

CALIFORNIA AQUACULTURE LAW SYMPOSIUM: SUMMARY REPORT

RESNICK PROGRAM
FOR FOOD LAW AND POLICY



UCLA | SCHOOL OF LAW

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ABOUT THE PROGRAM

The Resnick Program for Food Law and Policy studies and advances breakthrough solutions for improving the modern food system. Based at UCLA Law, the Resnick Program is a national think tank focused on developing key legal and policy strategies, timely research, and practical tools to foster a food system that benefits both consumers and the environment.

Leveraging its location in Los Angeles — an unrivaled global capital of diverse food cultures and consumers, in a state that grows more food than anyplace else in the world — the Program examines the ways in which the modern food system shapes consumers' physical, economic, social, and environmental health.

The Program explores a broad spectrum of food law and policy topics from the farm to the fork. Issues range from nutrition, obesity, labeling, and transparency to sustainability, urban agriculture, food safety, and food litigation. By supporting student development and innovative scholarship in these and other areas, the Program helps drive an ambitious agenda for research and reform.

INTRODUCTION

On March 13, 2015, the National Sea Grant Law Center and the Resnick Program for Food Law and Policy at the UCLA School of Law held a conference called the California Aquaculture Law Symposium.¹ The goal of the conference was to facilitate conversation about the aquaculture industry within the legal sphere. This report provides an overview of that conference, including a background on aquaculture, a description of the event, the panelists featured at the event, and their perspectives and recommendations for how aquaculture can proceed.

¹ The symposium was sponsored by National Sea Grant Law Center and planning was led by Lauren Bernadett, a then-California Sea Grant Fellow, with the support of the following co-sponsors: the Resnick Program for Food Law & Policy, the Emmett Institute on Climate Change and the Environment, California Sea Grant, the American Bar Association Section of Environment, Energy, & Resources, the UCLA Institute of the Environment & Sustainability, the Los Angeles Food Policy Council, the UCLA Food Law Society, and the UCLA Environmental Law Society.

BACKGROUND

AQUACULTURE

Aquaculture, also known as fish farming, is the “form of agriculture devoted to the propagation, cultivation, maintenance, and harvesting of aquatic plants and animals in marine, brackish, and fresh water.”² This symposium focused specifically on aquaculture dedicated to producing seafood for human consumption, like finfish and shellfish. Aquaculture is distinct from the capture industry, where wild seafood is caught for human consumption. In the United States, most domestically produced seafood comes from fisheries, and only a fraction comes from fish farms. For example, while the 9.9 billion pounds of seafood caught in 2013 were valued at \$5.5 billion, aquaculture produced 594 million pounds valued at \$1.23 billion.³ Of all domestic seafood production, aquaculture makes up only about 18 percent by value.⁴ With regard to supply, only 5 percent of the entire seafood supply in the U.S. comes from domestic aquaculture.⁵ Even with a robust domestic seafood industry, the U.S. imports around 90 percent of its seafood, approximately half of which is farmed.⁶ Globally, aquaculture is a \$100 billion industry,⁷ comprising over one half of the world’s seafood production.⁸ Because of the significant problem of overfishing and the depletion of wild fish stocks globally, aquaculture is expected to become an increasingly critical part of the human food supply.⁹ One projection by the World Bank estimates that two-thirds of global seafood supply will come from aquaculture by 2030.¹⁰

Many in the U.S. have thought of domestic fish farming as a food production model with untenable environmental consequences, since it requires more active management, chemical inputs, and human intervention for the production of fish. A cautious attitude toward fish farming, guided by the precautionary principle, is one of many factors that have made aquaculture a comparatively smaller industry in the United States. Against this backdrop of slow growth in domestic aquaculture is the rapid growth of imports of farmed fish. As of 2012, the contribution from aquaculture to the world total fish production of capture and aquaculture reached 42.2 percent, up from 25.7 percent in 2000, and Asia is the only continent producing more farmed fish (54 percent) than capture fisheries.¹¹ Over half of the seafood the U.S. imports is farmed and much of this imported seafood is farmed in countries that have fewer environmental and health standards compared to the U.S.¹² The bulk of these imports, like shrimp, freshwater fish, tuna, and salmon, come from China, Thailand, Canada, Indonesia, Vietnam, and Ecuador.¹³

² CA FISH AND GAME CODE § 17, <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=fgc&group=00001-01000&file=1-89.1>.

