changes for shellfish and seaplant aquaculture will need to consider and respond carefully to these potential conflicts. It appears that these concerns too are best addressed with the unique characteristics of shellfish and seaplant farming in mind.

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<sup>20</sup>Fisheries and Oceans Canada, “Canadian Trade”, (14 June 2023), online: <<https://inter-jo1.dfo-mpo.gc.ca/ctr/canadiantrade?lang=en>>; Fisheries and Oceans Canada, “Statistics”, (14 June 2023), online: <<https://www.dfo-mpo.gc.ca/stats/stats-eng.htm>>.

### 3 The Demand for “Right-sizing”

The recommendations from the 5-year *Regulatory Review* on “right-sizing” open a window for reform around critical issues for shellfish and seaplant farming. **But why is change needed, and why now?** Without access to the underlying data from consultations that formed part of the review, it is difficult to identify with certainty the challenges and barriers currently confronting shellfish and seaplant farmers in the province. Going forward, a full answer to this question would ideally be informed by transparent public engagement with shellfish and seaplant producers, current and prospective surrounding communities, seafood processors, retailers and consumers in Nova Scotia, and other affected interests. The process leading to the *Regulatory Review* and any consequential reforms, however, suggests that the current window of opportunity for change may not last long.

If the trajectory for potential changes continues apace, understanding the underlying motivations for reform will need to be based on the best sources of information available. This report makes use of three sources: a growing international scholarly literature on the design and impacts of shellfish aquaculture regulation; an examination of the two cases involving new shellfish licence applications in Nova Scotia since the 2015 reforms; and a review of comparative evidence on licensing outcomes from one jurisdiction—Maine—with similar adjudicative processes for licensing to those currently operating in Nova Scotia.

An analysis of these sources together provides cautious support for the fairly general conclusion from the 5-year *Regulatory Review* that a move toward “right-sizing” is needed. Specific ideas to achieve this end based on a food-systems perspective and a sectoral approach are presented in Section 4, below.

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### 3.1 Globally

A growing comparative literature on law and policy related to shellfish farming has identified a shared set of regulatory challenges that, while sometimes common across all aquaculture operations, can have disproportionate impacts on smaller and medium scale shellfish farmers.

Based on a comprehensive review of the literature on aquaculture regulation, Falconer et al note that complicated and fragmented approaches to licensing pose special barriers to new entrants and small-scale farmers.<sup>21</sup> One survey on regulatory compliance from Pacific coast shellfish farms estimates costs of over \$240,000 (USD) per farm. These estimated costs-per-hectare were greatest for smaller-scale producers.<sup>22</sup>

Empirical studies of shellfish farming regulations from Ireland,<sup>23</sup> the Pacific United States Green et al<sup>24</sup>, and South Africa have uncovered a number of specific challenges related to permitting and licensing. Delays related to the length and complexity of licensing—which pose barriers to entry—have surfaced as key concerns.<sup>25</sup> Similar concerns apply to regulatory oversight more generally. A study of Irish oyster farmers found that in one case there were thirteen governmental bodies responsible for regulatory oversight, leading to a dizzying array of rules to navigate for individual producers.<sup>26</sup>

Challenges related to the use and transfer of shellfish aquaculture leases have also emerged as key issues. Farmers identify a lack of clarity around leasing conditions as a concern, though farms operating in jurisdictions with statutory leasing conditions appear to enjoy a higher level of certainty.<sup>27</sup> Security of tenure for smaller-scale farmers can also pose challenges related to financing, motivating demand for longer lease terms to access better loan terms. Lack of secure tenure—along with the inability to trade permits or receive payment for environmental services—may also influence incentives to develop or invest in more sustainable cultivation methods.

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<sup>21</sup>Lynne Falconer et al, “Planning and licensing for marine aquaculture” (2023) *Reviews in Aquaculture*.

<sup>22</sup>Jonathan van Senten et al, “Regulatory costs on pacific coast shellfish farms” (2020) 24:4 *Aquaculture Economics & Management* 447–479.

<sup>23</sup>Alan Renwick, “Regulatory challenges to economic growth in aquaculture: The case of licensing in the Irish oyster industry” (2018) 88 *Marine Policy* 151–157.

<sup>24</sup>“Oregon shellfish farmers”, *supra* note 17.

<sup>25</sup>Renwick, “Regulatory challenges to economic growth in aquaculture”, *supra* note 23 at 153–4; van Senten et al, *supra* note 22; Green et al, “Oregon shellfish farmers”, *supra* note 17 at 6.

<sup>26</sup>Renwick, “Regulatory challenges to economic growth in aquaculture”, *supra* note 23 at 154.

<sup>27</sup>Green et al, “Oregon shellfish farmers”, *supra* note 17 at 6.



