

**EXPLORING OPTIONS TO AUTHORIZE OFFSHORE AQUACULTURE:  
FACILITATING DISCUSSIONS AMONG REGULATORS AND INDUSTRY MEMBERS  
TO FIND COMMON GROUND**

Stephanie Otts<sup>1</sup>

**I. INTRODUCTION**

The legal academy has been discussing the legal barriers to the expansion of offshore aquaculture in the United States for more than fifty years.<sup>2</sup> These barriers are well known: lack of a comprehensive framework for federal waters, complex permitting processes on both the state and federal level, and local zoning and other land use challenges. One issue associated with the lack of a comprehensive federal framework that has gotten a lot of attention over the years is property rights.

For traditional agriculture operations on land, the property rights held by farmers are clear: they either own the land or lease it from someone who does. With offshore aquaculture, the situation is different. The ocean is public space, held and managed in trust by the state and federal governments for the benefit of their citizens.<sup>3</sup> Aquaculture operations in federal waters are currently authorized through permits issued pursuant to the Clean Water Act or the Rivers and Harbors Act, which expressly state that they do not grant any property rights in the project location.

In 2018, Senator Roger Wicker (R-MS) introduced the Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act (S. 3138).<sup>4</sup>

---

<sup>1</sup> Director, National Sea Grant Law Center, University of Mississippi. The NSGLC would like to

<sup>2</sup> *See, e.g.*, Thomas E. Kane, *Aquaculture and the Law*, U. of Miami, Sea Grant Technical Bulletin No. 2 (1970).

<sup>3</sup> Pursuant to the Submerged Lands Act of 1953 (43 U.S.C. §§1301-1315), coastal states have title and ownership over lands under navigable waters out to 3 miles. The federal government exercises control and authority in waters beyond that out to 200 nautical miles. *See, e.g.*, Proclamation 5030, 48 F.R. 10605 (1983).

<sup>4</sup> Advancing the Quality and Understanding of American Aquaculture Act (AQUAA Act), S. 3138, 115th Cong. (2018).

Among other things, the bill sought to establish a process by which the National Oceanic and Atmospheric Administration (NOAA) could issue permits for offshore aquaculture operations. S. 3138 died in committee, suffering the same fate as the five previous marine aquaculture permitting bills stretching all the way back to 1995.<sup>5</sup> Senator Wicker reintroduced an amended version of the AQUAA Act (S. 4723) in September 2020.<sup>6</sup> None of these bills included provisions expressly addressing the type of property rights operators would obtain if issued a permit.

Some perceive the lack of secure property rights and clear regulatory requirements as a barrier to investment in large-scale offshore aquaculture in the United States.<sup>7</sup> To address this perception, the National Sea Grant Law Center (NSGLC) at the University of Mississippi School of Law received funding in 2019 from NOAA Sea Grant to plan and convene a collaborative learning workshop. The objective of the workshops was to facilitate discussions among legal scholars, federal executive agency staff, Congressional staff, and industry representatives to tackle the uncertainty surrounding security of tenure for offshore aquaculture operations.<sup>8</sup>

The term “security” can mean different things depending on the situation. In the banking context, the term security refers to an obligation, mortgage, deposit, or lien given by a debtor to a creditor to ensure payment of the debt.<sup>9</sup> In the economic development context, security refers to the rights of individuals or groups to be protected by their government from forcible evictions.<sup>10</sup> The UK

---

<sup>5</sup> See, S. 1192, 104th Cong. (1995); S. 1195, 109th Cong. (2005); S. 1609, 110th Cong. (2007); HR 4363, 111th Cong. (2009); HR 2373, 112th Cong. (2011).

<sup>6</sup> Advancing the Quality and Understanding of American Aquaculture Act (AQUAA Act), S. 4723, 116th Cong. (2020), <https://www.congress.gov/bill/116th-congress/senate-bill/4723/actions>.

<sup>7</sup> HAROLD UPTON, CONG. RSCH. SERV., U.S. OFFSHORE AQUACULTURE REGULATION AND DEVELOPMENT 42 (2019), <https://crsreports.congress.gov/product/pdf/R/R45952>.

<sup>8</sup> This workshop was funded by NOAA under award number NA18OAR4170079. The statements, findings, conclusions, and recommendations are those of the workshop participants and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce.

