

# SEA GRANT LAW & POLICY JOURNAL

VOLUME 11:1



# SEA GRANT LAW & POLICY JOURNAL

---

VOLUME 11:1

---

## TABLE OF CONTENTS

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

Stephanie Otts ..... 1

### EXPLORING OPTIONS FOR GRANTING PROPERTY RIGHTS TO OFFSHORE AQUACULTURE OPERATIONS IN THE EXCLUSIVE ECONOMIC ZONE

Zachary Klein ..... 15

### ONE STEP FORWARD, TWO STEPS BACK: NOAA'S ASSERTION OF JURISDICTION OVER AQUACULTURE FACES CONTINUING CHALLENGES

Sierre Anton and Katherine Hupp ..... 71

### A COMPARATIVE ANALYSIS OF MARYLAND'S PUBLIC PARTICIPATION FRAMEWORK IN COMMERCIAL SHELLFISH AQUACULTURE LEASING: STANDING TO PRESENT PROTESTS

Elissa Torres-Soto ..... 102

### REGULATORY TAKINGS IN AQUACULTURE

Varad Dabke ..... 134

### SECURITY OF TENURE FOR OFFSHORE AQUACULTURE: A COMPARATIVE ANALYSIS OF PROPERTY RIGHTS CONFERRED BY MANAGEMENT REGIMES FOR COMMERCIAL ACTIVITIES ON FEDERAL LANDS

Zachary Klein, Stephanie Otts, and Catherine Janasie ..... 151

# SEA GRANT LAW & POLICY JOURNAL

---

VOLUME 11:1

---

**EDITOR-IN-CHIEF**

Catherine Janasie

**EDITORIAL BOARD**

Donna Christie

Robin Craig

Melissa Daigle

Blake Hudson

Richard McLaughlin

August 2021

Revised December 2021

NSGLC-21-01-01

**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.

EXPLORING OPTIONS FOR GRANTING PROPERTY RIGHTS TO OFFSHORE  
AQUACULTURE OPERATIONS IN THE EXCLUSIVE ECONOMIC ZONE

Zachary Klein<sup>1</sup>

I. INTRODUCTION

Aquaculture is an industry that is poised to experience substantial growth both globally and in the United States in the coming years and decades. As the U.S. in particular considers how to most efficiently manage finite natural resources to ensure food security, some look to the Nation's vast ocean territory as a place with considerable potential to expand domestic production. While aquaculture operations are common in state waters, there are currently no commercial operations in the federal waters of the U.S. Exclusive Economic Zone (EEZ).

Development of commercial aquaculture facilities in the EEZ is hampered by several factors, including an unclear regulatory process in offshore federal waters and access to financing.<sup>2</sup> In fact, the National Oceanic and Atmospheric Administration (NOAA) has identified regulatory uncertainty as a major barrier to the development of offshore aquaculture in the United States.<sup>3</sup> Congress has yet to enact any legislation that specifically authorizes or delineates the permitting process for aquaculture projects sited in federal waters, which begin where state

---

<sup>1</sup> Ocean and Coastal Law Fellow, National Sea Grant Law Center. J.D., Boston College Law School, 2019; B.A. *cum laude*, The George Washington University, 2015. The author thanks Stephanie Otts and Catherine Janasie for their guidance throughout the drafting of this article, and also thanks Professors Zygmunt Plater and David Wirth of Boston College Law School for the wisdom they have shared with the author on a variety of topics, including the intersection of property rights and environmental law. The author is also grateful to his family for their unwavering support and to his dog, Buddy, for wandering into the author's life during the COVID-19 pandemic. This product was prepared by the National Sea Grant Law Center under award number NA18OAR4170079, Amendment No. 6, from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce.

<sup>2</sup> HAROLD F. UPTON & EUGENE H. BUCK, CONG. RSCH. SERV., OPEN OCEAN AQUACULTURE 2 (2010), <https://crsreports.congress.gov/product/pdf/RL/RL32694>.

<sup>3</sup> *National Ocean Policy Study: Hearing on Offshore Aquaculture Before the Subcomm. on Nat'l Ocean Pol'y Study of the S. Comm. on Com., Sci., & Transp.*, 109th Cong. 3 (2006) (statement of Dr. William T. Hogarth, Assistant Admin. for Fisheries, Nat'l Marine Fisheries Serv., Nat'l Oceanic and Atmospheric Admin., U.S. Dep't of Com.).

waters end, generally 3 nautical miles (nm) from the coast, and extend to 200 nm offshore. This lack of aquaculture-specific legislation has created a confusing overlap of statutes for offshore aquaculture in the U.S. This uncertainty has long-reaching implications and is often cited as one of the main barriers to commercial investment, as it makes it difficult for operators to estimate profitability and secure financing.<sup>4</sup>

In addition to this regulatory uncertainty, prospective investors of offshore aquaculture operations may be deterred by the risk associated with operating in exposed open ocean locations, the risk of catastrophic events (e.g., severe storms), and high start-up costs.<sup>5</sup> Proponents of open ocean aquaculture development assert that without some form of long-term leasing of the water surface, water column, and seabed, open ocean aquaculture will have significant problems in securing capital from traditional funding sources and obtaining suitable insurance on the capital investment and stock.<sup>6</sup> Therefore, federal legislation concerning offshore aquaculture will likely need to clarify not only permitting and authority, but also offshore aquaculturists' property rights in the EEZ.<sup>7</sup>

There are multiple, non-exclusive options for authorizing offshore aquaculture's use of marine space, such as leases, licenses, easements, and permits. Each option has different strengths and weaknesses with respect to addressing the needs of industry, regulators, and the public on whose behalf the federal government manages offshore waters.

This article is adapted from a document that was prepared to inform discussion at the "Exploring Options for Authorizing Offshore Aquaculture" workshop hosted by the National Sea Grant Law Center on May 12-13, 2020. This virtual workshop brought together legal scholars, federal Executive agency staff, Congressional staff, and industry representatives to explore the uncertainty surrounding security of tenure for offshore aquaculture operations.

This article proceeds in Part II by detailing the respective international, federal, and state legal frameworks applicable to aquaculture farms in the U.S. EEZ. Part III recounts and explains fundamental principles of property law that frequently arise in the conversation surrounding authorization mechanisms for

---

<sup>4</sup> UPTON & BUCK, *supra* note 2.

<sup>5</sup> *Id.* at 4.

<sup>6</sup> *Id.* at 4-5.

<sup>7</sup> *See id.* at 5.

marine aquaculture. Part IV explores the authorization mechanisms that have already been developed for other commercial activities involving the long-term use of federal lands, while Part V surveys authorization schemes that have been developed for marine aquaculture by state governments around the U.S. Next, Part VI examines foreign approaches to authorizing marine aquaculture, including those taken by two of the world's biggest aquaculture-producing nations, Norway and Chile. Part VII identifies the current federal framework for aquaculture operations in the U.S. EEZ. Part VIII, in turn, reviews proposals that are currently under consideration—either by the U.S. Congress or by the academic community—as to how offshore aquaculture in the U.S. should be authorized moving forward. Finally, Part IX discusses the applicability of the various models identified throughout this article to the federal authorization of offshore aquaculture, including lessons that can be learned therefrom.

## II. INTERNATIONAL, FEDERAL, AND STATE FRAMEWORKS

In order to best chart the course for future authorizations of aquaculture activities in the EEZ, it is necessary to first understand the laws applicable to the use of U.S. ocean space. The waters in which offshore aquaculture operations are located are governed by intricate layers of state, federal, and international laws that constrain the types and methods of activities that national, subnational, and private entities can undertake or knowingly allow others to undertake in ocean waters. Awareness of these overlapping legal frameworks is also crucial for identifying the scope of each respective entities' authority—i.e., who has jurisdiction, where do they have it, and what they can regulate. Additionally, familiarity with these concentric frameworks is essential for identifying how to successfully pursue potential paths forward, as government entities will be unable to implement actions for which they lack proper legal authority or in ocean areas beyond their jurisdiction.

### A. International Legal Framework Governing Ocean Space

Under the United Nations Convention on the Law of the Sea (UNCLOS), coastal nations are entitled to exercise varying levels of authority over a series of adjacent offshore zones.<sup>8</sup> Coastal nations may claim a territorial sea extending twelve nautical miles (nm) from their respective shores, and they may exercise full sovereignty in these territorial waters. In addition to the twelve nm territorial

---

<sup>8</sup> United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force Nov. 16, 1994) [hereinafter UNCLOS].

sea, UNCLOS affords every coastal nation the right to establish a contiguous zone from the outer edge of the territorial sea to a maximum of twenty-four nm from their respective shorelines.<sup>9</sup> This zone exists to bolster coastal nations' law enforcement capacity, particularly by preventing criminals from escaping accountability by fleeing the territorial sea.<sup>10</sup> Within the contiguous zone, coastal nations have the right to both prevent and punish infringement of fiscal, immigration, sanitary, and customs laws.<sup>11</sup> Unlike the territorial sea, which includes the water column, the contiguous zone only provides eligible nations with jurisdiction over the ocean's surface and floor.<sup>12</sup>

In addition to a contiguous zone, nations may claim an "exclusive economic zone," or EEZ, extending from twelve nm to 200 nm from a nation's coast.<sup>13</sup> In the EEZ, which includes the ocean's surface and the water column, nations have the sovereign right to explore, exploit, conserve, and manage the marine resources of and assert jurisdiction over: (i) the establishment and use of artificial islands, installations and structures; (ii) marine scientific research; and (iii) the protection and preservation of the marine environment.<sup>14</sup>

The EEZ substantially overlaps with another offshore area of significance in international law: the continental shelf. International law defines a nation's continental shelf as the seabed and subsoil of the submarine areas that extend beyond either "the natural prolongation of [a coastal nation's] land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance."<sup>15</sup> In fact, the continental shelf may extend up to 350 nm under certain conditions.<sup>16</sup> A nation may claim sovereign rights to explore and exploit the natural resources of its continental shelf.<sup>17</sup> Taken together, these provisions grant coastal nations

---

<sup>9</sup> *Id.* at Art. 33; FLETCHER SCH. OF LAW & DIPLOMACY AT TUFTS UNIV., LAW OF THE SEA: A POLICY PRIMER 11-12 (John Burgess et al. eds., 2017) [hereinafter A POLICY PRIMER], <https://sites.tufts.edu/lawofthesea/files/2017/07/LawoftheSeaPrimer.pdf>.

<sup>10</sup> *Id.* at 12.

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> UNCLOS, *supra* note 8, at Art. 57.

<sup>14</sup> *Id.* at Art. 56.1.

<sup>15</sup> *Id.* at Art. 76.1.

<sup>16</sup> *Id.* at Art. 76.4-76.7.

<sup>17</sup> *Id.* at Art. 77.

authority to control activities occurring not only on and below the seafloor, but also on surface waters and in the water column where appropriate as well.

The U.S. signed UNCLOS but never ratified it, meaning the U.S. is not a party to the treaty and its provisions are not binding on the federal government.<sup>18</sup> Nevertheless, the U.S. recognizes many of UNCLOS's provisions as customary international law<sup>19</sup> and has claimed offshore zones that are practically identical to those described in UNCLOS through a series of executive orders. In 1945, President Truman asserted federal authority over the continental shelf contiguous to U.S. coasts.<sup>20</sup> President Reagan subsequently claimed a 200-nm EEZ through Proclamation No. 5030 in 1983,<sup>21</sup> and similarly proceeded to extend the U.S. territorial sea to twelve nm through Proclamation No. 5928 in 1988.<sup>22</sup> President Clinton, in turn, issued a Presidential Proclamation in 1999 that established a contiguous zone extending twenty-four nm from U.S. shores.<sup>23</sup>

---

<sup>18</sup> RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW OF THE UNITED STATES, § 301(1) (AM. LAW INST. 1987).

<sup>19</sup> See *U.S. v. Alaska*, 503 U.S. 569, 588 n.10 (1992).

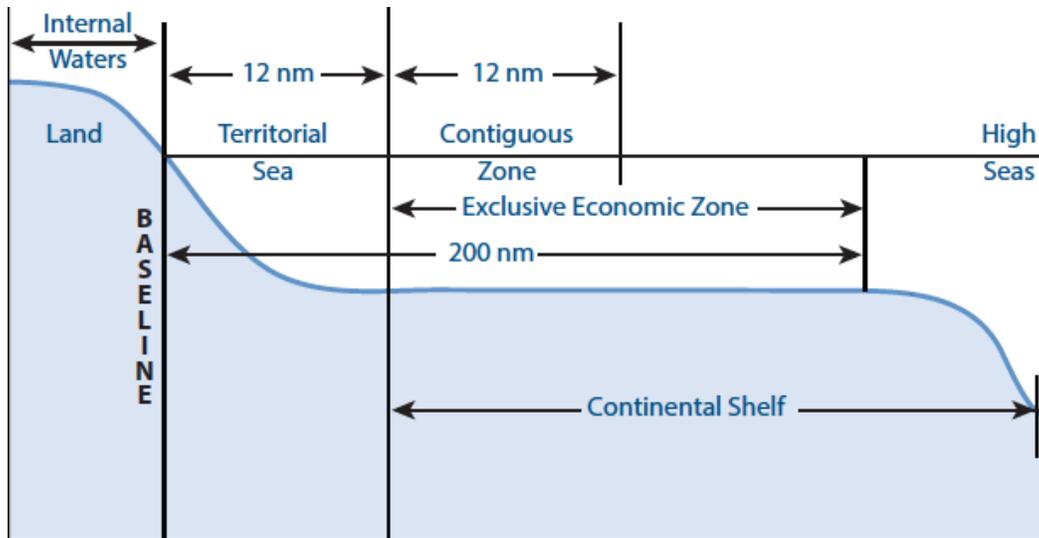
<sup>20</sup> Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed Continental Shelf, Proclamation No. 2667, 10 Fed. Reg. 12,305 (Sept. 28, 1945), [https://www.gc.noaa.gov/documents/gcil\\_proc\\_2667.pdf](https://www.gc.noaa.gov/documents/gcil_proc_2667.pdf).

<sup>21</sup> Exclusive Economic Zone of the United States of America, Proclamation No. 5030, 48 Fed. Reg. 10,605 (Mar. 14, 1983).

<sup>22</sup> Proclamation No. 5928, 54 Fed. Reg. 777 (Dec. 27, 1988), <https://www.govinfo.gov/content/pkg/STATUTE-103/pdf/STATUTE-103-Pg2981.pdf>.

<sup>23</sup> Proclamation No. 7219, 64 Fed. Reg. 48,701 (Sept. 8, 1999), <https://www.govinfo.gov/content/pkg/FR-1999-09-08/pdf/99-23460.pdf>.

FIG. 1 - ZONES OF MARINE JURISDICTION UNDER U.S. AND INTERNATIONAL LAW<sup>24</sup>



### B. Federal Framework

Various federal statutes also refer to these ocean jurisdictional zones and, in some cases, define them. For example, the Outer Continental Shelf Lands Act (OCSLA), which is the primary federal law governing offshore oil and gas development, defines the outer continental shelf (OCS) as “all submerged lands lying seaward and outside of the areas [...] [under state control] and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control [...]”<sup>25</sup> The Energy Policy Act of 2005 subsequently amended the OCSLA to allow leasing of the OCS for offshore wind energy production and resolved uncertainties regarding the permitting of such projects.<sup>26</sup> Congress has elsewhere explicitly invoked its authority to manage fauna, flora, and other aquatic life in the EEZ, such as in the Magnuson-Stevens Fishery Conservation and Management Act and its reauthorizations.<sup>27</sup>

<sup>24</sup> See A POLICY PRIMER, *supra* note 9, at 11. Graphic provided courtesy of Law of the Sea: A Policy Primer project, The Fletcher School of Law and Diplomacy, Tufts University. Copyright 2017 Tufts University, all rights reserved.

<sup>25</sup> 43 U.S.C. § 1331(a).

<sup>26</sup> Joseph B. Nelson & David P. Yaffe, *The Emergence of Commercial Scale Offshore Wind: Progress Made and Challenges Ahead*, 10 SAN DIEGO J. CLIMATE & ENERGY L. 25, 31 (2019).

<sup>27</sup> 16 U.S.C. § 1801(2)(b).

FIG. 2 - U.S. OUTER CONTINENTAL SHELF



Image Courtesy of DOI<sup>28</sup>

In 1953, Congress passed the Submerged Lands Act (SLA), which generally recognizes coastal states' jurisdiction over the waters extending three nm from shore.<sup>29</sup> Due to a decision of the Supreme Court of the United States, the jurisdictions of Texas and Florida both extend nine nm into the Gulf of Mexico because each state had claimed an extended boundary prior to joining the Union.<sup>30</sup> Within their offshore boundaries, states have "(1) title to and ownership of the lands beneath navigable waters within the boundaries of the respective states, and (2) the right and power to manage, administer, lease, develop and use the said lands and natural resources [...]."<sup>31</sup> Coastal states are thus vested with the

<sup>28</sup> MINERALS MGMT. SERV., ASSESSMENT OF UNDISCOVERED TECHNICALLY RECOVERABLE OIL AND GAS RESOURCES OF THE NATION'S OUTER CONTINENTAL SHELF (2006), [https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Oil\\_and\\_Gas\\_Energy\\_Program/Resource\\_Evaluation/Resource\\_Assessment/2006NationalAssessmentBrochure%283%29.pdf](https://www.boem.gov/sites/default/files/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Resource_Assessment/2006NationalAssessmentBrochure%283%29.pdf).

<sup>29</sup> 43 U.S.C. § 1301(b).

<sup>30</sup> *Id.* at §§ 1312, 1301(b); *see also* United States v. Louisiana, 363 U.S. 1, 66 (1960).

<sup>31</sup> 43 U.S.C. § 1311.

discretion to decide for themselves how to regulate aquaculture within their jurisdictional waters. As a result, there are effectively thirty different frameworks that govern aquaculture occurring within three nm of U.S. shores.

TABLE 1 - OFFSHORE JURISDICTIONS IN NAUTICAL MILES (NM) FROM THE COAST

State Waters	<ul style="list-style-type: none"> <li>● Most U.S. states = 3 nm</li> <li>● TX and FL Gulf Coast = 9 nm</li> </ul>
Federal Waters	<ul style="list-style-type: none"> <li>● Territorial Sea = 3 to 12 nm</li> <li>● Contiguous zone = 12 to 24 nm</li> <li>● EEZ = 12 to 200 nm</li> <li>● Continental shelf can extend up to 350 nm</li> </ul>
International Waters (High Seas)	<ul style="list-style-type: none"> <li>● More than 200 nm (unless the EEZ is less than 200 nm)</li> </ul>

### C. State Frameworks

The SLA abrogated the U.S. Supreme Court’s 1947 decision in *U.S. v. California*,<sup>32</sup> which held that the federal government had paramount authority over the navigable waters, submerged lands, and resources therein that are seaward of the ordinary low water mark.<sup>33</sup> Coastal states were eager to nullify the decision because they had controlled the seabed without dispute by the federal government until 1937.<sup>34</sup> The states’ authority over the seabed and other marine resources off their coasts is derived from the Public Trust Doctrine (PTD).<sup>35</sup>

The PTD is a principle with roots in ancient Roman law.<sup>36</sup> The Institutes of Justinian, a sixth century codification of Roman civil law, declares, “By the law of nature these things are common to all mankind – the air, running water, the sea, and consequently the shores of the sea.”<sup>37</sup> This was traditionally interpreted

<sup>32</sup> 322 U.S. 19.

<sup>33</sup> DAVID C. SLADE ET AL., COASTAL STATES ORG., INC., PUTTING THE PUBLIC TRUST DOCTRINE TO WORK 315 (2d ed. 1997), <https://shoreline.noaa.gov/docs/8d5885.pdf>.

<sup>34</sup> NAT’L OCEANIC AND ATMOSPHERIC ADMIN., SUMMARY OF LAW: SUBMERGED LANDS ACT, <https://coast.noaa.gov/data/Documents/OceanLawSearch/Summary%20of%20Law%20-%20Submerged%20Lands%20Act.pdf> (last visited Aug. 12, 2021).

<sup>35</sup> See David L. Callies, *The Public Trust Doctrine*, 8 BRIGHAM-KANNER PROP. RTS. CONF. J. 71, 73 (2019).

<sup>36</sup> See J.B. Ruhl & Thomas A.J. McGinn, *The Roman Public Trust Doctrine: What Was It, and Does It Support an Atmospheric Trust?*, 47 ECOLOGY L. Q. 117, 121 (2020).

<sup>37</sup> J. INST. 2.1.1, in THE INSTITUTES OF JUSTINIAN, WITH NOTES 67 (Thomas Cooper ed. & trans., 3d ed. 1852).

as imposing upon a sovereign the obligation to create and preserve public rights of access and use of tidal waterways and their shores, including oceans, bays, and tidal rivers, especially for purposes of navigation, fishing, and commerce.<sup>38</sup> The tenets of the PTD were maintained through English common law and inherited by the original thirteen colonies after the Revolution, when the rights to tidal waterways and their shores—which were previously reserved to the Crown—passed to the newly created American states.<sup>39</sup> All other states acquired ownership of the beds and banks of these waters upon their statehood as a result of the Equal Footing Doctrine, under which all subsequent states were admitted with the same rights as the original thirteen.<sup>40</sup> With this ownership came the PTD obligations that the original thirteen states incurred by gaining authority over Crown lands.<sup>41</sup> The PTD consequently guided implementation of the SLA and continues to predominate the coastal states' management of their waters and resources.

Although the application of the PTD varies based on each state's interpretation, the Supreme Court of the United States has repeatedly confirmed that the states do have public trust obligations, originally in the 1842 case *Martin v. Waddell* and perhaps mostly famously in *Illinois Central Railroad Co. v. Illinois*.<sup>42</sup> In *Illinois Central*, the Court outlined the contours of the PTD, stating that “the state holds title to the lands under the navigable waters” of the state “in trust for the people of the state” for the purposes of navigation, commerce, and fishing.<sup>43</sup> States may extend the PTD to more lands or more uses under their jurisdiction, but, at a minimum, must ensure that their stewardship of any additional lands or uses also meets the standards of *Illinois Central*.<sup>44</sup> Bound by this constraint, all states have interpreted their PTD rights and obligations in

---

<sup>38</sup> Ruhl & McGinn, *supra* note 36, at 117.

<sup>39</sup> See Charles F. Wilkinson, *The Headwaters of the Public Trust: Some Thoughts on the Source and Scope of the Traditional Doctrine*, 19 ENVTL. L. 425, 439 (1989).

<sup>40</sup> Robin Kundis Craig, *A Guide to the Western States' Public Trust Doctrines: Public Values, Private Rights, and the Evolution Toward an Ecological Public Trust*, 37 ECOLOGICAL L. Q. 53, 65 (2010); see *Idaho v. United States*, 533 U.S. 262, 272 (2001); see also *Idaho v. Coeur d'Alene Tribe of Idaho*, 521 U.S. 261, 283-84 (1997); *United States v. Alaska*, 521 U.S. 1, 5 (1997); *Montana v. United States*, 450 U.S. 544, 551 (1981); *United States v. Holt State Bank*, 270 U.S. 49, 55 (1926); *Weber v. Bd. of Harbor Comm'rs*, 85 U.S. (18 Wall.) 57, 65-66 (1873).

<sup>41</sup> Wilkinson, *supra* note 39, at 439.

<sup>42</sup> 146 U.S. 387 (1892).

<sup>43</sup> *Id.* at 452. The Court also prohibited states from transferring trust property unless it benefits the trust, such as through building wharves and docks.

<sup>44</sup> Crystal S. Chase, *The Illinois Central Public Trust Doctrine and Federal Common Law: An Unconventional View*, 16 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 113, 159 (2010).

different ways, resulting in individual, state-by-state legislative and judicial interpretations. As a result, no two state PTDs are the same.<sup>45</sup> How each state defines its PTD can have important implications regarding the leasing of eligible waters and submerged lands for aquaculture operations but, regardless of the doctrine's specific contours, every coastal state's conveyance of water and submerged land to private parties for aquaculture activities must be in furtherance of the public trust, as the Court required in *Illinois Central*.

#### D. Federal Public Trust?

While “[s]tate governments are well-established trustees under the PTD,”<sup>46</sup> application of the PTD to the federal government is an unsettled area of law.<sup>47</sup> In 2012, the D.C. Circuit Court of Appeals affirmed a lower court's interpretation of the Supreme Court of the United States's decision in *PPL Montana, L.L.C. v. Montana*,<sup>48</sup> as precluding application of the PTD to the federal government.<sup>49</sup> However, earlier federal district court opinions from other jurisdictions have explicitly applied the PTD to the federal government, albeit only *in dicta*. For example, a Massachusetts federal district court has observed that “the [PTD] [...] is governmental and administered jointly by the state and federal governments by virtue of their sovereignty.”<sup>50</sup>

Contrary to *PPL Montana*, the Supreme Court of the United States has elsewhere recognized public trust obligations in the federal government's management of public lands without explicitly invoking the PTD.<sup>51</sup> The U.S.

---

<sup>45</sup> Taylor Goelz, *Does Private Aquaculture Benefit the Public? Development of Private Oyster Aquaculture Industries in Maryland and Virginia as Influenced by Different Scopes of the Public Trust Doctrine*, 10 SEA GRANT L. & POL'Y J. 2, 4 (2020).

<sup>46</sup> MICHAEL C. BLUMM & MARY CHRISTINA WOOD, *THE PUBLIC TRUST DOCTRINE IN ENVIRONMENTAL AND NATURAL RESOURCES LAW* 6 (1st ed. 2013).

<sup>47</sup> Erin Ryan, *A Short History of the Public Trust Doctrine and its Intersection with Private Water Law*, 38 VA. ENVTL. L.J. 135, 170-81 (2020).

<sup>48</sup> 565 U.S. 576 (2012).

<sup>49</sup> Alec L. v. Jackson, 863 F. Supp. 2d 11 (D.D.C. 2012), *aff'd sub nom.* Alec L. v. McCarthy, 561 F. App'x 7 (D.C. Cir. 2014), *cert. denied*, 574 U.S. 1047 (2014).

<sup>50</sup> *United States v. 1.58 Acres of Land*, 523 F. Supp. 120, 124 (D. Mass. 1981).

<sup>51</sup> *Alabama v. Texas*, 347 U.S. 272, 277 (1954) (Reed, J., concurring) (“The United States holds resources and territory in trust for its citizens in one sense, but not in the sense that a private trustee holds for [a private beneficiary]. The responsibility of Congress is to utilize the assets that come into its hands as sovereign in the way that it decides is best for the future of the Nation.”); *Light v. United States*, 220 U.S. 523, 537 (1911) (“[a]ll public lands of the nation are held in trust for the people of the whole country.”); *United States v. Trinidad Coal*

Department of Justice, on the other hand, disavows the existence of a federal PTD.<sup>52</sup> Debate over the existence and scope of a federal PTD is enjoying a renaissance due to its prominence in the *Juliana v. U.S.* climate change case that has recently captured headlines.<sup>53</sup> Now, perhaps more than ever, there is no judicial or academic consensus regarding the existence or scope of the federal government's public trust obligations. Uncertainty abounds in the existing literature about whether the PTD applies to the federal government's management of the EEZ in particular.<sup>54</sup>

### III. AUTHORIZATION OPTIONS - LEGAL BASICS

In order to engage in meaningful discussions regarding the options for authorizing the occupancy of federal offshore waters by aquaculture operations, it is important to have an accurate and informed understanding of the applicable legal terminology. Listed below are terms describing property interests that are likely to arise in such a discussion, as well as their respective definitions in the most recent edition of Black's Law Dictionary (11th ed. 2019).

- Lease: A contract by which a rightful possessor of real property conveys the right to use and occupy the property for life, for a fixed period, or for a period terminable at will, in exchange for consideration ("rent"); also termed "tenancy agreement."
- Easement: An interest in land owned by another person, consisting in the right to use or control the land, or an area above or below it,

---

& Coking Co., 137 U.S. 160, 170 (1890) ("the [federal] government should not be regarded as occupying the attitude of a mere seller of real estate for its market value. [...] [These lands] were held in trust for all the people [...]").

<sup>52</sup> See BLUMM & WOOD, *supra* note 46, at 338 ("[T]he Department of Justice, representing the federal government, resists mightily any public trust duty in litigation.").

<sup>53</sup> See Rachael McDonald, *After Six Years, Teen Climate Suit Could End In Settlement*, KLCC (May 13, 2021), <https://www.klcc.org/post/after-six-years-teen-climate-suit-could-end-settlement>; John Schwartz, *Court Quashes Youth Climate Change Case Against Government*, N.Y. TIMES (Jan. 17, 2020), <https://www.nytimes.com/2020/01/17/climate/juliana-climate-case.html>.

<sup>54</sup> See Kenneth R. L. Parker, *Fishing for the Public Trust Doctrine: The Search for a Legal Framework to Govern Open Ocean Aquaculture in America's Federal Waters*, 4 NE. U. L.J. 209, 235 (2012); Hope M. Babcock, *Grotius, Ocean Fish Ranching, and the Public Trust Doctrine: Ride 'Em Charlie Tuna*, 26 STAN. ENVTL. L.J. 3, 76 (2007); Kevin J. Lynch, *Application of the Public Trust Doctrine to Modern Fishery Management Regimes*, 15 N.Y.U. ENVTL. L.J. 285, 295 (2007).

for a specific limited purpose (such as to cross it for access to a public road). [...] Unlike a lease or license, an easement may last forever, but it does not give the holder the right to possess, take from, improve, or sell the land.

- Right-of-way: The right to pass through property owned by another. A right-of-way may be established by contract, by longstanding usage, or by public authority (as with a highway).
- License:
  - A privilege granted by a state or city upon the payment of a fee, the recipient of the privilege then being authorized to do some act or series of acts that would otherwise be impermissible. A license in this sense is a method of governmental regulation exercised under the police power, as with a license to drive a car, operate a taxi service, keep a dog in the city, or sell crafts as a street vendor. — Also termed *permit*.
  - A permission, us[ually] revocable, to commit some act that would otherwise be unlawful; esp., an agreement (not amounting to a lease or profit à prendre) that it is lawful for the licensee to enter the licensor’s land to do some act that would otherwise be illegal, such as hunting game. See *servitude*.
- Permit: A certificate evidencing permission; an official written statement that someone has the right to do something; *see* license.

Perhaps the single foremost matter of interest and contention in the conversation surrounding property rights for commercial aquaculture operations in the EEZ is whether a lease or a permit is the preferable instrument. As noted below, many states require aquaculture facilities in state waters to obtain a lease and permits, whereas the federal government currently uses only permits to authorize aquaculture operations in eligible waters. Permits and leases differ most substantially in the rights they give to the permittee and the lessee.<sup>55</sup> More

---

<sup>55</sup> MILES & STOCKBRIDGE, *License vs. Lease: Legal Concerns of Co-Working Spaces*, MSLAW BLOG (July 11, 2017), <https://www.mslaw.com/mslaw-blog/license-vs-lease-legal-concerns-of-co-working-spaces>.

specifically, a permit merely grants a privilege to use the land in a specific manner; absent any provisions to the contrary, the permitter owes no duty to the permittee beyond providing the space and allowing the permittee to perform the acts outlined in the permit.<sup>56</sup> Leases operate differently. A lease is a contract between the lessor and the lessee that typically gives the lessee possession of the property being leased.<sup>57</sup> Moreover, a lease can transfer the lessor's entire interest in the property—and all rights that come with that interest—to the lessee for the duration of the lease.<sup>58</sup>

These principles work slightly differently when it comes to offshore aquaculture, specifically because the permitter or lessor in question is a government entity. The terms of a permit or lease issued by a government entity are constrained by the obligations that are uniquely imposed on government entities by the U.S. Constitution and respective state constitutions, as well as other background legal principles like the PTD. As a result, government entities involved in permitting or leasing for offshore aquaculture may be barred from conveying certain interests or rights to the permittee or lessee, usually as a result of the need to meet minimum stewardship requirements or accommodate other activities that are already entitled to use of the space. Finally, it should be noted that leases and permits would not be mutually exclusive in this context. Should Congress choose to create a federal leasing mechanism for aquaculture operations in the EEZ, operators would presumably still need to successfully complete any other applicable permitting and regulatory processes required by the current framework, which are discussed in more detail below.

#### IV. CURRENT FEDERAL FRAMEWORK FOR OFFSHORE AQUACULTURE

Equipped with an accurate and comprehensive understanding of the relevant legal terminology, this article can now dive into the federal government's current approach to authorizing aquaculture operations in the U.S. EEZ. Recounting the full framework is imperative for identifying its shortcomings, particularly with respect to any spatial authorizations—or a lack thereof—that may be inhibiting the growth of commercial aquaculture activities in the EEZ.

---

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

## A. Environmental Protection Agency

The Environmental Protection Agency (EPA) is currently the lead federal permitting agency for offshore finfish aquaculture activities through its authority under the Clean Water Act (CWA).<sup>59</sup> The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>60</sup> To achieve this goal, the CWA makes unlawful “any discharge of any pollutant” without a permit<sup>61</sup> and confers broad authority on the EPA to protect water quality by regulating discharges of pollutants into the Nation’s waters.<sup>62</sup> More specifically, the EPA administers the National Pollutant Discharge Elimination System (NPDES), which is the relevant permitting program under the CWA for discharges into federal ocean waters. “Discharge” is limited to, in relevant part, “any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.”<sup>63</sup> Thus, aquaculture operations in federal ocean waters must obtain a NPDES permit to discharge pollutants, unless they are deemed a “vessel or other floating craft” by the EPA.<sup>64</sup>

Discharges from aquaculture operations are primarily governed by the implementing regulations of CWA Sections 402 and 403. The CWA Section 402 authorizes the EPA to issue NPDES permits for the discharge of pollutants from point sources into waters of the United States, including all ocean waters out to

---

<sup>59</sup> The U.S. Army Corps of Engineers also has authority under CWA § 404, which is discussed in greater detail below in Part IV(B).

<sup>60</sup> 33 U.S.C. § 1251(a). This includes broad coverage of activities involving the “propagation of fish, shellfish, and wildlife.” *Id.*

<sup>61</sup> *Id.* § 1311(a).

<sup>62</sup> HARVARD LAW SCH. EMMETT ENVTL. LAW & POLICY CLINIC, ET AL., OFFSHORE AQUACULTURE REGULATION UNDER THE CLEAN WATER ACT 4 (2012) [hereinafter OFFSHORE AQUACULTURE REGULATION], <http://eli-ocean.org/wp-content/blogs.dir/3/files/CWA-aquaculture.pdf>.

<sup>63</sup> 33 U.S.C. § 1362(12)(B).

<sup>64</sup> *See id.* § 1362(10) (defining “ocean” as “any portion of the high seas beyond the contiguous zone”). Discharges of pollutants from vessels are regulated by EPA through other provisions of the CWA. For example, Section 312 of the CWA (33 U.S.C. § 1322) sets out the principal framework for regulating sewage discharges from vessels. Incidental discharges from vessels into federal waters and the contiguous zone are regulated jointly by the EPA and the U.S. Coast Guard as set forth in the Incidental Vessel Discharge Act (Title IX of the Frank LoBiondo Coast Guard Authorization Act of 2018, S. 140, Pub. Law 115-282).

200 miles from the coast.<sup>65</sup> The CWA Section 402 requires that a NPDES permit for a discharge into federal waters of the ocean be issued in compliance with the EPA's ocean discharge criteria within CWA Section 403 for preventing unreasonable degradation of the receiving waters (i.e., 40 C.F.R. Section 125.121). Potential pollutant discharges from finfish aquaculture operations include solids, nutrients, ammonia, fish waste, feed waste, pharmaceuticals, chemicals, and other industrial animal-processing byproducts.<sup>66</sup> As a result, finfish aquaculture facilities in offshore federal waters require a NPDES permit because they discharge pollutants from a point source into waters of the United States and, therefore, are subject to the general CWA Section 301 prohibition against discharges unless authorized by a NPDES permit.<sup>67</sup> Notably, the EPA applied this reasoning to reach its conclusion that offshore shellfish aquaculture operations do not require a permit under CWA § 402 in light of the agency's determination that molluscan shellfish aquaculture operations do not discharge enough pollutants to trigger the need for a NPDES permit.<sup>68</sup> Offshore seaweed aquaculture operations are presumably exempt from needing a NPDES permit by the same logic, although the EPA has not yet officially issued a decision on the matter.

Relevant to offshore aquaculture, the CWA implements NPDES regulations relating to concentrated aquatic animal production (CAAP) facilities,<sup>69</sup> and requires technology-based effluent limitations for certain discharges of pollutants from CAAP facilities. CAAP facilities include cold-water facilities that discharge at least thirty days per year, produce more than 20,000

---

<sup>65</sup> *NPDES Permit Basics*, EPA (Aug. 3, 2020), <https://www.epa.gov/npdes/npdes-permit-basics>.

<sup>66</sup> *See* U.S. Pub. Int. Rsch. Grp. v. Atl. Salmon of Maine, LLC., 215 F. Supp. 2d 239, 247-49 (D. Me. 2002).

<sup>67</sup> U.S. ENVTL. PROT. AGENCY, DRAFT ENVIRONMENTAL ASSESSMENT (EA): NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AND RIVERS AND HARBOR ACT SECTION 10 PERMIT FOR KAMPACHI FARMS – VELELLA EPSILON (VE) OFFSHORE AQUACULTURE PROJECT 3 (2019) [hereinafter DRAFT EA], [https://www.epa.gov/sites/production/files/2019-08/documents/velella\\_environmental\\_assessment\\_draft.pdf](https://www.epa.gov/sites/production/files/2019-08/documents/velella_environmental_assessment_draft.pdf).

<sup>68</sup> EPA, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category, 69 Fed. Reg. 51,891, 51,906 (Aug. 23, 2004) (codified at 40 C.F.R. pt. 451) [hereinafter CAAP Standards], <https://www.federalregister.gov/documents/2004/08/23/04-15530/effluent-limitations-guidelines-and-new-source-performance-standards-for-the-concentrated-aquatic>; *see* Ass'n to Protect Hammersley, Eld, & Totten Inlets v. Taylor Res., Inc., 299 F.3d 1007 (9th Cir. 2002).

<sup>69</sup> 40 C.F.R. § 122.24.

pounds of fish per year, and use 5,000 pounds or more of feed per month, as well as warm-water facilities that discharge at least thirty days per year and produce at least 100,000 pounds of fish annually (not including closed ponds that discharge only during periods of excess runoff).<sup>70</sup> Accordingly, many commercial-scale offshore aquaculture facilities are likely to trigger the NPDES permitting requirement, but pilot-scale facilities and facilities producing small volumes will likely escape CWA coverage.<sup>71</sup>

NPDES permits are relatively straightforward authorization instruments. They have a duration of five years and may be modified, revoked and reissued, or terminated for cause. The EPA does not charge a fee for applying for or obtaining coverage under a NPDES permit,<sup>72</sup> nor does it require applicants or permittees to furnish a financial guarantee, such as a bond, or provide for revenue recovery from permitted activities. However, under the current NPDES framework for finfish aquaculture, applicants may be required to pay for a variety of surveys and studies relating to the project's siting and environmental impacts.<sup>73</sup> Additionally, NPDES permits must satisfy only the minimal procedural standards identified in the Administrative Procedure Act prior to being issued—i.e., the EPA must provide opportunity for a public hearing before issuing a permit, and this requirement is fulfilled in practice by public notice and comment in the Federal Register.