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While much more might be learned from an intensive review of this emerging international literature, high-level regulatory challenges experienced by shellfish farmers globally engage key themes around barriers to entry, competitiveness, regulatory certainty, and coordination between regulatory actors. These themes inform the specific ideas for change presented Section 4 below.

## 3.2 Nova Scotia

Some of the regulatory challenges facing shellfish farmers identified in the global research literature—especially those related to licensing—are reflected, to a degree, in recent experiences under Nova Scotia’s aquaculture leasing and licencing regime since the 2015 reforms.

The centrepiece of those reforms was the designation, by statute, of an independent Nova Scotia Aquaculture Review Board (ARB) as the primary decision-maker for new finfish, shellfish and seaplant licence and lease applications and amendments. Currently, all aquaculture applications, with limited exceptions, are subject to review by the ARB and assessed according to eight factors set out in the *Aquaculture Licence and Lease Regulations*. This process includes an adjudicative hearing before the ARB, with full party rights afforded to the applicant, intervenors, and the Minister. While the Board has authority to set its own hearing procedures at a relative level of informality (compared to conventional judicial proceedings), some procedures—such as evidentiary rules—are fixed by regulation and demand significant levels of legal knowledge, expertise and assistance to navigate.

In practice, only two shellfish licence applications have gone before the Board since the 2015 reforms—one in 2020 and one, most recently, in June 2023 . It seems clear that the current regime has produced a reasonably complex process in at least one of these cases—an application by Town Point Oysters Inc. for licences and leases on three sites in Antigonish County. A review of the hearing materials and recordings of the proceedings in this case indicate that the Board’s process included many features of a quasi-judicial hearing, including the use of legal representation by the applicant and intervenors, competing expert evidence and contentious cross-examination of witnesses. From the date of submission to the DFA to the three-day ARB hearing Town Point’s application took more than three years to be heard by the Board, suggesting that there may have been significant barriers to new entry related to regulatory delay in this case.

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Caution is warranted, however, against overstating conclusions about the operation and impacts of Nova Scotia's regime based on such a small sample of cases. To partially address this challenge, the sub-section below looks at licensing outcomes for shellfish and seaplant farmers in the State of Maine as a jurisdiction that operates a close analogue to the adjudicative process in Nova Scotia.

### 3.3 Maine as a Comparator

Maine's aquaculture leasing regime shares several similarities with Nova Scotia's application process, including requirements for a formal hearing process for all standard new shellfish, seaplant and finfish applications (though not for an exempted class of small, "limited purpose" applications). Indeed, Maine's regime may have served as a source of inspiration for the 2015 regulatory changes in Nova Scotia—despite some scepticism of Maine's adjudicative approach expressed by participants in the Doelle-Lahey Panel's review process.<sup>28</sup> While the primary decision-maker in Maine—the Commissioner of the Department of Marine Resources—is not independent from government in the same manner as the ARB in Nova Scotia, application decisions in both jurisdictions are made after a full public hearing with many of the same procedural rights afforded to participants and according to a set of clear evaluative criteria established by statute.

While a comprehensive review of Maine's leasing regime was not conducted for this report, public data are available to evaluate the length of time required for new standard shellfish leasing applications to make their way through the process. Delay is only one indicator of regulatory problems but the lag in time between a proponent submitting their final application and receiving a decision on that application provides a helpful data point in assessing the need for change. To the extent of similarities between Maine and Nova Scotia, these data may help to characterize motivations for regulatory changes here.

A review of the Maine data identified 39 successful new applications for standard shellfish and seaplant leases filed between 2011 and 2021. The time required for the Commissioner to complete the hearing process and issue a decision ranged between 142 days to 1433 days, with the median time for decision 572 days (a mean of 550 days). These review periods in the data did not include the time required for each applicant to complete Maine's mandatory pre-application process.

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<sup>28</sup>Lisa Mitchell, *Comparative Analysis of Aquaculture Regulatory Frameworks in Maine and Nova Scotia* (Halifax: East Coast Environmental Law, 2014) at 31–2.

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The factors that determine how long it takes to obtain a shellfish or seaplant lease in Maine are likely various and not necessarily apparent on the face of the written decisions issued by the Commissioner in each case. But these data do suggest at high level that the review process for lease applications in Maine is a long one—more than a year-and-a-half on average, and much longer for some. As a comparator to understand entry barriers raised by Nova Scotia’s regime, Maine’s experience offers some evidence that complex adjudicatory processes and associated delays are one motivator for regulatory reform.

## 4 Toward a Sector-Based Approach

The food-systems lens sketched above, combined with the available data on challenges and regulatory alternatives for shellfish and seaplant farmers, suggest that the best way forward is for Nova Scotia to adopt a **sector-based approach** to aquaculture regulation. This means that shellfish and seaplant farming would be governed under their own regulatory regime—one premised on the need to establish and sustain small and medium farms and designed to address the key issues and challenges facing these operators and their surrounding communities.