³ Aquaculture, 21, NOAA (2013), http://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus13/03_aquaculture2013.pdf.

⁴ Alan Lowther & Michael Liddel eds., Fisheries of the United States: 2013, Current Fisheries Statistics No. 2013, 53, Nat'l Marine Fisheries Serv. (Sept. 2014), <http://www.st.nmfs.noaa.gov/Assets/commercial/fus/fus13/FUS2013.pdf>.

⁵ Farmed Seafood, Outside the U.S., NOAA FishWatch, http://www.fishwatch.gov/wild_seafood/outside_the_us.htm.

⁶ *Supra* note 3.

⁷ *Supra* note 5.

⁸ World fisheries production, by capture and aquaculture, by country, FAO (2013), <ftp://ftp.fao.org/FI/STAT/summary/a-0a.pdf>.

⁹ Overfishing: A Global Challenge, ECONOMIC PERSPECTIVES, vol. 8, no. 1 (Jan. 2003), http://photos.state.gov/libraries/korea/49271/dwoa_120909/ijee0103.pdf.

¹⁰ Press Release, World Bank, Fish Farms to Produce Nearly Two Thirds of Global Food Fish Supply by 2030, Report Shows, Feb. 5, 2014, <http://www.worldbank.org/en/news/press-release/2014/02/05/fish-farms-global-food-fish-supply-2030>.

¹¹ FAO Global Aquaculture Production Volume and Value Statistics Database Updated to 2012, FAO Fisheries and Aquaculture Dept. (Mar. 2014), <ftp://ftp.fao.org/fi/stat/Overviews/AquacultureStatistics2012.pdf>.

¹² Lauren Bernadett, *State-Level Aquaculture Leasing and Permitting Regulations: Balancing a Growing American Industry with Environmental Protection*, 23 S.J. AGRIC. L. REV. 1, 2 (2013-2014).

¹³ *Supra* note 5.

The global prevalence of aquaculture has sparked domestic interest of late. The Obama administration has launched several initiatives relating to seafood production, not only to combat fraud and unregulated fishing – both of which are very significant challenges in the global seafood industry, but also to support sustainable domestic aquaculture.¹⁴ The administration’s interest in aquaculture is matched by other new stakeholders that have recognized the potential for this industry domestically. In 2013, the U.S. Conference of Mayors passed a resolution calling for federal funding for aquaculture development; federal, state, and local funding for research and development of sustainable feeds; development of national organic standards for aquaculture products; and streamlining zoning regulations to accommodate and promote aquaculture.¹⁵ While questions about the best way to manage the environmental impacts of farm fishing, as well as how to weigh the costs and benefits of this practice remain, healthy food advocates, environmental groups, and scientists have pointed to domestic aquaculture as a potential source for more sustainable, better regulated seafood.

SYMPOSIUM

Though it has captured the attention of much of academia and the public, recent interest in aquaculture has mostly eluded the legal field. Within food and agricultural law, a burgeoning legal study of the food system, aquaculture law remains relatively unanalyzed. The regulatory framework for aquaculture in the U.S. is difficult and confusing – it spans multiple jurisdictions, many different agencies, and has grown over time on a piecemeal basis – so much so that it can become prohibitive to those that may want to pursue aquaculture as a business. A successful aquaculture industry requires the applicants, lawyers, regulators, and policymakers to understand the field, the regulatory framework, and regulatory constraints. The California Aquaculture Law Symposium was a first step to begin a broader discussion about aquaculture law, focusing on the legal landscape in California and its interfacing with coastal and offshore aquaculture.

Though this report offers some recommendations for further research, it is important to acknowledge that the field of aquaculture law is still unsettled and will require further dialogue. On one hand, a lot of conversation among proponents focuses on increasing fish production in response to unprecedented global demand for food, the health benefits of seafood, and the sustainability of seafood compared to other animal proteins. However, others believe that global demand for food is less a production issue and more a distribution issue,¹⁶ and that a diet absent of any animal products at all is the most sustainable, least resource-intensive diet.¹⁷ Further, the immediacy of some environmental harms that aquaculture potentially poses, like fish escapes and biological pollution, can make aquaculture ecologically risky.¹⁸ However, given the comparably stronger environmental regulations of the U.S. versus many of the nations leading in aquaculture production, some have argued persuasively that domestic fish farms could have a much less severe impact on the environment than their global counterparts while making a major contribution to domestic food security and healthy food access.