The EPA's permitting authority for finfish aquaculture has been put to the test in the Gulf of Mexico, where EPA serves as the lead agency for the permitting of Ocean Era's pilot-scale marine aquaculture facility in federal waters.<sup>74</sup> The permitting process for this project required coordination between the EPA and the U.S. Army Corps of Engineers, U.S. Coast Guard, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Department of Interior's Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement, in addition to state agencies entitled to review under the Coastal

---

<sup>70</sup> CAAP Standards, *supra* note 68, at 51896.

<sup>71</sup> OFFSHORE AQUACULTURE REGULATION, *supra* note 62, at 6.

<sup>72</sup> NPDES Permit Basics, *supra* note 65. However, many of the NPDES-authorized states do charge fees for permit applications, Notices of Intent, and/or permit coverage. *See id.*

<sup>73</sup> *See* Presentation, Kelly Lucas, Manna Fish Farms, Gulf of Mexico Finfish Farm Operations,

[https://yosemite.epa.gov/oa/EAB\\_Web\\_Docket.nsf/Attachments%20By%20ParentFilingId/806C64E35B7E0B8A85258645004C0970/\\$FILE/Attachment%205%20-%20Manna%20Fish%20Farms%20Overview.pdf](https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Attachments%20By%20ParentFilingId/806C64E35B7E0B8A85258645004C0970/$FILE/Attachment%205%20-%20Manna%20Fish%20Farms%20Overview.pdf) (last visited Aug. 4, 2021).

<sup>74</sup> *See id.* at 2.

Zone Management Act.<sup>75</sup> Like other NPDES permits, Ocean Era's permit would last for five years, and could be reissued in five-year cycles if it maintains compliance with the permit's terms.<sup>76</sup> Although approved by the EPA, Ocean Era's permit has been challenged through the EPA's Environmental Appeals Board (EAB). The appeal remains under review as of the time of this article's publication. The EAB will hear oral arguments in the appeal on November 4, 2021.<sup>77</sup>

### B. Army Corps of Engineers<sup>78</sup>

The lead federal permitting agency for offshore shellfish culture operations in the United States is the U.S. Army Corps of Engineers (Corps). Under authority derived from Section 10 of the Rivers and Harbors Act (RHA), the Corps issues permits for obstructions "to the navigable capacity of any of the waters of the United States."<sup>79</sup> Corps regulations state that "the navigable waters of the United States over which Corps of Engineers' regulatory jurisdiction extends include all ocean and coastal waters within a zone three geographic (nautical) miles seaward from the baseline (the Territorial Seas)."<sup>80</sup> As a result, shellfish culture systems anchored to the seabed or structures built to support such operations in the EEZ would be an obstruction to navigation and need to obtain an RHA permit from the Corps.<sup>81</sup>

<sup>75</sup> See *id.* at 6, 10.

<sup>76</sup> *Id.* at 3, 52.

<sup>77</sup> Order Consolidating Cases for Oral Argument and Decision and Scheduling Oral Argument, *In re Ocean Era, Inc. – Vellella Epsilon Facility* (EAB Aug. 10, 2021), [https://yosemite.epa.gov/OA/EAB\\_WEB\\_Docket.nsf/D325293EBAFBCA348525872D0050CE2E/\\$File/Order%20Setting%20Oral%20Argument%20in%20NPDES%20Appeal%20Nos.%2020-08%20%20and%2020-09%20\(signed\).pdf](https://yosemite.epa.gov/OA/EAB_WEB_Docket.nsf/D325293EBAFBCA348525872D0050CE2E/$File/Order%20Setting%20Oral%20Argument%20in%20NPDES%20Appeal%20Nos.%2020-08%20%20and%2020-09%20(signed).pdf).

<sup>78</sup> Portions of this section were adapted from Catherine Janasie, *Army Corps Finalizes Nationwide Permits for Mariculture, But Will They Stand?*, 20: 2 THE SANDBAR 12 (Apr. 2021), <http://nsglc.olemiss.edu/SandBar/pdfs/sandbar20.2.pdf>, and AMANDA NICHOLS, NATL. SEA GRANT L. CENTER, SHELLFISH AQUACULTURE PERMITTING UNDER NATIONWIDE PERMIT 48 2-5 (2019), <http://nsglc.olemiss.edu/projects/shellfish-aquaculture/files/nwp48.pdf>.

<sup>79</sup> 33 U.S.C. § 403.

<sup>80</sup> 33 C.F.R. § 329.12(a).

<sup>81</sup> See *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of Army*, 288 F. Supp. 2d 64 (D. Mass. 2003) (concluding that the OCSLA extended the Corps § 10 authority "to all 'artificial islands, installations, and other devices located on the seabed, to the seaward limit of the [OCS],' including, but not limited to, those that 'may be' used to explore for, develop, or produce resources."), *aff'd*, *Alliance to Protect Nantucket Sound, Inc. v. U.S. Dep't of Army*, 398 F.3d 105 (1st Cir. 2005).

The Corps is authorized to issue permits under both Section 10 of the RHA and Section 404 of the Clean Water Act (CWA). RHA Section 10 requires permits for “structures”; for offshore aquaculture operations, this might include cages, nets, racks, lines, pilings, ropes, trays, and tubes placed in navigable waters.<sup>82</sup> Conversely, Section 404 of the CWA requires permits for “dredge and fill” activities.<sup>83</sup> The Corps has determined that aquaculture operations distributing shellfish seed and installing shellfish gear do not qualify as a “fill” requiring a Section 404 permit, but creating a suitable surface on which to grow shellfish by spreading gravel or shell without shellfish seed inside does qualify.<sup>84</sup> Other offshore aquaculture activities might also constitute a “dredge.” Mechanical harvesting, for instance, could require a Section 404 permit if it goes beyond incidental fallback by collecting sediment and depositing it in a different location.<sup>85</sup>

In addition to individual permits issued on a project-by-project basis under the RHA and CWA, the Corps has developed and implemented Nationwide Permits (NWP) to simplify and streamline the permitting process for certain projects determined to have minimal environmental impact. There are currently fifty-eight NWPs authorizing a wide variety of activities including mooring buoys, residential developments, utility lines, road crossings, mining activities, wetland and stream restoration activities, and commercial shellfish aquaculture activities.<sup>86</sup> The Corps renews and re-issues the NWPs every five years, “...to update them, and provide clarity and certainty for the regulated public while protecting the aquatic environment.”<sup>87</sup> But individual permits, unlike NWPs, are not limited to a duration of five years.<sup>88</sup> The term of individual permits can vary, but it is typically between three and ten years.<sup>89</sup> Although NWPs authorize

---

<sup>82</sup> Janasie, *supra* note 78, at 12.

<sup>83</sup> 33 U.S.C. § 1244.

<sup>84</sup> Janasie, *supra* note 78, at 12.

<sup>85</sup> *Id.*

<sup>86</sup> 33 U.S.C. § 1251.

<sup>87</sup> Press Release, U.S. Army Corps of Eng’rs, Army Corps of Engineers Revises and Renews Nationwide Permits (Jan. 6, 2017), <https://www.usace.army.mil/Media/News-Releases/News-Release-Article-View/Article/1043614/army-corps-of-engineers-revises-and-renews-nationwide-permits/>.

<sup>88</sup> See 33 U.S.C. § 1344.

<sup>89</sup> *Wetlands and Streams – Clean Water Act Section 404 Permit*, N.C. DEPT. OF ENVTL.

QUALITY (May 2020),

[https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/Permit%20Handbook%20Documents/2016 Revisions/Other-Section-404-Permit.pdf](https://files.nc.gov/ncdeq/Environmental%20Assistance%20and%20Customer%20Service/Permit%20Handbook%20Documents/2016%20Revisions/Other-Section-404-Permit.pdf).

activities on a national level, Corps district commanders may revoke or add additional conditions to a NWP in a state or other geographic area for various reasons, including specific concerns regarding the adverse environmental impacts activities authorized by the permit could have on an area.<sup>90</sup> States also have some authority to prohibit the application of NWPs.<sup>91</sup> The exercise of these overlapping authorities can result in a patchwork of NWP coverage across the districts and states of the country.<sup>92</sup>

By their terms, NWPs do not grant property rights or other exclusive privileges, nor do they convey any right to exclude uninvited guests from the ocean space where the permitted activities are to occur. Rather, they merely allow the permittee to undertake the activities set forth in the permit (i.e., to build a structure in navigable U.S. waters). But because these permits are designed to allow for activities that can interfere with navigation, they are location-based and necessarily authorize occupancy of a particular area.

*i. Shellfish - Nationwide Permit 48*

The Corps has issued NWPs to authorize commercial shellfish operations. The most recent iteration of NWP 48 was finalized in January 2021.<sup>93</sup> The permit “authorizes the installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures into navigable waters of the United States.”<sup>94</sup> Additionally, NWP 48 authorizes “discharges of dredged or fill materials into waters of the United States necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting activities.”<sup>95</sup> However, NWP 48 does not authorize cultivation of nonindigenous species (unless that species has previously been cultivated in the body of water in question), cultivation of aquatic nuisance species, construction of attendant features,<sup>96</sup> the deposition of shell material back into waters of the United States as waste, or activities that directly impact more

<sup>90</sup> Nichols, *supra* note 78, at 5.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

<sup>93</sup> Reissuance and Modification of Nationwide Permits, 86 Fed. Reg. 2,744, 2,787-2,802 (Jan. 13, 2021), <https://www.federalregister.gov/documents/2021/01/13/2021-00102/reissuance-and-modification-of-nationwide-permits>.

<sup>94</sup> WILLIAM H. GRAHAM JR., DECISION DOCUMENT NATIONWIDE PERMIT 48, U.S. ARMY CORPS OF ENG'RS (Jan. 4, 2021), <https://usace.contentdm.oclc.org/utis/getfile/collection/p16021coll7/id/16842>.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.* (such as docks, piers, boat ramps, stockpiles, or staging areas).

than one half-acre of submerged aquatic vegetation without submitting a pre-construction notification to the Corps.

*ii. Seaweed (NWP 55) and finfish (NWP 56)*

The Corps issued its first nationwide permits for offshore seaweed aquaculture and offshore finfish aquaculture—respectively referred to as “seaweed mariculture” and “finfish mariculture” by the Corps—in January 2021.<sup>97</sup> While there are some minor differences between NWP 48, NWP 55, and NWP 56, the terms of the latter two are substantially similar to those of NWP 48 as discussed above.<sup>98</sup> NWP 55 is for seaweed mariculture operations, while NWP 56 is for finfish operations. Both NWP 55 and 56 only authorize structures, as opposed to authorizing any of the operational aspects of offshore aquaculture activities.<sup>99</sup> In particular, in response to comments received on the draft NWPs, NWP 56 “distinguishes the Corps authority to authorize the installation of finfish farm structures from the authority of the EPA, the U.S. Food & Drug Administration, and other agencies regulating finfish farming activities.”<sup>100</sup> In addition, both NWP 55 and 56 allow for multi-trophic mariculture operations, meaning farms can cultivate a combination of seaweed, finfish, and shellfish.<sup>101</sup> Both NWPs also require permittees to submit a pre-construction notification (PCN) to the appropriate Corps District Engineer.<sup>102</sup> Finally, the permits only cover the RHA, as the Corps has taken the position that activities under either permit do not result in discharges that would trigger CWA Section 404 applicability.<sup>103</sup>

---

<sup>97</sup> Reissuance and Modification of Nationwide Permits, *supra* note 93, at 2,804-12.

<sup>98</sup> *Id.*; See Natalie J. Reid & Robert M. Smith, *U.S. Army Corps Proposes New Nationwide Permits for Seaweed and Finfish Aquaculture in Coastal Waters and Updates the Existing Nationwide Permit for Shellfish Aquaculture*, LEXOLOGY (Aug. 21, 2020), <https://www.lexology.com/library/detail.aspx?g=63fc58fc-f2f8-478d-8ff6-b9a1af990e5e>; Natalie J. Reid & Robert M. Smith, *U.S. Army Corps Issues Nationwide Permits for Aquaculture*, K&L GATES (Jan. 15, 2021), <https://www.klgates.com/US-Army-Corps-Issues-Final-Nationwide-Permits-for-Aquaculture-1-15-2021>.

<sup>99</sup> Janasie, *supra* note 78, at 12.

<sup>100</sup> *Id.*

<sup>101</sup> Reissuance and Modification of Nationwide Permits, *supra* note 93, at 2,864.

<sup>102</sup> *Id.* at 2,864-65.

<sup>103</sup> *Id.* at 2,851-52.

## C. National Marine Fisheries Service

The National Marine Fisheries Service (NMFS), a branch of NOAA, claimed authority to regulate aquaculture under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) as early as 1993,<sup>104</sup> but this position has recently suffered setbacks in court. The MSA regulates fishing in the EEZ through development and implementation of federal fishery management plans (FMPs) created and implemented by eight regional fishery management councils (FMCs).<sup>105</sup> Under the MSA's authority, NMFS and several FMCs have attempted to exercise regulatory oversight over offshore aquaculture.<sup>106</sup>

In 2009, the Gulf of Mexico Fishery Management Council (GMFMC) approved an aquaculture FMP that NMFS went on to issue as a final rule in 2016.<sup>107</sup> The plan authorized permits for up to 20 facilities to culture fish species native to the Gulf of Mexico, and approved facilities were limited to a combined total production of 64 million pounds per year.<sup>108</sup> The FMP also required applicants for aquaculture permits to acquire all other necessary federal permits prior to NMFS issuing the Gulf aquaculture permit.<sup>109</sup>

But no facilities were ever permitted under the Gulf aquaculture FMP. After NMFS finalized it as a rule in 2016, a coalition of fishing and public interest groups filed a lawsuit in the U.S. District Court for the Eastern District of Louisiana to prevent the plan from taking effect. The court ultimately held that NMFS exceeded its authority under the MSA when it adopted a regulatory scheme for aquaculture operations in the Gulf of Mexico on the basis that the agency's authority under the statute to regulate "fishing" and "harvesting" does not include aquaculture.<sup>110</sup> This decision was later affirmed by the U.S. Circuit

---

<sup>104</sup> Memorandum from Jay S. Johnson, NOAA Deputy General Counsel, and Margaret F. Hayes, NOAA Assistant General Counsel for Fisheries, to James W. Brennan, NOAA Acting General Counsel (Feb. 7, 1993); *see* Memorandum from Constance Sathre, Office of the General Counsel, to Lois Schiffer, NOAA General Counsel (June 9, 2011).

<sup>105</sup> *See* 16 U.S.C. §§ 1801 *et seq.*

<sup>106</sup> HAROLD F. UPTON, CONG. RSCH. SERV., U.S. OFFSHORE AQUACULTURE REGULATION AND DEVELOPMENT 14 (2019), <https://crsreports.congress.gov/product/pdf/R/R45952>.

<sup>107</sup> *See* Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture, 81 Fed. Reg. 1,761, 1,762-1,800 (Jan. 13, 2016) (to be codified at 50 C.F.R. pts. 600, 622).

<sup>108</sup> *Id.* at 1,764.

<sup>109</sup> *Id.*

<sup>110</sup> Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 341 F. Supp. 3d 632, 639-42 (E.D. La. 2018).

Court of Appeals for the Fifth Circuit,<sup>111</sup> which effectively precludes NMFS or the GMFMC from attempting to regulate aquaculture in the Gulf moving forward.

However, the Fifth Circuit's decision is not binding outside of its jurisdiction<sup>112</sup> and no other federal appeals courts have weighed in on NMFS's ability to regulate aquaculture under the authority conveyed to the agency by the MSA. NMFS, in turn, appears to be interested in testing the waters of this issue in other jurisdictions. In May 2021, the agency submitted a Draft Programmatic Environmental Impact Statement (DPEIS) for an aquaculture FMP first proposed by the Western Pacific Fishery Management Council in 2016,<sup>113</sup> and later hosted virtual meetings to receive public feedback on the DPEIS in June 2021.<sup>114</sup> But opponents will be unable to challenge the FMP in court until NMFS publishes it as a final rule in the Federal Register,<sup>115</sup> and it is currently unclear whether NMFS intends to do so or what the timeline for taking such action would be. As a result, the authority of NMFS and the regional fishery management councils to regulate offshore aquaculture under the MSA may remain in limbo for years, if not longer.

#### D. What's Missing? – No Leasing Mechanism

Even if Ocean Era proves successful in obtaining a NPDES permit for its offshore finfish aquaculture operation, it will be unable to obtain a lease for the lands and waters to which it will gain access for its Gulf facility. This is because the federal framework that is currently in place for aquaculture operations in the U.S. EEZ—i.e., permitting under Section 10 of the RHA and Sections 402 and 404 of the CWA—does not provide for a mechanism to lease federally held resources to aquaculture operations. From a legal perspective, this raises questions

---

<sup>111</sup> *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F.3d 454 (5th Cir. 2020), *as revised* (Aug. 4, 2020).

<sup>112</sup> Chad Flanders, *Towards a Theory of Persuasive Authority*, 62 OKLA. L. REV. 55, 77 (2009) (“[T]he fact that a court in a different circuit has ruled one way does not mean that all the circuits have to rule that way; indeed, even if every other court has ruled one way, this does not mandate the outcome for the remaining circuit.”).

<sup>113</sup> Environmental Impact Statements; Notice of Availability, 86 Fed. Reg. 24,616 (May 7, 2021), <https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability>.

<sup>114</sup> *Potential Aquaculture Management Program in the Pacific Islands*, NAT'L MARINE FISHERIES SERV. PAC. REG'L OFFICE (June 10, 2021), <https://www.fisheries.noaa.gov/action/potential-aquaculture-management-program-pacific-islands>.

<sup>115</sup> *See Gulf Restoration Network, Inc. v. Nat'l Marine Fisheries, Serv.*, 730 F. Supp. 2d 157, 173-74 (D.D.C. 2010).

about site control and exclusive use of the resources that the facility will utilize for operations, such as the seabed and the water column.

Numerous entities and articles recognize the lack of a federal offshore aquaculture legal framework as a barrier to industry growth.<sup>116</sup> For starters, a leasing system would be aquaculture operators' preferred method to convey the authorization of offshore aquaculture activities due to exclusivity and site control.<sup>117</sup> But, as noted above, it must be emphasized that the creation of a leasing mechanism for offshore aquaculture operations would not address concerns shared by industry and regulators alike about streamlining the process for authorizing farms in the EEZ; the leasing process would almost certainly need to be successfully navigated in addition to any applicable permitting schemes discussed above. Additionally, leases can include more responsibilities and provide more protection than permits or licenses, such as provisions consistent with state public trust obligations.<sup>118</sup> Moreover, the available legal literature posits that contract theories, such as the rights of restitution and rescission, can provide stronger security of investment for offshore leases.<sup>119</sup>

Clarification of offshore aquaculture's security of tenure is badly needed. Federal legislation would be needed to extend a lease to aquaculture operations in the EEZ, as occurred for oil and gas rigs and wind farms under the OCSLA. As federal legislators and other interested parties attempt to chart a path for the clarification or extension of property rights for offshore aquaculture operations moving forward, they may find it helpful to consider the property rights regimes

---

<sup>116</sup> See, e.g., Babcock, *supra* note 54, at 25; Robin Kundis Craig, *It's Not Just an Offshore Wind Farm: Combining Multiple Uses and Multiple Values on the Outer Continental Shelf*, 39 PUB. LAND & RESOURCES L. REV. 59, 90-91 (2018); Kristen L. Johns, *Farm Fishing Holes: Gaps in Federal Regulation of Offshore Aquaculture*, 86 S. CAL. L. REV. 681, 699-700 (2013); Elan Lowenstein, *Regulating the Blue Revolution: A Sea of Change for the United States' Offshore Aquaculture Industry or A Missed Opportunity for Increased Sustainability*, 26 U. MIAMI INT'L & COMP. L. REV. 473, 487-88 (2009); Melissa Schatzberg, *Salmon Aquaculture in Federal Waters: Shaping Offshore Aquaculture Through the Coastal Zone Management Act*, 55 STAN. L. REV. 249, 268-69 (2002).

<sup>117</sup> BILIANA CICIN-SAIN ET AL., RECOMMENDATIONS FOR AN OPERATIONAL FRAMEWORK FOR OFFSHORE AQUACULTURE IN U.S. FEDERAL WATERS 36 (2005); Jeremy Firestone et al., *Regulating Offshore Wind Power and Aquaculture: Messages From Land and Sea*, 35 ENV. L. REP.. 10,289, 10,303-04 (2005).

<sup>118</sup> CICIN-SAIN ET AL., *supra* note 117, at 36-37, 41 (proposing the leasing system should specify lease duration, exclusivity, and compensation.).

<sup>119</sup> Gail Oshernko, *New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust*, 21 J. ENVTL. L. & LITIG. 317, 363-64 (2007).

that other entities have developed for offshore aquaculture and that the U.S. government has created for other commercial activities occurring on federally owned lands. Therefore, this article's next undertaking is a survey of relevant legal frameworks that might be able to provide examples of and guidance for an appropriate balance of secure tenure for operators and governments' obligations to the public.

## V. EXISTING FEDERAL MODELS

There is a delicate balance between accommodating multiple uses—especially multiple commercial uses—of federal lands, which are generally held in trust on behalf of the American public, and encouraging the growth and physical security of an industry with such immense potential in terms of both financial lucrativeness and future generations' food security. In light of the unique property rights constraints imposed on federal lands in particular, the most appropriate comparisons for gauging the relative strength of property rights conferred by the current authorization scheme for aquaculture in the EEZ—and, potentially, for inspiring reform thereof—are the corresponding frameworks for other commercial activities occurring on federal lands, particularly submerged land.

### A. Oil and Gas Leasing (OCSLA)

The U.S. Department of the Interior (DOI) oversees oil and gas leasing on the OCS under OCSLA, which was enacted in 1953. The statute calls for the creation of five-year programs that function as schedules of proposed leases.<sup>120</sup> After assessing the nation's energy needs and potential economic, social, and environmental impacts associated with development, the Secretary of the Interior prepares a program that identifies the timing, size, and general location of leasing activities.<sup>121</sup>

Section 8 of OCSLA and its implementing regulations establish the mechanics of the OCS oil and gas leasing process.<sup>122</sup> This multi-step process begins with the Director of the Bureau of Ocean Energy Management (BOEM) publishing a call for information and nomination regarding potential lease

---

<sup>120</sup> 43 U.S.C. § 1344(a), (e).

<sup>121</sup> *Id.*

<sup>122</sup> *See* 43 U.S.C. § 1337; 30 C.F.R. §§ 556.302-556.308.

areas.<sup>123</sup> The BOEM Director then considers all of the available information and performs an environmental analysis as required by the National Environmental Policy Act (NEPA) to create a list of recommended areas for leasing and any proposed lease stipulations.<sup>124</sup> After making its determinations, BOEM submits the list of recommended areas to the Secretary of the Interior and, upon the Secretary's approval, both publishes it in the Federal Register and submits it to the respective governors of states potentially affected by the proposed leases.<sup>125</sup>

The Secretary generally grants a lease to the highest bidder at the end of this process, but there are narrow exceptions to this rule.<sup>126</sup> Successful bidders must furnish a variety of up-front payments and performance bonds upon being granted a lease, and lease contracts may include additional provisions, such as a requirement to sell a certain amount of production to small or independent refiners.<sup>127</sup> If lessees plan on engaging in exploration for oil and gas, they must prepare an exploration plan containing detailed information and analysis to the appropriate regional BOEM director.<sup>128</sup> This exploration plan is subject to review under both NEPA and the Coastal Zone Management Act.<sup>129</sup> Similarly, operators must undergo additional regulatory review and environmental analysis before commencing development and production.<sup>130</sup>

Under OCSLA, a lease may be suspended, thus pausing operations at the lease site:

1. When it is in the national interest;
2. To facilitate proper development of a lease;
3. To allow for the construction or negotiation for use of transportation facilities;
4. When there is a threat of serious, irreparable, or immediate harm or damage to life (including fish and other aquatic life), to property, to any mineral deposits (in areas leased or not leased), or to the marine, coastal, or human environment.<sup>131</sup>

---

<sup>123</sup> 30 C.F.R. § 556.302.

<sup>124</sup> *Id.* at § 556.304.

<sup>125</sup> *Id.*

<sup>126</sup> 43 U.S.C. § 1337(d).

<sup>127</sup> *Id.* at § 1337(a)(7); 30 C.F.R. §§ 556.900-556.907.

<sup>128</sup> 43 U.S.C. § 1340(b)-(c); 30 C.F.R. §§ 550.226, 550.227, 550.232, 550.235.

<sup>129</sup> 30 C.F.R. §§ 550.232(c), 550.235.

<sup>130</sup> 43 U.S.C. § 1351; 30 C.F.R. § 550.201.

<sup>131</sup> 43 U.S.C. § 1334(a)(1).

5. When necessary to comply with judicial decrees;
6. To allow for installation of safety or environmental protection equipment;
7. To carry out NEPA or other environmental review requirements, or
8. To allow for inordinate delays encountered in obtaining required permits or consents.<sup>132</sup>

When a lease is suspended, OCSLA generally requires the term of the lease and affected permits to be extended by a length of time equal to the period of suspension.<sup>133</sup> If a suspension reaches five years, the Secretary may cancel a lease after holding a hearing and finding that:

1. Continued activity pursuant to a lease or permit would “probably” cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to the national security or defense, or to the marine, coastal, or human environment;
2. The threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; or
3. The advantages of cancellation outweigh the advantages of continuing the lease and attached permits.<sup>134</sup>

OCSLA provides for certain damages to lessees in the event of cancellation, specifically the lesser of: (1) the fair value of the canceled rights on the date of cancellations, or (2) the excess of the consideration paid for the lease, plus all of the lessee’s exploration- or development-related expenditures, plus interest, over the lessee’s revenues from the lease.<sup>135</sup>

OCSLA allows leases to be transferred or assigned, with some restrictions.<sup>136</sup> Additionally, most OCSLA leases obligate the lessee to pay

---

<sup>132</sup> 30 C.F.R. §§ 250.173-250.175.

<sup>133</sup> This does not apply when the suspension results from a lessee’s gross negligence or willful violation of their lease/permit or of related regulations. 43 U.S.C. § 1334(a)(1).

<sup>134</sup> 43 U.S.C. §§ 1334(a)(2)(A)(i)-(iii); *see* 30 C.F.R. §§ 550.180-550.185.

<sup>135</sup> 43 U.S.C. § 1334(a)(2)(C); *see* 30 C.F.R. §§ 550.184-550.185.

<sup>136</sup> The statute requires transferees or assignees to continue compliance with OCSLA, related regulations, and all lease terms, and BOEM’s approval prior to transfer. 43 U.S.C. §§ 1334(b), 1337(e). The general lease terms further require a lessee to file an instrument of assignment or transfer of rights with the appropriate regional BOEM OCS Form BOEM-2005 (February 2017).

royalties based on the “amount or value of the production saved, removed or sold” by the lessee.<sup>137</sup> Generally, the royalty rate is at least 12.5%,<sup>138</sup> but some leases are exempt from payment pursuant to a statutory or administratively determined decision.<sup>139</sup> These royalties represent a type of rent that lessees pay in exchange for physical control of and stronger property rights to the leased areas, specifically to fulfill the statutory requirement that the federal government receives “fair market value for the lands leased and the rights conveyed [...]”<sup>140</sup> BOEM sets royalty rates, rentals rates, and even minimum bid levels based on its assessment of market and resource conditions.<sup>141</sup>

### B. Offshore Wind and Wave Energy<sup>142</sup>

Cape Wind Associates, LLC proposed the first offshore wind project in U.S. waters in 2001. At the time, the Corps claimed jurisdiction over offshore renewable energy projects under a combination of the RHA and Section 4 of OCSLA.<sup>143</sup>

In 2001, Cape Wind applied for a RHA Section 10 permit from the Corps to authorize the construction of a data-collection tower on the OCS that could inform Cape Wind’s assessment of an offshore wind facility’s feasibility in the area.<sup>144</sup> The Corps eventually issued the permit to Cape Wind after a lengthy

---

<sup>137</sup> 43 U.S.C. § 1337(a)(1).

<sup>138</sup> *See id.*

<sup>139</sup> The Deepwater Royalty Relief Act of 1995 provides for an exemption for certain deepwater leases issued during a specific time frame. *See* P.L. No. 104-58, 109 Stat. 563 (1995). In addition, Section 8 of OCLSA (43 U.S.C. §1337) authorizes certain administrative exemptions to be issued at the discretion of BOEM. *See* 43 U.S.C. § 1337. For further information on the various exemptions to royalty payment obligations, see <http://www.boem.gov/Royalty-Relief-Information/>.

<sup>140</sup> 43 U.S.C. § 1344(a)(4).

<sup>141</sup> *Lease Sales and Fair Market Value*, BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/oil-gas-energy/energy-economics/fair-market-value> (last visited Aug. 12, 2021).

<sup>142</sup> This section is adapted from Section III of Catherine Janasie, *The Development of Wind Energy in the Mid-Atlantic Region: The Legal Process and Lessons from the Cape Wind Project*, 6:1 SEA GRANT L. & POLICY J. 116, 122-29 (2013).

<sup>143</sup> *Id.*; *see* 33 U.S.C. §§ 407-687. In limited circumstances, the Corps’ jurisdiction under the RHA extends to artificial islands, installations, and devices on the OCS. *See* 43 U.S.C. § 1333(a)(1). “Devices” includes those built “for the purpose of exploring for, developing, or producing resources therefrom, or any such installation or other device (other than a ship or vessel) for the purpose of transporting such resources.” *Id.*

<sup>144</sup> Janasie, *supra* note 142, at 123.

NEPA review and, following a legal challenge by the Alliance to Protect Nantucket Sound, the Corps' authority to issue the permit was confirmed by the U.S. District Court for the District of Massachusetts.<sup>145</sup>

Authority for the Cape Wind project changed in 2005 with the passage of the Energy Policy Act (EPAAct), which Congress enacted to clarify the permitting process for renewable energy projects on the OCS.<sup>146</sup> This statute authorizes the Secretary of the Interior to grant leases, easements, and rights-of-way on the OCS for activities that produce or support the production, transportation, or transmission of energy from sources besides oil and gas.<sup>147</sup> The EPAAct also amended OCSLA to allow the DOI to authorize alternate marine-related uses of existing facilities on the OCS.<sup>148</sup> The EPAAct specifically does not alter the authority of federal agencies under other federal laws, meaning the Corps' authority under Section 10 of the RHA remains the same under the post-EPAAct legal framework.<sup>149</sup>

Regulations promulgated under the OCSLA detail the process for applicants to obtain leases, easements, and rights-of-way on the OCS,<sup>150</sup> as well as for alternate uses of existing OCS facilities.<sup>151</sup> There are two types of leases that may be used to authorize renewable energy activities on the OCS: commercial leases and limited leases. Commercial leases are for the commercial operations generating energy on the OCS, and these leases give the lessee the right to produce, sell, and deliver power derived from a renewable energy project on a commercial scale.<sup>152</sup> Limited leases, meanwhile, are for operations that support energy production “but do not produce energy to be sold, distributed, or

---

<sup>145</sup> *See id.*; Alliance to Protect Nantucket Sound, Inc. v. Dep't of Army, 288 F. Supp. 2d 64, 75 (D. Mass. 2003).

<sup>146</sup> *Id.*

<sup>147</sup> Energy Policy Act, P.L. 109-58, 119 Stat. 594 (2005), 43 U.S.C. § 1337(p)(1)(C).

<sup>148</sup> *Id.* at § 1337(p)(1)(D).

<sup>149</sup> Janasie, *supra* note 142, at 123.

<sup>150</sup> Rights-of-way are for activities not covered by leases or permits, such as pipeline authorizations.

<sup>151</sup> Renewable Energy and Alternate Uses of Existing Facilities on the Outer Continental Shelf, 30 C.F.R. pt. 585 subpt. J (2021); *see also* Stephanie Showalter Otts and Terra Bowling, *Offshore Renewable Energy Regulatory Primer*, NAT'L SEA GRANT L. CTR. (2011), <http://nsglc.olemiss.edu/offshore.pdf>.

<sup>152</sup> Janasie, *supra* note 142, at 125; *see* 30 C.F.R. § 585.112. The regulations define renewable energy as “energy resources other than oil and gas and minerals as defined in 30 C.F.R. part 580. Such resources include, but are not limited to, wind, solar, and ocean waves, tides, and current.” *Id.*

used in another way.”<sup>153</sup> These leases have a duration of five years and also confer the lessee an easement over OCS lands to install substations, lines, and pipelines.<sup>154</sup>

Much like the oil and gas leasing under the OCSLA, obtaining a lease is merely the beginning of a multi-step leasing process that an applicant must successfully navigate before their offshore wind farm can commence operations. BOEM’s wind energy program ushers applicants through four separate stages: (1) Planning, which is aimed at locating suitable areas for offshore wind projects; (2) Lease Issuance, which can be obtained through a competitive or a noncompetitive process;<sup>155</sup> (3) Approval of a Site Assessment Plan (SAP); and (4) Approval of a Construction and Operations Plan (COP).<sup>156</sup>

The commercial lease process continues through a phased-in process similar to that required under the OCSLA. Applicants must submit plans and obtain approval through later stages of this process in order to continue moving towards development. Once the COP is approved, commercial leases then provide a twenty-five year term for the developer to operate the facility.<sup>157</sup>

Limited leaseholders follow a different process under the regulations. These lessees are required to submit a General Activities Plan (GAP) for the developer’s resource assessment activities and technology testing.<sup>158</sup> Activities on a lease cannot begin until BOEM approves the project’s GAP. Once the GAP is approved, the developer has five years to conduct the approved activities unless BOEM renews the lease at the end of that five-year period.<sup>159</sup>

---

<sup>153</sup> Janasie, *supra* note 142, at 125; *see* 30 C.F.R. § 585.112.

<sup>154</sup> 30 C.F.R. § 585.236.

<sup>155</sup> 30 C.F.R. § 201. Competitive leases must meet the requirements of 30 C.F.R. §§ 585.210-225. Noncompetitive leases must meet the requirements of 30 C.F.R. §§ 585.230-232, as amended by 76 Fed. Reg. 28,178. BOEM will issue leases on a competitive basis, unless it determines that no competitive interest exists for a lease after public notice. If it makes this determination, BOEM will issue a noncompetitive lease. 30 C.F.R. § 585.201.

<sup>156</sup> OFFICE OF RENEWABLE ENERGY PROGRAMS, BUREAU OF OCEAN ENERGY MGMT., COMMERCIAL WIND LEASE ISSUANCE AND SITE ASSESSMENT ACTIVITIES ON THE ATLANTIC OUTER CONTINENTAL SHELF OFFSHORE NEW JERSEY, DELAWARE, MARYLAND, AND VIRGINIA, FINAL ENVIRONMENTAL ASSESSMENT (2012).

<sup>157</sup> 30 C.F.R. § 585.235.

<sup>158</sup> *Id.* § 585.640.

<sup>159</sup> *Id.* § 585.652.

In order to be approved, all SAPs, COPs, and GAPS must demonstrate that the proposed activities will:

- Conform to the lease provisions and applicable laws and regulations;
- Be safe;
- Have no unreasonable interference with other OCS uses;
- Will not unduly harm or damage natural resources; property; human life; wildlife; property; the human, coastal, or marine environment; or structures, objects, or sites with archaeological or historical significance; and
- Use the safest, best available technology, best management practices, and trained personnel.<sup>160</sup>

DOI attempted to streamline the approval process for offshore wind projects on the OCS by launching its Smart from the Start Initiative in November 2010.<sup>161</sup> As part of the Smart from the Start process, BOEM designated Wind Energy Areas (WEAs) with the high potential for commercial renewable energy activities and the fewest number of conflicts with other uses (e.g., shipping routes and wildlife habitats).<sup>162</sup> In addition to requiring BOEM-led regional environmental assessments, the WEA process allows for the participation of other federal agencies, and their input is used to either encourage or avoid renewable energy projects in identified areas.<sup>163</sup>

### C. Leasing of Grazing Rights

Livestock grazing on public lands is jointly administered by the Bureau of Land Management (BLM), which is within the Department of the Interior, and the Department of Agriculture's U.S. Forest Service (USFS). Under the current statutory framework, the USFS is responsible for managing the 193 million acres of land within the federal National Forest System, which includes 154 national

---

<sup>160</sup> *Id.* §§ 585.606, 585.621, 585.641.

<sup>161</sup> Press Release, Dep't of the Interior, Salazar Launches 'Smart from the Start' Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast (Nov. 23, 2010), <http://www.doi.gov/news/pressreleases/Salazar-Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm>.

<sup>162</sup> Janasie, *supra* note 142, at 126-27.

<sup>163</sup> *Id.* at 127; Nuclear Reg. Comm'n, *Frequently Asked Questions: "Smart from the Start" Atlantic OCS Offshore Wind Initiative* (Oct. 21, 2011), <https://www.nrc.gov/docs/ML1202/ML12026A738.pdf>.

forests, twenty national grasslands, and various other federal land designations in forty-three states, Puerto Rico, and the U.S. Virgin Islands.<sup>164</sup> BLM, on the other hand, administers more than 244 million acres of public lands that are overwhelmingly located in the twelve western states.<sup>165</sup>

Notably, the BLM's grazing system allows for both permits and leases. Despite BLM distinguishing between permits and leases, these instruments are nearly identical in practice. The only difference is that leases are for grazing lands that are sufficiently isolated or otherwise uniquely situated so as to justify their exclusion from an established grazing district.<sup>166</sup> Data could not be located for the USFS, but BLM alone administers nearly 18,000 permits and leases held by ranchers who graze their livestock—mostly cattle and sheep—for at least part of the year on one of more than 21,000 allotments.<sup>167</sup> An allotment is a geographical area of land that is generally contiguous and can be divided into smaller units, called pastures. Pastures can be made up of thousands of acres. The pastures are divided from each other by fences or physical land formations such as canyons or cliffs that are impassable for livestock. Each grazing permit or lease can have one or more allotments.