<sup>9</sup> See *Security*, Black’s Law Dictionary (2nd ed. 1910).

<sup>10</sup> Karol Boudreaux & Daniel Sacks, *Land Tenure Security and Agricultural Productivity*, Mercatus on Policy no. 57, Mercatus Center, Geo. Mason U. (2009), <https://www.mercatus.org/publications/development-economics/land-tenure-security-and-agricultural-productivity>.

Department of International Development states that “[a] property right is secure when its holder perceives it to be stable and predictable over a reasonable period of time and protected from expropriation or arbitrary change.”<sup>11</sup> In its grant proposal, the NSGLC used “security of tenure” to collectively refer to both: (1) the specific property rights that aquaculture operators receive from the federal government to use and occupy federal waters for offshore aquaculture, and (2) the factors that may affect perceptions of security as stated above.

Working in the context of these definitions, the question then becomes: What conditions need to be in place to provide a sufficiently secure property right in offshore aquaculture operations to facilitate investment?

## II. WORKSHOP BACKGROUND<sup>12</sup>

The primary goals of the NSGLC project were to: (1) improve the understanding of the property-related legal options for the development of marine aquaculture in the U.S. Exclusive Economic Zone (EEZ), and (2) identify potential approaches to implement those options. Accomplishing these goals would help advance the aquaculture industry in the EEZ.

The “Exploring Options to Authorize Offshore Aquaculture” workshop was scheduled for May 12–13, 2020 in Washington, D.C. The objectives of the workshop were:

1. Establish a common understanding of the options to grant property rights for aquaculture in federal waters.
2. Identify the needs of government and industry relative to the mechanisms to grant property rights.

---

<sup>11</sup>U.K. Dep’t Int’l Dev., *Secure Property Rights and Development: Economic Growth and Household Welfare* (2014), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/304551/Property-rights-evidence-paper.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/304551/Property-rights-evidence-paper.pdf).

<sup>12</sup> Portions of this article are adapted from *Exploring Options to Authorize Offshore Aquaculture: Initial Workshop Summary Report* published by the NSGLC in June 2020 (hereinafter “Exploring Options Report”), <http://nsglc.olemiss.edu/projects/exploring-options-to-authorize-offshore-aquaculture/files/exploring-options-initial-workshop-summary-report.pdf>.

3. Evaluate the options to grant property rights.
4. Draft recommendations for criteria to be included in legislation.

These plans were significantly impacted by the COVID-19 pandemic. Rather than cancel or indefinitely postpone the workshop, the NSGLC decided to host the workshop virtually. The original 1.5-day workshop agenda was broken into three separate virtual engagements: (1) a pre-workshop briefing held on May 5, 2020 (Objective 1); (2) a workshop held on May 12-13, 2020 (Objectives 2 and 3); and (3) a post-workshop meeting to provide feedback on the draft recommendations held on February 9, 2021 (Objective 4).

The NSGLC used a combination of technology to run the virtual workshop. Zoom was used to host the virtual meeting and participants could join by phone or video conference. The Department of Commerce (DOC) issued a moratorium on the use of Zoom by DOC employees on April 17, 2020, which limited some participants to joining Zoom meetings via audio only. While these individuals would be able to hear the discussions and could be placed into breakout rooms, they would be unable to view shared screens, utilize chat features, or complete polls.

To address this challenge, the NSGLC decided to use Miro (<https://miro.com/>) to create a collaborative workshop space outside of Zoom. Miro is an online collaborative whiteboard platform that enables remote individuals to brainstorm and collaborate as if they were in the same room. With Miro, workshop participants could view slides, post sticky notes on virtual flipcharts, vote on priorities, and add ideas to the virtual parking lot. The use of Miro in parallel with Zoom enabled all workshop participants to directly engage in interactive workshop exercises by being able to both hear the audio discussion through calling in to Zoom and see the visual components through Miro.

The NSGLC contracted with Becky Roberts, President and CEO of Catoctin Consulting, for workshop facilitation services. Roberts is a Certified Professional Facilitator with experience facilitating both in-person and virtual meetings. She worked extensively with the NSGLC staff to develop the workshop agenda, manage the process, create the Miro boards, and facilitate the workshop.