The underlying premise of this proposal is that, for the reasons described in the previous section, “sector” in the current context of Nova Scotian aquaculture serves as a useful proxy for “scale”. Adopting a sector-based approach is a well-defined and justifiable means to delimit the boundaries of a right-sized regulatory environment, at least as a starting point for responding to the recommendations of the 5-year review.

Consistent with this practical approach, the “ideas for change” below recognize that current processes of regulatory reform might limit the full development of a sectoral regime in the short-term. Nevertheless, it is possible for the Province to make concrete steps toward that end and to support its progressive realization over time.

We first describe our efforts to review the available evidence on regulatory innovations from comparative jurisdictions, then turn to specific ideas for reform.

### 4.1 Comparative Review

Aquaculture regulation is a difficult area for comparative legal research. The basic structures used to govern aquaculture vary widely and the details about how more general rules are interpreted and applied are often impossible to determine from a paper review. Ideally, this jurisdictional scan would be supplemented with interview and other empirical data but due to time limitations these remain important sources to be explored in future work.

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Our review of comparative aquaculture jurisdictions examined to what extent considerations of scale have informed regulatory design. To bolster that review, we also analyzed several examples of scale-sensitive regulations from other areas of the food system to identify lessons that might be applied in the aquaculture context.

In Canada, we looked closely at two provincial jurisdictions: British Columbia and Prince Edward Island. Both differ from one another and from Nova Scotia in several key respects.

British Columbia led aquaculture regulation in that province until 2009, when a constitutional challenge to provincial jurisdiction over licensing shifted most regulatory responsibilities to the federal government.<sup>29</sup> While the provincial Ministry of Forests, Lands and Natural Resource Operations continues to grant land tenures for aquaculture (licences of occupation for finfish and leases for shellfish), the federal Department of Fisheries and Oceans (DFO) is responsible for licensing under the *Fisheries Act* and the *Pacific Aquaculture Regulations*.

DFO appears to make some provision for differences in standard licensing conditions and application requirements between the shellfish, seaplant and finfish sectors. But such distinctions are contained entirely in DFO policies and are not reflected in the relevant statutes or regulations.<sup>30</sup> Our review did not identify any significant sectoral differences in other aspects of regulation, including in monitoring and environment management.

PEI's aquaculture sector, by comparison, is uniquely distinguished by the absence of any significant finfish farming, meaning that its uniform regulatory regime for aquaculture is already focused on shellfish producers. Since 1928, aquaculture leasing on PEI has been regulated primarily by the federal DFO by way of agreement, most recently under the *Canada-Prince Edward Island Memorandum of Understanding for Commercial Aquaculture Development*.

As a consequence of this particular structure, there are few statutory instruments that directly address shellfish aquaculture in PEI, with the exception of the federal *Aquaculture Activities Regulations* which provide for exceptions to *Fishies Act* requirements preventing aquaculture facilities from deposit certain deleterious substances.<sup>31</sup> The shellfish sector on PEI is governed mainly by the DFO's *Prince Edward Island Shellfish Aquaculture Leasing Policy*.<sup>32</sup>

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<sup>29</sup>*Morton v British Columbia (Minister of Agriculture & Lands)*, 2009 CarswellBC 282, 2009 BCSC 136.

<sup>30</sup>Department of Fisheries and Oceans Canada, "Marine finfish B.C. Aquaculture licence and conditions of licence", (2023), online: <<https://www.pac.dfo-mpo.gc.ca/aquaculture/licence-permis/docs/licence-cond-permis-mar/index-eng.html>>; Department of Fisheries and Oceans Canada, *Shellfish aquaculture licence under the Fisheries Act 2021* (Government of Canada, 2022).

<sup>31</sup>*Aquaculture Activities Regulations*, SOR/2015-177; *Fisheries Act*, RSC 1985, c F-14, s 36(5.2).

<sup>32</sup>Department of Fisheries and Oceans Canada, "Prince Edward Island Shellfish Aquaculture Leasing Policy", (13 June 2022), online: <<https://www.dfo-mpo.gc.ca/aquaculture/management-gestion/pei-ipe-eng.htm>>.

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The absence of a comparative finfish farming sector in PEI makes it difficult to identify which if any components of its aquaculture regulations have been developed specifically to address issues of scale related to shellfish or seaplants. Unique among Canadian jurisdictions is the PEI Aquaculture Zoning System (PEIZS), first developed in the late 1980s as a joint federal-provincial initiative modelled on land use zoning systems to classify different aquatic areas for aquaculture uses. By DFO's own account, the original PEIZS system was designed primarily to support the expansion of the island's nascent shellfish farming sector by streamlining lease applications and moving to pre-emptively avoid conflicting uses. As the sector overall reached a certain level of development, the system came under strain and DFO undertook in 2022 to develop a revised zoning regime.