Permits and leases generally cover a ten-year period and are renewable if BLM or USFS determines that the terms and conditions of the expiring permit or lease are being met.<sup>168</sup> An applicant must own base property and livestock to be eligible for a grazing permit. Base property is private land owned or controlled by the permittee that serves as a location where livestock can be moved if they need to vacate the grazing permit for some reason. Today, acquiring a permit to graze livestock on federal lands is not a simple process, as all public lands eligible to be grazed by livestock are already obligated under existing permits.<sup>169</sup>

The pastures are the key components of the grazing system for each allotment. The key to successful grazing is season, timing, and numbers. A simple

---

<sup>164</sup> KATIE HOOVER ET AL., CONG. RSCH. SERV., THE FEDERAL LAND MANAGEMENT AGENCIES 8 (2021), <https://fas.org/sgp/crs/misc/IF10585.pdf>.

<sup>165</sup> *Id.*

<sup>166</sup> *See* 43 U.S.C. §§ 315, 315b, 315m.

<sup>167</sup> *Livestock Grazing on Public Lands*, BUREAU OF LAND MGMT., <https://www.blm.gov/programs/natural-resources/rangelands-and-grazing/livestock-grazing> (last visited Aug. 23, 2021).

<sup>168</sup> *Id.*

<sup>169</sup> JAMES D. KEYES & JAMIE J. KEYES, UTAH STATE UNIV. EXTENSION PROGRAM, FEDERAL LANDS GRAZING PERMITS: MANAGING RANGELAND RESOURCES (2015).

type of grazing procedure is the Rest-Rotation system. If the allotment consisted of three pastures, one of them would receive twelve months of rest each season. The other two pastures would carry the grazing load under a schedule of rotation. For example, livestock would be in Pasture A for the first part of the grazing season, and moved into Pasture B to finish the period of use. Pasture C would be rested. The next year livestock might begin the season in Pasture C and move into A at a later time, with Pasture B receiving rest.<sup>170</sup>

At the beginning of each grazing season the permittee will receive a document that states the name of the allotment, the time period of the grazing season, the system for use of the different pastures, and the number of animal unit months (AUMs) available.<sup>171</sup> One AUM is defined as the amount of forage required to support a cow and her calf for one month.<sup>172</sup> A grazing permit will have a preferred number of AUMs. Due to drought conditions or other situations, the available forage may not be enough for the preferred number. In this case, a number is calculated by using data from the allotment that is collected by a BLM or USFS range conservationist. In the event of a drought, a lower number of AUMs is assigned, the season of use may be changed, or both. In addition to the permittee's preferred number of AUMs, the permit documentation includes the basic information of the permittee's livestock operation, including the kind and number of livestock.<sup>173</sup>

The cost of the grazing fee is computed annually by using a 1966 base value of \$1.23 per AUM. The figure is then calculated according to three factors—current private grazing land lease rates, beef cattle prices, and the cost of livestock production.<sup>174</sup> In effect, the fee rises, falls, or stays the same based on market conditions, with livestock operators paying more when conditions are better and less when conditions have declined. Under a 1986 Presidential Executive Order, the grazing fee cannot fall below \$1.35 per AUM, and any increase or decrease cannot exceed 25% of the previous year's level.<sup>175</sup>

---

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> *Id.*

<sup>173</sup> *Id.*

<sup>174</sup> *Id.*

<sup>175</sup> Exec. Order No. 12,548, 51 Fed. Reg. 5,985 (Feb.19, 1986).

#### D. National Forest Timber Sales

In addition to its responsibilities related to grazing, the USFS administers about 114.9 million acres of federally owned forests, 96.1 million acres of which is timberlands. The USFS manages its timber lands under the Multiple Use-Sustained Yield Act of 1960, which directs the agency to balance multiple uses while ensuring there is a sustained yield from the forests in the future. The National Forest Management Act requires the USFS to engage in long-term planning for the use and management of the National Forests, and planning for timber harvesting is included in this process. USFS mostly authorizes private parties coming on federal land to harvest timber through contracts, though permits are used in certain situations.

Unlike the offshore oil and gas leasing process, which is predominantly directed through agency headquarters, USFS planning for timber sales is done by the regional office responsible for each National Forest.<sup>176</sup> Plans for each National Forest will consider harvesting timber for multiple purposes, including timber production, fire risk, and habitat protection. If an area is designated in a plan for timber production, the USFS will conduct a timber sale, which is done through a contract with a private party.<sup>177</sup>

The timber sale process involves developing a sale schedule and project plan, which can cover multiple sales. The USFS will then appraise the timber to be offered and create a sale package, including a sample contract. The USFS then advertises the sale with an appraised starting bid price and awards the contract to the highest bidder, as long as the bidder meets all other legal requirements. The awarded contract will contain details such as a harvest schedule, approved harvest methods, and conditions for building roads in the forest. The contracted timber harvest generally has to be completed in ten years.<sup>178</sup>

In addition to timber sale contracts, the USFS issues permits in two situations. The first is a Forest Product Removal Permit, which authorizes either the personal or commercial use of forest products. This permit allows the permittee to remove timber and other “special forest products,” like mushrooms.

---

<sup>176</sup> See U.S. FOREST SERV., FOREST SERVICE MANUAL 2410 (2003).

<sup>177</sup> U.S. FOREST SERV., FOREST SERVICE HANDBOOK 2409.13.40 (1996).

<sup>178</sup> 16 U.S.C. § 472a.

The permit is meant for harvesting that will only have a limited resource impact and comes with a minimum charge of \$20.<sup>179</sup>

The second type of USFS permit for timber harvesting is a Forest Products Free Use Permit. This permit allows someone to come onto federal lands to harvest firewood or other forest products for free if the removal is only for personal use. In addition, the removal must help protect and improve the relevant National Forest.<sup>180</sup>

## VI. EXISTING MODELS - STATES

In addition to the frameworks in place for other commercial uses of federally owned lands, another way to gauge the relative strength, and potentially find inspiration for the reform, of property rights currently conveyed to aquaculture operations in the EEZ are authorization schemes for aquaculture that are already in place in coastal U.S. states. Although state governments have similar constraints on their management of public lands in their possession as the federal government, there are some notable differences that must be kept in mind when considering the potential application of these models to aquaculture operations in the EEZ (see Sections II(B)-II(D) above).

### A. Maine

Maine law provides the leasing and regulatory framework for shellfish, finfish, and seaweed aquaculture within the state's waters. The Maine Department of Marine Resources ("DMR") is authorized to lease publicly owned submerged lands for finfish aquaculture and the suspended culture of other marine organisms.<sup>181</sup> Aquaculture leases are granted for the state's coastal waters, including the public lands beneath those waters and portions of the intertidal zone.<sup>182</sup> The leases last for a period of up to ten years, with a possible renewal for another ten years, and may encompass up to 100 acres.<sup>183</sup> However, the DMR may also issue an experimental lease or a limited-purpose aquaculture license

---

<sup>179</sup> *Timber Sale, Stewardship, and Forest Products Contracts and Permits*, U.S. FOREST SERV., <https://www.fs.fed.us/forestmanagement/products/contracts.shtml> (last visited Aug. 13, 2021).

<sup>180</sup> *Id.*; see also U.S. FOREST SERV., FOREST SERVICE MANUAL 2462 (2002).

<sup>181</sup> ME. REV. STAT. ANN. tit. 12, § 6072.

<sup>182</sup> *Id.* at § 6072(1).

<sup>183</sup> *Leasing Options*, ME. AQUACULTURE INNOVATION CTR., <https://www.maineaquaculture.org/leasing-options/> (last visited Aug. 13, 2021).

(LPA) for commercial aquaculture research and development or for scientific research.<sup>184</sup> Experimental leases are issued for projects up to 4 acres in size for three-year terms, while the DMR uses LPAs to authorize small projects (up to 400 square feet surface area of certain types of gear) to culture certain types of oysters and clams.<sup>185</sup> In Maine, a standard aquaculture lease costs \$1,500 for shellfish and \$2,000 for finfish plus \$100 an acre annual rent, with renewals of \$1,000 for shellfish and \$1,500 for finfish.<sup>186</sup>

## B. Florida

Marine aquaculture in Florida coastal waters is currently dominated by shellfish operations.<sup>187</sup> The leasing of publicly owned submerged lands and the water column above them for shellfish aquaculture is handled by the Florida Department of Agriculture and Consumer Services – Division of Aquaculture (FDACS).<sup>188</sup> Florida Statute 597.003 directs FDACS to work with state and local agencies to identify and designate sovereign lands and waters that are suitable for aquaculture development. The leased area must be setback from other activities, channels, or structures to ensure safety and resource management and facilitate enforcement. Additionally, if the leased area is in an aquatic preserve, research reserve, marine sanctuary, or state park, the lessee’s aquaculture activities need to be compatible with the area’s management plan and other statutory requirements. To this end, FDACS has identified twenty-six aquaculture use zones, or AUZs, in state waters with pre-sited blocks of leases to reduce survey costs, potential user conflicts, and potential environmental impacts.<sup>189</sup>

---

<sup>184</sup> ME. REV. STAT. ANN. tit. 12, § 6072-A.

<sup>185</sup> *Aquaculture Lease Applications and Forms*, ME. DEP’T OF MARINE RES., <https://www.maine.gov/dmr/aquaculture/forms/index.html> (last visited Aug. 13, 2021).

<sup>186</sup> AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN 211 (Bela H. Buck & Richard Langan, eds., 2017), <https://link.springer.com/book/10.1007/978-3-319-51159-7>.

<sup>187</sup> While leasing provisions exist for finfish and seaweed operations in Florida, there are no current finfish or seaweed operations in the state.

<sup>188</sup> FLA. STAT. § 597.003.

<sup>189</sup> DIV. OF AQUACULTURE, FLA. DEP’T OF AGRIC. AND CONSUMER SERVICES, SHELLFISH AQUACULTURE LEASING PROCESS (2020), <https://www.fdacs.gov/content/download/76600/file/FDACS-P-01758-Shellfish-Aquaculture-Leasing-Process-TB06.pdf>; see *Aquaculture Submerged Land Leasing*, FLA. DEP’T OF AGRIC. AND CONSUMER SERVICES, <https://www.fdacs.gov/Agriculture-Industry/Aquaculture/Aquaculture-Submerged-Land-Leasing> (last visited Aug. 23, 2021).

A lease of submerged lands includes exclusive use of the water column above the leased area to the extent required by the aquaculture activity.<sup>190</sup> Areas leased for oyster aquaculture must be ten acres or less; while the governing statute does not provide for a limit on the size of a lease for non-oyster shellfish aquaculture, the leased area is only supposed to be large enough to be efficiently used by the lessee.<sup>191</sup> Meanwhile, the lease lasts ten years with the possibility of renewal for another ten.<sup>192</sup> In exchange for the lease, all lessees must pay a \$200 application fee.<sup>193</sup> Additionally, current bottom lease fees are \$16.73 per acre and fraction thereof, plus a \$10.00 surcharge per acre and fraction thereof.<sup>194</sup> Fees for water column leases, on the other hand, are \$33.46 per acre and fraction thereof, plus a \$10.00 surcharge per acre and fraction thereof.<sup>195</sup>

### C. Washington

At statehood in 1889, Washington's Constitution established state ownership to the "beds and shores of all navigable waters in the state [...]"<sup>196</sup> These lands are called aquatic lands and are further subdivided into bedlands, which are below the extreme low tide line; tidelands, which are between the ordinary high tide line and the extreme low tide line; and shorelands, which are along the edge of rivers and lakes. Generally, the state owns the bedlands, and either the state or private parties may own the tidelands.<sup>197</sup> In Washington, owners of land abutting state-owned aquatic lands could purchase tidelands or shorelands from the state for more than 80 years until the practice was stopped by the state Legislature in 1971.<sup>198</sup>

On the aquatic land that remains state-owned, Washington's Department of Natural Resources (DNR) is authorized to lease the lands for the cultivation of oysters, clams, and other shellfish. When a shellfish culture project requires the

---

<sup>190</sup> FLA. STAT. § 253.68.

<sup>191</sup> *Id.* § 253.71(3).

<sup>192</sup> *Id.* § 253.71(1).

<sup>193</sup> DIV. OF AQUACULTURE, *supra* note 189.

<sup>194</sup> *Id.*

<sup>195</sup> *Id.*

<sup>196</sup> WASH. CONST. art. XVII.

<sup>197</sup> See PETER GOLDMARK, COMM'R PUB. LANDS, WASH. DEP'T NAT. RES., BOUNDARIES OF STATE-OWNED AQUATIC LANDS, [http://www.dnr.wa.gov/Publications/aqr\\_aquatic\\_land\\_boundaries.pdf](http://www.dnr.wa.gov/Publications/aqr_aquatic_land_boundaries.pdf) (last visited Aug. 23, 2021).

<sup>198</sup> NIKI PACE, ET AL., INVENTORY OF SHELLFISH RESTORATION PERMITTING & PROGRAMS IN THE COASTAL STATES 182 (2014), <https://masglp.olemiss.edu/projects/files/tnc-report.pdf>.

leasing of state-owned aquatic lands, the applicant must obtain authorization to use such lands from the DNR through an agreement, lease, permit, or other instrument.<sup>199</sup> Under this system, certain types of tidelands and shorelines may be leased for up to fifty-five years.<sup>200</sup> Abutting upland owners receive lease preferences for these tidelands and shorelands.<sup>201</sup> Regardless of whether the lessee is an abutting upland owner, the lessee must pay rent in exchange for the lease. Lease amounts are based on a percentage of production and fluctuate from year to year.<sup>202</sup> More recent data is not currently available, but leases in Pacific and Grays Harbor counties had an average rental fee of \$93 per acre in 2015, while leases in the Puget Sound region averaged about \$1,900 per acre at that time.<sup>203</sup>

The collapse of a net pen at an aquaculture farm off the coast of Washington State in 2017 caused more than 300,000 non-native Atlantic salmon to escape into the wild.<sup>204</sup> The state legislature consequently voted to phase out the net-pen farming of Atlantic salmon in Washington by 2025,<sup>205</sup> but aquaculture operations may continue to incorporate other species of finfish and methods of cultivating them.<sup>206</sup>

#### D. Hawaii

The Hawaii Legislature authorized the lease of state-owned submerged lands for commercial offshore aquaculture in the Ocean Leasing Law of 1999

---

<sup>199</sup> WASH. ADMIN. CODE § 332-30-122.

<sup>200</sup> WASH. REV. CODE § 79.125.200.

<sup>201</sup> *Id.* at § 79.125.400.

<sup>202</sup> WASH. SEA GRANT, SHELLFISH AQUACULTURE IN WASHINGTON STATE: FINAL REPORT TO THE WASHINGTON STATE LEGISLATURE 12 (2015), <https://wsg.washington.edu/shellfish-aquaculture>.

<sup>203</sup> *Id.*

<sup>204</sup> See Lynda V. Mapes and Hal Bernton, *Please go fishing, Washington state says after farmed Atlantic salmon escape broken net*, SEATTLE TIMES (Aug. 24, 2017), <https://www.seattletimes.com/seattle-news/environment/oops-after-accidental-release-of-atlantic-salmon-fisherman-being-told-catch-as-many-as-you-want/>.

<sup>205</sup> See Lynda V. Maps, *State kills Atlantic salmon farming in Washington*, SEATTLE TIMES (Mar. 23, 2018), <https://www.seattletimes.com/seattle-news/politics/bill-to-phase-out-atlantic-salmon-farming-in-washington-state-nears-deadline/>.

<sup>206</sup> See Cliff White, *Cooke Aquaculture gets key permits for steelhead transition in Washington*, SEAFOOD SOURCE (Jan. 7, 2021), <https://www.seafoodsource.com/news/aquaculture/cooke-aquaculture-gets-key-permits-for-steelhead-transition-in-washington>.

(OLL).<sup>207</sup> Leases are administered by the state's Department of Land and Natural Resources (DLNR).<sup>208</sup> The OLL allows for the leasing of state marine waters, which it defines as "all waters of the State, including the water column, water surface, and submerged lands, extending from the upper reaches of the wash of the waves on shore seaward to the limit of the State's police power and management authority [...]."<sup>209</sup> The OLL contains provisions for both direct leasing and public auction of eligible waters and, in addition to requiring lessees to post a performance bond, also requires annual payment of rent that comprises both a fixed cost and a percentage of gross revenues. Notably, all leases contain a provision that indicates lessees forfeit their claim to any escaped fish, which become common property of the state.<sup>210</sup>

There are very few limitations pertaining to the duration of an aquaculture lease in Hawaii. Although it is theoretically possible for a lease to last up to sixty-five years, the recent trend has been a duration of fifteen years with the possibility of renewal for another fifteen years.<sup>211</sup> Of the two existing open ocean aquaculture leases for which this information is available, one has a duration of twenty years and the other has a term of fifteen years with possible renewal for another ten years.<sup>212</sup> Rent is calculated as \$100 per acre per year or 1.25% of gross sales, whichever is greater, plus a permit processing fee of 2.5% of the project cost (with a limit of \$2,500).<sup>213</sup>

---

<sup>207</sup> H.R. 984, 20th Leg. (Haw. 1999), [https://www.capitol.hawaii.gov/session1999/bills/HB984 .htm](https://www.capitol.hawaii.gov/session1999/bills/HB984.htm). Note that the law actually authorizes the leasing of state marine waters for, among other activities, "mariculture," which it defines as "the aquaculture, cultivation and production for research, development, demonstration, and commercial purposes of aquatic plants and animals within state waters but excludes floating structures that are not anchored." *Id.* at § 4. For purposes of ease and convenience, however, these activities will be referred to as aquaculture in the remaining analysis. *Id.*

<sup>208</sup> Haw. Rev. Stat. §§ 190D-3, 190D-2, <https://dlnr.hawaii.gov/occl/files/2013/08/CHAPTER-190D.pdf>.

<sup>209</sup> *Id.* § 190D-3.

<sup>210</sup> *Id.* § 190D-23(a)(7).

<sup>211</sup> AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, *supra* note 186, at 211.

<sup>212</sup> John Corbin, *Offshore Aquaculture Development in Hawaii*, HAW. DEP'T AGRIC. [https://www.whoi.edu/cms/files/jmcdowell/2006/7/Corbin\\_Offshore\\_Aquaculture\\_Development\\_in\\_Hawaii\\_12248.pdf](https://www.whoi.edu/cms/files/jmcdowell/2006/7/Corbin_Offshore_Aquaculture_Development_in_Hawaii_12248.pdf) (last visited Aug. 13, 2021).

<sup>213</sup> AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, *supra* note 186, at 211.

E. New Jersey<sup>214</sup>

New Jersey allows for state water bottoms to be leased for shellfish aquaculture on both its Atlantic and Delaware Bay coasts.<sup>215</sup> Leases are obtained from the Bureau of Shellfisheries (located in the Division of Fish and Wildlife in the New Jersey Department of Environmental Protection) in coordination with the Shellfish Council.<sup>216</sup>

New Jersey developed an Aquaculture Development Zone (ADZ) in the mid-2000s to promote the development of oyster aquaculture in the Garden State. Only structural aquaculture is allowed in the ADZ.<sup>217</sup> Structural aquaculture refers to operations that use gear to contain seed oysters while they are raised for cultivation purposes.<sup>218</sup> This gear might take the form of rebar racks, mesh bags, cages, or floats, all of which need permits from the Corps and the State of New Jersey even within the ADZ.<sup>219</sup> The ADZ has several purposes. First, it streamlines the permitting process for potential oyster farms because the New Jersey Bureau of Shellfisheries obtains all necessary permits from the Corps and relevant state agencies on behalf of individual growers within the ADZ.<sup>220</sup> Additionally, the ADZ allows for shellfish farms to be located in areas with the fewest use conflicts.<sup>221</sup> And by grouping multiple aquaculture farms in one area, the state is able to more effectively manage aquaculture operations, help harvesters share upland access to farms, and facilitate farms' access to seed, equipment, and technical support.<sup>222</sup>

ADZ leases are non-transferable and have an initial term of five years.<sup>223</sup> The state will terminate the lease if it determines "that the ecological impacts of

---

<sup>214</sup> This section was adapted from Catherine Janasie, *The Effects of the Endangered Species Act on Shellfish Aquaculture in New Jersey*, in OVERCOMING IMPEDIMENTS TO SHELLFISH AQUACULTURE THROUGH LEGAL RESEARCH AND OUTREACH: CASE STUDIES 6, 7 (2019), <http://nsglc.olemiss.edu/projects/shellfish-aquaculture/files/casestudies.pdf>.

<sup>215</sup> See N.J. ADMIN CODE §§ 7:25-24.1 – 7:25-24.17.

<sup>216</sup> N.J. STAT. ANN. § 50:1-23.

<sup>217</sup> *Id.*

<sup>218</sup> *Id.*

<sup>219</sup> *Id.*

<sup>220</sup> *Id.*

<sup>221</sup> *Id.*

<sup>222</sup> *Id.*

<sup>223</sup> BUREAU OF SHELLFISHERIES, N.J. DEP'T ENVTL. PROT., AQUACULTURE DEVELOPMENT ZONE LEASE APPLICATION,

the aquaculture activities are so great that they compromise the integrity and protection of any endangered or non-game species.”<sup>224</sup> In order to receive a lease, the lessee must: first, be eighteen years or older; second, be a resident of New Jersey; and third, possess a Commercial Shellfish License from the New Jersey Division of Fish and Wildlife or shellfish certificate from the New Jersey Department of Health and Senior Services. There is a \$1,000 fee for the ADZ lease application, and annual rental fees range from \$25-\$100 per acre.<sup>225</sup>

#### F. Oregon

Oregon uses a lease to authorize aquaculture operations.<sup>226</sup> The Oregon Department of State Lands (ODSL) issues leases for submerged lands in the state. Submersible lands owned by Oregon may be leased only to the higher bidder, bidding at least the minimum amount designated by the ODSL after being advertised not less than once each week for two successive weeks. Any owner of lands abutting or fronting on such submersible lands shall have the preference right to lease unless the lands are occupied by a person claiming the right of occupancy under a conveyance. If so, the occupant shall have the preference right to lease.<sup>227</sup>

One type of aquaculture, however, is expressly excluded from these provisions: kelp aquaculture.<sup>228</sup> Thus, in the state, kelp aquaculture is authorized with either a special use lease or license. While Oregon has not yet established an appreciable commercial kelp aquaculture industry, the state provides an informative example of a regulatory system that uses both leases and licenses.

Application requirements for a special use lease or license include applying in writing using a form provided by the ODSL and a non-refundable

---

[https://www.njfishandwildlife.com/pdf/2011/adz\\_application\\_packet.pdf](https://www.njfishandwildlife.com/pdf/2011/adz_application_packet.pdf) (last visited Aug. 13, 2021).

<sup>224</sup> *Id.*

<sup>225</sup> *Shellfish Leases Available in Delaware Bay*, N.J. DIV. OF FISH & WILDLIFE (Nov. 14, 2011), [https://www.njfishandwildlife.com/news/2011/shellfish\\_leases.htm](https://www.njfishandwildlife.com/news/2011/shellfish_leases.htm).

<sup>226</sup> OR. ADMIN. R. 141-082.0265.

<sup>227</sup> OR. REV. STAT. § 274.040.

<sup>228</sup> OR. ADMIN. R. 141-082.0255. The definition of aquaculture is: “the culture, farming, or harvesting of food fish, shellfish, and other plants (*exclusive of kelp which is governed by Division 125 of the Department’s administrative rules*) and animals in fresh or salt-water areas. Aquaculture practices include, but are not limited to, the hatching, seeding or planting, cultivating, feeding, raising, and harvesting of planted or natural species so as to maintain an optimum yield, and the processing of plants or animals.” *Id.* (emphasis added).

application fee of \$750. A fully completed application must be submitted at least 180 days before the proposed use or placement.<sup>229</sup> The ODSL can implement a competitive bidding process if it believes it would best serve the public interest to have the parcel in question go through a public bidding process.<sup>230</sup> In addition, the leased or licensed area will be the minimum area required for the requested use.<sup>231</sup> Lessees must pay rent to the ODSL in exchange for leasing state lands.<sup>232</sup> Rent for shellfish plat leases in Oregon consists of: \$14 for each approved acre leased and \$5 for each prohibited acre leased; 10¢ per gallon, if the operator sells the cultured species by the gallon; 10¢ per bushel, if sold in the shell by the bushel; and 1¢ per dozen, if sold by the dozen.<sup>233</sup> Details about how rent is formulated for non-shellfish aquaculture on state lands are not available at present.

In Oregon, a special use lease will not exceed thirty years unless otherwise approved by the ODSL. The term of a license will be less than three years and only offers the holder a “non-exclusive, short-term use of a specific area of state-owned land.”<sup>234</sup> In the state, a special use lease is assignable, while a special use license is not. However, the state allows subleases and sublicenses.<sup>235</sup> If the special use lease or license holder does not comply with the ODSL’s rules, the lease or license holder will be considered in default. The ODSL will notify the holder of the default and demand correction within a specified time frame. Failure to do so may result in the ODSL modifying or terminating the authorization and requesting that the state Attorney General take appropriate legal action against the holder.<sup>236</sup>

## VII. INTERNATIONAL MODELS

In addition to the property rights regimes that U.S. coastal states have developed for offshore aquaculture and frameworks that apply to other commercial activities on federal lands, consideration of the property rights aspects of foreign offshore aquaculture regimes may also be informative. First, this

---

<sup>229</sup> OR. ADMIN. R. 141-125-0130.

<sup>230</sup> *Id.* at 141-125-0150.

<sup>231</sup> *Id.* at 141-125-0170.

<sup>232</sup> *Id.* at 141-125-0160.

<sup>233</sup> *Shellfish Plat Leasing*, OR. DEP’T OF AGRIC., <https://www.oregon.gov/oda/programs/FoodSafety/Shellfish/Pages/ShellfishPlat.aspx> (last visited Aug. 23, 2021).

<sup>234</sup> OR. ADMIN. R. 141-125-0120.

<sup>235</sup> *Id.* at 141-125-0200.

<sup>236</sup> *Id.* at 141-125-0190.

information provides additional perspective on how governments have balanced the property rights needs of offshore aquaculture operations with other marine activities and obligations to the public. Additionally, in light of the global interest in offshore aquaculture operations, future efforts to clarify or reform the U.S. regime are likely to have significant implications on the U.S.'s attractiveness to operators and investors. As a result, surveying foreign property rights regimes for offshore aquaculture operations is also important for gauging how competitive the current and future federal authorizations frameworks are as compared to their counterparts abroad.

#### A. Norway

The Norwegian Aquaculture Act of 2005 (Norwegian Act) regulates the management, control, and development of aquaculture in both inland waters and marine waters, which includes internal waters, territorial waters, the EEZ, and the OCS, as well as land-based aquaculture.<sup>237</sup> The purpose of the Norwegian Act is “to promote the profitability and competitiveness of the aquaculture industry within the framework of sustainable development and contribute to the creation of value on the coast.”<sup>238</sup>

The Norwegian Act establishes a licensing system, and broadly applies to issues like environmental standards, land use, registration, and transfer and mortgaging of licenses, as well as control and enforcement.<sup>239</sup> Aquaculture cannot be carried out without a license.<sup>240</sup> In addition, offshore aquaculture operations in Norway need site-specific planning permission from local authorities.<sup>241</sup> Local authorities manage the overall process for each application.

---

<sup>237</sup> See Act No. 79 relating to Aquaculture (the Aquaculture Act) (2005), available in English at <https://www.fiskeridir.no/English/Aquaculture/Aquaculture-Act>.

<sup>238</sup> *Id.* at § 1.

<sup>239</sup> See *id.* at §§ 4-7, 10-18.

<sup>240</sup> *Id.* § 4.

<sup>241</sup> MARY MOYLAN ET AL., INDEP. AQUACULTURE LICENSING REVIEW GRP., REVIEW OF THE AQUACULTURE LICENSING PROCESS 1, 33 (2017), <http://www.fishingnet.ie/media/fishingnet/content/ReviewoftheAquacultureLicensingProcess310517.pdf>.

The Ministry of Fisheries and Coastal Affairs (Ministry) is responsible for administering the Norwegian Act and may prescribe regulations thereunder.<sup>242</sup> Under the Norwegian Act, the Ministry can grant an aquaculture license if:

1. The project is environmentally responsible;
2. “The land use interests have been weighed”;
3. “The requirements...concerning land use plans and conservation measures have been met”; and
4. The applicant has also secured the appropriate licenses relating to food safety, pollution and waste management, and harbors and fairways.<sup>243</sup>

The Norwegian Act vests the Ministry with additional authority over the culture of salmon and trout in particular, for which the Ministry may determine:

- (a) the number of licenses to be allocated;
- (b) geographic distribution of licenses;
- (c) prioritization criteria;
- (d) selection of qualified applications in accordance with the prioritization criteria ...; and
- (e) payment for the allocation of licenses.<sup>244</sup>

The Ministry releases license tranches from time to time at its discretion, and the licenses are typically auctioned.<sup>245</sup> The licenses are issued in perpetuity to the highest bidder and become property assets; in the same vein, the Norwegian Act expressly declares that aquaculture licenses can be mortgaged, bought, or sold.<sup>246</sup> With respect to the space used for aquaculture operations, Norway’s coastline is divided into different zones depending on the activities which are permitted in a particular region: traffic, fishing, aquaculture, nature, or recreation.<sup>247</sup> Aquaculture facilities may be established only in the aquaculture zone, and each

---

<sup>242</sup> NOR. MINISTRY OF FISHERIES & COASTAL AFFAIRS, THE AQUACULTURE ACT (2005), [https://www.regjeringen.no/globalassets/upload/kilde/fkd/reg/2005/0001/ddd/pdfv/255327-1-0525\\_akvakulturloveneng.pdf](https://www.regjeringen.no/globalassets/upload/kilde/fkd/reg/2005/0001/ddd/pdfv/255327-1-0525_akvakulturloveneng.pdf).

<sup>243</sup> Aquaculture Act of 2005 § 6.

<sup>244</sup> *Id.* § 7.

<sup>245</sup> MOYLAN ET AL., *supra* note 241, at 33.

<sup>246</sup> *Id.*; Aquaculture Act of 2005 §§ 18-20.

<sup>247</sup> Anne-Katrine Lundebye, *Aquaculture Site Selection and Carrying Capacity for Inland and Coastal Aquaculture in Northern Europe*, FOOD & AGRIC. ORG. 171, 173 (2013), <http://www.fao.org/tempref/FI/CDrom/P21/root/10.pdf>.

individual operation's use of space is authorized and afforded legal protections by a license.<sup>248</sup>

## B. Chile

Aquaculture in Chile is regulated by the Fisheries and Aquaculture Law of 1989 (Chilean Law) and its amendments. The Chilean Law establishes a system with three classes of concessions and authorizations to conduct aquaculture: (1) beaches; (2) coastal areas; and (3) water column and seabed lots. No distinction is made with regard to different aquaculture techniques or species. An authorization or concession is not required for aquaculture activities carried out entirely on private property, even when inland or marine waters are used, provided they are used in accordance with the respective regulations.<sup>249</sup>

The concession or authorization confers the right to conduct aquaculture activities in a specific area and may concern either a single species or a group of species. Only individuals of Chilean nationality or foreigners with permanent residence in the country, as well as Chilean legal entities, may apply for aquaculture concessions or authorizations. The Ministry of Defense grants aquaculture concessions, which confer the right to use and benefit from State property (marine beaches; public coastal areas; water column and seabed lots; navigable rivers and lakes for vessels over 100 gross tons) for an indefinite period of time by allowing the concessionaire to establish an aquaculture facility. The Sub-Secretariat for Fisheries grants aquaculture authorizations, which confer an indefinite right to use and benefit, for aquaculture purposes, from the streams and water bodies that are not under the authority of the Ministry of Defense and are classified as suitable for aquaculture development.<sup>250</sup>

As required by the Chilean Law, authorized areas for aquaculture activities are declared by Ministerial Decree. Twelve regions have been identified so far. The areas authorized for the establishment of an aquaculture facility area are "geographical areas which are classified as such by the Sub-Secretariat of Fisheries to be adequate for the establishment of an aquaculture facility."<sup>251</sup>

---

<sup>248</sup> *Id.*

<sup>249</sup> *National Aquaculture Legislative Overview: Chile*, FOOD & AGRIC. ORG., [http://www.fao.org/fishery/legalframework/nalo\\_chile/en](http://www.fao.org/fishery/legalframework/nalo_chile/en) (last visited Aug. 13, 2021).

<sup>250</sup> *Id.*

<sup>251</sup> *Id.*

## C. Canada

In Canada, the aquaculture industry is overseen by a combination of federal, provincial, and local authorities.<sup>252</sup> Specific responsibilities for aquaculture have been delegated by the federal government to the provincial level through memoranda of understanding.<sup>253</sup> Under this framework, the federal Department of Fisheries and Oceans Canada (DFO) coordinates with the provincial ministries for the federal review of access to land and water for aquaculture applications.<sup>254</sup> The provinces are in turn responsible for aquaculture planning, site leasing, and license approvals for aquaculture sites.<sup>255</sup>

The provincial governments utilize a combination of leases and licenses or permits to authorize aquaculture operations on publicly owned lands, and these instruments generally last for a period of ten to twenty years with the possibility of renewal.<sup>256</sup> The best case study of provincial legal frameworks for aquaculture in Canada is British Columbia, which has developed a particularly robust framework for authorizing aquaculture operations. The province requires aquaculture operations on provincial land to have both an aquaculture license under the provincial Fisheries Act of 1996 and a crown land tenure—i.e., a lease—under the provincial Land Act of 1996.<sup>257</sup> Additionally, all finfish and shellfish aquaculture lease applications must include a management plan and, if the proposed facility requires access to surface water, a water license under the Water Act of 1996 may also be required.<sup>258</sup> Aquaculture operations on provincial lands must also not infringe on the riparian rights of an upland owner.<sup>259</sup>

All applications for aquaculture leases in British Columbia are subject to consideration of First Nations interests and rights, standard interagency consultation processes, and community input as part of the public participation

---

<sup>252</sup> *National Aquaculture Legislative Overview: Canada*, FOOD & AGRIC. ORG., [http://www.fao.org/fishery/legalframework/nalo\\_canada/en](http://www.fao.org/fishery/legalframework/nalo_canada/en) (last visited June 29, 2021).

<sup>253</sup> *Id.*

<sup>254</sup> *Id.*

<sup>255</sup> *Id.*

<sup>256</sup> See Standing Senate Committee on Fisheries and Oceans, *Volume One – Aquaculture Industry and Governance in Canada*, SENATE OF CANADA 19-53 (June 2016), [https://sencanada.ca/content/sen/committee/421/POFO/reports/2016-06-22\\_POFO\\_AquacultureVolume1\\_Final\\_E.pdf](https://sencanada.ca/content/sen/committee/421/POFO/reports/2016-06-22_POFO_AquacultureVolume1_Final_E.pdf).

<sup>257</sup> See *National Aquaculture Legislative Overview: Canada*, *supra* note 251.

<sup>258</sup> *Id.*

<sup>259</sup> *Id.*

process.<sup>260</sup> Generally, new aquaculture sites are issued an initial five-year license of occupation to allow the operator to prove site viability.<sup>261</sup> A five-year license of occupation may also be used to authorize experimental shellfish or finfish aquaculture sites or sites involving new technologies.<sup>262</sup> Following the expiration of the initial development license, it can be renewed once for another five-year term if the site is still under development; if not, the initial development license is generally followed by a twenty-year lease for finfish operations or a thirty-year lease for shellfish operations.<sup>263</sup>

One emerging wrinkle in British Columbia's legal framework for aquaculture, however, is that Prime Minister Justin Trudeau has instructed Fisheries Minister Bernadette Jordan to come up with a plan to transition away from open net-pen salmon farming in British Columbia by 2025.<sup>264</sup> This instruction comes alongside Prime Minister Trudeau's efforts to implement Canada's first federal aquaculture legislation, the Federal Aquaculture Act, which remains under consideration by the Parliament of Canada as of this article's publication.<sup>265</sup>

#### D. Denmark

There are scant English-language resources available on the legal framework for offshore aquaculture in Denmark, but the details that can be accessed provide insight into a different approach. Marine aquaculture in Denmark is regulated by a combination of the 1991 Regulation on the Establishment and Operation of Ocean Farms and Chapter 13 of the Fisheries Act

---

<sup>260</sup> *See id.*

<sup>261</sup> *Id.*

<sup>262</sup> *Id.*

<sup>263</sup> *See id.*; Standing Senate Committee on Fisheries and Oceans, *supra* note 256, at 11.

<sup>264</sup> Mandate Letter from Justin Trudeau, Prime Minister, to Bernadette Jordan, Minister of Fisheries, Oceans, and the Canadian Coast Guard (Dec. 13, 2019), <https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-fisheries-oceans-and-canadian-coast-guard-mandate-letter>.

<sup>265</sup> Press Release, Fisheries and Oceans Canada, Minister Jordan meets with provincial ministers from Eastern Canada responsible for Fisheries and Aquaculture (June 18, 2021), <https://www.newswire.ca/news-releases/minister-jordan-meets-with-provincial-ministers-from-eastern-canada-responsible-for-fisheries-and-aquaculture-891665932.html>; *see* FISHERIES AND OCEANS CANADA, A CANADIAN AQUACULTURE ACT (2020), [https://www.dfo-mpo.gc.ca/aquaculture/act-loi/doc/Aquaculture-Act-Discussion-Paper-2020\\_en.pdf](https://www.dfo-mpo.gc.ca/aquaculture/act-loi/doc/Aquaculture-Act-Discussion-Paper-2020_en.pdf).

of 2004.<sup>266</sup> Under this framework, offshore aquaculture operations must obtain a license from the Danish Directorate of Fisheries.<sup>267</sup> The application for a marine aquaculture license is considered to be an application for all of the permits that operations need under relevant legislation.<sup>268</sup> Notably, whereas the Danish Directorate of Fisheries previously used a location-oriented license that had a duration of ten years to authorize marine aquaculture operations, it has since switched to an environmentally oriented license for which the Directorate has greater discretion and flexibility in determining the duration.<sup>269</sup>

Unique among the jurisdictions surveyed in this article, Denmark has legal provisions in place concerning aquaculture operations' ability to access capital. For instance, in accordance with the Act on Structural Assistance in the Fisheries Sector, Danish aquaculture is eligible for funding from the Financial Instrument for Fisheries Guidance.<sup>270</sup> These funds are distributed to operations for the purpose of ensuring that they contribute to environmentally and economically sustainable development of the sector, as well as promoting the production of high quality fish and fish products.<sup>271</sup> Moreover, the Danish government has created the Fisheries Bank of Denmark (FBD) to grant long-term loans to participants in the Danish fishing and aquaculture industries.<sup>272</sup> The governing framework distinguishes between loans for which real property is provided as collateral and loans for which any other kind of property or investment is provided as collateral. If real property is provided as collateral for an FBD aquaculture loan, the value of loan may be up to 60% of the mortgage value and the debtor has twenty years to repay the loan.<sup>273</sup> Like loans collateralized with real property, FBD aquaculture loans that are collateralized with some other form of

---

<sup>266</sup> *National Aquaculture Legislative Overview: Denmark*, FOOD & AGRIC. ORG., [http://www.fao.org/fishery/legalframework/nalo\\_denmark/en](http://www.fao.org/fishery/legalframework/nalo_denmark/en) (last visited Aug. 23, 2021).