### III. IDENTIFICATION OF WORKSHOP PARTICIPANTS

Workshop participation was by invitation only. The NSGLC proposed this approach to ensure balanced representation among stakeholder groups and viewpoints given the desired small size of the workshop (~35 participants). The workshop invitation list was assembled in collaboration with the workshop Steering Committee. Representatives were identified from four stakeholder groups: federal government (both legislative and executive branch), academics, industry, and other professionals (law, finance). The Steering Committee discussed opening invitations up to other key stakeholder groups, including the fishing industry and environmental non-governmental organizations, but ultimately decided to limit participation to groups directly involved in applying for or issuing permits and individuals conducting academic research on property rights regimes and aquaculture. The Steering Committee, however, recognized that buy-in from the unrepresented stakeholder groups would be essential for moving policy proposals forward and that they should be engaged in future legislative and advocacy efforts by workshop participants.

The final participant list was determined based on invitation acceptance. Invitations were sent in January 2020 for the in-person May workshop. Some invitees were unable to participate and recommended alternative representatives from their organizations. However, one benefit to holding the workshop virtually was that it allowed some people to participate who were unable to attend the in-person meeting.

### IV. PRE-WORKSHOP RESEARCH

The NSGLC began planning for the workshop by undertaking research to assess the current state of the debate regarding security of tenure for offshore aquaculture operations in the U.S. EEZ. A literature review of relevant law, policy, and economic scholarship was prepared to help the NSGLC identify what is already known about the topic, areas of uncertainty or disagreement among scholars, and key questions that need further research.

The literature review informed the development of a background document entitled “Authorization Options for Use of Federal Waters for Offshore Aquaculture”<sup>13</sup> to provide a foundation for discussion at the workshop. The document outlined the international, federal, and state framework governing offshore aquaculture; discussed the legal basics of the various authorization options; summarized existing federal and state models; and examined policy proposals under consideration for reform. The document was distributed to participants approximately one week before the virtual workshop. Workshop participants were invited to review and submit comments on the background document prior to the workshop.

#### **V. PRE-WORKSHOP BRIEFING**

Virtual workshop participants were invited to a pre-workshop briefing on May 5, 2020. The objective of the pre-workshop briefing was twofold. First, the NSGLC wanted to give participants a chance to become familiar with the technology that would be used during the virtual workshop, including Zoom and Miro. Second, the NSGLC wanted to highlight key findings from the background document and begin to establish a common understanding among participants of the authorization options for aquaculture in federal waters. The agenda for the 1.5 hour briefing included a presentation by Zachary Klein, NSGLC Ocean and Coastal Law Fellow and author of the background document, as well as an interactive Q&A session.

#### **VI. VIRTUAL WORKSHOP**

The virtual workshop consisted of two 3-hour workshop sessions held over the course of two days, May 12-13, 2020. On Day 1, participants focused on identifying the needs of government and industry relative to the authorization

---

<sup>13</sup> This background document was revised and adapted for publication in this special issue. See Zachary Klein, *Exploring Options For Granting Property Rights to Offshore Aquaculture Operations in the Exclusive Economic Zone*.

process. On Day 2, participants evaluated the identified needs against a range of available property rights mechanisms.

On Day 1, participants were assigned to one of four breakout sessions based on their organizational affiliations, either government (G) or industry (I). Academics and participants representing other stakeholder groups, such as legal or finance, were assigned to breakout groups based on preference. NSGLC attorneys facilitated these breakout groups. There were two separate breakout groups for government and two separate groups for industry.

Once in the breakout rooms, participants were asked to brainstorm the needs of their assigned sectors. Following the breakout sessions, participants came back together to debrief and share their thoughts on the discussions. The workshop facilitator led this discussion. Workshop discussions focused primarily on six broad needs identified by participants and summarized in Table 1.

**Table 1. Identified Needs**

Government	Industry	Government & Industry
Some financial return to the government for use of public space.	Property rights awarded on a time frame that matches aquaculture production and business cycles.	Clarity and certainty regarding the authorization process.
Clear governmental authority to grant desired property rights.	Transferable property rights to enable the sale of a business or allow the use of innovative models.	Siting process that enables the balancing of competing uses.