Internationally, we also reviewed key components of aquaculture regulation in Scotland and Ireland—both of which have undertaken independent reviews in the past decade with an eye toward issues of scale. Ireland's Independent Aquaculture Licensing Review Group issued its report in 2017,<sup>33</sup> and an independent review of Scottish aquaculture by Professor Russel Griggs was published in 2022. Additionally, we drew lessons from the aquaculture licensing regime in the State of Maine as a close analog of Nova Scotia's current system, as described above.

Rather than address the features of each of these jurisdictions in detail, we develop comparisons and lessons from our review under specific ideas for change in the next section.

## 4.2 Ideas for Change

The overarching proposal for change in this report is that Nova Scotia work toward a sector-specific regime of regulation for shellfish and seaplant farming tailored to their unique contexts and contributions. While this idea of sector-based aquaculture regulation has started to receive some attention in other jurisdictions, one conclusion from our research is clear: Nova Scotia would be treading a new path in pursuing a sectoral approach. We did not find a single aquaculture jurisdiction in Canada or abroad that employs a comprehensive strategy for the tailored regulation of shellfish and seaplants separate from finfish.

This trajectory was recently endorsed—but has not yet been implemented—following Scotland's recent independent review of aquaculture, which recommended that “there should be different

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<sup>33</sup>Mary Moylan, Lorcán ó Cinnéide & Ken Whelan, *Review of the Aquaculture Licensing Process* (Ireland: Independent Aquaculture Licensing Review Group, 2017).

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regulatory solutions for finfish, shellfish, and seaweed with each based on a framework specifically designed for that part of the sector and in which the consenting and all other regulatory processes will sit and be driven by”.<sup>34</sup> While there are regulatory uncertainties involved in Nova Scotia pursuing this strategy, it also presents a unique opportunity for the Province to build in long-term support for its shellfish and seaplant farmers and to demonstrate global leadership through development of an innovative regulatory model to which other jurisdictions can turn when addressing a set of common challenges.

Broadly speaking, there are two obvious routes toward a sectoral approach for regulating shellfish and seaplant farming in Nova Scotia. One route might simply be for government to adopt relevant parts of the original recommendation of the Doelle-Lahey Panel on licensing and require new applications for shellfish and seaplant licences to go through administrative review (rather than adjudicative review at the Aquaculture Review Board). This path would likely require some basic amendments to the *Fisheries and Coastal Resources Act* and the *Aquaculture Licence and Lease Regulations* but would by and large aim to utilize the existing regulatory machinery to simplify licensing for shellfish and seaplants while maintaining core commitments to public transparency and engagement appropriate to the scale and context of these operations.

This first, simpler option might also include other tweaks to ensure that regulations remain responsive to the rationales for a sectoral approach laid out above—for example, by establishing limits on the size (by lease area or annual production targets) of new shellfish and seaplant operations that are eligible for administrative review, with larger proposed or existing operations requiring adjudicative scrutiny.

At the other end of the spectrum would be the development of an entirely new, customized regulatory regime for shellfish and seaplant farms. It is likely that such an ambitious plan would demand fuller engagement and consultation with all stakeholders and play out over a longer timeline.

A middle way between these two routes would be a targeted set of changes to the existing regime that attempt more fully to meet the needs of farmers and their local communities while largely preserving the existing regulatory structure as a first but significant step toward a sector-based system. It would lay the groundwork for Nova Scotia to progressively realize a more comprehensive sector-based regime over time.

This third option would address at a minimum the following six objectives:

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<sup>34</sup>Griggs, *supra* note 12 at 8.

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1. Recognize the role of shellfish and seaplant farmers in the regional food system;
  2. Reduce barriers to entry for small and medium-sized farms;
  3. Strengthen the long-term viability and competitiveness of small and medium farms within their sectors;
  4. Improve regulatory certainty and coordination to reduce the costs associated with planning and compliance;
  5. Build new relationships and revisit responsibilities to shift regulatory culture; and
  6. Seed future opportunities for regulatory change toward a sector-based approach.

Below are specific ideas for change under each of these objectives, including underlying rationales and connections to lessons gleaned from our comparative review. These ideas do not present a comprehensive “roadmap” for reform, nor do they touch on all issues that are likely to be of concern under the current regime. Instead, they identify concrete steps toward meaningful progress, some of which may be illustrative or suggestive of changes in other areas not explored here.