¹⁴ Kathryn Sullivan, NOAA Administrator, Keynote Remarks at the SeaWeb Seafood Summit, Feb. 9, 2015, http://www.nmfs.noaa.gov/stories/2015/02/docs/sullivan_seaweb_speech_as_delivered_2_09_15_web.pdf.

¹⁵ Paula Daniels, Know Your Fish Farm (Jan. 2014), http://www.knowyourfishfarm.info/assets/media/24914_DOWNLOAD.PDF.

¹⁶ 2015 World Hunger and Poverty Facts and Statistics, World Hunger Education Service <http://www.worldhunger.org/articles/Learn/world%20hunger%20facts%202002.htm>.

¹⁷ See, e.g., L. Baroni et al., *Evaluating the environmental impact of various dietary patterns combined with different food production systems*, EUR. J. CLIN. NUTR., 61(2), at 279-86 (Feb. 2007), <http://www.ncbi.nlm.nih.gov/pubmed/17035955>.

¹⁸ Rebecca J. Goldberg et al., *Marine Aquaculture in the United States: Environmental Impacts and Policy Options*, Pew Oceans Commission (2001), http://www.iatp.org/files/Marine_Aquaculture_in_the_United_States_Enviro.htm.

While this symposium centered on aquaculture law specific to California, regulatory frameworks differ from state to state and municipality to municipality. Depending on geography, aquaculture can take place in marine waters or fresh waters, state waters or federal waters, or in circulating tanks on land. Though the conference did not discuss the latter type of aquaculture in depth, tank-based, urban aquaculture and aquaponics systems is an important segment of aquaculture.¹⁹ This symposium focused mainly on marine aquaculture, or fish farming in the ocean. Marine aquaculture takes two forms that were both of interest to speakers: finfish aquaculture and shellfish aquaculture.

EVENT

The California Aquaculture Law Symposium brought together four panels of practitioners and regulators to discuss and describe the field of aquaculture for a primarily legal audience. The panels focused on general perspectives, sustainability, regulatory opportunities, and industry opportunities in aquaculture. Helene York, director of Responsible Business, Google Global Accounts at Bon Appetit Management Company, who created procurement strategies for a number of institutional food service providers to promote sustainable seafood supplies, gave the keynote address.

This summary of the event is made up of the panelists, key perspectives they offered, and some recommendations of the conference speakers. These perspectives and recommendations are those of panel participants. Video and slides from the event can be viewed [here](#).²⁰

¹⁹ *Supra* note 15.

²⁰ California Aquaculture Law Symposium, Resnick Program for Food Law and Policy at UCLA School of Law, <http://law.ucla.edu/centers/social-policy/resnick-program-for-food-law-and-policy/events/1576/2015/3/13/California-Aquaculture-Law-Symposium/>.

PANELISTS

Perspectives on Aquaculture

This panel laid the backdrop for the conference, providing an overview of aquaculture globally, nationally, and in California.

- **Paul Olin**, Aquaculture Specialist, *CA Sea Grant Extension Program, UCSD & Scripps Institute of Oceanography*
- **Kim Thompson**, Program Manager, *Seafood for the Future, Aquarium of the Pacific*
- **Sam King**, Co-Founder and CEO, *King's Seafood Co.*
- **John Finger**, Co-Founder and CEO, *Hog Island Oyster*
- **Catherine Janasie**, Research Counsel, *National Sea Grant Law Center*, moderator

Sustainability and Aquaculture

This panel discussed what aquaculture production methods and feed ingredients are acceptable from an environmental standpoint. It also discussed the benefits and drawbacks of certification programs.

- **Dana Murray**, Senior Coastal Policy Manager, *Heal the Bay*
- **Lisa Tucker**, Senior Aquaculture Scientist, *Seafood Watch at Monterey Bay Aquarium*
- **Paula Daniels**, Founder, *LA Food Policy Council*, and Member, *National Organic Standards Board*, moderator

Regulatory Opportunities

This panel outlined the regulatory framework governing aquaculture development in California, and discussed efforts to advance aquaculture at the policy level. It focused on strategies for making planning and permitting more manageable.

- **Diane Windham**, Aquaculture Coordinator, California, *NOAA Fisheries West Coast Region*
- **Mike Wilson**, Commissioner, *Humboldt Bay Harbor, Recreation & Conservation District*
- **Randy Lovell**, State Aquaculture Coordinator, *California Department of Fish & Wildlife*
- **Annalisa Batanides**, California Sea Grant Fellow, *NOAA Fisheries West Coast Region Aquaculture Program*, moderator

Industry Opportunities

This panel centered on current developments in aquaculture from the industry side, successes and drawbacks of regulation, lessons learned from previous projects, and opportunities for making aquaculture more feasible.