<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> *See id.*; Lisbeth Jess Plesner, *State of Play – Aquaculture and Its Legislation in Denmark*, Dansk Akvakultur (Feb. 2020), <https://submariner-network.eu/images/Denmark.pdf>.

<sup>270</sup> Act on Structural Assistance in the Fisheries Sector (2001, as amended in 2002). (Bekendtgørelse af lov om strukturforanstaltninger vedrørende fiskerisektoren, LBK nr. 316 af 03/05/2001, as amended in 2002); *see National Aquaculture Legislative Overview: Denmark*, *supra* note 266.

<sup>271</sup> *National Aquaculture Legislative Overview: Denmark*, *supra* note 266.

<sup>272</sup> Act relative to The Fisheries Bank of Denmark (2001) (Bekendtgørelse af lov om Kongeriget Danmarks Fiskeribank, LBK nr 92 af 08/02/2001); *see id.*

<sup>273</sup> *National Aquaculture Legislative Overview: Denmark*, *supra* note 266.

property may be worth up to 60% of the value of the property or investment; however, the term for repayment is only ten years, as compared to twenty.<sup>274</sup>

**VIII. PROPOSAL CURRENTLY UNDER CONSIDERATION BY CONGRESS  
– THE AQUAA ACT**

The Advancing the Quality and Understanding of American Aquaculture Act (AQUAA) is a proposed bill that would create a regulatory regime for offshore aquaculture in the U.S. Although originally introduced by Senator Roger Wicker of Mississippi in 2018, an updated version of AQUAA was reintroduced in the House of Representatives by Minnesota Rep. Collin Peter in March 2020. This analysis considers only the latter, more recent proposal.

Under AQUAA, offshore aquaculture permits would be administered by the Secretary of Commerce through a newly created NOAA Office of Offshore Aquaculture.<sup>275</sup> Applications for these permits would need to specify:

- (A) the proposed location of the offshore aquaculture facilities and the location of any onshore facilities;
- (B) the type of aquaculture operations that will be conducted at all facilities...;
- (C) the cultured species, or specified range of species, to be propagated or reared, or both, at the offshore aquaculture facility;
- (D) the ways in which the permit holder will comply with the national standards for sustainable offshore aquaculture described in section 101;
- (E) plans to respond to - (i) natural disaster; (ii) escapement; and (iii) disease; and
- (F) such other design, construction, and operational information as the Secretary may require....<sup>276</sup>

Additionally, permit holders would need to be a citizen or permanent resident of the U.S., or a domestically organized entity that is not state-owned.<sup>277</sup> Under AQUAA, permit holders would also need to post a bond or other form of

---

<sup>274</sup> *Id.*

<sup>275</sup> Advancing the Quality and Understanding of American Aquaculture Act, H.R. S.4723 § 401(a), 116th Cong. (2020) [hereinafter AQUAA Act].

<sup>276</sup> *Id.* § 201(c).

<sup>277</sup> *Id.* § 201(d).

financial guarantee that is sufficient to cover the cost of facility removal and site remediation upon the expiration or revocation of the permit, as well as any unpaid fees.<sup>278</sup>

AQUAA requires the Secretary of Commerce to develop enterprise zones, which would be areas of the EEZ with conditions that are highly favorable for offshore aquaculture and offer a streamlined permitting process for applicants.<sup>279</sup> Applicants, however, would still be able to propose sites for offshore aquaculture facilities outside of these areas. Permits for facilities and operations within enterprise zones would last twenty-five years; for facilities and permits outside of enterprise zones, they would only last fifteen years.<sup>280</sup> Upon their expiration, permits could be renewed for a period equal to their original duration.<sup>281</sup> Separately, the permit could be revoked if the permit holder commits a variety of prohibited acts, fails to begin offshore aquaculture operations within two years of receiving the required federal permits, or interrupts aquaculture operations for at least two years due to reasons unrelated to best management practices or a federal disaster declaration.<sup>282</sup> Permit holders would be required to remove all structures, gear, and other property, as well as restore the site, within one year of an offshore aquaculture permit's expiration or revocation.<sup>283</sup>

Although AQUAA allows for offshore aquaculture facilities to be sited in areas that are currently leased under the OCSLA with the lessee's permission<sup>284</sup> and also provides the Secretary of Commerce with the authority to "enter into and perform such contracts, leases, or cooperative agreements [...] as may be necessary to carry out [AQUAA],"<sup>285</sup> the bill does not explicitly provide for any mechanisms that would allow for the leasing of EEZ waters to the holders of offshore aquaculture permits.<sup>286</sup> While the absence of a lease from the AQUAA Act by no means suggests that its drafters failed to consider a lease as an authorization instrument for offshore aquaculture, this absence nevertheless

---

<sup>278</sup> *Id.* § 201(j)(3).

<sup>279</sup> *Id.* §§ 202(a)(4), 202(c)(1).

<sup>280</sup> *Id.* § 201(e).

<sup>281</sup> *Id.* § 201(f).

<sup>282</sup> *Id.* § 201(g).

<sup>283</sup> *Id.* § 201(h).

<sup>284</sup> *Id.* § 201(n)(2).

<sup>285</sup> *Id.* § 404(b).

<sup>286</sup> *See id.* § 3(8) ("The term 'lessee' means any party to a lease, right-of-use and easement, or right-of-way, or an approved assignment thereof, issued pursuant to the Outer Continental Shelf Lands Act [...]").

speaks to the wide range of property rights issues that are not currently being considered by Congress in the conversation around this increasingly important issue.

**IX. APPLICABILITY OF MODELS TO OFFSHORE AQUACULTURE IN U.S. EEZ**

The need for clarity concerning the authorization process for aquaculture operations in the EEZ and the property rights that it confers is paramount. As federal policymakers and other interested stakeholders consider how to reform the current legal framework or create a new one specific to aquaculture, their deliberations will undoubtedly be informed by the successes and failures of the various regimes that are in use for aquaculture domestically and abroad, as well as the strengths and weaknesses of the regimes in place for authorizing other commercial activities on federal lands. The following section identifies aspects of the regimes discussed above from which the federal framework for offshore aquaculture would likely benefit by incorporating, as well as broader lessons and insights from those models that are relevant to authorizing aquaculture in the EEZ.

**A. Lessons from OCSLA: Damages for Cancellation of Leases in Federal Waters**

As noted above, government entities tend to have greater discretion in suspending or cancelling permits than they do for leases. And, when each instrument is finally cancelled, a lessee is generally compensated in the event that their lease is cancelled, whereas permittees have not traditionally been afforded this protection. OCSLA provides a thorough set of conditions under which suspension or cancellation is appropriate, and also compensation to lessees in the event their lease is cancelled.

Similarly, the federal framework for authorizing aquaculture in the EEZ should have clear terms concerning the suspension and cancellation of permits, which provides more predictability and stability to operators and allows for more efficiency in the agency's administration and enforcement of the authorization mechanism in use. Furthermore, as the framework for the only other stationary commercial activity that currently takes place in offshore federal waters, OCSLA requires the government to provide a lease to operators, which in turn requires lessees to be compensated if their leases are cancelled. Federal policymakers may want to consider providing compensation to aquaculture operations in the EEZ if

their authorization instrument—regardless of whether it is termed a permit or a lease—is cancelled. More analysis concerning the compensability of cancelled instruments can be found below in Section IX(C) (Lessons from Grazing).

#### B. Develop Aquaculture Enterprise or Development Zones in the EEZ

Some states, like New Jersey, have developed aquaculture enterprise or development zones to help ease the permitting process and minimize user conflicts. For instance, the ADZ is intended to ease permitting burdens on potential oyster farms and locate farms in areas with the fewest use conflicts. The ADZ is meant to streamline the permitting process for farmers, as the New Jersey Bureau of Shellfisheries obtains the necessary permits from the Corps and relevant state agencies on behalf of the individual growers. Grouping multiple aquaculture farms allows the state to manage aquaculture operations effectively, as well as help harvesters share upland access to farms, and access seed, equipment, and technical support for their farms. Establishing a similar model on the federal scale, as the AQUAA Act would, may help the authorization of aquaculture in U.S. federal waters. Additionally, all of the legal frameworks that authorize the use of federal lands for commercial activities involve a planning process that identifies areas that will be targeted for use. Especially in light of how vast the U.S. EEZ is, engaging in a similar planning process for offshore aquaculture would help minimize conflicts with other users of the space.

A project to this effect has recently been undertaken by NOAA at the behest of President Trump.<sup>287</sup> The agency is currently in the process of identifying Aquaculture Opportunity Areas (AOAs) in the U.S. EEZ that are suitable for the siting of multiple commercial aquaculture facilities.<sup>288</sup> Environmental assessments required by NEPA will be performed for each AOA, rather than each aquaculture facility therein, which reflects an interest in a more efficient and streamlined permitting process.<sup>289</sup> NOAA's mandate specifically instructs the agency "to minimize unnecessary resource use conflicts" in selecting the AOA sites.<sup>290</sup> Although the Executive Order which prompted NOAA's identification of AOAs did not formally alter the agency's role in the offshore aquaculture permitting process, this project nevertheless represents a valuable step towards learning from the lessons imparted by the management frameworks for other commercial uses

---

<sup>287</sup> Exec. Order No. 13,921, Promoting American Seafood Competitiveness and Economic Growth, 85 Fed. Reg. 28,471 (May 7, 2020).

<sup>288</sup> *Id.* § 7(a).

<sup>289</sup> *Id.* §§ 1, 7(a)-(b).

<sup>290</sup> *Id.* § 7(c).

of federal lands. But as of the time of this article’s publication, the timeline for and legal status of AOAs more generally remains unclear while the Biden administration continues its review of Trump-era policies.<sup>291</sup> Additionally, the AQUAA Act calls for the creation of “enterprise zones” for aquaculture in the EEZ,<sup>292</sup> and it is unclear what the relationship between these aquaculture enterprise zones and NOAA’s AOAs would be in the event that Congress enacts the AQUAA Act.

### C. Lessons from Grazing

Although the terms “marine aquaculture” and “ocean ranching” are by no means synonymous in the strictly scientific sense,<sup>293</sup> it is no coincidence that the terms are sometimes used interchangeably in colloquial language and legal scholarship.<sup>294</sup> Grazing and marine aquaculture are similar in the sense that both are commercial activities that rely on natural resources and, rather uniquely, involve an operator raising animals that they own on (and using the resources of) lands—submerged or otherwise—that the operator does not own or possess. In that respect, the federal framework for grazing might be able to inform its counterpart for offshore aquaculture because of the similarities between the pasture Rest-Rotation system described above and mobile marine aquaculture operations, which are an emerging interest in the aquaculture community.<sup>295</sup>

Moreover, federal policymakers may be able to find the federal grazing framework’s use of instruments termed “leases” and “permits” applicable to aquaculture in the EEZ. More specifically, as noted above, the primary difference

---

<sup>291</sup> H. David Gold, et al., *Biden Administration Begins Comprehensive Review of Trump-Era Environmental Rules*, JD SUPRA (Jan. 22, 2021), <https://www.jdsupra.com/legalnews/biden-administration-begins-1601137/>; see Oil and Gas and Sulfur Operations in the Outer Continental Shelf - Revisions to the Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf, 86 Fed. Reg. 34,172 (June 29, 2021).

<sup>292</sup> See AQUAA Act, *supra* note 275, at § 202.

<sup>293</sup> See R. Arnason, *Introduction*, in THE ECONOMICS OF OCEAN RANCHING: EXPERIENCES, OUTLOOK, AND THEORY, FAO FISHERIES TECHNICAL PAPER NO. 413, FOOD & AGRIC. ORG. (2001), <http://www.fao.org/3/Y1805E/y1805e06.htm#TopOfPage> (explaining that “ocean ranching is a type of fish farming in which juvenile fish are released into the ocean to grow unprotected and unassisted to be subsequently harvested.”).

<sup>294</sup> See, e.g., Babcock, *supra* note 54, at 4–6.

<sup>295</sup> See Liu Zhen, *China’s giant aquaculture ship can help the environment and South China Sea ties, expert says*, SOUTH CHINA MORNING POST (June 5, 2020), <https://www.scmp.com/news/china/diplomacy/article/3087801/chinas-giant-aquaculture-ship-can-help-environment-and-south>.

between BLM grazing leases and BLM grazing permits is that leases are the authorization instruments used for grazing on parcels of land that are isolated from pre-established grazing districts.<sup>296</sup> This setup is particularly apt for managing aquaculture in the EEZ through a system that also incorporates aquaculture enterprise/development/opportunity zones, which would be analogous to grazing districts. Under such a framework, aquaculture operations located within an enterprise/development/opportunity zone would be issued a permit, while operations that choose a site outside of one of these zones would be issued a lease.

Additionally, there are two features of federal grazing permits that would address two of the major property rights concerns that have been voiced by the industry and legal literature. First, even though a grazing permit must accommodate prior uses of the permitted area and does not grant the permittee any right to exclude others from the permitted area, the Taylor Act requires the federal government to not only refrain from invading the grazing rights of lessees and permittees, but also to adequately safeguard them.<sup>297</sup> The inclusion of such a provision in the federal framework for aquaculture in the EEZ could assuage industry's concerns about site control. Furthermore, in light of the additional protections that a lease traditionally confers to the lessee in the event of cancellation by virtue of being a contract, policymakers should note that cancellation of *both* a grazing lease *and* a grazing permit entitles the instrument holder to compensation, and the formula for compensation is the same for both instruments.<sup>298</sup> It is therefore clear that policymakers could extend some of the enhanced protections typically associated with leases to permits under the current or future federal framework for offshore aquaculture if they so choose.

#### D. Lessons from Offshore Renewable Energy

There are various parallels between the development of the legal framework for offshore aquaculture and that of offshore energy development on the OCS. First, amid the initial lack of clarity surrounding the regulatory framework and authorization mechanism for offshore wind in federal waters, the Corps initially claimed authority as the lead permitting agency under RHA Section 10. But even after this path was eventually carved out, the significant amount of time and resources that it took for the Cape Wind project to become a

---

<sup>296</sup> See 43 U.S.C. §§ 315, 315b, 315m.

<sup>297</sup> See *Oman et al. v. U.S.*, 179 F.2d 738 (10th Cir. 1949).

<sup>298</sup> See 43 U.S.C. § 1752(g).

reality underscores the extreme difficulty that applicants face in getting a project authorized when there is not a clear authorization mechanism for federal agencies to use. And, despite the emergence of that Corps-led path, Congress eventually enacted legislation (the EAct) to not only dispel regulatory uncertainty, but also to convey security of tenure for the industry through leases and ensure that a federal agency—DOI, rather than the Corps—has the legal authority to issue those leases.

The parallels between offshore wind production and offshore aquaculture are magnified by the intriguing possibility of co-locating aquaculture facilities and offshore wind turbines once technology allows.<sup>299</sup> In fact, the current statutory framework is already equipped to accommodate co-location of offshore sites from these industries. As mentioned earlier, the EAct also gave DOI the authority to allow for alternate uses of existing oil and gas facilities on the OCS. BOEM has indicated that offshore aquaculture could be one of these alternative uses.<sup>300</sup> Consequently, BOEM already has the implicit authority to issue leases for aquaculture operations located in the EEZ, although the agency has not yet exercised its authority to authorize offshore aquaculture in this manner.

As federal policymakers navigate the future of authorizing aquaculture operations in the U.S. EEZ, there are two reasons that they may want to do so with an eye towards how the legal framework for producing wind and other renewable energies on the OCS developed. First, the latter may offer a playbook for clarifying and transforming the regulatory scheme for an ocean-intensive commercial activity that is increasingly important for the U.S. moving forward in light of current environmental realities. Additionally, given the very real possibility of interest in offshore aquaculture facilities and offshore energy turbines being co-located in the future, substantial divergences or irreconcilability between the two authorization frameworks may only serve to recreate for offshore hybrid energy-aquaculture facilities the very same regulatory uncertainty that once plagued wind energy operations on the OCS and continues to cause controversy around aquaculture in the EEZ.

---

<sup>299</sup> See Robin Kundis Craig, *Harvest the Wind, Harvest Your Dinner: Using Law to Encourage an Offshore Energy-Food Multiple-Use Nexus*, 59 JURIMETRICS 61 (2018); AQUACULTURE PERSPECTIVE OF MULTI-USE SITES IN THE OPEN OCEAN, *supra* note 186, at 191-95.

<sup>300</sup> *Renewable Energy on the Continental Shelf*, BUREAU OF OCEAN ENERGY MGMT., <https://www.boem.gov/renewable-energy/renewable-energy-program-overview> (last visited Aug. 23, 2021).

**X. CONCLUSION**

Aquaculture is a growing industry in the United States, and one whose importance is only likely to grow as the nation contemplates how to best leverage its natural resources to achieve food security for its population. Encouraging aquaculture in the U.S. EEZ is an attractive option, and one that the U.S. is legally entitled to pursue under both international law and its own domestic legal framework. However, there is currently no statute that unifies or delineates the permit application process for operations in federal waters, and this has created a confusing overlap of statutes that has deterred such operations. Moreover, even if the permitting process is improved, the property rights of aquaculture operations in the EEZ must also be revisited and resolved. As reflected by OCSLA and the EPAct, federal legislation will be required to lease resources in the EEZ—such as the seabed and the water column—to aquaculture operations. But it is unclear whether a new federal instrument for offshore aquaculture, regardless of whether it is substantially a permit or a lease, is legally necessary or politically feasible. As the federal government weighs how to best proceed with its approach to aquaculture in the EEZ, it may want to draw on valuable lessons learned from models developed by domestic states and foreign governments that have already tackled this process under their own respective legal frameworks.

ONE STEP FORWARD, TWO STEPS BACK: NOAA'S ASSERTION OF  
JURISDICTION OVER AQUACULTURE FACES CONTINUING CHALLENGES<sup>1</sup>

Sierre Anton<sup>2</sup> and Katherine Hupp<sup>3</sup>

I. INTRODUCTION

In 2019, Americans consumed 6.3 billion pounds of seafood.<sup>4</sup> The source of seafood consumed in the United States over the last 30 years has changed significantly. In 1990, U.S. seafood consumption was based primarily on landings of wild fish.<sup>5</sup> By 2017, that consumption had shifted to aquaculture species, especially shrimp, salmon, canned tuna, catfish, and tilapia.<sup>6</sup> Globally, aquaculture accounts for nearly half the seafood in human diets.<sup>7</sup> In 2018, global aquaculture production exceeded 82 million tons.<sup>8</sup> Most of this aquaculture production, however, occurs outside the United States. The U.S. is a leading importer of seafood, and ranks just 17th on a global scale for aquaculture production.<sup>9</sup> Yet, the U.S.'s ocean territory is one of the largest in the world. There is room to grow.

---

<sup>1</sup> The authors would like to thank Catherine Janasie, Stephanie Otts, and Zachary Klein for their guidance and assistance in formulating and editing this article. This product was prepared by the National Sea Grant Law Center under award number NA18OAR4170079, Amendment No. 6, from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of NOAA or the U.S. Department of Commerce.

<sup>2</sup> 2022 J.D. Candidate, University of Mississippi School of Law, National Sea Grant Law Center Research Associate 2020-21.

<sup>3</sup> 2022 J.D. Candidate, Florida State University College of Law, National Sea Grant Law Center 2021 Summer Research Associate.

<sup>4</sup> NAT'L. MARINE FISHERIES SERV., FISHERIES OF THE UNITED STATES 2019, 3 (2021), <https://media.fisheries.noaa.gov/2021-05/fus-2019-fact-sheet-v4.2-webready.pdf?null>.

<sup>5</sup> Gina M. Shamshak et al., *U.S. Seafood Consumption*, 50 J. OF THE WORLD AQUACULTURE SOCIETY 715, 721 (2019), <https://onlinelibrary.wiley.com/doi/epdf/10.1111/jwas.12619>.

<sup>6</sup> *Id.*

<sup>7</sup> XIAOWEI ZHOU, THE STATE OF WORLD FISHERIES AND AQUACULTURE, 2-5 (2020) (explaining that "[a]quaculture accounted for 46 percent of the total production and 52 percent of fish for human consumption.").

<sup>8</sup> FOOD & AGRIC. ORG., THE STATE OF WORLD FISHERIES AND AQUACULTURE 2020: SUSTAINABILITY IN ACTION 3 (2020), <http://www.fao.org/3/ca9229en/ca9229en.pdf>.

<sup>9</sup> *U.S. Aquaculture*, NAT'L. MARINE FISHERIES SERV. (July 8, 2021), <https://www.fisheries.noaa.gov/national/aquaculture/us-aquaculture>.

Regulatory uncertainty, among other factors, is often cited as a barrier to growth of aquaculture in the United States.<sup>10</sup> Unlike offshore energy development, there is no one lead federal agency for authorizing aquaculture operations in the Exclusive Economic Zone (EEZ), the ocean area 12 - 200 nautical miles offshore. Permits and approvals are required from multiple federal agencies under a variety of federal statutes.

The National Oceanic and Atmospheric Administration (NOAA) within the U.S. Department of Commerce has regulatory authority over fisheries, marine mammals, marine sanctuaries, and certain endangered and threatened species.<sup>11</sup> The National Marine Fisheries Service (NMFS) within NOAA implements the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the primary law governing marine fisheries management in federal waters. Although NOAA lacks express authority from Congress to regulate aquaculture, the agency has established an Office of Aquaculture that asserts authority to address regulatory and policy issues, based on aquaculture policies, Administration priorities, legislative mandates, and executive orders that charge NOAA with ensuring that U.S. marine aquaculture develops sustainably, in concert with healthy, productive, and resilient coastal ecosystems.<sup>12</sup> In 1993, the NOAA Office of General Counsel issued an opinion interpreting the scope of the agency's MSA authority to include offshore aquaculture permitting. Although this interpretation was recently rejected by the U.S. Fifth Circuit Court of Appeals, NOAA continues to move forward with aquaculture policy and regulatory initiatives.<sup>13</sup>

This article begins in Section II with a brief overview of marine aquaculture, including the economic, social, and environmental costs and benefits. Section III discusses the current regulatory framework for marine aquaculture operations, with particular attention paid to the role of NOAA in the permitting

---

<sup>10</sup> Gunnar Knapp & Michael C. Rubino, *The Political Economy of Marine Aquaculture in the United States*, 24 REVIEWS IN FISHERIES SCIENCE & AQUACULTURE (2016), <https://www.tandfonline.com/doi/abs/10.1080/23308249.2015.1121202?journalCode=brfs21>.

<sup>11</sup> See AGRIC. RSCH. SERV., FEDERAL AQUACULTURE REGULATORY FACT SHEET SERIES: DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) (Feb. 2016), <https://www.ars.usda.gov/SCA/Fact%20Sheets/NOAA%20Federal%20Aquaculture%20Regulatory%20Fact%20Sheet%20Series2016.pdf>.

<sup>12</sup> *Office of Aquaculture Priorities*, NAT'L. MARINE FISHERIES SERV. (July 26, 2021), <https://www.fisheries.noaa.gov/national/aquaculture/office-aquaculture-priorities>.

<sup>13</sup> See *Potential Aquaculture Management Program in the Pacific Islands*, NAT'L. MARINE FISHERIES SERV. PAC. REG'L OFFICE (June 10, 2021), <https://www.fisheries.noaa.gov/action/potential-aquaculture-management-program-pacific-islands>.

process. Next, in Section IV, the article discusses NOAA's Aquaculture Opportunity Area initiative which was directed through an executive order issued by President Trump. The article then examines several assertions of authority over marine aquaculture that NOAA has made since the issuance of the 1993 General Counsel Opinion. Section V details the use of special permits to authorize aquaculture operations in Hawaii and Section VI discusses the development of an aquaculture fishery management plan by the Gulf of Mexico Fishery Management Council. Finally, in Section VII, this article discusses efforts by the Western Pacific Fishery Management Council to develop an aquaculture program in the Pacific Islands Region. The article concludes with some thoughts on the legal questions that NOAA may face as it continues to assert jurisdiction over aquaculture.

## II. AQUACULTURE OVERVIEW

Marine aquaculture, sometimes referred to as “mariculture,” is the breeding, rearing, and harvesting of marine plants and animals in a saltwater environment.<sup>14</sup> This can include shellfish, such as shrimp and mussels; finfish, such as salmon; or aquatic plants, such as seaweed and other macroalgae.<sup>15</sup> Marine aquaculture encompasses a range of activities, from “seeding” operations that breed small shellfish on the seafloor for later harvesting,<sup>16</sup> to finfish operations that rear fish far offshore in floating pens or cages, to aquaponics operations, which combine aquaculture and hydroponics to create highly efficient food producing systems.<sup>17</sup> Marine aquaculture systems can also be multi-trophic, meaning finfish and shellfish, shellfish and plants, or all three aquaculture types can be grown together in a system.

Like any food production system, there are economic, social, and environmental costs and benefits associated with marine aquaculture. According to the U.N. Food and Agriculture Organization (FAO), total food fish

---

<sup>14</sup> See NAT'L. MARINE FISHERIES SERV, MARINE AQUACULTURE IN THE U.S, <https://media.fisheries.noaa.gov/2021-01/fact-sheet-marine-aquaculture-in-the-us.pdf?null> (last visited Aug. 29, 2021).

<sup>15</sup> *Id.*

<sup>16</sup> News Release, Nat'l Ctrs. for Coastal Ocean Science, New Technique Shows Oyster Seeding is Possible in Open Water (Oct. 1, 2019), <https://coastalscience.noaa.gov/news/new-technique-shows-oyster-shell-seeding-is-possible-in-open-water/>.

<sup>17</sup> Simon Goddek et al., *Challenges of Sustainable and Commercial Aquaponics*, 7 SUSTAINABILITY 4199, 4200 (2015), <https://www.mdpi.com/2071-1050/7/4/4199>.

consumption from 1990 to 2018 rose by a staggering 122%.<sup>18</sup> Expanding marine aquaculture in the United States could help meet the growing global demand for seafood and address broader concerns about food security. A shift to an aquaculture-based diet could result in a reduction in the acreage of land needed for food and livestock production, potentially decreasing the environmental impact of traditional agriculture.<sup>19</sup> Increased aquaculture production may also help alleviate the severe strain that wild fisheries in the U.S. and abroad are experiencing due to overfishing.

Mariculture can also result in positive and negative economic and social costs. Aquaculture can create jobs and generate revenue for coastal communities, including providing opportunities for fishermen who are out of work because of depleted fish stocks. The ocean is a busy place, however, and aquaculture operations can generate conflicts with other users of marine space, including fishermen and recreational boaters. Such user conflicts present concerns beyond mere stakeholder frustration and anger. Marine aquaculture operations can reduce public access and threaten public safety.<sup>20</sup>

The environmental concerns associated with marine aquaculture vary significantly depending on the species being raised and the location of the farm. Shellfish and seaweed extract their nutrients from the water and generate minimal waste, reducing pollution concerns. Finfish, like salmon, on the other hand, must be fed. Although progress has been made toward the development of alternative feed sources, a lot of wild fish are caught and processed into fish feed. The FAO estimates that only about 65% of commercial fisheries are within biologically sustainable levels (e.g., are not overfished).<sup>21</sup> The growth of marine finfish aquaculture has the potential to increase pressures of wild stocks of fish caught for fish feed. Marine finfish aquaculture may also raise concerns about the discharge of fish waste from nets and cages and use of pharmaceuticals to treat or manage diseases.

---

<sup>18</sup> FOOD & AGRIC. ORG., THE STATE OF WORLD FISHERIES AND AQUACULTURE 2020: INTERACTIVE STORY, <http://www.fao.org/state-of-fisheries-aquaculture> (last visited Aug. 29, 2021).

<sup>19</sup> Halley E. Froehlich et al., *Comparative terrestrial feed and land use of an aquaculture-dominant world*, 115 PROC. OF THE NAT'L ACAD. SCI. 5295 (2018) <https://www.pnas.org/content/115/20/5295>.

<sup>20</sup> See, e.g., Julia Cart, *Did sea farm debacle sink California aquaculture?*, ABC10 (May 13, 2020), <https://www.abc10.com/article/news/local/california/did-sea-farm-debacle-sink-california-aquaculture/103-da22c517-42e4-4b03-8a46-cb20d8659a74>.

<sup>21</sup> See FOOD & AGRIC. ORG., *supra* note 18.

Escapes of farmed fish are also a concern. Escapes can introduce invasive species and genetic mutations, expose wild stocks of fish to disease, or increase competition with wild populations. In August 2017, for example, the collapse of a marine aquaculture net pen near Cypress Island, Washington released an estimated 250,000 salmon into Puget Sound.<sup>22</sup> Although the escape fish had a poor chance of survival in a natural environment, the long-term environmental impacts of such an escape are unknown. In response, Washington State enacted legislation to phase out aquaculture of non-native marine finfish.<sup>23</sup>

Shellfish have been raised in nearshore coastal waters for centuries. Although such operations have not been around quite as long, finfish and seaweed farms are also permitted in nearshore, state waters.<sup>24</sup> Space is limited along the coast, however, and local opposition can make operations difficult to site. Aquaculture facilities in shallow, coastal waters can pose an environmental risk due to waste from fish and excess feed settling on the seafloor after drifting out of enclosures. By moving offshore, aquaculture operations can minimize conflicts with coastal users and access deeper water. Currents offshore tend to be stronger, which help to flush out wastes from the farm, rather than letting waste settle on the seafloor and damage benthic ecosystems.<sup>25</sup> Recent developments in aquaculture technology enable pens and cages to be sunk beneath the ocean surface to weather out storms in the relatively calm waters beneath the waves.<sup>26</sup>

### III. CURRENT REGULATORY FRAMEWORK FOR AQUACULTURE

As mentioned in the Introduction, there is no one lead federal agency or unified authorization process for offshore aquaculture permitting. To obtain

---

<sup>22</sup> See WASH. DEP'T OF NAT. RES., 2017 CYPRESS ISLAND ATLANTIC SALMON NET PEN FAILURE: AN INVESTIGATION AND REVIEW 109-10 (2018), [https://www.dnr.wa.gov/sites/default/files/publications/aqr\\_cypress\\_investigation\\_report.pdf?vdqj7rk&vgvjv](https://www.dnr.wa.gov/sites/default/files/publications/aqr_cypress_investigation_report.pdf?vdqj7rk&vgvjv).

<sup>23</sup> WASH. REV. CODE § 79.105.170 (disallowing new finfish aquaculture leases and any renewal or extension of leases as of June 7, 2018).

<sup>24</sup> Pursuant to the Submerged Lands Act, coastal states exercise jurisdiction over coastal lands and waters out to 3 nautical miles (nm). 43 U.S.C. § 1312. The Supreme Court of the United States extended the boundaries of the Gulf Coast of Florida and Texas to 9 nm. *United States v. Louisiana*, 363 U.S. 1 (1960).

<sup>25</sup> Marc Gunter, *Can Deepwater Aquaculture Avoid the Pitfalls of Coastal Fish Farms*, YALE ENVIRONMENT 360 (Jan. 25, 2018), <https://e360.yale.edu/features/can-deepwater-aquaculture-avoid-the-pitfalls-of-coastal-fish-farms>.

<sup>26</sup> Charles C. Mann, *The Bluewater Revolution*, WIRED (May 1, 2004), <https://www.wired.com/2004/05/fish/?pg=2>.

permission to operate in the U.S. EEZ, most aquaculture operations must apply for permits from the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) pursuant to the Clean Water Act and the Rivers and Harbors Act. While NOAA does not have direct authority to permit commercial aquaculture operations, the agency may authorize scientific activities for marine aquaculture in federal waters through Exempted Fishing Permits.<sup>27</sup> Further, NOAA is involved in the permitting processes of other agencies to fulfill obligations and issue authorizations required by other statutes, such as the Endangered Species Act, Marine Mammal Protection Act, and Coastal Zone Management Act.

#### A. Clean Water Act

The EPA and the Corps have joint authority to implement the CWA. Two permitting programs authorized by the CWA are potentially applicable to offshore aquaculture: the Section 402 National Pollutant Discharge Elimination System (NPDES) Program and Section 404 Dredge and Fill Program. Both of these programs apply to discharges of regulated pollutants and dredge and fill materials into navigable waters, which the CWA calls “waters of the United States.” The EPA oversees the NPDES program, while the Corps oversees the Section 404 program. However, the EPA does have some jurisdiction under Section 404, which includes among other duties overseeing the state assumption program, working with the Corps to develop policy and guidance, and possessing the right to deny permits.<sup>28</sup>

The CWA is an example of cooperative federalism, meaning the EPA and the Corps set standards at the federal level, and states have the ability to apply to run both the NPDES and Section 404 programs. While the majority of states have received approval to administer the NPDES program on behalf of the EPA, only a couple of states have received the authority to issue Section 404 Permits.<sup>29</sup> However, with offshore aquaculture, the operations would be outside of state waters and thus, the EPA and Corps are the relevant permitting authorities.

---

<sup>27</sup> See 50 CFR § 600.745.4.

<sup>28</sup> Brigit Rollins, *The Clean Water Act, the Corps, & Section 404*, NAT’L AGRIC. LAW CTR., <https://nationalaglawcenter.org/the-clean-water-act-the-corps-section-404/> (last visited Aug. 30, 2021).

<sup>29</sup> *State or Tribal Assumption of the CWA Section 404 Permit Program*, U.S. ENVTL. PROT. AGENCY (Mar. 23, 2021), <https://www.epa.gov/cwa-404/state-or-tribal-assumption-cwa-section-404-permit-program>.

The NPDES program is intended to improve water quality by limiting point source discharges of pollutants into waters of the United States.<sup>30</sup> It requires any operation that discharges pollutants into waters of the United States to obtain a permit.<sup>31</sup> These permits require industry-specific technology-based or water-quality-based limitations and monitoring/reporting requirements.<sup>32</sup>

Technology-based limitations have been developed for Concentrated Aquatic Animal Production (CAAP) facilities (i.e. aquaculture facilities) that produce 100,000 pounds of fish annually.<sup>33</sup> Facilities that do not produce 100,000 pounds of fish annually are subject to technology-based limits based on the EPA's Best Professional Judgement.<sup>34</sup> Reporting and monitoring requirements cover concerns such as drug use, containment structure failure or damage, and spills of feed, drugs, or pesticides.<sup>35</sup> These monitoring requirements also require permittees to develop and maintain best management practices.<sup>36</sup>

The Section 404 Program establishes permitting and regulatory programs for operations that discharge dredge or fill materials into open waters, wetlands, or vegetated shallows that qualify as waters of the United States.<sup>37</sup> This applies to aquaculture facilities engaged in larval shellfish seeding and construction of containment structures.<sup>38</sup> The Corps can issue Section 404 permits as part of a Nationwide Permit, which is discussed more fully below.

---

<sup>30</sup> 40 C.F.R. § 122.1(b)(1) (“The NPDES program requires permits for the discharge of ‘pollutants’ from any ‘point source’ into ‘waters of the United States.’”).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* § 122.41-50.

<sup>33</sup> *Id.* at Part 451.

<sup>34</sup> *Which Aquaculture Discharges Require an NPDES Permit?*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/npdes/npdes-aquaculture-permitting> (last visited Aug. 30, 2021).

<sup>35</sup> 40 C.F.R. § 451.3(a)-(c).

<sup>36</sup> *Id.* § 451.3(d)(1).

<sup>37</sup> *Id.*

<sup>38</sup> AGRIC. RSCH. SERV., FEDERAL AQUACULTURE REGULATORY FACT SHEET SERIES: U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) 1 (July 2018) <https://www.ars.usda.gov/SCA/Fact%20Sheets/Aquaculture%20-%20EPA%20Fact%20Sheet%20July%202018.pdf> (last visited Aug. 30, 2021).

B. Rivers and Harbors Act

Section 10 of the Rivers and Harbor Act of 1899 requires permits for structures built in the navigable waters of the United States.<sup>39</sup> It is important to note that the term “navigable waters” means different things under the CWA and RHA.<sup>40</sup> The geographic scope of the two statutes are, therefore, not identical. Structures can include any structure or work that may affect the course, location, condition, or capacity of navigable waters, which may be triggered by aquaculture facilities seeking to build cages, buoys, floats, or other containment structures in navigable waters.

The Corps issues permits under both the RHA and CWA in four ways: (1) standard individual permits; (2) letters of permission; (3) nationwide permits (NWP); and (4) regional general permits. Standard individual permits require public notice and comment periods before issuance. Letters of permission are for minor, non-controversial activities. NWPs create streamlined processes for categories of activities. Finally, regional general permits are issued at the district level to authorize categories of activities within a state or geographic region.

On January 13, 2021, the Corps published a Final Rule for certain modified and new NWPs.<sup>41</sup> Among the modified and new NWPs were three relevant to marine aquaculture operations. The new NWPs became effective on March 15, 2021, though it has not been determined at this time which Corps regions will adopt the NWPs.

The Corps’s Final Rule included a modified NWP 48 for shellfish mariculture, which covers both structures under the RHA and discharges under

---

<sup>39</sup> 33 U.S.C. § 403 (“The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited [...] except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army.”).

<sup>40</sup> “This regulation defines the term ‘navigable waters of the United States’ as it is used to define authorities of the Corps of Engineers...This definition does not apply to authorities under the Clean Water Act which definitions are described under 33 C.F.R. parts 323 and 328.” 33 C.F.R. § 329.1. “Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.” *Id.* § 329.4.

<sup>41</sup> Reissuance and Modification of Nationwide Permits, 86 Fed. Reg. 2744 (Jan 13, 2021) (to be codified at 33 C.F.R. Chapter 11), <https://www.federalregister.gov/documents/2021/01/13/2021-00102/reissuance-and-modification-of-nationwide-permits>.

Section 404 of the CWA.<sup>42</sup> The NWP's include new permits for both seaweed (NWP 55) and finfish (NWP 56) operations. Both NWP 55 and 56 authorize only structures and do not authorize any of the operational aspects of a farm's activities.<sup>43</sup> Both NWP 55 and 56 allow for multi-trophic mariculture operations, meaning the farm could be a mix of seaweed, finfish, and shellfish. Notably, both permits only cover the RHA, as the Corps has taken the position that activities under either permit do not result in discharges that would implicate the CWA.<sup>44</sup>

### C. Endangered Species Act

Congress passed the Endangered Species Act (ESA) in 1973 to protect both imperiled species and their ecosystems by establishing "a program for the conservation of such endangered species and threatened species."<sup>45</sup> The ESA is administered by the U.S. Fish and Wildlife Service (FWS) in the Department of the Interior for terrestrial species and by NMFS for listed marine species. Once a species is listed as endangered or threatened under Section 4 of the ESA, the Act's other provisions, such as Section 7 consultation and Section 9 take, come into play. While the Section 9 take provisions apply to all actors, Section 7 consultation only applies to the actions of federal agencies.