### **Role in the regional food system**

In developing its original recommendations on aquaculture regulation, the Doelle-Lahey Panel adopted a purposive approach to regulatory reform and suggested a set of specific goals to be included. The system’s current goals are encapsulated in the purposes section of the *Fisheries and Coastal Resources Act* and the statutory decision-making factors established by the *Aquaculture Licence and Lease Regulations*.

Both instruments as drafted are currently silent on aquaculture’s role in the regional food system and could be amended to recognize more explicitly those farms that contribute or have the potential to contribute to community food security:

- **Idea #1:** amend section 43A of the *Fisheries and Coastal Resources Act* to include among the purposes of Part V: to “recognize and support aquaculture operations that form an integral part of the Province’s regional food system”.
- **Idea #2:** amend section 3 of the *Aquaculture Licence and Lease Regulations* to include among the factors to be considered in decisions related to marine aquaculture sites “the contribution of the proposed operation to community food security in the Province”.

These changes would empower and require decision-makers to give explicit consideration to impacts of shellfish and seaplant aquaculture on the regional food system and to address these



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consideration in their reasons. Such considerations and related evidentiary requirements are consistent and connected with other factors currently included in the regulations, such as contributions to community and Provincial economic development.

Based on our comparative review, such explicit recognition of the relationship between aquaculture and the food system would be unique and it would set Nova Scotia on solid footing for the other sectoral-based reforms below.

### **Reduce barriers to entry**

Barriers to entry for small and medium-sized shellfish and seaplant farms related mainly to the licensing/leasing process appear to be a key concern for prospective farmers under the existing regime. Whatever the possible merits of adjudicatory review by an independent board in some circumstances, establishing this as the default process for all aquaculture operations regardless of sector or scale is not proportionate to the capacities of small and medium-sized shellfish and seaplant farmers, nor is it clearly an effective means of addressing predominate issues related to siting and operational features. To the extent that conflicts with local communities over coastal uses, where they arise, are a main focus for shellfish and seaplant applicants or amendments, more collaborative processes ranging from integrated coastal planning, to strategic area assessments, to robust pre-application consultation appear to be more scale-appropriate tools than an adjudicatory regime with its inevitable bias toward adversarial engagement.

A straightforward response to current barriers that is nevertheless sensitive to scale would be to adopt the Doelle-Lahey Panel's recommendation to process shellfish and seaplant licences/leases through administrative review while integrating scale-based "triggers" for adjudicatory scrutiny:

- **Idea #3: amend the *Aquaculture Licence and Lease Regulations* to require that new shellfish and seaplant licence/lease applications proceed through administrative review, with clear criteria established to trigger adjudicative review based on scale of operation (e.g. lease area and/or production quantity).**

This proposed reform would create consequential change to address barriers to entry without disrupting, for now, the structural building blocks of the existing regime, allowing government to triage applications based on clear criteria that are easier for farmers to understand and assess in advance.

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Along with the shift toward default administrative review for small and medium-sized shellfish and seaplant farms, legislation could also go further to support and promote the participation of residents in coastal communities by creating new opportunities to be directly involved in the production of food for local consumption:

- **Idea #4: introduce a new class of “community food aquaculture licence”** for shellfish and seaplant cultivation into the *Fisheries and Coastal Resources Act* that is limited to small areas and available to riparian owners for small-scale production.

The idea of a “community food aquaculture licence” draws inspiration from Maine’s “limited purpose” licences, which provide an expedited process for small, limited-term applications (up to 37 square metres for one year using certain types of gear). Rather than emphasizing the use of limited purposes licences for flexible experimentation and innovation by prospective commercial producers as they are in Maine (given Idea #1 to channel all standard applications through administrative review), the focus of community food licences in Nova Scotia would be on home-based production to strengthen community food security by self-provisioning and—as important—to support direct participation in shellfish and seaplant farming by local residents. This has the potential to improve relationships and mutual understanding between farmers and non-farms, contributing to the groundwork for building social licence.

### **Strengthen long-term viability and competitiveness**

Reducing barriers to entry alone may be insufficient to ensure that shellfish and seaplant aquaculture in Nova Scotia grows in manner consistent with goals for the regional food system. Strengthening the long-term viability and competitiveness of small and medium-size farmers within their respective sectors could take a two-pronged approach that (1) places direct and indirect limits on scale of operation, at least in the immediate term, and (2) improves pro-active supports and incentives for smaller producers to address competitive disadvantages vis-a-vis larger producers.

With respect to the first prong, two ideas emerge from our comparative review that may influence scale going forward:

- **Idea #5: introduce limitations in the *Aquaculture Licence and Lease Regulations* on the total area and/or number of leases/licences** that can be granted to a single shellfish or seaplant farmer, and

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- **Idea #6: develop a comprehensive owner-operator policy for shellfish and seaplant leases/licences** and subsequent amendments to the *Aquaculture Licence and Lease Regulations* that require leases/licences to be issued only to individual farmers who operate the farm, corporations wholly owned by such individual farmers, or farmer membership organizations.