- **George Lockwood**, Retired Aquaculture Pioneer
- **Neil Sims**, Founder and Co-CEO, *Kampachi Farms*
- **Robert Smith**, Senior Associate, *Plauche & Carr LLP*
- **Doug Bush**, Managing Member, *Cultured Abalone Farm LLC*
- **Don Kent**, CEO, *Rose Canyon Fisheries*
- **Annalisa Batanides**, California Sea Grant Fellow, *NOAA Fisheries West Coast Region Aquaculture Program*, moderator

KEY ISSUES IDENTIFIED

Conference speakers identified several key issues in current aquaculture policy that require attention. Both the aquaculture industry and the agencies that regulate aquaculture face a confusing policy landscape that has stymied the prevalence of aquaculture. The following subjects emerged as potential research areas that could clarify or improve understanding of the benefits and risks involved with pursuing aquaculture.

EDUCATING THE PUBLIC ABOUT AQUACULTURE: CHANGING PERCEPTIONS TOWARD POSSIBILITY

Public perception of aquaculture can make or break its viability as an industry. In the past, as at present, the environmental impact of aquaculture has been a contentious subject. Just as agriculture poses a swathe of environmental problems – like soil erosion, pesticide use, nutrient runoff, and carbon emissions – environmental advocates have criticized aquaculture for polluting the waters it inhabits with waste, chemical inputs, diseases, and parasites that can carry to wild fish populations.²¹ Escapes and other infrastructure issues unique to fish farming have also been criticized for effects on wild fish populations.²² These characterizations contributed to public wariness of farmed seafood in the past, but have also inspired certification regimes and policies that seek to make aquaculture safer and more sustainable. George Lockwood referred to the environmental and economic objections to salmon farming in the 1990s as a deterrent to industry perception, and he said that the industry has seen major improvements in practices since then. Tracking with the improvement in industry practices, farmed fish have become much more common on grocery shelves and widely accepted by consumers.

Nonetheless, many environmental groups, regulators, and concerned citizens still have uncertainty about aquaculture taking place in nearby, domestic waters. To this end, Mike Wilson, a commissioner on the Humboldt Bay Harbor, Recreation & Conservation District, highlighted the need to build community around new aquaculture projects in order to improve public perception and incorporate the views and values of multiple stakeholders. After obtaining a permit that would allow for shellfish farming, the Harbor District will employ a unique approach to permitting shellfish farms with the “pre-permitting” approach to expand opportunities for small shellfish operations. Wilson mentioned making sure that local environmental and community groups were represented in the development process. Wilson also mentioned how the Harbor District initiated an oyster festival with other local businesses that would bring awareness to his community and promote a “seafood culture” that, as many panelists mentioned, California lacks – particularly as compared to other coastal states and regions such as Louisiana, New England, and Washington State that have a well-established cultural heritage of shellfish growing. Creating a certification scheme around aquaculture that can educate consumers and hold producers accountable can also assuage fears about domestic aquaculture.

Paul Olin of the California Sea Grant Extension Program mentioned how industry could leverage the health benefits of seafood consumption to make aquaculture a more palatable industry. Paula Daniels, a member of the National Organic Standards Board, and Lisa Tucker of Seafood Watch both discussed the role certification regimes can play in quelling consumer fears and building trust in ensuring a market of sustainably grown seafood. Language for the proposed final United States Department of Agriculture

²¹ Impact of Aquaculture on Environment, FAO Fisheries and Aquaculture Dept., <http://www.fao.org/fishery/topic/14894/en>.

²² *Id.*

rule regarding the requirements for the organic certification for farmed fish and shellfish are currently under review.²³