Following the Day 1 sessions, the NSGLC and the workshop facilitator reviewed the notes from the breakout groups to create an analytical matrix of desired property rights characteristics based on the stated needs of government and industry members.<sup>14</sup>

On Day 2, workshop participants focused on reviewing the list of government and industry requirements identified on Day 1 and evaluating how well each property rights option (lease, permit, license, etc.) met the requirements using the draft analytical matrix. Again, the participants were divided into four groups, but the assignments this time were random to provide a mix of government and industry perspectives in each group. NSGLC attorneys again served as facilitators of the breakout groups.

Participants were asked to focus on key characteristics for granting a property right for offshore aquaculture. During the first breakout session, the

---

<sup>14</sup> For more information about this analytical matrix, see Zachary Klein, Stephanie Showalter Otts, and Catherine Janasie, *Security of Tenure for Offshore Aquaculture: A Comparative Analysis of Property Rights Conferred by Management Regimes for Commercial Activities on Federal Lands* in this special issue.



groups decided what should be added or deleted from the matrix by considering two questions:

- What are the broad features or qualities that any property rights mechanism should address?
- For each characteristic, what should the mechanism be able to do to meet the needs of government and industry?

During the second breakout session, the breakout groups remained the same and considered how well each option to grant property rights for offshore aquaculture meets the needs of government and industry. Results of how the breakout groups filled in the matrix are available in the Initial Workshop Summary Report.<sup>15</sup>

By the end of the workshop, while some participants thought that a lease was necessary, consensus seemed to emerge that the term used did not matter as much as what the property rights mechanism did. In other words, depending on how a particular legal instrument was written, the identified needs of government and industry could potentially be addressed by any of the mechanisms under consideration (lease, permit, easement, etc.). Further, while the literature review uniformly suggests that a lease is needed to effectively convey property rights, some workshop participants noted that the term lease may have different implications in the offshore context as compared to its use in its traditional, terrestrial context. In addition, further research is needed to understand how current permits authorizing offshore aquaculture meet the priority needs workshop participants identified during their discussions.

## VII. POST-WORKSHOP SESSION

As stated above, one of the four objectives proposed by the NSGLC in its grant proposal was to draft recommendations for criteria to be included in legislation. The suitability and desirability of this objective changed as the project progressed. Misunderstandings and misperceptions about the scope of the

---

<sup>15</sup> Exploring Options Report, *supra* note 12.

workshop discussions resulted in participants often talking past each other. This made it difficult to facilitate and build group consensus on key points of debate, including whether legislative action was needed to support industry development.

In the six months following the virtual workshop, the NSGLC revised and finalized the comparative analysis matrix based on participant feedback. The NSGLC also reviewed and synthesized the notes from the workshop discussions. From the effort, the NSGLC developed a set of ten “strawman recommendations” for how federal policymakers might address concerns raised by workshop participants. These recommendations were conversation starters that would generate discussion and suggestions for improvement, rather than final proposals.

On February 9, 2021, workshop participants were invited to attend a post-workshop session to provide feedback and input on the draft strawman “recommendations” developed by the NSGLC. Participants were informed that their feedback would be advisory only. The NSGLC would take the input into consideration when finalizing the recommendations, but group consensus about the inclusion or wording of particular recommendations would not be sought.

The feedback session started with a polling exercise to gauge general support for each strawman recommendation. Using PollEverywhere (<https://www.polleverywhere.com/>), the NSGLC presented each recommendation and asked participants to indicate whether they (1) fully support the recommendation, (2) support the concept and would like the wording or specifics to be refined, (3) have no opinion, or (4) disagree with the recommendation. Individual votes were not recorded; rather, poll results were used to identify which recommendations needed further discussion in breakout sessions.

Following the polling exercise, participants were assigned to breakout groups based on their organizational affiliations: academic, government, or industry. Each breakout group had access to a Google document with the text of the draft strawman recommendations. NSGLC staff attorneys facilitated the breakout groups, as well as captured notes and suggested edits from participants in real time using the Google documents.

During the feedback session, participants almost unanimously recommended that the NSGLC change its terminology. Participants suggested that recommending particular courses of action to policymakers would not be appropriate for two reasons. First, workshop participants had not reached consensus on any particular policy issue. Second, the NSGLC is a non-advocacy research program and does not take policy positions, which could be implied by the publication of recommendations. The NSGLC agreed with this feedback and decided to refer to these as “Key Observations.”