Together, these two ideas would create the means to address some of the risks associated with consolidation in the shellfish and seaplant sectors and to prevent the concentration of market power that might be used block new entrants. These considerations may be especially important as Nova Scotia's shellfish and seaplant sector is in an early growth phase.

Total lease area restrictions of this kind are relatively common among state-level aquaculture jurisdictions in the United States. Likewise, experience gained from the successes of the federal Owner-operator and Fleet Separation policies for inshore Atlantic fisheries in Canada—designed to ensure that inshore fisheries can sustain smaller-scale operators against pressures for control by larger processors and others—may provide guidance on the development of analogous tools for aquaculture.

With respect to the second prong, Nova Scotia has considerable distance to go in meeting the Doelle-Lahey Panel's recommendation "to invest in programs that assist small and medium-sized enterprises in meeting their regulatory obligations"<sup>35</sup> and to actively support the competitiveness of these enterprises within their respective sectors:

- **Idea #7: undertake a comprehensive review of public investments in and other supports for shellfish and seaplant farmers**, including by assessing inclusion in or parity with programs for land-based agriculture.

Such supports have long been recognized as essential for sustaining small and medium land-based farms and other food businesses in Canada. But parity in these supports among food sectors has not always extended to seafoods. In 2001, Canada's Federal Commissioner for Aquaculture Development recommended that the federal government examine current support measures "to ensure that aquaculture and other food sectors in Canada operate on a level playing field."<sup>36</sup>

This report will not explore the available options in detail here, but broadly there are two categories under which such supports might fall. The first are direct subsidies in the form of

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<sup>35</sup>Doelle & Lahey, *supra* note 2, ix.

<sup>36</sup>Commissioner for Aquaculture Development, *Legislative and Regulatory Review of Aquaculture in Canada* (Ottawa: Government of Canada, 2001) at 20.

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programs that help small and medium farmers to navigate and satisfy regulatory requirements or otherwise mitigate some of the disproportionate risks borne by smaller businesses. Programs like agricultural crop and livestock insurance and Nova Scotia's Value-adding Equipment Program available to registered land-based farms and agri-businesses are analogous examples here.

These examples also raise the issue—distinct from the question of “parity”—of whether the Department of Agriculture should itself adopt a more direct role in supporting shellfish and seaplant farmers in the future. We address these questions of regulatory culture and responsibilities below.

The second category of supports relates to positive incentive-based programs that seek to compensate shellfish and seaplant farmers for environmental and other services they provide in the course of their operations. For example, nutrient credit trading systems such as the Maryland Nutrient Trading Program in the Chesapeake Bay region have started to gain popularity in some jurisdictions. These programs are designed to compensate shellfish farmers for their contributions to improving nutrient content and water quality. Whether and how such programs can be appropriately scaled to ensure support for small and medium farms is a key question for further research and analysis.

### **Improve regulatory certainty and coordination**

The problem of vertical and horizontal regulatory “silos” related to both federalism and fragmentation in departmental mandates is well-recognized in Canadian food policy.<sup>37</sup> A lack of coordination among different actors in the regulatory processes for aquaculture and the absence of clear, statutory-based standards compound the costs of uncertainty that disproportionately affect smaller producers. Addressing key sources of this uncertainty for shellfish and seaplant farmers will help to adapt the regulatory environment to better address their needs and resources.

Two ideas in this area relate directly to coordinating regulatory actors:

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<sup>37</sup>Sarah Berger Richardson & Nadia Lambek, “Federalism and fragmentation: Addressing the possibilities of a food policy for Canada” (2018) 5:3 *Canadian Food Studies/La Revue canadienne des études sur l'alimentation* 28–48; Peter Andrée, Patricia Ballamingie & Mary Coulas, “Integrative governance for ecological public health: An analysis of ‘Food Policy for Canada’(2015-2019)” (2021) 8:2 *Canadian Food Studies/La Revue canadienne des études sur l'alimentation*.

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- **Idea #8:** amend section 10 of the *Aquaculture Licence and Lease Regulations* to require in the scoping process for an aquaculture licence/lease subject to administrative review the creation of an explicit consent document identifying all necessary parties for network review and other consultation, including their responsibilities and agreed timelines.
  - **Idea #9:** amend sections 11 and 40-42 of the *Aquaculture Licence and Lease Regulations* to include maximum time limits within which, upon submission of a completed standard licence application subject to administrative review, the DFA must complete its review and the Administrator must complete consultations and issue a written decision with reasons.