REGULATORY BARRIERS TO AQUACULTURE: CONFUSING, COSTLY AND PROHIBITIVE

A potential fish farmer must navigate numerous state and federal laws that create a confusing and costly permitting process. In the opening panel, John Finger of Hog Island Oyster Company illustrated this from his own experiences as a shellfish grower. State Aquaculture Coordinator Randy Lovell explained that the high cost of permitting has favored only existing aquaculture enterprises, making it hard for aquaculture startups to compete and preventing industry expansion. Confusion over the regulatory regime that frames the aquaculture industry is due in large part to its age – little has changed in the past 30 years in terms of the statutes and policies regulating aquaculture. What has changed has been reactive and piecemeal. Administrative programs and policies have been in response to certain environmental events, rather than part of a larger policy vision. Mandates given to various agencies at all levels of government – federal, state, and local – reflect inconsistency in issuing permits and measuring impacts. The differences between federal and state regulations are also confusing, especially for offshore aquaculture in federal waters, since no single federal agency has the legislative authority to issue permits for aquaculture – the Environmental Protection Agency, National Oceanic and Atmospheric Administration, Army Corps of Engineers and Department of Interior are all involved, with the EPA and CoE as the “default” primary permitting agencies that regulate aquaculture in federal waters. The U.S. Department of Agriculture has authority over product regulation and partners with NOAA frequently to address seafood safety. These complexities create a challenging regulatory environment that is often time consuming and cost-prohibitive for many small-scale aquaculture entrepreneurs that want to enter this space.

ENVIRONMENTAL IMPACT OF AQUACULTURE: DEVELOPING A SUSTAINABLE INDUSTRY

While all participants agreed that sustainability must be at the fore of aquaculture development in the United States, the translation of this principle into policy and regulatory approaches is where divergences in views emerge. The “precautionary principle” was frequently brought up as a reason for stymying development of the aquaculture industry, with some arguing that the impacts of aquaculture are well known and manageable, and therefore should not prevent aquaculture development. Paul Olin argued a middle-ground, saying that while environmental uncertainties still exist, industry should be developed in order to understand and address these uncertainties through adaptive management. However, the uncertainties in measuring the environmental effects of aquaculture, to some, warrant waiting for better data. In discussing the comprehensive assessment that goes into certifying seafood for Seafood Watch, Lisa Tucker said that it is hard to comfortably greenlight any seafood without an extensive array of data. Whether and how the precautionary principle is exercised, it is generally agreed upon that decisions should be made with scientific data to support them. Panelist discussion elicited several key ideas toward advancing both the development of domestic aquaculture while managing environmental risk:

- Aquaculture policy should be based on good science, and more research about how aquaculture affects the marine ecosystem can corroborate existing data.²⁴ Understanding how to prevent

²³ Organic Aquaculture, USDA Nat'l Agricultural Library, <http://afsic.nal.usda.gov/aquaculture-and-soilless-farming/aquaculture/organic-aquaculture>.

²⁴ The Future of Aquafeeds, NOAA Fisheries, http://www.nmfs.noaa.gov/aquaculture/science/feeds/19_future_of_aquafeeds.html.

escapes should be a top priority, as well as how non-native shellfish species interact with the larger ecosystem when introduced.

- Environmental monitoring and surveillance systems should facilitate adaptive management and use the best available scientific data regarding aquaculture. Collecting relevant metrics on chemical use, effluent and discharges can inform judicious use of inputs and also be used to determine how sustainable a fish farm is and inform the creation of a certification regime (like Organic standards).
- Consistent with food safety regulation, health inspections can monitor finfish biotoxin and pathogen levels and spread of disease to ensure that fish are healthy and safe for human consumption. This would also ensure the health of other species living near fish farms.
- Developing finfish aquaculture should be cognizant of aesthetic, transportation, and property concerns. Consistent with the idea that everyone with a relevant interest should have a stake in aquaculture, property owners, other waterway users, and those physically proximate to fish farms should have a say in where fish farms exist.
- Neil Sims, a fish farmer developing enterprises in Hawaii and Mexico, argued that *not* pursuing aquaculture in the U.S. was environmentally harmful, since of all the places aquaculture exists, the U.S. has the highest environmental ethic and most stringent regulations. Broadening this argument, some think that not pursuing aquaculture domestically would mean that the U.S. would lose potential job creation, economic opportunity, food security, and technological advancements that aquaculture could bring.