### VIII. KEY OBSERVATIONS

Reflecting on the research and participant discussions during the course of this project, the NSGLC offers the following Key Observations for consideration by aquaculture policymakers.

1. **Stakeholder engagement.** Workshop discussions focused on the needs of government and industry. There are other stakeholders who need to be included in this conversation. These findings reflect only the views of the government, industry, and academic participants involved in the workshop. A similar process is needed to elicit the views of other stakeholders. These observations reflect only one piece of a broader conversation about the future of offshore aquaculture in the United States. Any authorization process established for offshore aquaculture will need to provide for a robust balancing of public interest and engagement.
2. **Determining property rights offshore.** Ownership of terrestrial land comes with a recognized set of property rights, often referred to as a “bundle of sticks,” derived from an extensive body of common law tracing back centuries. The ocean, and any potential private ownership of marine space, is governed by a very different legal framework built upon the customary international law principle that the seas are open and common to all people. International treaties, such as the United Nations Convention on the Law of the Sea, and domestic law place constraints on the

property rights the United States can claim and, in turn, grant to private parties in offshore waters. A wholesale extension of terrestrial property rights based in English common law into the ocean space is not legally possible. Furthermore, the extension of potentially applicable aspects of terrestrial property rights to the offshore context may add unintended complexities for operators.

3. **Authorization mechanism.** Although permitting mechanisms exist that have been used to authorize aquaculture operations in federal waters, these mechanisms do not address some of the unique characteristics of offshore aquaculture and do not directly address rights of occupancy. Congress has enacted legislation that regulates the use and occupancy of offshore federal lands and waters, including for energy projects, but these permitting regimes do not apply to aquaculture. New legislation would be needed to establish an authorization process specifically for the occupancy of physical space by aquaculture operations in federal waters.
4. **Authorizing agency.** The U.S. Department of Interior has authority under the Outer Continental Shelf Lands Act to issue leases for offshore lands for the development of oil, gas, and renewable energy resources. The National Oceanic and Atmospheric Administration within the U.S. Department of Commerce is the agency responsible for fisheries management and asserts a lead role in ensuring that U.S. marine aquaculture develops sustainably. The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency have authority to issue permits for aquaculture structures and operations in federal waters, but those permits do not explicitly address the physical occupation of the space by the farm. New legislation would be needed to grant authority to a federal agency to authorize the occupancy of offshore lands and waters for aquaculture.
5. **Criteria.** From a legal perspective, the characteristics of the property rights instrument matter more than what the instrument is

called. Industry workshop participants, however, expressed a strong preference for the term “lease.” Any authorization mechanism should address the following key criteria identified by both government and industry workshop participants: duration, property interest granted, right to exclude others, transferability, enforcement, fees and financial assurances, public engagement, and compensation.<sup>16</sup>

6. **Government interest.** The federal government does not own property, either on land or offshore, in the traditional sense. Unlike private property owners, the federal government holds and manages property for the benefit of all citizens, thereby limiting the rights and privileges it can convey to commercial operations on federally managed lands. Due to this legal framework, the federal government must take public trust interests into consideration when authorizing offshore aquaculture.
7. **Granting property rights.** Permits do not generally transfer property rights. However, referring to something as a permit does not necessarily mean it will legally operate as a permit, and this holds true for a lease as well. While models for a process authorizing the use of federal lands and waters exist and can be relied on in drafting new legislation, they will need to be adapted to address the specific needs of aquaculture in federal waters. Any new offshore aquaculture legislation should implement a model that addresses the needs of aquaculture and follow best practices of legislative drafting.
8. **Use as collateral.** Workshop participants noted the need of industry to attract investors for offshore aquaculture operations. Both leases and permits can have economic value that is recognized by investors and serve as collateral for obtaining financing. Regulations pertaining to other instruments granted by

---

<sup>16</sup> For more details regarding these key criteria, see Klein, Otts & Janasie, *supra* note 14.

the federal government to authorize commercial activities, such as grazing permits and Individual Transferable Quotas for fishing, explicitly state that the instrument can be used as collateral. But such a legal declaration is generally not required to use a property interest as collateral. Likewise, indicating that something may be legally used as collateral does not mean the property interest will be attractive to investors absent other independent value. Whether an authorization instrument for aquaculture will have value for use as collateral may vary depending on legislative language and the financial context.