The idea of an explicit consent document builds on a proposal from the recent review of aquaculture regulation in Scotland, which established better coordination as a primary goal of regulatory reform.

Establishing clear timeframes within which administrative decision-making and consultation processes must be completed is a relatively straightforward way to reduce uncertainty for shellfish and seaplant farmers in the leasing/licencing process. Time limits of this nature have apparently been under consideration by the DFA for some time. In response to a 2015 Auditor General's report addressing aquaculture licensing and leasing, the DFA indicated that specific timeframes around public consultation and decisions would be implemented by regulation but the *Aquaculture Licence and Lease Regulations* to date remain silent on these issues.<sup>38</sup>

A further set of ideas would contribute to regulatory certainty for shellfish and seaplant farmers in new applications and enforcement of licencing conditions:

- **Idea #10:** develop clear application requirements for new shellfish and seaplant licences and integrate these into the *Aquaculture Licence and Lease Regulations*.
- **Idea #11:** develop by regulation standard conditions for new shellfish and seaplant licences/leases and clarify the authority of the Minister or Administrator in the *Fisheries and Coastal Resources Act* to stipulate additional conditions beyond those established by regulation.

Nova Scotia can draw lessons here from the sector-specific approach to application requirements and licensing conditions for aquaculture used in British Columbia, which establishes these separately for shellfish and finfish.

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<sup>38</sup>Government of Nova Scotia, *Report of the Auditor General: Fisheries and Aquaculture - Aquaculture Monitoring* (Halifax: Government of Nova Scotia, 2015) at 28.

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While Nova Scotia's *Aquaculture Management Regulations* currently set out requirements for Farm Management Plans, a better approach may be to develop more comprehensive standard conditions—inclusive of but not limited to farm management—that clarify obligations specifically for shellfish and seaplant licence holders. While we have not reviewed the details of existing or potential conditions in any detail, this general approach would likely make it easier to scale this aspect of the regulatory environment.

### **Build new relationships and revisit responsibilities to shift regulatory culture**

While most ideas for change in this report are addressed to reforms that can be implemented immediately, the final two objectives below aim to advance the overarching mid- to long-term goal of a fully sector-based regime for shellfish and seaplants.

A significant issue in scaling the regulatory environment to shellfish and seaplant aquaculture is shifting what might be called the current “culture” of regulation to ensure that review, decision-making, monitoring and support can progressively adapt over time, informed by a food-systems perspective. Fundamentally, this means building expertise and relationships with shellfish and seaplant farmers, centred around the concept of working alongside—rather than at odds with—food producers. It also means forging relationships between actors and organizational units within government to ensure that regulations are managed by those best positioned to do so. Ultimately, this might mean revising and reallocating formal powers and responsibilities for shellfish and seaplant aquaculture.

One starting point to effect this cultural shift in regulation is for government to explore new opportunities for cooperation between the DEA and the Department of Agriculture on key regulatory components and on some of the program supports available to shellfish and seaplant farmers discussed above.

The rationale for strengthening such inter-departmental linkages and exploring alternative allocations of regulatory responsibilities is essentially that the Department of Agriculture has a good depth of experience in working with small and medium scale farm businesses and a longer history of understanding the needs and challenges of farmers through the lens of food production. This is not to suggest that any one department has or should have a monopoly on food policy, but that changes in regulatory culture might usefully be achieved by building on existing centres of knowledge and expertise.

For example, it would appear—at least on paper—that eligibility for some programs currently offered by the Department of Agriculture could reasonably be extended to aquaculture pro-

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ducers. These might include the provincial *Value-adding Equipment Program* administered by the Department of Agriculture, which is designed to “increase local food production, and improve food security and sustainability for farms and communities”—seemingly an ideal fit for shellfish and seaplant farmers.

Going deeper, however, there may also be real barriers to inter-departmental coordination and role-shifting that will need to be addressed in the broader movement toward a sector-based regime. For example, while there may be no formal impediments to the Department of Agriculture funding programs for shellfish and seaplant farmers at the provincial level, Nova Scotia and other provinces rely heavily on the *Sustainable Canadian Agricultural Partnership* (SCAP) with the federal government for funding provincial agricultural programs. To the extent that SCAP places specific restrictions on the distribution of funds to aquacultural producers, the provincial Department of Agriculture may be constrained even if shellfish and seaplant farmers otherwise meet program eligibility requirements.

One answer to this problem might of course be for Nova Scotia to open up dedicated funding streams for shellfish and seaplant production with greater flexibility in their administration by different actors and organizational units at the provincial level. But the SCAP example also highlights the need for a systematic and long-term approach to addressing the question of “who” should be responsible for different components of regulating and supporting shellfish and seaplant farmers in the province:

- **Idea #12: establish a federal-provincial panel** that will investigate and issue recommendations on pathways to redistribute or reorganize regulatory powers and responsibilities over shellfish and seaplant farming to overcome barriers arising from gaps and conflicts in current inter-governmental arrangements.