AQUACULTURE SYSTEMS PLANNING: KNOWING WHAT WE'RE GETTING INTO

There is an opportunity for federal, state, and local government collaboration to move toward a more coherent and coordinated policy vision for finfish and shellfish aquaculture in California. Such a vision, which should reflect considerations and interests of all aquaculture stakeholders, might encompass the following components:

- An efficient permitting process – improving the permitting process so it is more timely and less costly will improve the process and allow industry to increase production in an effort to meet demand
- A developed supply chain – Don Kent, a scientist and aquaculturalist, identified the building of a supply chain as crucial to developing the aquaculture industry so that fish farmers have access to feed, seed stock, and other goods and services that are necessary to running an aquaculture operation.
- Public support – As mentioned previously, education about aquaculture, particularly finfish aquaculture, is crucial to public perception of the industry and ensuring consumer buy-in.
- Research and development – Diane Windham, NOAA Aquaculture Coordinator, discussed the importance of using monitoring and adaptive management in marine aquaculture operations to effectively manage these activities over time. Given the uncertainties surrounding marine finfish aquaculture, she explained that research questions need to be meaningful, answerable, and responsive to identified data gaps. George Lockwood mentioned that current public investment in aquaculture, allocated to aquaculture research at the United States at the university level

produces ample knowledge and trains students, but this knowledge and labor cannot be utilized domestically because of the aquaculture industry's nascence, and must go overseas.²⁵

- Don Kent recommended utilizing NOAA's strategic plan for federal aquaculture research that identifies of nine goals: (1) advance understanding of the interactions of aquaculture and the environment; (2) employ genetics to increase productivity and protect natural populations; (3) counter disease in aquatic organisms and improving biosecurity; (4) improve production efficiency and wellbeing; (5) improve nutrition and develop feeds; (6) increase national supply of nutritious, safe, high quality seafood and aquatic products; (7) improve performance of production systems; (8) create a skilled workforce and enhance technology transfer; and (9) develop and use socioeconomic and business research to advance domestic aquaculture.
- Political infrastructure – George Lockwood highlighted the importance of political representation to the aquaculture industry in the form of an advocacy group, interest group, bureaucratic office, congressional caucus, or conference that can promote aquaculture policy at the federal level.

Once a common vision for the industry is agreed upon, actionable steps can be taken to actualize it. Some important recommendations and suggestions from conference panelists are as follows.

- Marine spatial planning should take into account user conflicts and surveillance of a potential aquaculture site to accommodate multiple uses. Balancing ocean use and protection among a number of users has been employed at the state level in a number of places, including in California under the Marine Life Protection Act.²⁶
- A system of state regulator education – as exhibited in places like Maine, regulator education can expedite the regulatory process.²⁷
- Offering permits for both finfish and shellfish aquaculture that lease waters for a shorter term might allow smaller startups to “test the waters” with less risk.²⁸ Alternatively, some permitting regimes that offer longer leases arguably encourage investment and ensure industry stability given the life-cycle of a fish species, which can take multiple years.
- Other novel, third-party permitting systems that complete the permitting process on behalf of shellfish farmers can also play a role in facilitating industry growth. In navigating the permitting process ahead of time for a certain marine space, a third party can work with regulators to comply and then lease that space to smaller marine aquaculture startups.²⁹

²⁵ See, e.g., National Strategic Plan for Federal Aquaculture Research (2014-2019), Nat'l Science and Technology Council, Committee on Science, Interagency Working Group on Aquaculture (June 2014),

https://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/aquaculture_strategic_plan_final.pdf.

²⁶ George Foulsham, *USCB Study is First to Measure Value of Marine Spatial Planning*, THE UC SANTA BARBARA CURRENT, Mar. 5, 2012, <http://www.news.ucsb.edu/2012/013208/ucsb-study-first-measure-value-marine-spatial-planning>.

²⁷ Marine Aquaculture Association: Sustainable Solutions for Maine's Growing Future, FAQ, http://www.maineaquaculture.com/F_A_Q/f_a_q.html

²⁸ See, e.g., “Fomento” from Mexico. Mexico, Nat'l Aquaculture Legislation Overview, FAO Fisheries and Aquaculture Dept., http://www.fao.org/fishery/legalframework/nalo_mexico/en#tcNB0078.

²⁹ Humboldt Bay Harbor, Recreation, and Conservation District, Commerce, Recreation and Conservation, <http://humboldt-bay.org/>.

CONCLUSION

As the aquaculture industry develops around the world to meet the demands of increasing global fish consumption, examining the regulatory framework that undergirds the industry will continue to be of importance. Understanding how these laws and policies can encourage entrepreneurialism in this sector while ensuring that industry growth is sustainable and ecologically sound will have a profound effect on how domestic marine aquaculture will develop. While the questions surrounding marine aquaculture span multiple disciplines and professions, the role of the legal field will be of primary significance in analyzing the complexities that regulators and practitioners face. This symposium was an introduction to that legal conversation, providing a strong foundation for future discussions and analysis of this important issue.