NMFS plays a vital role in the Section 7 consultation process. Section 7 aims to ensure that any proposed action by a federal agency will not place a listed species in jeopardy of extinction.<sup>46</sup> Section 7 requires the acting federal agency to consult with NMFS on actions that could jeopardize listed marine species. For instance, if the Corps is considering whether to issue a RHA Section 10 permit to an offshore aquaculture operation that could jeopardize an ESA listed marine species, the Corps would have to consult with NMFS on whether it could issue the permit.

---

<sup>42</sup> The previous version of NWP 48, which took effect in 2017, limited the area of impacted submerged aquatic vegetation in project areas that have not been used for commercial shellfish aquaculture activities in the past 100 years to a half-acre. In the new modified NWP, the Corps has removed this limitation in favor of a pre-construction notification (PCN) requirement for new and existing commercial shellfish aquaculture activities that will directly impact greater than a half-acre of submerged aquatic vegetation. *Id.* at 2863.

<sup>43</sup> *Id.* at 2864-65.

<sup>44</sup> *Id.* at 2852.

<sup>45</sup> 16 U.S.C. § 1531. The goal of the ESA is to recover a species to the point where the protections of the Act are no longer necessary. *Id.* §1532(3).

<sup>46</sup> *Id.* § 1536(a)(2).

In such an instance, NMFS and the Corps would work together to assess the potential impacts of a proposed federal action on the listed species. If it is possible that the proposed action “may affect” listed species or its critical habitat, then NMFS will produce a Biological Opinion (BiOp) based on information provided by the Corps, unless the Corps determines, with the written concurrence of NMFS, that the proposed action is not likely to adversely affect any listed species or critical habitat.<sup>47</sup> If NMFS determines the action and its cumulative effects are “likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat,”<sup>48</sup> then NMFS must formulate Reasonable and Prudent Alternatives (RPAs) that can be implemented by the Corps to avoid jeopardizing the species or harming its critical habitat.<sup>49</sup>

If applicable, NMFS could also issue an Incidental Take Permit (ITP) to the aquaculture operator, under ESA Section 10. The ITP would insulate the aquaculture operator from liability for certain “takes” of the listed marine species. Take, under the ESA, means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct,” and can include both lethal and non-lethal actions.<sup>50</sup> For instance, “harm” and “harass” include activities that interrupt a creature’s essential life functions of breeding, feeding, or sheltering. However, the aquaculture operator would only be protected from liability for takes that NMFS specifies in the ITP.

#### D. MMPA

The Marine Mammal Protection Act of 1972 (MMPA) affords a variety of protections to all marine mammals and seeks to prevent their populations from declining “beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part [...]”<sup>51</sup> While the ESA only applies to species that are listed under the statute, the MMPA applies to all marine mammals. Under the MMPA, NMFS is responsible for the protection of whales, dolphins, porpoises, seals, and sea lions.

Similar to the ESA, the MMPA prohibits the “taking” of marine mammals without a permit.<sup>52</sup> Take, under the MMPA, is defined as “to harass, hunt,

---

<sup>47</sup> 50 C.F.R. § 402.14(a)-(b).

<sup>48</sup> *Id.* § 402.14(h).

<sup>49</sup> *Id.* § 402.02.

<sup>50</sup> 16 U.S.C. § 1532(19).

<sup>51</sup> *Id.* § 1361(2).

<sup>52</sup> *Id.* § 1371(a).

capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”<sup>53</sup> Permits may be issued for direct takes of marine mammals, such as capturing or tagging individuals for research or public display, and indirect takes, which are the unintentional result of an activity such as commercial fishing, oil and gas development, or aquaculture.

NMFS may permit the taking of a small number of marine mammals incidental to specific activities upon a finding that such takes would have, among other things, a negligible impact on marine mammal stocks.<sup>54</sup> This is known as an Incidental Take Authorization (ITA) and, according to NMFS, most ITAs have been issued for activities that produce underwater sound.<sup>55</sup> In certain circumstances, aquaculture operations may need to obtain an ITA from NMFS if the farm’s operations would directly or indirectly affect marine mammals.<sup>56</sup>

#### E. Magnuson-Stevens Act<sup>57</sup>

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Magnuson Act or MSA) asserts federal jurisdiction over wild fish stocks found within U.S. federal waters.<sup>58</sup> The MSA also established eight regional Fisheries Management Councils (Councils). These Councils develop fishery management plans (FMPs), including annual catch limits, for fisheries under their respective authority requiring conservation and management.<sup>59</sup> NMFS reviews these FMPs and, upon approval, the agency implements the plans through the issuance of regulations.<sup>60</sup> The authority of the Councils and NMFS only extends to federally managed species that require conservation and management. For species that do not require conservation and management, there are no FMPs or federal regulations controlling how such species are caught.

---

<sup>53</sup> *Id.* § 1362(13).

<sup>54</sup> 50 C.F.R. § 216.102.

<sup>55</sup> *Understanding Permits and Authorizations for Protected Species*, NAT’L. MARINE FISHERIES SERV., <https://www.fisheries.noaa.gov/insight/understanding-permits-and-authorizations-protected-species#for-what-activities-does-noaa-fisheries-issue-permits> (last visited Aug. 30, 2021).

<sup>56</sup> *See* 16 U.S.C. § 1387.

<sup>57</sup> This section is adapted from Memorandum from Stephanie Showalter Otts, NSGLC Director, to David Alves, NMFS Greater Atlantic Region Aquaculture Coordinator (June 16, 2014), [http://nsglc.olemiss.edu/Advisory/finfish\\_request.pdf](http://nsglc.olemiss.edu/Advisory/finfish_request.pdf).

<sup>58</sup> 18 U.S.C. § 1801(b)(1).

<sup>59</sup> *Id.* § 1852.

<sup>60</sup> *Id.* § 1854.

The MSA defines “fishing” as “the catching, taking, or harvesting of fish” and any operations at sea in support of such activities.<sup>61</sup> In 1993, NOAA’s Office of General Counsel issued a legal opinion concluding that “aquaculture facilities are subject to the [MSA] because they engage in the ‘harvest’ of fish from the EEZ.”<sup>62</sup> In the NOAA attorneys’ opinion, the inclusion of the term “harvesting” is significant as it broadens the reach of the Magnuson Act beyond traditional fishing activities (i.e., catching fish).<sup>63</sup> According to the NOAA attorneys, “harvesting connotes the gathering of a crop” and aquaculture operations involve “plans to plant, cultivate, and harvest” fish.<sup>64</sup> Aquaculture is therefore, in NOAA’s view, “fishing” under the MSA.

In response to the 1993 attorneys’ opinion, NOAA has taken steps to regulate the culture of federally managed species. Some of these attempts have been more successful than others. For instance, the South Atlantic FMC developed and established a live rock aquaculture permit and management system under Amendment 3 to the Coral FMP in 1995. Under the Coral FMP, a federal permit is necessary to culture live rock in federal waters of the Gulf of Mexico and South Atlantic. Each permit is site specific and sites are limited to 1 acre (0.4 hectare) in size. Currently, the federal live rock permitting program is only active in federal waters of the Gulf of Mexico and South Atlantic off the coast of Florida. In the early 2010s, NOAA issued special permits authorizing aquaculture trials off the coast of Hawaii. Although the issuance of these permits was challenged in court, NOAA’s authority was upheld in part because of the limited scope of the agency action (e.g., one-year permit for discrete projects). However, as is discussed more thoroughly below, a more recent effort by the Gulf of Mexico Fishery Management Council to develop an Aquaculture FMP was struck down in court before it could be implemented.

---

<sup>61</sup> *Id.* § 1802(16).

<sup>62</sup> Memorandum from Jay S. Johnson, NOAA Deputy General Counsel, & Margaret F. Hayes, NOAA Assistant General Counsel for Fisheries, to James W. Brennan, NOAA Acting General Counsel 1 (Feb. 7, 1993) [hereinafter 1993 Opinion].

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

#### IV. NOAA AQUACULTURE AUTHORITY UNDER TRUMP EXECUTIVE ORDER ACTIONS

Throughout the last forty years, legislative and executive actions have encouraged NOAA to contribute to the expansion of offshore marine aquaculture. For example, in 1980, Congress passed the National Aquaculture Act, which identified aquaculture a national policy priority and created an Aquaculture Working Group in the Executive branch.<sup>65</sup> In 2011, the Department of Commerce and NOAA jointly published a “Marine Aquaculture Policy” which set out the goals for NOAA and other DOC agencies (e.g., Economic Development Agency, National Institute of Standards and Technology) to be more involved in aquaculture development through their scientific, regulatory, and outreach efforts.<sup>66</sup>

In addition to the national policies and statutory authorities discussed above, NOAA recently received executive direction to take specific actions related to aquaculture. On May 7, 2020, President Trump signed Executive Order 13,921 titled “Promoting American Seafood Competitiveness and Economic Growth” (Executive Order), which instructs NOAA to designate geographic areas referred to as “Aquaculture Opportunity Areas” or AOAs. The Executive Order requires that NOAA “identify at least two geographic areas containing locations suitable for commercial aquaculture within one year of the date the executive order was signed.”<sup>67</sup> NOAA must also “identify two additional geographic areas suitable for commercial aquaculture” each year for four years, starting in May 2021.<sup>68</sup> Meeting this timeline would ensure that NOAA establishes ten opportunity areas nationwide by 2025.<sup>69</sup>

<sup>65</sup> National Aquaculture Act of 1980, Pub. L. 96-198, 96-362 as amended, 94 Stat. 1198 (codified as amended 16 U.S.C. §§ 2801-2810).

<sup>66</sup> NAT’L OCEANIC & ATMOSPHERIC ADMIN., MARINE AQUACULTURE POLICY (2011), <https://media.fisheries.noaa.gov/2021-01/2011-noaa-marine-aquaculture-policy.pdf?null>; U.S. DEP’T OF COMMERCE, AQUACULTURE POLICY (2011) <https://media.fisheries.noaa.gov/2021-01/doc-aquaculture-policy-2011.pdf?null>.

<sup>67</sup> Exec. Order 13,921, 85 Fed. Reg. 28,471 (May 12, 2020).

<sup>68</sup> *Id.* (Section 7 of the EO requires NOAA to designate the first two AOAs within one year of the May 2020 effective date. After that, “(ii) for each of the following 4 years, identify two additional geographic areas containing locations suitable for commercial aquaculture and, within 2 years of identifying each area, complete a programmatic EIS for each area to assess the impact of siting aquaculture facilities there.”).

<sup>69</sup> News Release, Nat’l Marine Fisheries Serv., NOAA Announces Regions for First Two Aquaculture Opportunity Areas under Executive Order on Seafood (Aug. 20, 2020) [hereinafter AOA News Release], <https://www.fisheries.noaa.gov/feature-story/noaa-announces-regions-first-two-aquaculture-opportunity-areas-under-executive-order>.

Each time NOAA identifies potential regions for AOA designation, it must first allow the public to comment on the proposed regions in order to “minimize unnecessary resource conflicts as appropriate.”<sup>70</sup> Once the public comment period ends, NOAA then compiles the public input and completes an initial spatial analysis to identify specific parcels of water that look promising for aquaculture development in the selected regions. Once NOAA identifies those smaller parcels in the larger region, it must complete a NEPA programmatic environmental impact statement (PEIS) within two years of the initial region selection “to assess the impact of siting aquaculture facilities” in those areas.<sup>71</sup>

Three months after President Trump signed the Executive Order, NOAA identified two general regions suitable for AOA designation—one off the coast of Southern California and a second in the Gulf of Mexico.<sup>72</sup> NOAA selected these regions based on industry interest and “already available spatial analysis data.”<sup>73</sup> NOAA has not yet, however, identified exact locations in the EEZ off the coast of Southern California or in the Gulf of Mexico that may be designated an AOA. Since August 2020, NOAA has been working through its proposed AOA timeline—a sequence of actions that NOAA plans to take each time it selects an AOA. Accordingly, in line with the abovementioned AOA designation process, in October of 2020 NOAA published a request for information soliciting public input on the best sites for sustainable aquaculture development throughout the Southern California and Gulf of Mexico regions, as well as public input on what areas NOAA should consider nationally for future AOAs.<sup>74</sup>

NOAA has already collected public input and compiled the spatial analysis data necessary to determine suitable sites for aquaculture in the first two regions selected, and is currently creating “Aquaculture Opportunity Atlases.”<sup>75</sup> The Atlases will be technical memoranda issued by NOAA which will incorporate the collected spatial planning data and public input for each selected AOA region; the final Atlas will include a series of geospatial maps reflecting the suitability of aquaculture throughout the studied regions. Following an expert peer review, the Atlases for the first two AOA regions—“An Aquaculture Opportunity

---

<sup>70</sup> Exec. Order 13,921, *supra* note 67.

<sup>71</sup> *Id.*

<sup>72</sup> AOA News Release, *supra* note 69.

<sup>73</sup> *Id.*

<sup>74</sup> Aquaculture Opportunity Areas, 85 Fed. Reg. 67,519 (Oct. 23, 2020).

<sup>75</sup> *Aquaculture Opportunity Area Timeline*, NAT’L OCEANIC & ATMOSPHERIC ADMIN. (Apr. 2021), <https://media.fisheries.noaa.gov/2021-04/AOA-timeline-042121.pdf?null>.

Atlas for Southern California” and “An Aquaculture Opportunity Atlas for the Gulf of Mexico”—will be publicly released.<sup>76</sup> At the time of publication, NOAA had yet to release either of the intended Atlases to the public.<sup>77</sup> NOAA has released peer review guidelines that require comments to be submitted no later than 30 days after distribution to reviewers.<sup>78</sup> After peer review and publication of both technical memos, NOAA will publish a Notice of Intent (NOI) to prepare a Programmatic Environmental Impact Statement (PEIS) for the first AOA in those regions.<sup>79</sup>

In constructing the Atlases, NOAA hopes to identify three preliminary AOA alternatives per regional study area (subparts of the larger selected regions) using a “suitability modeling process.”<sup>80</sup> These alternatives will then be considered and narrowed further in the EIS process under NEPA. Each alternative is expected to be between 500 and 2,000 acres in size.<sup>81</sup> To derive these alternatives, NOAA has narrowed down its pool of potential areas within each selected region by eliminating plots of the EEZ that are not deep enough or the correct distance from shore.<sup>82</sup> NOAA has also constructed hundreds of data layers to determine whether the study areas selected are compatible with aquaculture.<sup>83</sup> NOAA maps this data in what looks like a heat-map; the “higher heat” portions of the model show areas with low suitability for aquaculture, and the “lower heat” represents higher aquaculture suitability.<sup>84</sup> High suitability areas are more

---

<sup>76</sup> *Aquaculture Opportunity Areas Atlases for the Gulf of Mexico and Southern California (ID424)*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://www.noaa.gov/organization/information-technology/information-quality-peer-review-id424> (last visited Aug. 30, 2021).

<sup>77</sup> At the time of publication, NOAA had last updated its Atlases webpage on March 18, 2021. See *id.*

<sup>78</sup> *Charge Statement for Peer Review of the NOAA Technical Memorandum NOS NCCOS*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://www.noaa.gov/sites/default/files/legacy/document/2021/Mar/ID424-charge-statement-AOA-atlas.pdf> (last visited Aug. 30, 2021).

<sup>79</sup> *Aquaculture Opportunity Areas Atlases for the Gulf of Mexico and Southern California (ID424)*, *supra* note 76.

<sup>80</sup> Feb. 24, 2021 Habitat Committee Meeting Recording, Pacific Fishery Management Council (Feb. 24, 2021, 1:00 PM – 5:00 PM), <https://www.pcouncil.org/events/habitat-committee-to-hold-online-meeting-february-24-2021/> [hereinafter PFMC Committee AOA Meeting]; NOAA, AQUACULTURE OPPORTUNITY AREAS: GULF OF MEXICO FISHERY MANAGEMENT COUNCIL SHRIMP ADVISORY PANEL MEETING (Mar. 23, 2021), [https://gulfcouncil.org/wp-content/uploads/X.-AOA-Update-Presentation-ShrimpAP\\_03\\_23\\_2021.pdf](https://gulfcouncil.org/wp-content/uploads/X.-AOA-Update-Presentation-ShrimpAP_03_23_2021.pdf) [hereinafter GMFMC Shrimp Panel AOA Meeting].

<sup>81</sup> GMFMC Shrimp Panel AOA Meeting, *supra* note 80.

<sup>82</sup> PFMC Committee AOA Meeting, *supra* note 80.

<sup>83</sup> GMFMC Shrimp Panel AOA Meeting, *supra* note 80.

<sup>84</sup> PFMC Committee AOA Meeting, *supra* note 80.

conducive to aquaculture because they are not heavily inundated with other incompatible activities such as hard bottom habitat, oil and gas wells, submarine cables, or vessel traffic.<sup>85</sup>

For example, in the Gulf of Mexico, NOAA has considered data layers in each study area like the number of Marine Protected Areas, deep sea corals, oil and gas wells, submarine cables, vessel traffic, military interactions, other industry interactions, etc. to narrow which areas would be most suitable for aquaculture given other activities in a given area.<sup>86</sup> The completed “suitability composite” then compiles all “submodels”—or the data layers—into a cluster map across the entire region, which gives NOAA a general idea of which areas to pursue as “preliminary alternatives” within a Draft PEIS (DPEIS).<sup>87</sup> The Atlases that NOAA should be releasing soon will analyze composite maps—which incorporate all data layers—to pinpoint patterns that are driving the heat map results.<sup>88</sup> Additionally, the Atlases will document precision siting models, which pinpoint two or three 500-2,000 acre areas in the entire study area (or region) that received the highest suitability scores and are best to pursue for AOAs.<sup>89</sup>

NOAA intends to publish a NOI for each PEIS in late summer or early fall of 2021.<sup>90</sup> These PEISs will address the preliminary alternatives for AOAs selected through the spatial planning analysis.<sup>91</sup> It is unclear at this time what impact the issuance of these AOAs will have on the existing permitting process for marine aquaculture in the EEZ. While the Atlases will synthesize key scientific data that can inform applicant and federal agency decision-making, there is no legal mechanism that would require the EPA or the Corps to use them. In theory, reliance on the Atlases and the associated environmental reviews could save the EPA and the Corps staff time during the permitting process. However, the EPA and the Corps each have unique responsibilities that are different from NOAA’s mission that must be fulfilled before issuing permits. These responsibilities, as well as agency regulations, may constrain their ability to rely on the Atlases during decision-making.

---

<sup>85</sup> *Id.*

<sup>86</sup> GMFMC Shrimp Panel AOA Meeting, *supra* note 80.

<sup>87</sup> PFMC Committee AOA Meeting, *supra* note 80. From these submodels, NOAA may be able to eliminate entire areas, like off the coast of San Diego, which have substantial military interactions).

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* (the precision siting analysis considers things like “Department of Defense mission compatibility”).

<sup>90</sup> *Aquaculture Opportunity Area Timeline*, *supra* note 75.

<sup>91</sup> GMFMC Shrimp Panel AOA Meeting, *supra* note 80.

## V. Assertion of Authority #1: Special Permits

In 2010, a Hawaii-based marine aquaculture company proposed a pilot aquaculture project in the U.S. EEZ off the coast of Hawaii.<sup>92</sup> The company proposed a second trial in 2011. Both trials involved the use of a copper-alloy meshed Aquapod®, stocked with around 2,000 pounds of kampachi (*S. rivoliana*), a species also known as almaco jack.<sup>93</sup> During the first trial in 2011, the net pen was attached to a feed barge that drifted with the currents between 3 and 75 miles offshore.<sup>94</sup> During the second in 2012, the net pen was moored in water 6,000 feet deep about six miles offshore.

Relying on the interpretation of the MSA set forth by NOAA Office of General Counsel in 1993, NMFS asserted jurisdiction over the aquaculture projects.<sup>95</sup> NOAA reasoned it could regulate the proposed operation because almaco jack is a managed species pursuant to the MSA—specifically, under the Pacific Regional Fishery Management Council’s Fisheries Ecosystem Plan for the Hawaiian Archipelago (FEP).<sup>96</sup> However, the FEP does not discuss or provide management options for aquaculture or aquaculture gear. As such, NOAA needed to issue a special permit—a Special Coral Reef Ecosystem Fishing Permit (SCREFP)—to authorize the operation and its gear.

NMFS issued a SCREFP to Kampachi Farms in July 2011 authorizing it to “stock, culture, and harvest” almaco jack in federal waters off the coast of Hawaii.<sup>97</sup> The permitted project was known as the “Velella Concept.”<sup>98</sup> In 2012, KAHEA and Food & Water Watch (referred to below as the plaintiffs) challenged

---

<sup>92</sup> NAT’L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT: PROPOSED ISSUANCE OF A PERMIT TO AUTHORIZE THE CULTURE AND HARVEST OF A MANAGED CORAL REEF FISH SPECIES (*SERIOLA RIVOLIANA*) IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII, STATE OF HAWAII 7 (July 6, 2011) [hereinafter *Kampachi Farms EA*], <https://repository.library.noaa.gov/view/noaa/691>. The project was proposed by Kona Blue Water Farms. Kampachi Farms, which was founded in 2011 by former executives of Kona Blue Water Farms, took over the project. The company is now known as Ocean Era. *See Overview*, OCEAN ERA, <http://ocean-era.com/our-research> (last visited Aug. 30, 2021).

<sup>93</sup> *Ocean Era Research Projects*, OCEAN ERA, <http://ocean-era.com/projects> (last visited Aug. 30, 2021).

<sup>94</sup> *Id.*

<sup>95</sup> 1993 Opinion, *supra* note 62.

<sup>96</sup> *Kampachi Farms EA*, *supra* note 92, at 8.

<sup>97</sup> *KAHEA v. Nat’l Marine Fisheries Serv.*, No. 11-00474 SOM, 2012 WL 1537442, at \*1 (D. Haw. Apr. 27, 2012).

<sup>98</sup> *Id.* at \*2.

NMFS' decision to issue the SCREFP. The plaintiffs sued NMFS in federal district court under the MSA, the Administrative Procedure Act (APA), and the National Environmental Policy Act (NEPA).<sup>99</sup> Subsequent proceedings involving the same parties warrant labeling the first district court case "*KAHEA 1*" and the second as "*KAHEA 2*" to distinguish the phases of litigation.

In the litigation, the plaintiffs asserted that NMFS lacked statutory authority to issue the SCREFP.<sup>100</sup> Secondly, the plaintiffs claimed that by issuing the SCREFP, NMFS engaged in *de facto* rulemaking in violation of the APA. They argued that through this permit, NMFS effectively made a rule "that aquaculture is fishing under the MSA" without going through proper rulemaking procedures.<sup>101</sup> Finally, the plaintiffs asserted that NMFS violated NEPA because it failed to prepare an Environmental Impact Statement (EIS).<sup>102</sup> In other words, the plaintiffs argued that the SCREFP would have significant environmental consequences, and therefore NMFS impermissibly issued a "Finding of No Significant Impact" (FONSI) and failed to engage in additional procedures required by NEPA.

#### A. *KAHEA v. NMFS 1*: District Court Opinion

In *KAHEA 1*, the U.S. District Court for the District of Hawaii (Hawaii District Court) granted NMFS' motion for summary judgment on all three of the plaintiffs' claims. First, the court deferred to NMFS' interpretation that the Kampachi Farms' aquaculture project is "fishing" under the MSA, which gave the agency authority to issue the permit.<sup>103</sup> Likewise, the court held that NMFS' interpretation was not arbitrary and capricious and did not violate the APA.<sup>104</sup> The court agreed with NMFS that the definition of "fishing" in the MSA, which includes "harvesting of fish," is broad.<sup>105</sup> NMFS considered the aquaculture operation to be "fishing" under the MSA because, NMFS argued, the project is a method of harvesting fish.<sup>106</sup> To defend its interpretation, NMFS presented dictionary definitions of "harvesting" which ubiquitously involves gathering

---

<sup>99</sup> *Id.* at \*1.

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Id.* at \*9-11.

<sup>104</sup> *Id.*

<sup>105</sup> *Id.* at \*9; see 16 U.S.C. § 1802(16).

<sup>106</sup> *KAHEA*, 2012 WL 1537442, at \*9-11.

crops.<sup>107</sup> Next, NMFS pointed to the dictionary definition of “crop”; NMFS reasoned that fish are a kind of crop because they are an “animal . . . that can be grown and harvested extensively for profit or subsistence.”<sup>108</sup> NMFS also argued that this interpretation does not contravene Congress’s intent because the MSA also delegates power to NMFS to regulate “any operations at sea in support of, or in preparation for” fishing.<sup>109</sup> The district court found that NMFS’ interpretation “was not irrational or contrary to plain meaning” of the statute.<sup>110</sup> The court reasoned that the MSA does not define harvesting or aquaculture, nor does legislative history discuss the meaning of harvesting in the MSA.<sup>111</sup> Therefore, because NMFS’ interpretation was reasonable, it could receive deference from the court.<sup>112</sup> Finally, the *KAHEA I* court rejected the plaintiffs’ contention that the MSA delegates the authority to define the term “harvest” to the fishery management councils.<sup>113</sup>

Next, the court analyzed whether NMFS had created a *de facto* rule when it authorized Kampachi Farms’ aquaculture project by issuing a SCREFP. The plaintiffs argued that the permit was a *de facto* rule which declared that aquaculture is “fishing.”<sup>114</sup> The court rejected this argument. Not only did the SCREFP not explicitly authorize “aquaculture,” it did not guarantee that NMFS would always grant permits for proposed aquaculture operations as long as the permitting requirements are met.<sup>115</sup> Significantly, the court explained that in order for aquaculture operations to acquire a permit in the future, NMFS will have to consider whether each individual aquaculture project involves fishing under the MSA’s definition; simply calling a project aquaculture will not guarantee that NMFS will consider it fishing.<sup>116</sup> Thus, the court ruled that NMFS’ decision to issue one permit for one party does not possess the characteristics of an agency rule—rules have future effect and bind many parties.<sup>117</sup> Therefore, the SCREFP was not a *de facto* rule.<sup>118</sup> Lastly, in dicta, the *KAHEA I* court indicated that if

---

<sup>107</sup> *Id.* at \*9 (NMFS quoting the definition of crop in the Merriam-Webster dictionary, <http://www.merriam-webster.com/dictionary/crop> (last visited Aug. 30, 2012)).

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* (citing 16 U.S.C. §1802(16)(D)).

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

<sup>112</sup> *Id.*

<sup>113</sup> *Id.* at \*10.

<sup>114</sup> *Id.* at \*11.

<sup>115</sup> *Id.*

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

NMFS had instead offered the same interpretation as part of its decision to implement an amendment to a Fishery Management Plan (FMP)—which would have future effect and bind many parties—that would present a different case.<sup>119</sup>

In response to the plaintiffs’ final claim—that NMFS violated NEPA—the *KAHEA I* court concluded that the claim was moot. The court reasoned that there was no possible relief the court could issue that would remedy NMFS’ alleged NEPA violations because there existed no continuing harm from the already completed pilot project.<sup>120</sup>

#### B. *KAHEA v. NMFS I*: Ninth Circuit Opinion

The plaintiffs appealed the district court’s ruling to the U.S. Court of Appeals for the Ninth Circuit. On appeal, the Ninth Circuit affirmed the *KAHEA I* court’s decisions regarding the plaintiffs’ first two claims by holding that NMFS had authority to issue the fishing permit to Kampachi Farms under the MSA.<sup>121</sup> However, on the plaintiffs’ NEPA claim, the Ninth Circuit determined that an exception to the mootness doctrine applied and thus remanded that claim back to the district court.<sup>122</sup> Though the NEPA claim was no longer a “live” controversy because the permit was expired at the time of appeal, the Ninth Circuit reasoned that both requirements under the “capable of repetition yet evading review” exception were met: (1) a “reasonable expectation” existed that Food & Water Watch would be subject to the same alleged injury as a result of Kampachi Farm’s planned second permit application, and (2) the alleged injury was “inherently limited in duration” such that it would likely become moot before any subsequent federal litigation was completed.<sup>123</sup> The Ninth Circuit accordingly remanded the case to the district court to hear the NEPA claim.<sup>124</sup>

#### C. *KAHEA v. NMFS 2*: District Court Remand

In 2014, KAHEA returned to the Hawaii District Court. In accordance with the Ninth Circuit’s ruling, the plaintiffs were forced to drop their substantive claims challenging NMFS’ authority to issue a SCREFP to Kampachi Farms. Thus, on remand, KAHEA and Food & Water Watch were left with just one

---

<sup>119</sup> *See id.*

<sup>120</sup> *Id.* at \*6-7.

<sup>121</sup> *KAHEA v. Nat’l Marine Fisheries Serv.*, 544 F. App’x 675, 675, ¶ 3 (9th Cir. 2013).

<sup>122</sup> *Id.* at ¶ 4 (citing *Ctr. for Biological Diversity v. Lohn*, 511 F.3d 960, 965 (9th Cir. 2007)).

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

claim: NMFS failed to complete an allegedly required EIS for the original SCREFP.<sup>125</sup> In *KAHEA 2*, NMFS and the plaintiffs submitted cross-motions for summary judgment in relation to the NEPA claim.<sup>126</sup> The plaintiffs argued that NMFS did not comply with NEPA because it issued a FONSI and correspondingly determined that an EIS was not required for the SCREFP.<sup>127</sup> The plaintiffs asserted essentially two arguments. First, the plaintiffs argued that NMFS should have completed an EIS because the aquaculture project was highly controversial.<sup>128</sup> Second, the project's impacts and precedential effect was highly uncertain.<sup>129</sup> The plaintiffs claimed that in its Environmental Assessment, NMFS did not properly consider the cumulative impacts resulting from the SCREFP permit.<sup>130</sup> More specifically, plaintiffs asserted that NMFS did not consider the potential for "future aquaculture development" in the region as a result of the permit.<sup>131</sup>

The *KAHEA 2* court employed an arbitrary and capricious analysis in reviewing NMFS' decision to forego an EIS. An agency's decision is arbitrary and capricious if the agency failed to take a "hard look" at the consequences of its actions.<sup>132</sup> An agency must consider the relevant factors and explain the reasons for its decision to meet the hard look standard.<sup>133</sup> In the situation where an agency determines that an EIS is not necessary, the agency must "provide[] a convincing statement of reasons to explain why a project's impacts are insignificant."<sup>134</sup> Under this standard, the court rejected the plaintiffs' argument regarding cumulative effects. The *KAHEA 2* court reasoned that the alleged cumulative effect—that the SCREFP would increase aquaculture development in the region—was not reasonably foreseeable; there were no other proposed projects in the region at the time, and NMFS cannot base its decision of whether an EIS is necessary on speculative or premature environmental impacts.<sup>135</sup> Likewise, the

---

<sup>125</sup> *KAHEA v. Nat'l Marine Fisheries Serv.*, No. CIV. 11-00474 SOM, 2014 WL 3726122 (D. Haw. July 24, 2014).

<sup>126</sup> *Id.* at \*1.

<sup>127</sup> *Id.* at \*2.

<sup>128</sup> *Id.* at \*8.

<sup>129</sup> *Id.* at \*4-11.

<sup>130</sup> *Id.* at \*7. The plaintiffs also alleged NMFS failed to adequately consider the permit's effect on cultural resources.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.* at \*3.

<sup>133</sup> *Id.*

<sup>134</sup> *Id.* (quoting *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1239 (9th Cir. 2005)).

<sup>135</sup> *Id.* at \*7-8.

*KAHEA 2* court accepted NMFS' explanation that the one-time only nature of the SCREFP mitigates concerns that the permit might "open NMFS to a flood of applications for permits by operators wishing to undertake oceanic aquaculture in federal waters."<sup>136</sup> Accordingly, the court found that NMFS had a reasonable basis for determining an EIS was not required, and its decision was not arbitrary and capricious.<sup>137</sup>

## VI. ASSERTION OF AUTHORITY #2: GULF AQUACULTURE FISHERY MANAGEMENT PLAN

The Gulf of Mexico Fishery Management Council (GMFMC) is responsible for managing fisheries off the coast of Louisiana, Mississippi, Alabama, Texas, and Florida.<sup>138</sup> In 2009, the GMFMC approved a FMP that would establish a comprehensive regulatory framework for offshore aquaculture in the Gulf of Mexico, referred to as the Gulf Aquaculture Plan or "GAP".<sup>139</sup> To date, the GMFMC is the only regional council to use the 1993 NOAA Office of General Counsel's legal interpretation of the MSA to establish a permitting system for aquaculture through the development and implementation of a FMP.<sup>140</sup>

After developing the GAP, the GMFMC submitted the plan to NMFS for approval. However, NMFS never approved or disapproved the plan, and the plan went into effect by operation of law.<sup>141</sup> Once effective, initial attempts to challenge the GAP in court failed. The U.S. Court of Appeals for the D.C. Circuit dismissed the lawsuit brought by environmental groups for lack of standing, finding that the GAP by itself had no regulatory effect.<sup>142</sup> The court found that the GAP was not ripe for review until NMFS issued regulations implementing the plan.<sup>143</sup>

---

<sup>136</sup> *Id.* at \*4.

<sup>137</sup> *See id.*

<sup>138</sup> 16 U.S.C. § 1852(a)(1)(E).

<sup>139</sup> Presentation by NOAA Fisheries, NOAA Fisheries Gulf Aquaculture Permit (GAP) Program for Federal Waters of the Gulf of Mexico, slide 3 (Oct. 14, 2016), <https://s3.amazonaws.com/nefmc.org/GMFMC-Aquaculture-Presentation-Updated.pdf>.

<sup>140</sup> *See* 1993 Opinion, *supra* note 62.

<sup>141</sup> 50 C.F.R. § 622; STEPHANIE S. OTTS & TERRA BOWLING, NATL. SEA GRANT L. CENTER, OFFSHORE FINFISH CULTURE OPERATIONS: CURRENT LEGAL FRAMEWORK AND REGULATORY AUTHORITY 5 (2014) (explaining that NMFS did not disapprove the plan because "the only grounds for disapproval was a finding that aquaculture was not 'fishing' under the MSA; a position the agency did not want to take.").

<sup>142</sup> *Gulf Restoration Network v. Nat'l Marine Fisheries Serv.*, 730 F. Supp. 2d 157, 166 (2010).

<sup>143</sup> *Id.* at 172.

In August 2014, NMFS proposed regulations to implement the GAP and requested public comment.<sup>144</sup> After receiving more than 1,100 comments, NMFS published the final rule in the Federal Register in January 2016.<sup>145</sup> The final rule went into effect in February 2016 and provided 115 responses to the public comments. The finalized GAP regulations established the United States' first regional permitting process to manage the development of an aquaculture industry in the U.S. EEZ.<sup>146</sup>

Once NMFS' final GAP rule became effective, claims against the GAP as implemented were ripe for review. Consequently, the Center for Food Safety, joined by others including the Gulf Fishermen's Association and a number of other environmental groups, immediately sued NMFS in federal district court, arguing that the MSA does not give NMFS authority to regulate aquaculture.<sup>147</sup> The plaintiffs argued that the Gulf Council's interpretation of the MSA, which was supported by NOAA's Office of General Counsel 1993 opinion, was not reasonable, and thus NMFS' final rule implementing the GAP was invalid. NMFS, on the other hand, argued that the MSA's definition of fishing is ambiguous, and that under the Administrative Procedure Act the court should defer to NMFS's interpretation.<sup>148</sup>

#### A. *Gulf Fishermen's Association v. NMFS*: District Court Opinion

The U.S. District Court for the Eastern District of Louisiana (Louisiana District Court) agreed with the plaintiffs and found that NMFS' MSA-delegated authority to regulate fishing does not give NMFS authority to regulate aquaculture.<sup>149</sup> In its decision, the court performed a Chevron analysis—the analysis created by the U.S. Supreme Court in its 1984 *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.* decision and used by courts to determine whether a federal agency has reasonably interpreted its delegated authority under

---

<sup>144</sup> Proposed Rule, Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture, 79 Fed. Reg. 51424 (Aug. 28, 2014).

<sup>145</sup> Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture, 81 Fed. Reg. 1761 (Jan. 13, 2016) (final rule codified at 50 C.F.R. § 622).

<sup>146</sup> *Id.* (final rule effective February 12, 2016).

<sup>147</sup> *Gulf Fishermen's Ass'n v. Nat'l Marine Fisheries Serv.*, 341 F. Supp. 3d 632 (E.D. La. 2018).

<sup>148</sup> *Chevron v. Nat. Res. Def. Council*, 467 U.S. 837 (1984) (finding that when there is ambiguity in an enabling statute, the Administrative Procedure Act requires courts to defer to the agency's interpretation of the statute so long as it is a reasonable one).

<sup>149</sup> *Gulf Fishermen's Ass'n*, 341 F. Supp. 3d. at 637-42.

a federal statute through rulemaking.<sup>150</sup> In this case, the Chevron Doctrine applies because NMFS interpreted the terms of the MSA in developing the GAP regulations.

The Chevron Doctrine instructs courts to perform a two-step analysis. First, “a court reviewing an agency’s construction of a statute must . . . ask ‘whether Congress has directly spoken to the precise question at issue.’”<sup>151</sup> If the court finds that Congress’s intent is clear, “that is the end of the matter.”<sup>152</sup> If the court determines Congress’s intent is unclear because the statute is silent or ambiguous on the question at issue, the second step courts must take is determining whether the agency action in question is “based on a permissible construction of the statute.”<sup>153</sup>

The district court in *Gulf Fishermen’s Ass’n* ended its analysis at step one of its Chevron analysis, finding that the terms of the MSA were clear and not ambiguous.<sup>154</sup> The district court reasoned that the MSA’s grant of authority to NMFS to regulate “fishing,” which is defined to include “harvesting,”<sup>155</sup> does not authorize the agency to regulate aquaculture.<sup>156</sup> The court found there to be “no ambiguity in the term ‘harvesting’ such that the NMFS was authorized to fill a gap therein.”<sup>157</sup> The court relied on legislative history to demonstrate that “harvesting” is an unambiguous term in the MSA; specifically, the word “harvesting” in the MSA’s legislative history consistently refers to traditional fishing, or fishing wild fish.<sup>158</sup> Furthermore, the court reasoned that if Congress intended to give NMFS regulatory authority over aquaculture under the MSA, “it would have said more than ‘harvesting.’”<sup>159</sup> Additionally, the court considered the

---

<sup>150</sup> 467 U.S. 837 (1984).

<sup>151</sup> *Gulf Fishermen’s Ass’n*, 341 F. Supp. 3d at 636 (quoting *Chevron, U.S.A., Inc.*, 467 U.S. at 842).

<sup>152</sup> *Id.* (quoting *Chevron, U.S.A., Inc.*, 467 U.S. at 843).