A further example motivating this idea for change relates to the federal administration of food safety regulations for shellfish under the Canadian Shellfish Sanitation Program (CSSP). Under the CSSP, the Canadian Food Inspection Agency (CFIA) and Environment, Climate Change Canada (ECCC) and the Department of Fisheries and Oceans (DFO) jointly oversee water quality monitoring and regulate the availability of and access to shellfish harvesting areas. Federal-level decisions on these matters can have a dramatic impact on shellfish farming in Nova Scotia but if they remain wholly cut off from overlapping provincial-level decisions on leasing and licensing this may serve as a key impediment to the growth, sustainability and resilience of the sector.

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## Seed future opportunities to build a sector-based system

Two final ideas for change address the need to ensure that the evolving regulatory regime for shellfish and seaplant farming remains flexible enough to adapt in ways that advance the ultimate goal of developing a robust sector-based system.

The first of these ideas relates to resourcing one or more entities that can serve as an effective forum for shellfish and seaplant farmers to organize themselves and to build relationships with the provincial government in ways that will contribute to ongoing and well-informed regulatory reform. Currently, these activities take place under a single umbrella in the form of the Aquaculture Association of Nova Scotia (AANS), but the central premise underlying scale-appropriate regulation and regulatory change in this report suggest that more tailored organizational representation and support may be needed to address the specific needs and contexts of shellfish and seaplant farmers.

A critical issue in establishing such an entity or entities is access to stable funding. For land-based farmers in Nova Scotia, the legal mechanism for funding a farmer's organization—in this case, the Nova Scotia Federation of Agriculture—is via farm registration and the payment of related fees under the provincial *Farm Registration Act*. As aquacultural operations already qualify as a “farm business” under the federal *Income Tax Act*, they are currently eligible for farm registration, making it a short step to utilize this existing mechanism to fund general farm organizations specific to shellfish and seaplant farmers:

- **Idea #13:** amend the *Farm Registration Act*, *Farm Registration Regulations* and applicable application process to designate one or more entities specific to shellfish and seaplant farming as “general farm organizations” and enable aquaculture producers to specify membership in the course of farm registration.

The second idea to facilitate regulatory adaptation over the long-term is to ensure that government decision-makers can pursue a sectoral regime on the basis of clear legislative authority. Ireland's approach to aquaculture regulation is instructive in this respect, as it builds Ministerial authority for developing sector-specific regulation directly into its relevant legislation. A starting point for this type of approach in Nova Scotia would be to clarify the Minister's authority with respect to leasing and licensing:

- **Idea #14:** amend section 56 of the *Fisheries and Coastal Resources Act* to grant the Minister explicit authority to make regulations for procedures related to lease and licence applications in respect of different classes of applications based on aquaculture sector.



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While the Minister's authority to develop such sector-specific regulations might be assumed to flow implicitly from other existing provisions in the *Act*, an amended to this effect now would avoid unnecessary uncertainty in the future. It would also, more importantly, signal a commitment to pursuing progressive sector-based reforms over the long-term.

## 5 Conclusion

The case for “right-sizing” aquaculture regulations in Nova Scotia coming out of the 5-year *Regulatory Review* and other available sources appears, at a high level, to be a compelling one. The concept of “right-sizing”, however, has remained something of a black box without much specific content or a firm conceptual framework on which to proceed with reforms.

Research and analysis for this report has been directed at filling in the black box of “right-sizing” with respect to scale-appropriate regulations for shellfish and seaplant farming in the Province. The core conclusion is that a sectoral approach based on community food security in the regional food system is both a feasible and justifiable goal.

Some might object to an underlying premise of this sector-based approach, which is that shellfish and seaplant farmers should be treated differently than finfish aquaculture—a premise that no doubt engages complicated political dynamics beyond those addressed here. In response to these concerns, it is worth recounting an observation of the Doelle-Lahey Panel:<sup>39</sup>

We received feedback on our report that our view that the level of regulatory scrutiny should generally be different between fin-fish and shell-fish operations and as between operators with different compliance track records would create an unfair two-tier system that was biased against fin-fish aquaculture. Our view is that recognition of these differences is critical to making the regulatory system proportionate, risk-based and effective.

The emphasis in this report on connecting scale-appropriate regulation, sector-based regulation and food-system considerations builds on and extends the case for recognizing and regulating sectoral differences made by the Doelle-Lahey Panel nearly a decade ago. The present moment offers a unique opportunity to put that perspective into action.

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<sup>39</sup>Doelle & Lahey, *supra* note 2 at 115.

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