<sup>153</sup> *Id.* (quoting *Chevron, U.S.A., Inc.*, 467 U.S. at 843-44).

<sup>154</sup> *Id.* at 641-42.

<sup>155</sup> 16 U.S.C. § 1802 defines “fishing” to include:

- (A) the catching, taking, or harvesting of fish;
- (B) the attempted catching, taking, or harvesting of fish;
- (C) any other activity which can reasonably be expected to result in the catching, taking, or harvesting of fish; or
- (D) any operations at sea in support of, or in preparation for, any activity described in subparagraphs (A) through (C).

<sup>156</sup> *Gulf Fishermen’s Ass’n*, 341 F. Supp. 3d at 642.

<sup>157</sup> *Id.*

<sup>158</sup> *Id.* at 640.

<sup>159</sup> *Id.* at 642.

purpose of the statute: conservation of natural resources found off the coasts of the United States. The court determined farmed aquaculture species are neither “found” off the coast nor can they be considered “natural resources.”<sup>160</sup> As a result, the court granted summary judgment for the plaintiff groups.

#### B. *Gulf Fishermen’s Association v. NMFS*: Fifth Circuit Opinion

NOAA attempted to assert its regulatory authority over aquaculture once more when it appealed the district court ruling to the U.S. Court of Appeals for the Fifth Circuit, which covers the federal district courts of Mississippi, Louisiana, and Texas. However, in August 2020, the Fifth Circuit affirmed the Louisiana District Court’s holding, finding that the GAP regulations exceeded the statutory authority granted to NMFS in the MSA.<sup>161</sup>

Ultimately, the court was unconvinced by NMFS’s argument and found that the MSA was not ambiguous enough to confer deference to the agency’s interpretation. It also was not convinced by NMFS’s argument that the definition of fishing, which includes “harvesting” under the MSA, is broad enough to include aquaculture facilities. Lastly, the court noted that the MSA grants NOAA authority over fisheries, but notably says nothing about aquaculture facilities. The court stated that the drafters of the statute were more than aware of the practices of aquaculture at the time the bill was being created, and thus, the seemingly deliberate lack of mention of aquaculture is proof of the drafter’s intentions. Indeed, NOAA even admitted in their rulemaking process that “many of the principles and concepts that guide wild stock management under the MSA are either of little utility or not generally applicable to management of aquaculture operations.”<sup>162</sup> All of these factors contributed to the court finding in favor of the plaintiffs, invalidating the GAP regulations.

One of the appellate judges ruling on the case dissented from the majority, arguing three points. First, Judge Higginson discussed the MSA’s delegation of authority to NOAA to regulate “all fish, and all Continental Shelf fishery resources, within the [EEZ].”<sup>163</sup> Second, he pointed out that, while aquaculture is not specifically mentioned, many of the methods and tools used in aquaculture, such as nets, lines, pots, cages, and other types of enclosures, are mentioned and included under the definition of fishing in the MSA. Third, the dissent was more

---

<sup>160</sup> *Id.*

<sup>161</sup> *Gulf Fishermens Ass’n v. Nat’l Marine Fisheries Serv.*, 968 F.3d 454 (5th Cir. 2020).

<sup>162</sup> *Fisheries of the Caribbean, Gulf, and South Atlantic; Aquaculture*, *supra* note 145, at 1,762.

<sup>163</sup> 16 U.S.C. § 1811(a).

convinced by the ambiguity of the MSA and argued that the court should defer to NMFS's interpretation of the term "fishing."

### C. *Gulf Fishermen's* relation to *KAHEA*

The Louisiana District Court decision in *Gulf Fishermen's Ass'n* cited to and detailed *KAHEA I*. The plaintiffs in *Gulf Fishermen's* advanced the same principal argument as the plaintiffs in *KAHEA I*—the MSA does not delegate authority to NMFS to authorize aquaculture because aquaculture is not fishing under the MSA.<sup>164</sup> Notably, the *KAHEA I* court deferred to NMFS' interpretation categorizing the aquaculture project as fishing.<sup>165</sup> But the Louisiana District Court distinguished *KAHEA I* from *Gulf Fishermen's*; the widespread and comprehensive GAP that was at issue in *Gulf Fishermen's* would be an "entirely new regulatory scheme permitting aquaculture facilities throughout the Gulf," unlike the single permit for one individual project that was at issue in *KAHEA I*.<sup>166</sup> This reasoning aligns with dicta in the *KAHEA I* district court opinion. There, the Hawaii District Court indicated that if NMFS had instead offered the same interpretation as part of its decision to implement an amendment to a FMP that would present a different case, as a FMP would have future effect and bind many parties.<sup>167</sup> Thus, the Louisiana District Court reasoned, "*Kahea* is not binding, applicable, or persuasive" in a case involving the Gulf Aquaculture Plan.<sup>168</sup> However, this position was not unanimous among the court. While the Fifth Circuit affirmed the district court's decision, one dissenting judge cited *KAHEA I* as evidence that the MSA grants NMFS "capacious" authority to regulate offshore aquaculture.<sup>169</sup> Despite the 2-1 Fifth Circuit opinion, NOAA decided to not ask the U.S. Supreme Court to weigh in on whether fishing under the MSA could include aquaculture.

<sup>164</sup> *Gulf Fishermen's Ass'n*, 341 F. Supp. 3d at 641.

<sup>165</sup> *KAHEA v. Nat'l Marine Fisheries Serv.*, No. 11-00474 SOM, 2012 WL 1537442 (D. Haw. Apr. 27, 2012).

<sup>166</sup> *Gulf Fishermen's Ass'n*, 341 F. Supp. 3d at 641 (mirroring the dicta in *KAHEA I* indicating that the court's decision may have been different had the WPFMC issued a rule, such as an amendment to an FMP, instead of the one-time permit).

<sup>167</sup> *KAHEA*, 2012 WL 1537442, at \*11.

<sup>168</sup> *Id.*

<sup>169</sup> *Gulf Fishermen's Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F.3d 454, 469-70 (5th Cir. 2020) (Higginson, J. dissenting) (citing *KAHEA*, 2012 WL 1537442, at \*8-10).

## VII. ASSERTION OF AUTHORITY #3: WESTERN PACIFIC MANAGEMENT COUNCIL

The Western Pacific Fishery Management Council (WPFMC) is responsible for managing the waters of the Pacific Islands of Hawaii, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and a range of remote islands in the central and western Pacific.<sup>170</sup> The area of major concern for these fisheries is the special circumstances of regional coral reefs, and how to permit aquaculture operations without posing a risk to the extremely sensitive coral reef ecosystems. Previously, these operations were allowed through special permits. However, with recent developments there may be opportunities for these permits to be streamlined.<sup>171</sup>

The Pacific Islands Region (PIR) consists of American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and Hawaii. As alluded to previously, except for a few cultured species and types of gear used in the PIR,<sup>172</sup> offshore aquaculture operations in the PIR do not need to obtain any aquaculture-specific permits from NMFS. Therefore, offshore aquaculture facilities in the PIR, generally, are not subject to conditions to operate except for conditions placed in any applicable permits issued by other federal agencies, such as the RHA and CWA permits discussed above. Currently, there are only two offshore aquaculture facilities located in the PIR: one commercial operation in Hawaii state waters and one research facility in federal waters.<sup>173</sup> Thus, there are currently no commercial offshore aquaculture facilities located in federal waters in the PIR.

Through its PIR Regional Administrator, NMFS has a seat on the WPFMC.<sup>174</sup> With the help of this relationship, NMFS has been working with the

---

<sup>170</sup> 16 U.S.C. § 1852(a)(1)(H).

<sup>171</sup> Press Release, Western Pac. Reg'l Fishery Mgmt. Council, Federal Managers Agree to a US Pacific Island Marine Aquaculture Management Program (Mar. 15, 2018) <http://www.wpcouncil.org/press-release-federal-managers-agree-to-a-us-pacific-island-marine-aquaculture-management-program-ecosystem-component-species-reclassification-15-march-2018/>.

<sup>172</sup> 50 C.F.R. §§ 665.121, 665.221, 665.421, 665.621 (regulating the culture of Coral Reef Ecosystem Component Species (CRECS) through a Special Coral Reef Ecosystem Fishing Permit (SCREFP)).

<sup>173</sup> NAT'L MARINE FISHERIES SERVICE, PACIFIC ISLANDS AQUACULTURE MANAGEMENT PROGRAM, DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 0648-XA867 21 (May 7, 2021) [hereinafter 2021 DPEIS-PIR].

<sup>174</sup> *Id.*

WPFMC to establish a formal aquaculture management program for the PIR, a process the WPFMC began in 2009.<sup>175</sup> NMFS hopes to establish a formal management program in the PIR to provide enhanced planning, coordination, and oversight; to mitigate the “proliferation of unmanaged aquaculture operations” in federal waters; and to “allow for sustainable development of offshore aquaculture.”<sup>176</sup> Accordingly, NMFS undertook an initial step toward its goal: analyzing the environmental impacts of a potential regional aquaculture management program.<sup>177</sup> In 2016, NMFS published a notice of intent to prepare a PEIS on aquaculture management in the PIR.<sup>178</sup> Nearly six years later, in June 2021, NMFS issued a notice of availability of a DPEIS, which examines the environmental impacts of different potential comprehensive management alternatives for regulating offshore aquaculture in the PIR.<sup>179</sup> The action area for the programmatic assessment includes nearly 1.5 million square miles and accounts for half of the EEZ.<sup>180</sup>

If NMFS moves forward with one or two (out of the three) alternatives examined in the DPEIS, offshore aquaculturists would be required to obtain aquaculture-specific permits to participate in the suggested limited entry program in the PIR. The alternatives suggested in the DPEIS are:

1. A no-action alternative, under which NMFS would leave offshore aquaculture largely unmanaged in the PIR,
2. Establish a limited entry program with aquaculture-specific permits for currently managed species (those in the relevant pelagic or archipelagic Fishery Ecosystem Plan (FEP)), or

---

<sup>175</sup> In 2009, the WPFMC began soliciting public feedback and developing ideas for permitting schemes in the PIR. *Id.* at 25-26.

<sup>176</sup> *Id.* at 3, 19. NMFS also stated that the alternatives presented in the DPEIS “are intended to align with its Marine Aquaculture Strategic Plan.” *Id.* at 24 (citing NOAA FISHERIES, MARINE AQUACULTURE STRATEGIC PLAN FY 2016-2020 (2015), [https://media.fisheries.noaa.gov/dam-migration/noaa\\_fisheries\\_marine\\_aquaculture\\_strategic\\_plan\\_fy2016-2020.pdf](https://media.fisheries.noaa.gov/dam-migration/noaa_fisheries_marine_aquaculture_strategic_plan_fy2016-2020.pdf)).

<sup>177</sup> See generally 2021 DPEIS-PIR, *supra* note 173.

<sup>178</sup> A programmatic review under NEPA assesses the environmental impacts of proposed policies or programs at a broad or high (non-site specific) level. *Id.* at 3.

<sup>179</sup> Notice of Availability of a Draft Programmatic Environmental Impact Statement for Surveying and Mapping Projects in U.S. Waters for Coastal and Marine Data Acquisition, 86 Fed. Reg. 33663 (notice issued June 25, 2021).

<sup>180</sup> 2021 DPEIS-PIR *supra* note 173, at 18.

3. Establish a limited entry program with permits for a broader range of cultured species (but still limited to native species) and longer permit durations.<sup>181</sup>

The alternative selected would be incorporated in the WPFMC's FEPs. Notably, the second and third alternatives both prohibit the culture of non-native species through offshore aquaculture without a permit, a regulatory control not currently in place in the PIR and thus not available under the first no-action alternative in the DPEIS.<sup>182</sup>

## VIII. CONCLUSION

The Fifth Circuit *Gulf Fishermen's* decision rejecting NMFS' assertion of authority over aquaculture management in the Gulf of Mexico under the MSA does not mark the end of NOAA's attempts to regulate offshore aquaculture. While the Gulf Council was the first regional fishery management council to attempt to craft an FMP that regulates offshore aquaculture, it most likely will not be the last. As mentioned above, an opinion by one circuit court is not binding on another. Consequently, regional management councils in other regions may rely on the NOAA Office of General Counsel's 1993 opinion to draft and submit aquaculture FMPs. Some fishery management councils have already begun such work. In addition to the Western Pacific Fishery Management Council's efforts related to an aquaculture management plan for the PIR, the North Pacific Fishery Management Council has begun developing a regional aquaculture team to help craft mapping tools for aquaculture siting.<sup>183</sup>

Because the Fifth Circuit *Gulf Fishermen's* decision is not binding on other circuits, recent developments invite the following questions:

- How would the Ninth Circuit rule on fishery ecosystem plans created by the Western Pacific Fishery Management Council and implemented by NMFS that manage aquaculture in the region?

---

<sup>181</sup> *Id.* at 3-4, 40 (The second "alternative would only permit [the culture of] native species managed by the WMPFMC." Managed species are those listed in the relevant Archipelagic or Pelagic FEP as a management unit species (MUS) or Ecosystem Component Species (ECS)).

<sup>182</sup> *Id.* at 3-4, 174 (Therefore, the second and third alternatives would mitigate the detrimental health effects of introducing non-native species to the regional ecosystems).

<sup>183</sup> NAT. OCEANIC & ATMOSPHERIC ADMIN., ALASKA GEOGRAPHIC STRATEGIC PLAN 2020 – 2023 9 (2020).

- More specifically, would the Ninth Circuit strike down the foreseeable Pacific Islands Region (PIR) aquaculture management plan which is anticipated to be incorporated into the WPFMC's Fishery Ecosystem Plans (FEPs)?

Based on the district court's reasoning in *KAHEA 1*, a decision to incorporate aquaculture management into FEPs—which are like FMPs but are more comprehensive ecosystem management plans rather than species-specific plans—might present legal trouble for NMFS in the Ninth Circuit.<sup>184</sup> If NMFS implements one of the new management alternatives proposed in its DPEIS, those regulations could be challenged in court, and accordingly, struck down as outside of NMFS' MSA authority. In this situation, when NMFS' potential rule comes in front of a district court in the Ninth Circuit, the court would be forced to address the question the district court in *KAHEA 1* did not—whether aquaculture, generally, is “fishing” under the MSA, not simply whether one aquaculture project is “fishing.”

A district court hearing a challenge to an aquaculture management program in the PIR might determine that the aquaculture permits available under the FEP(s) govern activities that constitute “harvesting” fish—depending on the gear type, species, and methods of growing fish. It would follow that so long as the FEP(s) include aquaculture permitting measures for processes that fit the definition of “harvesting”—for instance, the dictionary definitions relied on by NMFS in *KAHEA 1*—then the Ninth Circuit could find that the plain meaning of “harvesting” in the MSA includes aquaculture, and thus approve any relevant future NMFS implementing regulations. In this situation, the Ninth Circuit and Fifth Circuit interpretations would be at odds, a circuit split is possible, and the U.S. Supreme Court could be called on to resolve the matter.

Deference would also play a crucial role in a potential lawsuit in the Ninth Circuit. The Ninth Circuit Court of Appeals, when it addressed *KAHEA 1* on appeal, indicated that even if the court could not employ *Chevron* deference because NMFS' issuance of the SCREFP was not a rule, NMFS satisfied *Skidmore* deference—the type of deference appropriate when analyzing agencies' more informal actions like interpretive rules or guidance documents. Under *Skidmore* deference, a court will defer to an agency's reasoning if it is persuasive

---

<sup>184</sup> See 2021 DPEIS-PIR, *supra* note 173. Two alternatives proposed in the DEIS would establish an aquaculture permitting program in the PIR. The WPFMC has adopted a more place-based management framework through FEPS, rather than the traditional species-based framework seen in FMPs.

enough in the court's view.<sup>185</sup> NMFS' reasoning in *KAHEA I* was persuasive enough to warrant a metaphorical green light from the Ninth Circuit, which deferred to NOAA's interpretation of the definition of fishing under the MSA to regulate individual aquaculture projects under special circumstances.<sup>186</sup> Despite this, questions still remain:

- Will the dicta in the *KAHEA I* district court opinion indicating that the court may have ruled differently if NMFS had instead offered the same interpretation as part of its decision to implement an amendment to a FMP instead of a one-time permit come into play?
- Would a Ninth Circuit court be swayed by the *Gulf Fishermen's* decision?

In the end, the Fifth Circuit *Gulf Fishermen's* decision may mark a defeat for NOAA, but it does not spell the end of NOAA's involvement in offshore aquaculture. AOAs are small, defined areas that show high potential for commercial aquaculture. AOAs prioritize expanding economic opportunities for coastal communities, finding sustainable spaces for aquaculture, and minimizing interactions with other marine resource users, such as cargo, fishing, and military vessels. The NOAA Office of Aquaculture has already announced AOA evaluations in southern California and the Gulf of Mexico. NOAA is not currently accepting comments on these AOAs, as the exact locations have not been announced yet. The comment period for the PIR DPEIS closed on August 5, 2021. Future agency action related to the AOAs or the Pacific Islands aquaculture program will be subject to public notice and comment requirements in the Federal Register.

---

<sup>185</sup> *KAHEA v. Nat'l Marine Fisheries Serv.*, 544 F. App'x 675, 675, ¶ 3 (9th Cir. 2013).

<sup>186</sup> *Id.*

A COMPARATIVE ANALYSIS OF MARYLAND’S PUBLIC PARTICIPATION  
FRAMEWORK IN COMMERCIAL SHELLFISH AQUACULTURE LEASING: STANDING  
TO PRESENT PROTESTS

Elissa Torres-Soto<sup>1</sup>

I. INTRODUCTION

People have harvested and consumed oysters in the Chesapeake Bay region for thousands of years.<sup>2</sup> When early European settlers arrived in the Chesapeake Bay, they eventually created an oyster commercial harvest industry in Maryland.<sup>3</sup> However, after the Civil War, the use of new technology that permitted the harvesting of oysters in a shorter time caused a depletion of local oyster beds, which, in turn, caused a shortage of oysters in the market and led to the enactment of Maryland’s first aquaculture law in 1830. The “One-Acre Planting Law” allowed “Maryland citizens to use one acre of [submerged] ground for planting and growing oysters and other shellfish.”<sup>4</sup> Since the enactment of that first aquaculture leasing law, the Court of Appeals of Maryland—the State’s highest court—has consistently interpreted an oyster lease “not [as] a grant binding the State, but [instead as] a conditional license, revocable at the pleasure of the Legislature.”<sup>5</sup> Accordingly, an aquaculture lease issued by the State of Maryland does not grant an exclusive property right to the leaseholder. Rather, the state confers a permission or privilege to the leaseholder to “use portions of state lands covered by navigable water as places of deposit, where the title and possession of the property thus acquired may continue to be protected.”<sup>6</sup>

Oyster growers have faced significant opposition from local “watermen” who make their living harvesting blue crabs, wild finfish, and shellfish including

---

<sup>1</sup> LL.M., Environmental and Energy Law, Georgetown University Law Center. Legal Policy Fellow, Maryland Sea Grant College Program, Agriculture Law Education Initiative, University System of Maryland.

<sup>2</sup> From 3,500 to 400 years ago, Native American oyster fisheries existed in the Chesapeake Bay. Torben C. Rick, et al., *Millennial-scale Sustainability of the Chesapeake Bay Native American Oyster Fishery*, 113 PNAS 6568, 6572 (2016) (millennial-scale study about the human harvest of Chesapeake Bay oysters), <https://www.pnas.org/content/pnas/113/23/6568.full.pdf>.

<sup>3</sup> Victor S. Kennedy & Linda L. Breisch, *Sixteen Decades of Political Management of the Oyster Fishery in Maryland’s Chesapeake Bay*, 164 J. ENVTL. SCI. 153, 156 (1983).

<sup>4</sup> *Id.*

<sup>5</sup> *Phipps v. State*, 22 Md. 380, 388 (1864).

<sup>6</sup> *Id.*

oysters.<sup>7</sup> Eventually, political influences of local tidewater politicians and watermen led to the restriction of aquaculture leasing in many of Maryland's counties.<sup>8</sup> In addition, watermen also often successfully protested the approval of new leases. All the "[w]atermen wishing to protest the lease had to [do was] show up in front of the judge and affirm [that] they had caught a day's work from the area [sometime] during the past five years."<sup>9</sup> A watermen protest would result in an area being classified as a natural oyster bottom in which no aquaculture lease could be established.<sup>10</sup>

For more than a century, Maryland's oyster production was more limited than what it could have been.<sup>11</sup> A number of factors, including disease, habitat loss, and harvest pressures, caused the state's oyster stock to significantly decline, while persistent political pressure from watermen blocked efforts to establish a self-sustaining oyster industry through the private cultivation of oysters.<sup>12</sup> Eventually, however, the need to create a process that was simple and accessible to the people interested in engaging in oyster aquaculture led to a call for a significant policy change in the early 2000s. In 2009, Maryland modified its aquaculture regulations to allow for the expansion of the production of oysters through privatization and aquaculture. The modifications to the existing law were enacted to streamline the process for obtaining the authorizations necessary to engage in shellfish production and, in turn, increase the total number of shellfish aquaculture leases in the State.

As intended, starting in 2010 this shift in policy caused a great increase in oyster aquaculture leases issued by the state.<sup>13</sup> Nevertheless, this change has not been without its challenges. Even though the popularity of oyster aquaculture has grown in Maryland, it continues to endure opposition from many sectors,

---

<sup>7</sup> *Watermen*, MARYLAND SEA GRANT, <https://www.mdsg.umd.edu/topics/watermen/watermen#:~:text=Called%20watermen%20regionally%2C%20they%20share%20a%20love%20of,watching%20videos%20under%20the%20Chesapeake%20Bay%20Watermen%20playlist> (last visited July 23, 2021).

<sup>8</sup> DONALD WEBSTER, MARYLAND OYSTER CULTURE: A BRIEF HISTORY 4 (2007), [https://extension.umd.edu/sites/default/files/2021-02/1\\_Historical%20Background3.pdf](https://extension.umd.edu/sites/default/files/2021-02/1_Historical%20Background3.pdf).

<sup>9</sup> *Id.*

<sup>10</sup> Kennedy & Breisch, *supra*, note 3, at 156.

<sup>11</sup> *Id.* at 170.

<sup>12</sup> *Id.* at 168; Webster, *supra*, note 8, at 4.

<sup>13</sup> Press Release, Chesapeake Bay Foundation, New Economic Report Details Growth of Oyster Aquaculture in Maryland (Apr. 2, 2020), <https://www.cbf.org/news-media/newsroom/2020/maryland/new-economic-report-details-growth-of-oyster-aquaculture-in-maryland.html>.

translating into a proliferation of protests during the approval of new leases.<sup>14</sup> This is a bigger problem in some counties than others.<sup>15</sup> Although protests are an important part of ensuring public participation in a new lease approval process, they can significantly delay the approval of new leases in the State.<sup>16</sup>

This article analyzes the shellfish aquaculture leasing process in Maryland, including how the law's public participation process impacts the approval of new leases. Specifically, this article examines what factors should be considered when determining whether individuals who file protests to new commercial shellfish aquaculture leases in Maryland have standing. The article engages in a comparative analysis of the difference between the public participation process in the approval of new shellfish aquaculture leases in Washington and Texas with the process established in Maryland. Finally, it discusses possible improvements to Maryland's laws that would help the state reach its goal of increasing the number of leases being issued.

## II. THE MARYLAND LEASING AND PROTEST PROCESS

Maryland defines a commercial shellfish aquaculture lease as a "lease of any submerged land or . . . water column . . . for cultivating oysters or other shellfish for commercial purposes."<sup>17</sup> Accordingly, there are two types of commercial shellfish aquaculture leases in Maryland: (1) water column leases and (2) submerged land leases. A water column lease is "a lease of the column of water on or under the surface of the water and above the surface of the submerged land."<sup>18</sup> A submerged land lease gives the leaseholder a lease to "any land lying beneath the waters of the State leased by the State to any person for cultivating oysters and other shellfish for commercial purposes."<sup>19</sup> The state's General Assembly delegated authority to the Maryland Department of Natural Resources (DNR) to issue aquaculture leases.<sup>20</sup> To obtain a submerged land lease or a water column lease, a person must submit an application to DNR, request a shellfish

---

<sup>14</sup> Scott Dance, *Private Oyster Farming Has Helped the Chesapeake Bay. But Not Everyone Is Happy with the Practice*, THE BALTIMORE SUN: ENVIRONMENT (Feb 28, 2019, 5:00 am), <https://www.baltimoresun.com/news/environment/bs-md-aquaculture-growth-20190225-story.html>.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> MD. CODE ANN., NAT. RES. § 4-11A-01(d).

<sup>18</sup> *Id.* § 4-11A-01(p).

<sup>19</sup> *Id.* § 4-11A-01(n).

<sup>20</sup> *Id.* § 4-11A-03(c)(2).

aquaculture harvester permit, and submit a non-refundable fee of \$300.00.<sup>21</sup> The application must also include a declaration that the applicant intends to actively use the lease area for commercial purposes and a detailed proposed plan for doing so.<sup>22</sup>

To grant a submerged land lease in the Chesapeake Bay, DNR must be satisfied that the lease will not be located:

[w]ithin a minimum of 50 feet of shoreline or any pier without the written permission of the riparian owner at the time of initial application for the lease; (ii) [w]ithin 150 feet of any public shellfish fishery or a registered pound net site; (iii) [w]ithin 150 feet of an oyster reserve or any Yates Bar located in an oyster sanctuary; (iv) except under special circumstances, within 150 feet of a federal navigation channel; (v) in any creek, cove, bay, or inlet less than 300 feet wide at its mouth at mean low tide or (vi) in an SAV [(Submerged Aquatic Vegetation)] protection zone.<sup>23</sup>

For submerged land leases in the Atlantic Coastal Bays,<sup>24</sup> these requirements are very similar except for the additional prohibition that the lease may not be located in a setback or buffer from the Assateague Island National Seashore.<sup>25</sup>

As for all water column leases granted in Maryland, the location requirements are almost identical as those for submerged land leases located in the Atlantic Coastal Bays.<sup>26</sup> After a lease application is filed, DNR conducts a thorough review to determine whether all applicable statutory requirements are met.<sup>27</sup> After finishing its review of the application, DNR forwards it to the U.S. Army Corps of Engineers (Army Corps) for its corresponding review according to Nationwide Permit 48 for commercial shellfish aquaculture activities in the waters

---

<sup>21</sup> MD. CODE REGS. 08.02.23.03.

<sup>22</sup> MD. CODE ANN., NAT. RES. § 4-11A-09(b).

<sup>23</sup> *Id.* § 4-11A-06(b)(2).

<sup>24</sup> Atlantic Coastal Bays are “the waters of the Assawoman, Isle of Wight, Sinepuxent, Newport, and Chincoteague Bays and their tributaries. *Id.* § 4-11A-01(e).

<sup>25</sup> *Id.* § 4-11A-07(c).

<sup>26</sup> However, a water column lease may be located within 150 feet of a federal navigation channel if it is a water column lease of a riparian owner or a lawful occupant of the riparian property, and the water column lease is located in Herring Creek in St. Mary’s County. *Id.* § 4-11A-08(c).

<sup>27</sup> *Diffendal v. Dep’t of Nat. Res.*, 112 A.3d 1116, 1118 (Md. Ct. Spec. App. 2015).

of the United States.<sup>28</sup> This is a general permit issued nationwide for a term of five years<sup>29</sup> to streamline the authorization of the “discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States necessary for new and continuing commercial shellfish aquaculture operations in authorized project areas.”<sup>30</sup>

If an application for a submerged land or water column lease meets the statutory requirements, DNR must notify the public of the proposed lease. DNR advertises the lease application on its website and in the local newspaper of the county where the lease is going to be located. The agency must also notify the owners of the properties directly in front of the proposed lease, the chair of the local Oyster Committee,<sup>31</sup> and any other parties it deems appropriate.<sup>32</sup> Within thirty days of publication of the last advertisement, “any person who has a specific right, duty, privilege, or interest that is different from that held by the general public and who may be adversely affected by the proposed lease, may file a petition with DNR protesting the issuance of the lease.”<sup>33</sup> In addition, within thirty days of publication of the last advertisement, any person, irrespective of whether or not they have a special interest, can request that DNR hold a public informational meeting on the granting of the lease.<sup>34</sup>

With regard to lease protests, if a protest is filed with DNR by an interested party, it “shall” be heard in accordance with the Maryland

---

<sup>28</sup> MD. DEPT. OF NAT. RES., COMMERCIAL SHELLFISH LEASE APPLICATION INSTRUCTIONS 5, <https://dnr.maryland.gov/fisheries/Documents/Shellfish-Lease-Application-Instructions.pdf> (last visited July 23, 2021). Nationwide Permit 48 (NWP 48) was enacted by the Army Corps under the authority of Section 404 of the Clean Water Act (33 U.S.C. § 1344) and Section 10 of the Rivers and Harbors Act (33 U.S.C. § 403). NWP 48 “authorizes the installation of buoys, floats, racks, trays, nets, lines, tubes, containers, and other structures . . . discharges of dredged or fill material into the waters of the U.S. . . . necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting activities.” U.S. ARMY CORPS OF ENG’RS, NATIONWIDE PERMIT 48 1, <https://www.swf.usace.army.mil/Portals/47/docs/regulatory/Permitting/Nationwide/NWP48TX.pdf> (last visited July 23, 2021).

<sup>29</sup> 33 U.S.C. § 1344(e) (1-2).

<sup>30</sup> U.S. ARMY CORPS OF ENG’RS., *supra* note 28.

<sup>31</sup> The Oyster Committees are statutory bodies present in every tidewater county in Maryland. They are composed of local licensed watermen and oversee advising DNR on oyster propagation activities conducted by DNR in their respective counties. MD. CODE ANN., NAT. RES. § 4-1106(b)(1).

<sup>32</sup> *Id.* § 4-11A-09(g)(1).

<sup>33</sup> *Id.* § 4-11A-09(g)(2)(i).

<sup>34</sup> *Id.* § 4-11A-09(g)(2)(iii).

Administrative Procedure Act (APA).<sup>35</sup> The Office of Administrative Hearings (OAH) is responsible for conducting the hearing when a protest is submitted,<sup>36</sup> and an Administrative Law Judge (ALJ) presides over the hearing. At the hearing, the Office of the Attorney General (OAG) represents DNR.<sup>37</sup> Lease applicants can make an appearance as a separate party if they wish to present their arguments before the ALJ which includes filing motions, offering evidence, calling witnesses, and cross-examining the other parties' witnesses. However, lease applicants do not need to appear as a separate party in order to remain an interested party in the case. The ALJ usually carries out a prehearing conference before the formal hearing.<sup>38</sup> If a party fails to participate in a prehearing conference without justified cause, the ALJ may proceed in the party's absence and issue a default order against it.<sup>39</sup>

During the hearing, each party has the opportunity to offer evidence it wishes to be made part of the record.<sup>40</sup> In the case of lease protests, it is DNR's burden to prove the legality of the proposed lease.<sup>41</sup> To do that, DNR must establish that the proposed lease complies with the statutory requirements.<sup>42</sup> After the conclusion of the hearing, the ALJ issues an order deciding whether the proposed lease should be approved or denied.<sup>43</sup> A person who is aggrieved by the final decision of the ALJ has the right to seek judicial review in the Maryland Court of Special Appeals.<sup>44</sup>

Under the statute, once the application process is complete and DNR is satisfied that the lease meets all of the statutory requirements, DNR "shall" grant the lease.<sup>45</sup> DNR can deny a lease if DNR reasonably concludes that the lease

---

<sup>35</sup> *Id.* § 4-11A-09(d)(4)(ii).

<sup>36</sup> DNR delegated the authority to the Office of Administrative hearings to conduct contested case hearings by virtue of MD. CODE ANN., STATE GOV'T. § 10-205.

<sup>37</sup> MD. OFFICE OF THE ATTORNEY GENERAL, BRIEF OVERVIEW OF ATTORNEY GENERAL AGENCIES & DIVISIONS: DEPARTMENT OF NATURAL RESOURCES 10, [https://www.marylandattorneygeneral.gov/Employment%20Documents/Description\\_of\\_Agencies\\_%20Divisions.pdf](https://www.marylandattorneygeneral.gov/Employment%20Documents/Description_of_Agencies_%20Divisions.pdf) (last visited July 23, 2021).

<sup>38</sup> MD. CODE REGS. 28.02.01.17.

<sup>39</sup> *Id.* 28.02.01.23(C).

<sup>40</sup> MD. CODE ANN., STATE GOV'T. § 10-213.

<sup>41</sup> *Historic Sotterley, Inc., v. Md. Dep't. Nat. Res.*, OAH No. DNR-FSA-092-15-33453, p. 17 (Office of Admin. Hearings May 17, 2016) [hereinafter *Historic Sotterley*].

<sup>42</sup> *Id.*

<sup>43</sup> MD. CODE ANN., STATE GOV'T. § 10-221(b)(1).

<sup>44</sup> *Id.* § 10-222 (a)(1).

<sup>45</sup> *Id.*

interferes with public health, safety, or welfare.<sup>46</sup> The finding that the lease would cause such interference needs to be based on substantial evidence present in the administrative record.<sup>47</sup> It would be an abuse of discretion for DNR to deny a lease without substantial evidence of interference.<sup>48</sup>

### III. MARYLAND STANDING REQUIREMENTS

Every claim that is brought before any judicial or administrative court must be justiciable.<sup>49</sup> Justiciability refers to a claim that is appropriate for judicial action.<sup>50</sup> When the case is not justiciable, the courts withhold making a decision because that decision would not have any real-world effect on the parties.<sup>51</sup> One of the requirements for a case to be justiciable is that the parties have standing.<sup>52</sup> Standing refers to the right of a person to “invoke the judicial process in a particular instance.”<sup>53</sup>

Standing in Maryland courts is analyzed using the “cause-of-action” approach.<sup>54</sup> This approach refers to the entitlement or right to invoke a judicial process in a particular instance.<sup>55</sup> For example, an impact on a person’s property interest can be a sufficient basis for standing.<sup>56</sup> In addition, the party’s claim also has to involve a right that is protected or regulated within the zone of interests of a statute or the Maryland Constitution.<sup>57</sup> Lastly, the person with the alleged affected interest must seek to redress his or her injury using the statutory procedure the legislature has established for that particular case.<sup>58</sup>

In the shellfish aquaculture lease application framework, the two main statutory requirements for standing to protest a proposed new lease are to:

---

<sup>46</sup> *Id.* § 4-11A-09(d)(4)(i).

<sup>47</sup> *Diffendal v. Dep’t of Nat. Res.*, 112 A.3d 1116, 1126 (Md. Ct. Spec. App. 2015); *see also* *LS Inv. Corp. v. Maryland Dep’t of Nat. Res.*, 2018 WL 1968774, at \*4 (Md. Ct. Spec. App. 2018).

<sup>48</sup> *Id.*

<sup>49</sup> *State Ctr., LLC v. Lexington Charles Ltd. P’ship*, 92 A.3d 400, 427-430 (Md. 2014).

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* at 430 (citing *Reyes v. Prince George’s Cnty.*, 380 A.2d 12, 17 (Md. 1977)).

<sup>54</sup> *Id.* at 429.

<sup>55</sup> *Id.* at 429.

<sup>56</sup> *Id.*; *see also* *Reyes*, 380 A.2d at 17; *Superior Outdoor Signs, Inc. v. Eller Media Co.*, 822 A.2d 478, 491 (Md. Ct. Spec. App. 2003).

<sup>57</sup> *State Ctr.*, 92 A.3d at 429; *see also* *Reyes*, 380 A.2d at 17.

<sup>58</sup> *State Ctr.*, 92 A.3d at 430.

1. File a petition with DNR within 30 days of the publication of the last advertisement; and
2. “[H]ave a specific right, duty, privilege or interest affected by the proposed lease that is different than one shared by the general public.”<sup>59</sup>

The first requirement is straightforward. However, the statute is not clear and Maryland courts have not spoken to the special rights or interests that must be different from ones shared by the general public in this context. The following discussion is an effort to begin and hopefully spark future discussions about the topic of standing for protests to new shellfish aquaculture leases in Maryland.

### B. Property Owner Standing

As mentioned earlier, the statute that regulates shellfish aquaculture in Maryland dictates that the protests shall be heard in accordance with the Maryland APA.<sup>60</sup> When interpreting standing under the APA, the Maryland Court of Appeals has said that the APA “uses the term ‘aggrieved’ to differentiate between those parties before the administrative agency who have a right to judicial review and those parties who do not.”<sup>61</sup> Furthermore, the court has held that “the statutory requirement [in the APA] that a party be ‘aggrieved’ mirrors the general common law standing principles applicable to judicial review of administrative decisions, [t]herefore in order to have standing, a claimant must have a specific interest or property right.”<sup>62</sup> This interest or property right must be “such that he is personally and specifically affected in a way different from that suffered by the public generally.”<sup>63</sup> The specific circumstances of this “special aggrievement” requirement for standing “have been determined by courts on a case by case basis and the decision in each case rests upon the facts and circumstances of the particular case under review.”<sup>64</sup> However, Maryland courts have identified and

---

<sup>59</sup> Clark v. Md. Dep’t Nat. Res., OAH No. DNR-FSA-092-14-37186 and DNR-FSA-092-14-37392, at 13 (Office of Admin. Hearings March 23, 2015) [hereinafter Clark Adjudication].

<sup>60</sup> “The protests shall be heard in accordance with the requirements of the Maryland Administrative Procedure Act.” MD. CODE ANN., NAT. RES. § 4-11A-09(g)(2)(ii).

<sup>61</sup> Med. Waste Associates, Inc. v. Maryland Waste Coal., Inc., 612 A.2d 241, n.9 (Md. 1992) (citing Bryniarski v. Montgomery County Bd. of Appeals, 230 A.2d 289, 294 (Md. 1967)).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Bryniarski*, 230 A.2d at 294–95.

expanded on certain guiding principles,<sup>65</sup> particularly in zoning cases, which are the common law basis for the property owner standing doctrine.<sup>66</sup>

In *Bryniarski v. Montgomery County Bd. Of Appeals*,<sup>67</sup> the Court of Appeals makes the first two distinctions regarding the standing analysis under the “special aggrievement” requirement in zoning cases.<sup>68</sup> It noted that when a suit is based on equity, meaning plaintiffs are challenging the constitutionality of a zoning ordinance,<sup>69</sup> plaintiffs have the burden to prove that the ordinance specially aggrieves them in a way that is different from the general public.<sup>70</sup> On the contrary, when the claim is based on an appeal under a zoning ordinance, then the requirement to show special aggrievement depends on the proximity of the property of the claimant to the rezoning activity.<sup>71</sup> Since protests to new shellfish aquaculture leases are based on a process established by statute and because “[a] claimant ordinarily must seek to redress the wrong of which he complains by using the statutory procedure the legislature has established for that kind of case, if it is adequate and available”,<sup>72</sup> this article will only focus on the special aggrievement cases that arise from appeals under zoning statutes. The article will not discuss the case law related to suits seeking to invalidate a zoning statute (equity suits).

In *Bryniarski*, the court divided plaintiffs who appealed a rezoning into two categories. On one side there are the property owners who are *prima facie aggrieved*. On the other side are those whose property is not in close enough proximity to the rezoning activity to be considered *prima facie aggrieved*,<sup>73</sup> but they are close enough to be considered almost *prima facie aggrieved*.<sup>74</sup>

---

<sup>65</sup> *Id.*

<sup>66</sup> *State Ctr., LLC v. Lexington Charles Ltd. P'ship*, 92 A.3d 400, 440 (Md. 2014).

<sup>67</sup> *Bryniarski*, 230 A.2d at 294.

<sup>68</sup> *Id.* at 294–95.

<sup>69</sup> *Richmark Realty Co. v. Whittliff*, 173 A.2d 196, 200 (Md. 1961).

<sup>70</sup> *Bryniarski*, 230 A.2d at 294–95.

<sup>71</sup> *Id.*

<sup>72</sup> *State Ctr.*, 92 A.3d at 433 (quoting *Maryland Comm'n on Human Relations v. Mass Transit Admin.*, 294 Md. 225, 231 (1982)).

<sup>73</sup> *Bryniarski*, 230 A.2d at 294–95.

<sup>74</sup> *Ray v. Mayor and City Council of Baltimore*, 59 A.3d 545, 551 (Md. 2013) (citing *Bryniarski*, 230 A.2d at 294); *See also State Ctr.*, 92 A.3d at 445.

*i. Prima facie aggrieved*

A *prima facie* aggrieved property owner is the owner of property that adjoins, confronts, or is near the activity at issue.<sup>75</sup> Because of the owner's proximity to the activity, it is presumed that such a property owner is specially damaged and, thus, a person aggrieved by that activity.<sup>76</sup> When determining whether a person is *prima facie* aggrieved, proximity to the activity is the sole relevant factor.<sup>77</sup> The owners that are adjoining property owners automatically have standing as an aggrieved party without having to prove special aggrievement.<sup>78</sup> Any party challenging that *prima facie* aggrievement exists in a case has the burden to prove otherwise.<sup>79</sup> Because this analysis is only limited to proximity, any alleged factors by the claimants that do not strictly have to do with their property adjoining or confronting the proposed activity are not pertinent to the granting of standing under *prima facie* aggrievement.<sup>80</sup> Still, those factors are pertinent to determining a property owner's special aggrievement in the second category, almost *prima facie* aggrieved.<sup>81</sup>

*ii. Almost prima facie aggrieved*

Property owners need to prove two elements to be considered almost *prima facie* aggrieved: first, that the property nudges up against those belonging to *prima facie* owners; and second, the specific facts or "plus factors" of how their personal interests or property interests have been specially and adversely affected in a way that is different from the general public.<sup>82</sup>

As to the first factor, the types of property owners that fall within this category are owners of property that are not adjoining, confronting, or nearby the activity, but close enough to be considered almost *prima facie* aggrieved.<sup>83</sup> Typically, "this category of almost *prima facie* aggrieved has been found applicable only with respect to protestants who lived 200 to 1,000 feet away from

<sup>75</sup> *Ray*, 59 A.3d at 549-550; *See also State Ctr.*, 92 A.3d at 445.

<sup>76</sup> *Ray*, 59 A.3d at 549-550.

<sup>77</sup> *Id.* at n.6.

<sup>78</sup> *State Ctr.*, 92 A.3d at 446 (*citing Ray*, 59 A.3d at 550 at n.6.); *See also Bryniarski*, 230 A.2d at 294.

<sup>79</sup> 120 W. Fayette St., LLLP v. Mayor and City Council of Baltimore, 964 A.2d 662, 672 (Md. 2009).

<sup>80</sup> *Bryniarski*, 230 A.2d at 294.

<sup>81</sup> *State Ctr.*, 92 A.3d at 446; *See also Ray*, 59 A.3d at 550.

<sup>82</sup> *State Ctr.*, 92 A.3d at 446.

<sup>83</sup> *Id.* at 446.

the subject property.”<sup>84</sup> These types of claimants are not automatically presumed to have standing.<sup>85</sup> Instead, they need to claim that their personal or property rights will be specially and adversely affected.<sup>86</sup> To successfully establish special aggrievement, a property owner must show that the activity affects them in a way which is different from the rest of the general public.<sup>87</sup> That does not mean, however, that the proximity element ceases to be relevant in the standing analysis.<sup>88</sup> Without sufficient proximity, “claims of increasing traffic, change in the character of the neighborhood, . . . [a] change of property value, and even limited visibility . . . have been . . . [deemed to constitute] only general aggrievement[s].”<sup>89</sup>

As to what constitutes the second element, or the ‘plus factors’ as the Court of Appeals called them in *Ray v. Mayor & City Council of Baltimore*,<sup>90</sup> the standard is flexible and applied on a case-by-case basis.<sup>91</sup> When engaging in this analysis, Maryland courts “will examine the specific facts that show aggrievement . . . and compare the injury to the harm suffered by the general public.”<sup>92</sup> The party alleging special aggrievement must prove that they suffered a particular injury to their personal or property rights that is not only different from the one suffered by the general public, but also different from everyone else in the same circumstances.<sup>93</sup>

In *Bell v. Anne Arundel County, Md*<sup>94</sup> the appellants opposed the county’s new rezoning ordinance which reenacted the classifications for 59,045 individual parcels of land located in two districts and changed the zoning classifications of 264 of those parcels.<sup>95</sup> The changes included converting the classifications of parcels from low density residential uses to a more intensive residential classification and turning parcels from residential zones to commercial office

---

<sup>84</sup> *Ray*, 59 A.3d at 555.

<sup>85</sup> *Id.*

<sup>86</sup> *Bryniarski*, 230 A.2d at 294; *See also State Ctr.*, 92 A.3d at 445.

<sup>87</sup> *Bell v. Anne Arundel County*, 79 A.3d 976, 989 (Md. Ct. Spec. App 2013), rev’d and remanded, *Anne Arundel County v. Bell*, 113 A.3d 639 (Md. 2015).

<sup>88</sup> *State Ctr.*, 92 A.3d at 449 (citing *Ray*, 59 A.3d at 555).

<sup>89</sup> *Ray*, 59 A.3d at 551.

<sup>90</sup> *Id.*

<sup>91</sup> *Bryniarski*, 230 A.2d at 294.

<sup>92</sup> *Bell*, 79 A.3d at 989, *See also Ray*, 59 A.3d at 549.

<sup>93</sup> *Ray*, 59 A.3d at 545.

<sup>94</sup> *Bell*, 79 A.3d at 989.

<sup>95</sup> *Id.* at 980.

districts.<sup>96</sup> In determining whether the plaintiffs had standing to challenge the rezoning of four of the parcels involved in the ordinance, the Court of Appeals found that the appellants were adjoining property owners to three of the four rezoned parcels and thus *prima facie* aggrieved by the rezoning.<sup>97</sup>

The appellants were not adjoining property owners to the fourth rezoned parcel, but the court determined that their properties were close enough to be considered almost *prima facie* aggrieved.<sup>98</sup> The court examined if the plaintiffs had alleged sufficient ‘plus factors’ that demonstrated the impact or potential impact of the rezoning on “the use enjoyment and value of their properties.”<sup>99</sup> The court also considered whether the appellants had shown that they suffered an injury special to them and different from the one shared with the general public.<sup>100</sup> The appellants had alleged as ‘plus factors’ that the rezoning would cause an increase in traffic, noise from the nearby roads and commercial establishments will interfere with the quiet enjoyment of their properties, a change in the character of their neighborhood, and a decrease in the value of their properties.<sup>101</sup>

The court determined that the only sufficient plus factor was the allegation that the increased noise from the increased traffic and commercial activity would interfere with the quiet enjoyment of their properties.<sup>102</sup> The court distinguished the allegations of the noise caused by increased traffic and commercial activity with the allegations of increased traffic.<sup>103</sup> It stressed that “an allegation of an increase in traffic by itself is insufficient to establish standing”<sup>104</sup> because it does not establish that “plaintiffs had suffered ‘an adverse effect different than that suffered by the public generally’ as required for the purpose of standing.”<sup>105</sup> With regards to the appellants’ allegation of a change in neighborhood character, the court found that the “alleged change in the neighborhood will be suffered by others in the neighborhood”<sup>106</sup> making it insufficient to demonstrate special harm.<sup>107</sup> Finally, to the allegation that the rezoning will decrease the value of their

---

<sup>96</sup> *Id.*

<sup>97</sup> *Id.* at 985-86.

<sup>98</sup> *Id.* at 988.

<sup>99</sup> *Id.* at 990 (quoting *DuBay v. Crane*, 240 Md. 180, 183 (1965)).

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.* at 991.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.* at 990.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* at 992-93.

<sup>107</sup> *Id.*

properties, the court determined that the lay opinions of the appellants were insufficient to establish special harm from the loss of property value because they were merely speculating as to what their properties were going to be worth after the development of the area.<sup>108</sup>

### C. Applicability to Protests of Commercial Shellfish Aquaculture Leases

As mentioned earlier, the legislature has not defined, and the Maryland courts and DNR have not interpreted the meaning of the phrase “interest or right that is different from the one shared by the general public” in the context of shellfish aquaculture protests.<sup>109</sup> However, shellfish aquaculture lease protests stem from a procedure established by statute and are governed by the APA.<sup>110</sup> Thus, basic administrative principles relating to standing apply to this process. The Maryland Court of Appeals has found, as quoted earlier, that “the statutory requirement [in the APA] that a party be ‘aggrieved’ mirrors the general common law standing principles applicable to judicial review of administrative decisions.”<sup>111</sup> Furthermore, Maryland courts have analyzed these common law standing principles relating to special aggrievement in property owner standing cases. These cases are pertinent to analyzing whether a protestant to a new shellfish aquaculture lease has standing.

The first step to determine whether a protestant to a new shellfish aquaculture lease will be specially aggrieved is to analyze the proximity of the protestant’s property to the proposed lease site. Similar to property owner standing cases, proximity plays a very important part to determine a lease protestant’s standing.<sup>112</sup> When it designed the aquaculture lease statute Maryland’s General Assembly required DNR to “notify the owners of property directly in front of the proposed activity.”<sup>113</sup> From the plain language of the statute, the General Assembly recognized that those property owners are the most likely to be affected by the approval of the new lease and ensured those property owners were adequately notified. This is what the Maryland Court of Appeals has

---

<sup>108</sup> *Id.* at 992.

<sup>109</sup> MD. CODE ANN., NAT. RES. § 4-11A-09(g)(2)(i).

<sup>110</sup> *Id.* § 4-11A-09(g)(2)(ii).

<sup>111</sup> *Med. Waste Associates, Inc. v. Maryland Waste Coal., Inc.*, 612 A.2d 241, n.9 (Md. 1992) (citing *Bryniarski v. Montgomery County Bd. of Appeals*, 230 A.2d 289, 294 (Md. 1967)).

<sup>112</sup> *Clark Adjudication*, *supra* note 59, at 15.

<sup>113</sup> MD. CODE ANN., NAT. RES. § 4-11A-09(g)(1)(ii)(2).

considered *prima facie* aggrieved property owners.<sup>114</sup> Therefore, it can reasonably be concluded that the property owners that live directly in front of the proposed aquaculture lease “automatically have standing”<sup>115</sup> to present a protest to it. They do not have to show that they will be specially aggrieved by the proposed lease because it is understood that due to their property’s location they will be impacted “in a way that is different from the general public” as the statute requires.<sup>116</sup>

The analysis gets tougher when determining the standing of other protestants that do not own property directly in front of the proposed lease. In this case, property owners will not be considered to automatically have standing and have to show that the proposed lease will affect them in a way different from the general public.<sup>117</sup> Due to a lack of guidance by the legislature, DNR, and Maryland courts as to the practical meaning of this phrase, we have to refer back to the common law “special aggrievement” principles encompassed in the APA.<sup>118</sup> In property owner standing cases, the Maryland courts created a two-tiered test to determine special aggrievement in property owners that are not adjoining or confronting the activity they oppose: (1) whether the property of those claimants is sufficiently close to the *prima facie* aggrieved properties to be considered almost *prima facie* aggrieved;<sup>119</sup> and (2) whether the claimants allege that there are sufficient ‘plus factors’ that show that they have an affected personal or property right interest that is different from the one shared by the general public.<sup>120</sup> As it will be demonstrated from the *Clark* adjudication discussed below, the proximity requirement is less defined and interpreted more loosely in aquaculture lease protests than in the property owner standing cases.

The *Clark* adjudication involved multiple protestants and multiple protests to three proposed aquaculture leases (Leases A, B, and C)<sup>121</sup> in the St. Mary’s River Oyster sanctuary.<sup>122</sup> DNR submitted a motion to dismiss all of the protests for lack of standing or, in the alternative, a motion for a summary decision for all

---

<sup>114</sup> Ray v. Mayor and City Council of Baltimore, 59 A.3d 545, 550 (Md. 2013) (citing *Bryniarski*, 230 A.2d at 294).

<sup>115</sup> *Id.* at 549.

<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 555.

<sup>118</sup> *Med. Waste Associates, Inc.*, 327 Md. at n.9.

<sup>119</sup> *Id.*

<sup>120</sup> *Ray*, 59 A.3d at 551.

<sup>121</sup> The names of the applicants of the leases and the names of the protestants are concealed to protect the parties’ identities.

<sup>122</sup> *Clark* Adjudication, *supra* note 59, at 1.

of the protests.<sup>123</sup> Specifically, DNR asserted that two of the protestants filed their petition to protest after the thirty-day statutory window closed<sup>124</sup> and that the protestants who did timely file failed to assert a right, duty, privilege or interest different from the one shared with the general public.<sup>125</sup> The protestants who submitted the petitions to protest Leases B and C after the thirty-day window asserted in their opposition that they were going to be directly affected by the leases because their properties abutted the area where the proposed leases were going to be located.<sup>126</sup> Also, they claimed that they had participated in the public meetings and that the thirty-day requirement should have been interpreted flexibly because the filing of the protest was one day late.<sup>127</sup> Finding all the facts of this case to be undisputed and supporting a ruling on the pleadings presented in DNR's motion, the ALJ ultimately granted the motion to dismiss on the basis that the two protestors did not have standing because they failed to timely file the petition to protest the lease.<sup>128</sup>

The ALJ treated the motion related to the remaining parties as a motion for summary judgment.<sup>129</sup> In its motion, DNR argued that none of those protestants "owned property in front of, adjacent to, or near the proposed leases"<sup>130</sup> and hence were no different from members of the general public who use the river for recreation, fishing, and crabbing.<sup>131</sup> DNR also claimed that the protestant's assertions were too vague to establish that a unique interest would be affected by the approval of the lease.<sup>132</sup> The protestants argued that DNR's motion should be denied because the lease would cause a real interference with enjoyment of their properties and impact their ability to engage in boating, fishing, crabbing and swimming in the river,<sup>133</sup> uses which are derived from rights recognized by Maryland common law to riparian property owners.<sup>134</sup>

---

<sup>123</sup> *Id.* at 9.

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> Clark Adjudication, *supra* note 59, at 11.

<sup>128</sup> *Id.* at 12.

<sup>129</sup> Because the ALJ considered the exhibits that were attached to DNR's motion, the decision regarding the other protestants had to be treated as a motion for summary decision. *See id.* at 10.

<sup>130</sup> *Id.* at 13.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.*

<sup>133</sup> *Id.*

<sup>134</sup> The Courts of Appeals of Maryland has recognized the following riparian rights: right to access to and from the navigable parts of the river in front of their property, right to accretion, and the right to extend and improve out to the limits prescribed when granted by statute. *Causey v. Gray*, 243 A.2d 575, 581 (Md. 1968).

With respect to this group of protestants, the ALJ decided that they had standing to protest Leases B and C, but not Lease A. The ALJ concluded that the protestants had standing to protest the approval of Leases B and C because “[a]s individuals who own properties in the immediate area of [the leases] and who allege that their enjoyment of their properties may be affected, the protestants are entitled to an opportunity to challenge [the] leases.”<sup>135</sup> The ALJ also added that “[w]aterfront property owners near [the leases] are more likely to regularly use the river and the land abutting the river for recreation and navigation than the general public.”<sup>136</sup>

With regard to Lease A, the ALJ asserted that the protestors did not have standing because the lease was very remote from their properties.<sup>137</sup> The deciding factor for the ALJ’s analysis was that the protestants would not have been required to pass “anywhere near” that area of the river to enjoy navigation, swimming, birdwatching, or crabbing, so their interests were not different from those shared by the general public.<sup>138</sup> While the ALJ acknowledged that although the standing requirements for administrative proceedings are not strict, the protestants do need to meet the minimum statutory standards.<sup>139</sup>

In the *Clark* adjudication the OAH engages in its version of the two-pronged test to determine if the protestants are specially aggrieved and thus have standing to protest Leases A, B and C. First, when analyzing the proximity element of the test, the OAH granted standing to the protestants that owned properties in the “immediate area”<sup>140</sup> of Leases B and C. Here the court found that the proximity of the protestants was enough to comply with the first part of the test even though their properties were not strictly 200 to 1,000 feet away from the owners of property directly in front of the lease (i.e., the *prima facie* aggrieved owners) as required in the property owner standing cases.<sup>141</sup> Second, for the allegation of the ‘plus factors’ that showed that Leases B and C would specially

<sup>135</sup> Clark Adjudication, *supra* note 59, at 15.

<sup>136</sup> *Id.*

<sup>137</sup> *Id.* at 14.

<sup>138</sup> *Id.*

<sup>139</sup> “Under section 4-11A-09(g)(2) of the Natural Resources Article, a person may participate as a party in an aquaculture lease protest case if the person (1) files a petition with the Department within 30 days of publication of the last newspaper advertisement; and (2) has ‘a specific right, duty, privilege, or interest that is different from that held by the general public and may be adversely affected by the proposed lease.’” *Id.* at 13.

<sup>140</sup> *Id.* at 15.

<sup>141</sup> Ray v. Mayor and City Council of Baltimore, 59 A.3d 545, 551 (Md. 2013).

aggrieve them in a way different from the general public, the court found sufficient the protestant's allegations that the leases may affect their enjoyment of their properties.<sup>142</sup> With regards to Lease A, because protestants failed to demonstrate that they had sufficient proximity to the area, the OAH determined they did not have standing to protest that lease.

Lastly, the example of the standing analysis made by the OAH in the *Clark* case could be applied in other instances. For example, if a protestant merely raises concerns about the impact of a proposed lease to the wildlife of the area that will impair their ability to fish or birdwatch, without showing that they own property in the "immediate area" where the proposed lease is going to be located, the OAH is likely to consider this an interest that the protestant shares with the general public and hence conclude that the protestant lacks standing. In contrast, if that same protestant shows that they own property in the "immediate area" of the proposed lease and may pass through the area where the proposed lease is going to be located to enjoy birdwatching, crabbing, hunting, or fishing, the protestant probably has standing.

This concrete example should also apply when analyzing the standing of local watermen who, as mentioned earlier, have historically protested the approval of new shellfish aquaculture leases.<sup>143</sup> Watermen who own property "directly in front" of where the lease is going to be located will be considered *prima facie* aggrieved and thus have standing to protest. Other watermen who also have standing are those who own property in the "immediate area" of where the lease will be located, and who claim that the new lease will specially affect them (e.g., impairing wild oyster harvest or crabbing activities). Consequently, if the watermen who protest are unable to show that they own property in the "immediate area" of where the new lease is to be located, claims that the lease is going to interfere with wild oyster harvesting or crabbing will most likely be considered by the OAH as general grievances shared by the rest of the citizens who engage in wild oyster harvesting and crabbing.

#### **IV. Aquaculture Leasing and Public Participation in Washington and Texas**

States have a diversity of approaches to shellfish aquaculture leasing, including how they handle public participation in the process. This section

---

<sup>142</sup> Clark Adjudication, *supra* note 59, at 15.

<sup>143</sup> Webster, *supra* note 8, at 4.

examines the public participation process for new commercial shellfish aquaculture leases in Texas and Washington. Washington and Texas are on both ends of the spectrum with regard to aquaculture production in the U.S. Shellfish harvesting has been an important part of Washington's economy for centuries, and aquaculture in Washington has been regulated since at least 1861.<sup>144</sup> Texas, however, has just recently enacted a statute renewing its program to issue new oyster aquaculture leases after a 30-year moratorium.<sup>145</sup>

After comparing Maryland, Texas, and Washington's public participation frameworks regarding shellfish aquaculture leasing and permitting, this author concludes that Maryland should adopt a public participation process similar to Texas. In order to streamline Maryland's public participation in shellfish aquaculture leasing, the statute should be amended to eliminate protests and institute a simple notice and comment procedure instead. Different from protests, submitting comments to DNR does not trigger an adjudication procedure. Instead, the comments would be addressed by DNR, the agency with the expertise to resolve controversies around shellfish aquaculture leasing.

#### A. Washington

Shellfish have been an important food source for Pacific Northwest inhabitants for thousands of years.<sup>146</sup> The abundance of shellfish in the area made it a valuable commodity not only for coastal Native American Tribes, who relied on shellfish harvesting for their subsistence and for ceremonial reasons, but also for early settlers on the West Coast.<sup>147</sup> The competition for the harvest of shellfish brought tension between early European settlers and the Tribes.<sup>148</sup> The Stevens

---

<sup>144</sup> *Washington Coast Shellfish Aquaculture Timeline*, SEA GRANT WASH., <https://wsg.washington.edu/aquaculture-timeline/> (last visited July 23, 2021).

<sup>145</sup> OFFICE OF THE STATE AUDITOR, A JOINT STUDY REPORT ON THE PARKS AND WILDLIFE DEPARTMENT'S COMMERCIAL FISHERY PROGRAMS AND THE GENERAL LAND OFFICE'S LEASES OF STATE-OWNED LANDS, REPORT NO. 01-11, 1 (2000), [https://sao.texas.gov/reports/main/01-011\\_General.pdf](https://sao.texas.gov/reports/main/01-011_General.pdf).

<sup>146</sup> DERRICK TOBA, SMALL-SCALE OYSTER FARMING FOR PLEASURE AND PROFIT IN WASHINGTON 1 (2002), <https://nsgl.gso.uri.edu/washu/washuh04002.pdf>; *Aquaculture*, WASH. ST. DEP'T OF NAT. RES., <https://www.dnr.wa.gov/programs-and-services/aquatics/shellfish/aquaculture>.

<sup>147</sup> *Id.*

<sup>148</sup> RAYE EVRAD, WASHINGTON SHELLFISH AQUACULTURE: ASSESSMENT OF CURRENT REGULATORY FRAMEWORKS 11 (2017), [https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/38654/Evrard\\_washington\\_02500\\_16923.pdf?sequence=1&isAllowed=y](https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/38654/Evrard_washington_02500_16923.pdf?sequence=1&isAllowed=y).

Treaties were adopted between 1854 and 1855 to ease those tensions.<sup>149</sup> The treaties guaranteed that in return for ceding great portions of their land, certain Tribes would have a continued right to fish and hunt in their usual and accustomed places.<sup>150</sup> During this period, there was a significant decline in shellfish and in 1861 Washington State enacted “an Act to Encourage the Cultivation of Oysters.”<sup>151</sup> This Act granted citizens who had planted or were planning to plant oysters in areas where no oyster beds existed an exclusive right to use an area of up to ten acres to plant oysters.<sup>152</sup> Then, in 1895, the State legislature enacted the Bush Act<sup>153</sup> and the Callow Act.<sup>154</sup> Both laws allowed the sale of state aquatic lands to private owners on the explicit condition that most of the land be dedicated to the cultivation of shellfish.<sup>155</sup> However, these laws also led to significant conflict with local Native American Tribes after the best submerged lands for oyster harvesting and fishing were sold to private, non-Native American owners.<sup>156</sup> The Bush Act and the Callow Act are no longer in effect, but their legacies are that there are still submerged lands that are owned by private parties.<sup>157</sup>

Washington is currently the leading producer of farm-raised shellfish in the United States.<sup>158</sup> Although many types of shellfish are grown in the state,<sup>159</sup> the most predominant is oyster aquaculture.<sup>160</sup> Similar to Maryland, the agency responsible for approving shellfish aquaculture leases on state-owned aquatic lands<sup>161</sup> in Washington is Washington’s Department of Natural Resources (WA DNR). State-owned aquatic lands are defined as “lands that lie beneath the State’s

---

<sup>149</sup> *Id.*

<sup>150</sup> *Id.*

<sup>151</sup> *Washington Coast Shellfish Aquaculture Timeline*, *supra* note 144.

<sup>152</sup> *Id.*

<sup>153</sup> REM. REV. STAT. § 8040 *et seq.* repealed by An Act relating to oyster lands and repealing chapters XXIV (24) and XXV (25) of the Laws of 1895 ch.47, §1 (1935).

<sup>154</sup> *Id.*

<sup>155</sup> EVRAD, *supra* note 148, at 13.

<sup>156</sup> *Id.*

<sup>157</sup> WASH. REV. CODE ANN. § 79.135.010.

<sup>158</sup> *Shellfish in Washington*, SEA GRANT WASH., <https://wsg.washington.edu/our-northwest/shellfish/> (last visited July 23, 2021).

<sup>159</sup> Shellfish aquaculture or shellfish farming includes cultivating or harvesting shellfish on tidelands [and] cultivating shellfish on floating rafts (water column). *Aquaculture*, *supra* note 146.

<sup>160</sup> Toba, *supra* note 146, at 2.

<sup>161</sup> As noted, there are still submerged lands in the state of Washington that are owned by private parties that also are leased for shellfish aquaculture. For the purpose of this comparative analysis, the article will focus on the leasing of aquatic lands that are owned by the state of Washington. WASH. REV. CODE ANN. § 79.135.010.

water and include the coast, bedlands, lakes, rivers and Puget Sound marine areas”<sup>162</sup>

When granting a lease to state-owned aquatic lands, WA DNR merely acts as a landlord on behalf of the state.<sup>163</sup> By law, the department is obligated to manage the State’s aquatic lands for the benefit of the public and to “safeguard public recreation, shoreline access, environmental protection, and other public benefits associated with the aquatic lands of the state.”<sup>164</sup> Thus, WA DNR’s review of lease application materials needs to be thorough. Lease applicants must submit a written application, a map and a description of the lands to be leased, and a \$25 deposit.<sup>165</sup> Currently, for an individual or business to obtain a shellfish aquaculture lease, they must also complete a Joint Aquatic Resources Permit Application (JARPA) and Aquatic Use Authorization on the Department of Natural Resources Managed Aquatic Lands (known as “Attachment E”).<sup>166</sup> In some counties, before submitting a JARPA, an applicant is required to attend a pre-submission conference with the county officials.<sup>167</sup>

Original, signed JARPA and Attachment E applications are submitted to the federal, state, tribal, and local agencies that accept JARPA for parallel evaluations focused on different concerns.<sup>168</sup> The agencies that issue permits under JARPA are: counties; WA DNR; the Washington Department of the Ecology (WA Department of Ecology) and the Army Corps. The Army Corps typically issues their corresponding permit under NWP 48 or an individual permit (IP).<sup>169</sup> Following a June 2020 court order from the District Court for the Western District of Washington, which vacated the current NWP 48 in

---

<sup>162</sup> WASH. ST. DEP’T OF NAT. RES., LEASING STATE OWNED AQUATIC LANDS 2, [https://www.dnr.wa.gov/publications/em\\_fs11\\_019\\_leasing\\_soal\\_0216.pdf](https://www.dnr.wa.gov/publications/em_fs11_019_leasing_soal_0216.pdf) (last visited July 20, 2021).

<sup>163</sup> *Id.*

<sup>164</sup> WASH. REV. CODE ANN. § 79.105.010.

<sup>165</sup> *Id.* § 79.135.120. *See also* WASH. ST. DEP’T OF ECOL., SUPPLEMENTAL NARRATIVE FOR EXISTING PERMITTING PROCESSES FLOWCHART 6-7, <https://ecology.wa.gov/DOE/files/ed/eda385e6-47c6-40b4-bc24-01bc6a4a972c.pdf> (last visited July 23, 2021).

<sup>166</sup> WASH. ST. DEP’T OF NAT. RES., *supra* note 162, at 2.

<sup>167</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 5.

<sup>168</sup> WASH. ST. DEP’T OF ECOL., PRIMARY REQUIREMENTS TO GROW AND HARVEST SHELLFISH IN WASHINGTON STATE, <https://ecology.wa.gov/DOE/files/78/78fc7d5a-c802-4191-86a1-5032c804851a.pdf> (last visited July 23, 2021.)

<sup>169</sup> *Id.*

Washington,<sup>170</sup> the Army Corps is at the time of publication of this article only issuing IPs for aquaculture operations in Washington.<sup>171</sup> Applicants also need to submit IP applications to the corresponding Tribes, the WA Department of Health, and the WA Department of Fish and Wildlife.<sup>172</sup>

For a lease of state-owned aquatic lands to be approved, all the agencies need to issue the corresponding permits, but the actual lease contract is granted by the WA DNR. During the JARPA review and permitting process, WA DNR will contact the lease applicant to discuss the proposed lease project, request additional information, suggest modifications, and suggest options to minimize the harm to the environment.<sup>173</sup> WA DNR will also contact the other permitting agencies. After the department conducts its initial evaluation, it can pre-approve or deny a lease authorization application.<sup>174</sup> If pre-approved by WA DNR, the applicant can move forward with the applications for the other required permits.<sup>175</sup> If all the other required permits are approved, WA DNR will issue the lease.<sup>176</sup> In Washington, the parameters of each lease authorization vary depending where the lease is located,<sup>177</sup> and the lease terms are developed by the WA DNR in consultation with the lease applicant.<sup>178</sup>

The county where the lease will be located is in charge of issuing a Shoreline Substantial Development and Conditional Use permit.<sup>179</sup> Counties

---

<sup>170</sup> *Coal. to Protect Puget Sound Habitat v. U.S. Army Corps. of Eng'rs*, 466 F. Supp. 3d 1217 (W.D. Wash. 2020) (appeal dismissed); *Ctr. for Food Safety v. U.S. Army Corps of Eng'rs*, 2020 WL 6572481 (2020) (appeal dismissed); *Coal. to Protect Puget Sound Habitat v. U.S. Army Corps of Eng'rs* 2020 WL 6576097 (2020) (affirmed); *Coal. to Protect Puget Sound Habitat v. U.S. Army Corps of Eng'rs*, 843 Fed. Appx. 77 (9th Cir. 2021).

<sup>171</sup> *Shellfish Aquaculture*, U.S. ARMY CORPS OF ENG'RS., <https://www.nws.usace.army.mil/Missions/Civil-Works/Regulatory/Shellfish-Aquaculture/> (last visited July 23, 2021). Individual permits are permits issued by the Army Corps under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act to authorize work and the discharge of dredge and fill material in the navigable waters of the U.S. The authorization of these permits is not streamlined like NWP 48, and they are issued individually to each permit applicant. *Obtain a Permit*, U.S. ARMY CORPS OF ENG'RS, <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/> (last visited July 23, 2021).

<sup>172</sup> WASH. ST. DEP'T OF ECOL., *supra* note 165, at 1-2.

<sup>173</sup> WASH. ST. DEP'T OF NAT. RES., *supra* note 162, at 2.

<sup>174</sup> *Id.*

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*

<sup>177</sup> WASH. REV. CODE ANN. §79.135.100.

<sup>178</sup> WASH. ST. DEP'T OF NAT. RES., *supra* note 162, at 2.

<sup>179</sup> WASH. ST. DEP'T OF ECOL., *supra* note 168, at 1.

review the JARPA application for completeness, and some counties conduct a thorough review of the supporting materials.<sup>180</sup> If the application is not complete, it will be returned to the applicant.<sup>181</sup> If the application is complete, the county will issue a “notice of application” to the public; Tribes; and federal, state and local agencies requesting comments.<sup>182</sup> The comment period lasts from fourteen to thirty days, depending on the county.<sup>183</sup> After the comment period ends, concerns of interested parties are addressed by the county.<sup>184</sup> Before issuing the Shoreline Substantial Development and Conditional Use permit, counties review the potential environmental impacts of the proposed activity and issue a threshold determination under the State Environmental Policy Act (SEPA).<sup>185</sup> Counties may also provide notice to tribes, agencies, and neighbors after the SEPA threshold determination is complete.<sup>186</sup> The determination can be appealed in conformity with the appeals process established in each county.<sup>187</sup>

The WA Department of Ecology and the Army Corps work together throughout the JARPA process.<sup>188</sup> When the Army Corps is in the process of reviewing an IP application, the Department of Ecology and the Army Corps issue a Joint Public Notice with thirty days for public comment and notify Tribes regarding the impact to natural and cultural resources.<sup>189</sup> In addition to the thorough review by these agencies, the other state agencies involved in the JARPA and other permitting processes review the application and grant the

---

<sup>180</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 2-3.

<sup>181</sup> *Id.*

<sup>182</sup> The notice of application to federal, state, and local agencies is for submission of their comments only, this is not the start of a permit application. *Id.*

<sup>183</sup> *Id.* at 3.

<sup>184</sup> *Id.* at 4.

<sup>185</sup> *Id.* That threshold determination could be: Determination of Significance (project will cause significant impacts and activity will require an Environmental Impact Statement); Mitigated Determination of Non-Significance (some significant impacts identified and applicant needs to mitigate those impacts before the county can issue the permit); or Determination of Non-Significance (project will not cause significant environmental impacts and meets all the necessary requirements of the county code thus permit can be issued). *Lead Agency Determination and Responsibilities*, WASH. ST. DEP’T OF ECOL., <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/Guide-for-lead-agencies/Lead-agency-determination-and-responsibilities> (last visited July 23, 2021).

<sup>186</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 4-5.

<sup>187</sup> WASH. REV. CODE ANN. § 43.21C.075. The decision on the appeal is subject to judicial review. *Id.* §43.21C.075(6).

<sup>188</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 7-8.

<sup>189</sup> *Id.* The public notification requirements in the NWP 48 permitting process varies significantly from the individual permitting process. *See id.*

corresponding permits. Appeals by interested parties to any of the permits issued in this process are done following the procedure established by the local, state, and federal agencies in charge of issuing the permit appeal.<sup>190</sup>

In Washington, notice to local Native American Tribes is a crucial aspect of the permitting process.<sup>191</sup> Because of existing treaty rights and a Settlement Agreement in 2007,<sup>192</sup> Washington Tribes have reserved rights to take 50% of all harvestable wild shellfish stock from their usual and accustomed areas.<sup>193</sup> Farmed shellfish generally are exempt from the 50% requirement, but if the oysters are grown on naturally occurring oyster bottoms, the grower is responsible for allocating 50% of the harvest to the Tribes with rights to that area.<sup>194</sup> To ensure that Tribes are able to exercise these harvesting rights, the Army Corps and the county governments notify the relevant Native American Tribes during the permitting process.<sup>195</sup> If any parcel of land in the application was not part of the 2007 Settlement Agreement, the applicant is required to notify the corresponding Tribes by filling out the “Tribal Section 6.3” form.<sup>196</sup> After submitting this form, the Tribes will evaluate and determine whether they have an interest under treaty rights in the area.<sup>197</sup> If they determine they have an interest, the leaseholder will work with the Tribes to issue a Harvest Management Plan.<sup>198</sup>

Washington’s shellfish aquaculture leasing and permitting framework is very different from Maryland’s. Consequently, general public involvement in the leasing process is also very different. In Washington, various local, state, federal, and Tribal bodies are separately notified and, in most cases, intricately involved in the permitting process. Further, WA DNR does not hold a separate notice and comment period to issue a state-owned aquatic land lease.<sup>199</sup> This is probably due

---

<sup>190</sup> *Id.* at 4-5.

<sup>191</sup> *Id.* at 7-8.

<sup>192</sup> Joint Motion for Order and Consent Decree Approving Settlement Agreement, U.S. v. Wash., 20 F. Supp. 3d 828 (W.D. Wash. 2007), <https://www.wawd.uscourts.gov/sites/wawd/files/MotionandSettlementAgreement14476.pdf> (July 23, 2021).

<sup>193</sup> *Id.*

<sup>194</sup> EVRAD, *supra* note 148, at 14.

<sup>195</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 3 and 9-10.

<sup>196</sup> *Id.* at 1.

<sup>197</sup> *Id.* at 1-2.

<sup>198</sup> *Id.* at 2.

<sup>199</sup> WASH. ST. DEP’T OF NAT. RES., *supra* note 162, at 1-2.

to the fact that WA DNR issues the final lease contract only after the applicant obtains all the other necessary permits.<sup>200</sup>

The public participation opportunities in the shellfish aquaculture leasing and permitting process in Washington are threefold. First, the county government where the lease will be located publishes a “notice of application” requesting public comments from the public, Tribes, federal, state, and local agencies.<sup>201</sup> Each county regulates the public comment period which lasts from fourteen to thirty days, depending on the county.<sup>202</sup> After the comments are submitted, the county addresses them in the final authorization of its permit.<sup>203</sup> When the local governments conclude the SEPA threshold review, the county government notifies federal, state, and local agencies.<sup>204</sup> They also notify members of the public who request to be notified.<sup>205</sup> Members of the public can appeal this threshold determination in conformity with the appeals process established in each county.<sup>206</sup>

Second, when issuing an individual permit, the Army Corps and WA Department of Ecology conduct a thirty-day notice and public comment period.<sup>207</sup> Third, local Tribes are notified by the county government and the Army Corps and afforded a right to comment in the local government permitting process.<sup>208</sup> In addition, if the state-owned aquatic lands that are to be leased are not part of the 2007 Settlement agreement,<sup>209</sup> applicants need to notify the Tribes of the area to determine if they have treaty harvesting rights in the area and develop the corresponding shellfish harvesting management plan.<sup>210</sup> The Tribes’ approval of the project is a crucial step of the process to safeguard treaty rights.<sup>211</sup>

Maryland’s leasing process is streamlined and does not directly depend on permit approvals by other state or local agencies other than DNR.<sup>212</sup> The Army

---

<sup>200</sup> *Id.* at 2.

<sup>201</sup> WASH. ST. DEP’T OF ECOL., *supra* note 165, at 2.

<sup>202</sup> *Id.*

<sup>203</sup> *Id.*

<sup>204</sup> *Id.* at 2-3.

<sup>205</sup> *Id.*

<sup>206</sup> *Id.*

<sup>207</sup> *Id.* at 9.

<sup>208</sup> *Id.* at 2 and 9.

<sup>209</sup> *Id.* at 4-5.

<sup>210</sup> *Id.* at 1-2.

<sup>211</sup> *Id.*

<sup>212</sup> MD. CODE ANN., NAT. RES. § 4-11A-04(c).

Corps works very closely with Maryland's DNR when issuing the NWP 48 or the corresponding individual permit, and it issues a separate notice and comment period, but that process is completely separate from lease protests, which are state procedures.<sup>213</sup> While Maryland's public participation process is streamlined, lease protests trigger an administrative adjudication process that is very different from typical agency notice and comment periods - this is why standing to present a protest is very important. In Washington's public participation process, however, any person, whether it is a person who will be specially aggrieved by oyster aquaculture activities or not, is able to submit comments during each local agency's permitting review.

### B. Texas

Oyster leasing began in Texas in 1891 when the state legislature began leasing bay bottoms to fishermen for oyster production.<sup>214</sup> The original purpose of this program was to create new self-sustaining areas for healthy oyster production year round.<sup>215</sup> Leaseholders removed wild oysters from polluted areas to reduce the possibility of the harvesting of oysters that could threaten public health.<sup>216</sup> Later the state conferred the administration of these oyster leases to the Texas Parks and Wildlife Department (TPWD).<sup>217</sup> Parties who were interested in the cultivation of oysters on private leases needed a shellfish culture license from TPWD.<sup>218</sup> Licensed culturists could also take "reasonable quantities of brood stock from public waters."<sup>219</sup> By 1988, the program was not very successful, leading TPWD to determine that the "revenues from the oyster lease program are far less than the cost of program administration,"<sup>220</sup> and in 1989 the state imposed a moratorium on new private oyster leases.<sup>221</sup> As a result, the existing leases became very valuable and created a closed market around the purchasing of oyster

---

<sup>213</sup> MD. DEPT. OF NAT. RES., *supra* note 28, at 5.

<sup>214</sup> TEX. PARKS & WILD. DEP'T., TEXAS OYSTER FISHERY MANAGEMENT PLAN 44 (1988), [https://www.researchgate.net/publication/260038756\\_Texas\\_oyster\\_fishery\\_management\\_plan](https://www.researchgate.net/publication/260038756_Texas_oyster_fishery_management_plan).

<sup>215</sup> *Id.*

<sup>216</sup> *Id.*

<sup>217</sup> OFFICE OF THE STATE AUDITOR, *supra* note 145, at 1.

<sup>218</sup> OFFICE OF THE STATE AUDITOR, A JOINT STUDY REPORT ON THE PARKS AND WILDLIFE DEPARTMENT'S COMMERCIAL FISHERY PROGRAMS AND THE GENERAL LAND OFFICE'S LEASES OF STATE-OWNED LANDS, APPENDICES 37, 95 (2000), [https://sao.texas.gov/reports/main/01-011\\_Appendix.pdf](https://sao.texas.gov/reports/main/01-011_Appendix.pdf) [hereinafter Appendix].

<sup>219</sup> TEX. PARKS & WILD. DEP'T., *supra* note 214, at 44.

<sup>220</sup> *Id.*

<sup>221</sup> APPENDIX, *supra* note 218.

leases through private transactions.<sup>222</sup> Prices soared to an average of a thousand dollars per acre or more.<sup>223</sup> In addition, TPWD did not exercise control over these transactions and could not benefit from them.<sup>224</sup> Up until recently, oyster aquaculture and leasing in the state of Texas was controlled by only a few hands.<sup>225</sup>

In 2019, however, the state passed a statute re-establishing a permitting framework for commercial oyster aquaculture and leasing, known in the state as oyster mariculture.<sup>226</sup> TPWD adopted regulations for the program in August 2020.<sup>227</sup> Texas lacks a multi-agency joint application similar to the ones that exist in Maryland and Washington. Thus, the process to apply for a lease and permits to engage in oyster aquaculture under this new framework involves multiple permits issued separately by different agencies.

The first step in the Texas permitting process is to apply for a Cultivated Oyster Mariculture Permit (COMP).<sup>228</sup> This permit is issued by TPWD.<sup>229</sup> In order to apply for the COMP, the applicant needs to submit their operation plan, natural resources survey, and personal information.<sup>230</sup> The operation plan describes the details of the operation, including site location and layout, type of gear to be used, seed source, and operational details.<sup>231</sup> The natural resources survey requirements relate to the verification that the proposed permit area does not contain sensitive habitats.<sup>232</sup> Once this information is submitted, TPWD evaluates and issues a conditional COMP.<sup>233</sup> Obtaining a Final COMP is contingent upon obtaining the corresponding permits, leases, and authorizations from the corresponding state and federal agencies such as the Army Corps, Texas

---

<sup>222</sup> *Id.*

<sup>223</sup> *Id.*

<sup>224</sup> *Id.*

<sup>225</sup> Gwendolyn Knapp, *The Texas Oyster Industry Is Now a Shell of Its Former Self*, HOUSTONIA: NEWS, (Apr. 24, 2018, 12:00 am), <https://www.houstoniamag.com/eat-and-drink/2018/04/texas-oyster-industry>.

<sup>226</sup> TEX. PARKS & WILD. CODE ANN. §75.

<sup>227</sup> *Id.*

<sup>228</sup> 31 TEX. ADMIN. CODE § 58.353(b).

<sup>229</sup> *Id.*

<sup>230</sup> TEX. PARKS & WILD. DEP'T, TEXAS CULTIVATED OYSTER MARICULTURE PERMIT 1, [https://tpwd.texas.gov/fishboat/fish/commercial/com\\_cf/com\\_index.phtml](https://tpwd.texas.gov/fishboat/fish/commercial/com_cf/com_index.phtml) (last visited July 23, 2021).

<sup>231</sup> *Id.* at 6

<sup>232</sup> *Id.*

<sup>233</sup> *Id.* at 7.

Commission on Environmental Quality, Texas Department of State Health Services, and Texas Department of Agriculture.<sup>234</sup>

If the oyster operation is going to be located on state owned aquatic lands, the applicant needs to apply for, and obtain, either a lease or an easement from the Texas General Land Office (GLO).<sup>235</sup> Commercial coastal easements are issued “for commercial projects on coastal public land when the applicant has ownership interest in the adjacent uplands.”<sup>236</sup> Commercial leases are issued for commercial shellfish aquaculture on state-owned land when the applicant does not have ownership interests upland.<sup>237</sup> For the purpose of this comparative analysis, the article focuses on commercial leases for oyster aquaculture.

Before a final COMP may be issued by TPWD, a commercial lease needs to be obtained from the GLO.<sup>238</sup> The lease application requires the submission of detailed maps of the area and the type of aquaculture project that is going to take place.<sup>239</sup> After the application is submitted, the GLO will review the materials and approve or deny in writing the request for a lease.<sup>240</sup> If the request is approved, the GLO will execute the lease.<sup>241</sup> After the lease is issued along with any other required permits and authorizations, the COMP applicant submits that documentation to TPWD.<sup>242</sup> TPWD then reviews the documentation to determine whether it will issue the final COMP.<sup>243</sup>

During the review process in the final COMP, TPWD “will publish the notice of application for permit . . . and provide the opportunity for public comment.”<sup>244</sup> Also, if the facilities are going to be partially or wholly in public waters, like in the case of a submerged land lease in state-owned coastal land, TPWD “will hold a public meeting in the city or municipality closest to the

---

<sup>234</sup> *Id.*

<sup>235</sup> TEX. NAT. RES. CODE ANN. § 33.101 *et seq.*; TEX. NAT. RES. CODE ANN. § 51.121 *et seq.*; *Coastal Leasing and Easements*, TEXAS GENERAL LAND OFFICE, <https://www.glo.texas.gov/coast/coastal-management/leasing-easements/index.html> (last visited July 23, 2021).

<sup>236</sup> TEXAS GENERAL LAND OFFICE, *supra* note 235.

<sup>237</sup> TEX. NAT. RES. CODE ANN. § 33.103.

<sup>238</sup> TEX. PARKS & WILD. DEP’T., *supra* note 214, at 7.

<sup>239</sup> *Id.*

<sup>240</sup> TEX. NAT. RES. CODE ANN. § 51.126.

<sup>241</sup> *Id.*

<sup>242</sup> TEX. PARKS & WILD. DEP’T., *supra* note 222, at 7.

<sup>243</sup> *Id.*

<sup>244</sup> 31 TEX. ADMIN. CODE § 58.353(b).

proposed permitted area to take comment on the proposed project.”<sup>245</sup> The notice of this public meeting will be published by TPWD in print or electronically in a newspaper of general circulation in the area closest to the project at least two weeks prior to the meeting.<sup>246</sup> The permit applicant is responsible for the costs of the advertisements, and TPWD will not issue the final COMP if it does not receive payment for the advertisement.<sup>247</sup>

Unlike Washington and Maryland, the agency that issues submerged land leases is GLO and not DNR. When granting a lease, GLO does not hold a public notice and comment period.<sup>248</sup> The agency only analyzes the information provided by the applicant and decides whether it will issue the submerged land lease for aquaculture activities on state-owned lands.<sup>249</sup> If a lease is granted by GLO, the applicant has to present evidence to TPWD of that lease along with the other permits and authorizations required for that specific oyster aquaculture activity.<sup>250</sup> Once TPWD has that information, it will then publish the permit application for public comment.<sup>251</sup> The regulations do not establish the length of the comment period.<sup>252</sup> However, for leases that are going to be located in public waters, like the commercial lease, TPWD is required to hold a public information meeting in the city or municipality closest to the project, and notification of the meeting must be provided at least two weeks in advance.<sup>253</sup> Thus, similar to Maryland, Texas mandates that a public information meeting be held as part of the public participation process,<sup>254</sup> but in Maryland that meeting will only be held if an interested citizen requests it within the 30-day public notice period.<sup>255</sup> The specific process for appealing a final COMP is not mentioned in TPWD regulations and further guidance is needed on this matter. Since the approval of the final COMP is dependent on the issuing of other permits from the

---

<sup>245</sup> *Id.* § 58.355(c).

<sup>246</sup> *Id.*

<sup>247</sup> *Id.*

<sup>248</sup> TEX. NAT. RES. CODE ANN. § 51.126.

<sup>249</sup> *Id.*

<sup>250</sup> TEX. PARKS & WILD. DEP’T., *supra* note 230, at 7.

<sup>251</sup> 31 TEX. ADMIN. CODE § 58.353(b).

<sup>252</sup> *Id.*

<sup>253</sup> *Id.* § 58.355(c).

<sup>254</sup> *Id.* § 58.353.

<sup>255</sup> MD. CODE ANN., NAT. RES. § 4-11A-09(g)(2)(iii).

aforementioned agencies,<sup>256</sup> appeals procedures are dependent on the corresponding agencies' regulatory frameworks.

Although the public participation process in Maryland occurs in the context of an application for an aquaculture lease, and in Texas it is done as part of the permitting process, the two processes have somewhat the same goal. Both Maryland DNR and TPWD will examine the public comments to determine if there are factors they had not previously contemplated that could cause either the denial of a lease or permit, respectively. However, while the end goal of the public comment period is the same in both states, the effect is completely different. As discussed, the Maryland comment period not only gives interested parties a chance to be heard, but it also triggers a process that is very different from typical notice and comment periods. When an interested party presents a protest in Maryland, it triggers an adjudicatory process that is heard by OAH, and DNR has the burden of presenting proof as to why the lease application is lawful and should be approved, while the protestant needs to present proof of the illegality of that lease.<sup>257</sup> In Texas, the comments submitted in the public comment period of the COMP permitting process do not trigger adjudication within the agency and are addressed internally by TPWD, the agency with the expertise in oyster aquaculture matters in the state. Consequently, individuals do not have to allege that they will be specially aggrieved by the proposed oyster aquaculture operations.

## V. CONCLUSION

There is significant diversity throughout the U.S. in the degree of process afforded to protestants seeking to stop shellfish aquaculture leases from being issued. In Maryland, despite a desire on the part of the legislature to strengthen the commercial oyster aquaculture industry and the creation of a streamlined aquaculture lease application process, the increase in lease applications have sparked a surge of lease protests in the state. Although the process for the approval of a new aquaculture lease is designed to have a quick turnaround, the filing of a protest triggers a unique administrative adjudicatory process that is subject to judicial review. And so, a process intended to expedite the issuing of leases can become very time consuming and costly to those who wish to engage

---

<sup>256</sup> TEX. PARKS & WILD. DEP'T., *supra* note 230, at 7. The other agencies include the Texas Commission on Environmental Quality, Texas Department of State Health Services, Texas Department of Agriculture, and Army Corps.

<sup>257</sup> Historic Sotterley, *supra* note 41.

in shellfish aquaculture in Maryland. The proliferation of protests throughout Maryland undermines the success of the state's oyster aquaculture industry—in direct contradiction to the stated goals of the statutory framework.

This article analyzed the purpose of the shellfish aquaculture lease protests in Maryland and the standing requirements for bringing a protest. To have standing to protest a new shellfish aquaculture lease, a protestant must satisfy two statutory requirements. The first is to file the protest within the thirty-day period prescribed by law. The second dictates that only persons who have an interest that differs from the general public can file a protest. In the absence of instruction from the legislature, decisions by Maryland's courts or even guidance from DNR about what factors should be taken into consideration to determine whether and when someone has standing to protest a new lease, Maryland's property-owner standing doctrine is a useful framework to aid in this determination.

As discussed above, from the plain language of the statute, it is reasonable to conclude that the General Assembly recognized that owners of property located directly in front of the proposed lease location are the most likely to be affected by the approval of the new lease, which makes them *prima facie* aggrieved property owners. Protestants who do not own property directly in front of the proposed lease, however, will not be considered to automatically have standing and must claim additional 'plus factors' to show that the proposed lease will specially aggrieve them.<sup>258</sup> Following the analysis by OAH in the *Clark* case, it can be concluded that in the two-tiered test to determine special aggrievement, the proximity requirement is less strict and protestants could have standing if their property is merely in the "immediate area" of the proposed lease.<sup>259</sup> Regarding the second part of the test, standing is afforded to protestants who claim that their interests (e.g., enjoyment of their property or ability to harvest wild oysters) "may be affected"<sup>260</sup> by the proposed lease.

The last section of this article provided an illustrative analysis between the public participation framework in Maryland's commercial shellfish aquaculture leasing, permitting, and protest processes to the frameworks in Washington and Texas. Washington's shellfish aquaculture regulatory framework is one of the oldest in the country. Unlike Maryland, Washington's shellfish aquaculture permitting process directly involves multiple permits and authorizations from

---

<sup>258</sup> Ray v. Mayor and City Council of Baltimore, 59 A.3d 545, 550 (Md. 2013).

<sup>259</sup> Clark Adjudication, *supra* note 59, at 15.

<sup>260</sup> *Id.*

different state and county-level agencies. Similar to Maryland's DNR, the agency in charge of approving a lease to engage in aquaculture activities in state-owned land is WA DNR, but the state's involvement in the leasing process for shellfish aquaculture is completely different. Furthermore, Washington's public participation framework in the shellfish aquaculture leasing and permitting process is very different from Maryland's. When WA DNR grants a lease for state-owned aquatic lands, there is no separate public notification and participation process. The only opportunities for public participation are through the public notice and comment period held at the county level and at the state and federal level within the thirty-day joint public and notice period held by the Army Corps and the Department of the Ecology. In addition, a unique characteristic of Washington's public participation process is that, due to existing treaty rights, the permit applicant and the state and federal agencies involved in the authorization process, are required to notify, and seek consensus with Native American Tribes who harvest in the area of the proposed shellfish aquaculture site.

Different from both Maryland and Washington, Texas has just begun to issue new commercial oyster aquaculture leases after a thirty-year moratorium. The application to engage in shellfish aquaculture in the state of Texas requires multiple permits issued separately by different agencies. When the leasing of state-owned aquatic lands is required to engage in aquaculture activities, the approval of a Final COMP by TPWD is dependent upon the issuing of the submerged land lease by GLO. After the applicant obtains all the required permits and the lease, TPWD will publish the permit application for public comment before issuing the Final COMP. For commercial shellfish aquaculture leases that are going to be in public waters, TPWD is required to hold a public information meeting in the city or municipality that is closest to the project.

After analyzing Maryland, Washington, and Texas's shellfish aquaculture permitting leasing and public participation processes, the state with the most straightforward application process is Maryland. Maryland's state application process is the simplest mainly because applicants only directly interact with MD DNR. On the other hand, people interested in engaging in shellfish aquaculture in Washington or Texas must be permitted by multiple state and county agencies, which could cause great delays at each step in the process.

Even though Maryland's application process is designed to be faster than Texas and Washington's, the process around public protests in Maryland can and does significantly delay and deter. Due to the unique characteristics of a protest, it can take many months or even years for a lease applicant to be able to obtain their

shellfish aquaculture lease. This issue certainly is detrimental for lease applicants. It also could require a great deal of state resources.

In order to simplify the public participation component in Maryland, the statute should be amended to eliminate protests, and instead, implement a public participation approach similar to Texas. This approach involves modifying Maryland's public participation to a typical notice and comment procedure. Unlike what happens under Maryland's current protest framework, if Maryland were to modify its process, when an individual submits a comment to DNR, it would not trigger an adjudication process. Rather, the commenting party's statement would be considered internally by DNR. This change will still guarantee that Maryland's citizens' concerns are being heard and considered by DNR—the agency with the expertise to resolve controversies around shellfish aquaculture leasing.

Furthermore, to protect citizen's property rights, the statute should also be amended to outline an appeal process to newly approved commercial shellfish aquaculture leases by DNR. An internal review board should be created within DNR for these purposes. In addition to the commenting period, the statute already contemplates that public participation meetings be held when requested. Public participation meetings are also great opportunities for citizens to voice their concerns and have their questions directly answered by DNR. Finally, to sustain Maryland's intended growth in its oyster aquaculture industry, the public participation process around leasing should be modified to an approach that is consistent with the current statutory framework.

REGULATORY TAKINGS IN AQUACULTURE

Varad Dabke<sup>1</sup>

I. INTRODUCTION

Aquaculture refers to the “breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms in all types of water environments.”<sup>2</sup> There is growing interest in aquaculture as a means of economic development in the form of job creation and food production at a time of increased demand and emphasis on the need for sustainable growth.<sup>3</sup> Whereas aquaculture projects already exist at varying sizes and levels of success in *state* waters, at present no robust permitting system exists for aquaculture operation in *federal* waters.

Growth in aquaculture projects has not been without pushback from the general public. In late 2018, the Virginia Office of the Secretary of Natural Resources formed a work group tasked with assessing use conflicts resulting from growth in clam and oyster aquaculture.<sup>4</sup> The resulting report identified a laundry list of public conflicts with aquaculture projects such as interference with navigational and recreational uses of public waters.<sup>5</sup> Furthermore, secondary land-

---

<sup>1</sup> Varad Dabke is a J.D. candidate at the University of Georgia School of Law. He serves as a Georgia Sea Grant Law Fellow with Marine Extension-Georgia Sea Grant in partnership with the Carl Vinson Institute of Government.

<sup>2</sup> *What is aquaculture?*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://oceanservice.noaa.gov/facts/aquaculture.html#:~:text=Aquaculture%20is%20the%20breeding%2C%20rearing,all%20types%20of%20water%20environments.&text=NOAA%20efforts%20primarily%20focus%20on,in%20the%20ocean%20and%20estuaries> (last visited July 27, 2021). Specific prefixes delineate the types of organism being bred, reared, and harvested. These include algaculture for seaweed and mariculture for aquaculture occurring in marine – as opposed to freshwater – settings. Additionally, because aquaculture is functionally equivalent to agricultural farming in the water, using the verb “farming” to describe aquaculture of various resources is not uncommon.

<sup>3</sup> Lester, et. al., *Opinion: Offshore Aquaculture in the United States: Untapped Potential in Need of Smart Policy*, PROC. OF THE NAT’L ACAD. OF SCI. (2021), <https://www.pnas.org/content/115/28/7162>.

<sup>4</sup> OFF. OF THE SEC’Y OF NAT. RES., REPORT OF THE WORK GROUP’S DELIBERATIONS AND RECOMMENDATIONS TO ADDRESS AQUACULTURE USE CONFLICTS (2018), <https://www.naturalresources.virginia.gov/media/governorvirginiagov/secretary-of-natural-resources/pdf/Clam-and-Oyster-Aquaculture-Work-Group---FINAL-REPORT.pdf>.

<sup>5</sup> *Id.*

based activities required to establish and subsequently maintain aquaculture sites were listed as a source for concern.<sup>6</sup>

Public opposition to aquaculture is inherently a property rights issue. It informs the broader legal and regulatory concerns affecting growth of the industry at the state level. Some have argued that proximity to aquaculture sites may decrease property value because of the nuisance burdens they pose to residential property. Others have suggested that a robust regulatory framework which authorizes a transition to federal waters, “can avoid many user conflicts [aquaculturalists] have encountered in inshore [state waters].”<sup>7</sup>

To that end, the National Oceanic and Atmospheric Administration (NOAA) has issued funding opportunities, fostered the creation of outreach materials, and launched various initiatives addressing the expansion of aquaculture outside state jurisdiction.<sup>8</sup> These larger scale projects would develop in the United States’s Exclusive Economic Zone (EEZ). The EEZ begins where state jurisdiction ends, three miles off coast, and its outer boundary ends 200 miles offshore.<sup>9</sup> The term offshore is used to refer to these projects that will be sited in waters under federal jurisdiction.<sup>10</sup>

Although efforts to commence aquaculture projects in federal waters are still in the early stages, as the industry evolves, regulators, policymakers, private investors, and aquaculture operators will need to consider the vast legal questions brought on by this transition.<sup>11</sup> For example, what will happen if federally permitted aquaculture sites come into conflict with other federal interests like

---

<sup>6</sup> *Id.*

<sup>7</sup> HAROLD UPTON, CONG. RSCH. SERV., U.S. OFFSHORE AQUACULTURE REGULATION AND DEVELOPMENT (2019).

<sup>8</sup> *Aquaculture*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://www.fisheries.noaa.gov/topic/aquaculture> (last visited July 27, 2021).

<sup>9</sup> *Frequently Asked Questions*, U.S. DEP’T OF STATE, <https://www.state.gov/frequently-asked-questions-u-s-extended-continental-shelf-project/> (last visited July 27, 2021).

<sup>10</sup> This is as opposed to subtidal and intertidal aquaculture projects under state jurisdiction.

<sup>11</sup> Deborah Sullivan Brennan, *Aquaculture Approved for Federal Waters off Southern California*, THE SAN DIEGO TRIBUNE, August 28, 2020, <https://www.sandiegouniontribune.com/news/environment/story/2020-08-28/aquaculture-approved-for-federal-waters-off-southern-california>. *But see*, Sam Hill, *Federal Court Ruling Complicates U.S. Offshore Aquaculture Efforts*, SEAFOOD SOURCE, August 5, 2020, <https://www.seafoodsource.com/news/aquaculture/federal-court-rules-against-offshore-aquaculture-in-the-gulf-of-mexico>.

naval operations, resource conservation efforts, or oil and gas drilling permits? In the event of new regulatory restrictions on offshore activities, will aquaculture operators have a valid legal claim?

This article focuses on one such potential legal claim, called regulatory takings, which parties who currently own or operate aquaculture operations in state waters have asserted in response to state regulation. After briefly exploring the origin and evolution of the takings clause, this article examines instances of litigation in three different states, the outcomes of which will be instructive as the aquaculture industry opens itself to new regulatory challenges. As there are not yet any federally sited projects and therefore none that have come into conflict with federal regulations, this article uses examples from state litigation. By understanding what has happened at the state level, decision makers will be better able to plan for federal project siting by identifying and preempting potential takings issues.

## II. TAKINGS CLAIMS

The “takings clause” is the final provision of the Fifth Amendment to the United States Constitution.<sup>12</sup> It requires that the government provide just compensation if and when it *takes* private property *for public use*.<sup>13</sup> Unlike a physical taking of private property via eminent domain or condemnation proceedings, *regulatory* takings claims can be understood as a “taking” of private property in function rather than form. A regulatory taking occurs when a regulation eliminates or significantly diminishes a property’s value, utility, or purpose.<sup>14</sup> Regulation can have a wide range of effects on the factors that do or do not give a property value. Regulations can also impose cost burdens on property owners and inefficiencies for business operations. For instance, a regulation that bans previously allowed activities might frustrate the purpose of investments made prior to the regulation’s enactment.

---

<sup>12</sup> U.S. CONST. amend V.

<sup>13</sup> “Takes” and “taking” is sometimes used synonymously with “appropriates” or “condemns”, but because this article focuses on a specific category of takings that results from government regulation (i.e., regulatory takings), it will avoid use of terms that have specific and contoured application in interrelated takings claims based on eminent domain and condemnation.

<sup>14</sup> See Terra Bowling, *Takings 101*, THE SANDBAR, Vol. 7:1 (2008), <http://nsglc.olemiss.edu/SandBar/archives/vol7/1/index.html> [hereinafter *Takings 101*] (defining the takings clause and surveying pertinent caselaw).

*Regulatory* takings are not the stereotypical example that comes to mind when one considers the property rights protected under the Fifth Amendment. One is more likely to picture the government taking land for an energy pipeline, justifying the taking by claiming it keeps energy prices low for its citizens. Regulatory takings on the other hand are not so direct. As the cases discussed later in this article will show, regulatory takings occur when laws prevent use of property, diminishes its value, or otherwise intrudes on the rights of a property owner. These regulations, like taking land for an energy project, might also be enacted with a public interest in mind.

For example, consider a local zoning law which prohibits an oyster harvester from using power tools to clean shellfish on a privately owned dock. Prohibiting him from doing so might ensure that people living in the neighborhood are not bothered at all hours of the day by the sound of heavy machinery. But countervailing that protection afforded to the public is a detriment experienced by the oyster harvester. If the harvester cannot clean shellfish at the dock, the harvester might need to transport it elsewhere. If he cannot afford a separate lease for another location where he can use power tools, it could mean that he invested in coastal property that he can no longer legally use. In the simplest terms, a regulation in the form of a new coastal zoning law “took” something from the harvester – the ability to clean shellfish with power tools – that he had when he leased or bought the property.

In this sense, the possibilities for regulations that interfere with the use or value of property might seem limitless. There are judicial guideposts, however. Courts hear and decide regulatory takings cases under two dominant judicial tests in modern American jurisprudence: (1) a multifactor balancing test and (2) a categorical approach for determining compensable harm. The following subsections will take a deeper look at each of these tests.

#### A. A Multifactor Balancing Test

The U.S. Supreme Court’s 1978 decision in *Penn Cent. Transp. Co. v. New York City* established a multifactor balancing test for determining whether a taking has occurred as a result of a government regulation.<sup>15</sup> The factors include: “1) the extent to which the regulation interferes with investment-backed expectations; 2) the economic impact of the regulation on the claimant; and 3) the

---

<sup>15</sup> *Penn Cent. Transp. Co. v. City of New York City*, 438 U.S. 104 (1978).

character of the government's interest, or the social goals being promoted by the government."<sup>16</sup>

In 1965, New York City adopted a Landmark Preservation Law pursuant to a state enabling act. The purpose of the law was to protect the character and aesthetic value of historic properties in the city.<sup>17</sup> The law authorized the creation of a commission whose primary function would be to identify and designate "landmark sites." The designation was subject to a judicial review at the discretion of the property owner.<sup>18</sup> Once the commission designates a site as a landmark, it limits "the property owner's options concerning use of the landmark site . . . [and] imposes a duty upon the owner to keep the exterior features of the building in good repair."<sup>19</sup>

The commission designated Grand Central Terminal Station as a landmark in 1967, two years after the city adopted the Landmark Preservation Law. Penn Central, the owner of Grand Central Terminal, did not seek judicial review of the commission's decision. However, it did later enter into a 50-year leasing agreement to build a 55-story office building, "to be cantilevered above the existing facade and to rest on the roof of the Terminal."<sup>20</sup> When plans for the proposed construction were denied, Penn Central and its lessee sued the city claiming that the decisions of the commission pursuant to the Landmark Preservation Law resulted in a taking without just compensation and therefore violated the Fifth Amendment.<sup>21</sup>

The case made its way through the courts, ultimately reaching the U.S. Supreme Court, where the Court affirmed the decision of the lower court that the commission's denial of Penn Central's construction plan *did not* constitute a taking. The Court stated:

Since (1) the law did not interfere with the present uses of the building, but allowed the owner to continue using it as had been done in the past, permitting the owner to profit from the building and obtain a reasonable return on its investment, (2) the law did

---

<sup>16</sup> *Takings 101*, *supra* note 14, at 1.

<sup>17</sup> *Penn Cent.*, 438 U.S. at 109 (citing N.Y.C. ADMIN. CODE, ch. 8-A, § 205-1.0 *et seq.* (1976)).

<sup>18</sup> *Id.* at 110-111.

<sup>19</sup> *Id.* at 111 (internal quotation marks omitted).

<sup>20</sup> *Id.* at 116.

<sup>21</sup> *Id.* at 119.

not necessarily prohibit occupancy of any of the air space above the landmark building, since under the procedures of the law, it was possible that some construction in the air space might be allowed, and (3) the law did not deny all use of the owner's preexisting air rights above the landmark building, since under a transferable development rights program, it was possible for the owner to transfer the development rights it was foreclosed from using as to Grand Central Terminal to other neighboring properties which it owned.<sup>22</sup>

The Court found that all three factors (interference with investment backed expectations, economic impact on owner, and character of the government's interests) weighed in favor of the commission's decision and therefore did not result in a compensable taking. A key factor in this conclusion was the Court's finding that there were profitable options still available to Penn Central. For example, it found that although the Landmark Preservation Law restricted the *extensive* development pursued by Penn Central, it could still transfer development rights to adjacent property.<sup>23</sup> Alternatively, it could propose a less extensive development above the terminal that was more consistent with the goals of the Landmark Preservation Law.<sup>24</sup> On balance, the existence of other reasonable options available to the property owner weighed against the claim that the regulation's restrictions amounted to a taking.

#### B. A Categorical Approach

In a subsequent 1992 decision, the U.S. Supreme Court established an additional test for regulatory takings claims.<sup>25</sup> In *Lucas v. S.C. Coastal Council*, a South Carolina law called the Beachfront Management Act prohibited the appellant from developing residential property on his land adjacent to the coast.<sup>26</sup> The purpose of the Beachfront Management Act was to prevent increasing erosion and destruction of the shorescape, but the appellant had purchased the land for development in 1986, two years prior to passage of the act in 1988.<sup>27</sup>

---

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 114.

<sup>24</sup> *Id.* at 137.

<sup>25</sup> *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992).

<sup>26</sup> *Id.* at 1009 (citing S.C. CODE ANN. § 48-39-250 *et seq.*).

<sup>27</sup> *Id.* at 1008.

Due to the impact of the Beachfront Management Act, the state trial court found that the law left Lucas' land valueless, as the prohibition allowed for no exceptions at the time he brought suit.<sup>28</sup> However, the South Carolina Supreme Court reasoned that even the complete loss of value in Lucas's property did not result in a compensable taking because of the great public interest in preventing the destruction of coastal property and public nuisances. It analogized Lucas's residential development and its destructive effect on the coast to a long list of property uses which the state Supreme Court found were public nuisances and in which it determined no taking had occurred.<sup>29</sup> These included uses of a property for purposes such as the "manufacture of alcoholic beverages . . . operation of a brick mill in a residential area . . . [or] operation of quarry in a residential area."<sup>30</sup>

The Supreme Court of the United States disagreed. It found that whereas noxious use and nuisance was an early justification for states to exert police power and issue regulations in the public interest without being required to provide just compensation. The Court stated that "the legislature's recitation of a noxious-use justification cannot be the basis for departing from our *categorical* rule that total regulatory takings must be compensated. If it were, departure would virtually always be allowed."<sup>31</sup>

Justice Blackmun, in his dissent, described the majority's decision as one that "*creates . . . a new categorical rule.*"<sup>32</sup> His dissent characterized the majority rule as novel, not one explicitly rooted in precedent. Indeed, in legal commentary *Lucas* is described as the representative case which established a categorical approach to regulatory takings.<sup>33</sup>

Unlike the balance between interests and the development options still available to Penn Central (to build a more modest development, or otherwise still derive profit from the existing station or a greater profit by transferring development rights), the regulation in *Lucas* left the coastal property valueless

---

<sup>28</sup> *Id.*

<sup>29</sup> *Id.* at 1022.

<sup>30</sup> *Id.* (citations omitted).

<sup>31</sup> *Id.* at 1026 (emphasis added).

<sup>32</sup> *Id.* at 1036 (emphasis added).

<sup>33</sup> Carol Necole Brown, *The Categorical Lucas Rule and the Nuisance and Background Principles Exception*, 30 TOURO L. REV. 349, 354 (2014) (recognizing that the *Lucas* decision articulated the categorical test but left open to debate in subsequent cases whether the test applies in cases with "denial of all *value* or denial of all *use*." (emphasis in original)).

according to the Court. Taking a categorical approach to compensate for property rendered completely valueless and with no alternative options to develop the property, the Court held that the Beachfront Management Act's bar on development resulted in a compensable regulatory taking.

To sum up both tests, it is useful to return to the original example of an oyster harvester prohibited from using power tools to clean shellfish on his private dock. If for example, the zoning law only prohibited him from using power tools at certain times or on certain days, then the fact pattern might be more consistent with a *Penn Central* balancing approach. A court would likely balance the regulation's limited use requirements with the public interest achieved by preventing nuisance. However, if the law remained as originally described, prohibiting the harvester from using power tools on his land at *all* times, then a court might apply a categorical test under *Lucas*. Just as Lucas had purchased the land for development, the harvester had purchased the waterfront property to run his aquaculture business.

Of course, this is a simplified example. In federal waters, the scale and the consequences of a regulatory decision will be exponentially more severe than a local zoning law. However, the principal distinction between the *Penn Central* and the *Lucas* approach will still be key.

### C. A Scattered Jurisprudence

While the Fifth Amendment itself did not originally apply to state governments, it was incorporated following passage of the Due Process and Equal Protection provisions of the Fourteenth Amendment.<sup>34</sup> State constitutions also therefore recognize state takings claims. However, it is evident that an easily articulable and uniform consensus on the way states address regulatory takings issues does not exist. For example, legal commentary has described that “the judicial development of regulatory takings doctrine, particularly since the modern burst of United States Supreme Court activity commenced in 1987, is a murky

---

<sup>34</sup> See, *Due Process*, LEGAL INFORMATION INSTITUTE, [https://www.law.cornell.edu/wex/due\\_process](https://www.law.cornell.edu/wex/due_process) (last visited July 27, 2021). “In the middle of the Twentieth Century, a series of Supreme Court decisions found that the Due Process Clause “incorporated” most of the important elements of the Bill of Rights and made them applicable to the states. If a Bill of Rights guarantee is ‘incorporated’ in the ‘due process’ requirement of the Fourteenth Amendment, state and federal obligations are exactly the same.” *Id.*

swamp of illogic, undefined terms, and dicta-riddled opinions.”<sup>35</sup> The unclear origin of the categorical approach is one example of this confusion, discrepancies in the ways that states resolve takings issues is yet another.

As the discussion below will show, uniformity has not abounded since that appraisal over three decades ago. Original jurisdiction in the hands of zoning boards and local commissions adds another procedural complication for parties bringing takings claims. Appellate procedures depend on state and local rules, and courts heavily defer to administrative bodies who are authorized by law to oversee decisions affecting the property rights of aquaculture operators.

This article will touch on, but not dig deeper into, the nuances of state law and administrative procedures inherent in state takings claims. This is not because it is not an important area of study, but rather because an industry transition into federal waters might be able to subvert or simplify many of the confusing characteristics of state takings claims by being part of a larger, more streamlined, nationwide permitting process. This next section instead identifies the key legal reasons why takings claims were or were not successful, as well as the impact that takings conflicts had on the viability of aquaculture operations.

### III. SURVEY OF LITIGATION

#### A. Louisiana

##### *i. Federal court decision*

In 1994, oyster growers in Louisiana brought separate federal and state takings claims in response to a federally funded and state operated freshwater diversion project which encroached on oyster aquaculture leases.<sup>36</sup> It is important to note at the outset that the project was in state waters. As described below, the grower’s federal claim was possible because a federal agency was partially responsible for funding, planning, and authorizing the freshwater diversion project. In addition to not being sited in federal waters, the project did not conflict with federal regulation.

---

<sup>35</sup> Bruce Burton, *Regulatory Takings, Private Property Protection Acts, and the Moragne Principle: A Proposal for Judicial-Legislative Comity*, S.C. L. REV., 83, 85 (1997).

<sup>36</sup> *Avenal v. United States*, 100 F.3d 933 (Fed. Cir. 1996); *Avenal v. State*, 886 So. 2d. 1085 (La. 2004).

Interestingly, the long-term goal of the Caernarvon diversion project was to restore salinity levels that would create conditions more conducive to oyster aquaculture.<sup>37</sup> However, in the short-term, the influx of diverted freshwater did just the opposite. The growers' takings claim alleged that the government, by way of its upstream project supported by a public purpose, failed to compensate state leaseholders for the diminished value of their property and the destruction of growing rights appurtenant to that property.

The oyster growers brought a federal claim against the United States and the U.S. Army Corps of Engineers, who "designed, financed, and built Caernarvon."<sup>38</sup> The Federal Circuit Court of Appeals applied a traditional *Penn Central* balancing test. The Court recognized that even though the leaseholders had acquired valuable property rights from the state, the determinative factor in granting the growers' compensatory relief was whether or not they had *reasonable* investment-backed expectations. Put briefly, the Court found that the growers knew not only that the diversion was necessary for the long-term viability of the waters but also that "the [Caernarvon] investigation itself was prompted, in part, by requests from local groups, including the oyster industry, concerning the need for such diversions."<sup>39</sup> Knowledge of the need and even impending likelihood of a diversion did not just diminish the growers' takings claim, it defeated the claim altogether.

As established by the record, there was a factual dispute over whether the growers had reasonably known about potential interferences. For example, a memorandum written by the U.S. Fish and Wildlife Service stated that, "the effect of the Area 4 [Caernarvon] diversion would *not* be to change the salinity levels themselves, but to combat the effects of subsidence and push back salt-water intrusion."<sup>40</sup> This memo was evidence with authoritative weight (by a federal authority) suggesting that a "reasonable" risk of impending harm would not be the likely effect of the diversion. Nevertheless, the deciding factor which tipped the scales against a finding of a compensable taking were the "planned and announced efforts of the Government to act in ways that would affect [the growers] uses of their after-acquired property interests."<sup>41</sup>

---

<sup>37</sup> *Avenal v. U.S.*, 100 F.3d. at 935.

<sup>38</sup> *Avenal v. State*, 886 So. 2d. at 1092.

<sup>39</sup> *Avenal v. U.S.*, 100 F.3d at 935.

<sup>40</sup> *Id.* at 934 (emphasis added).

<sup>41</sup> *Id.* at 938.

*ii. State court decision*

The Louisiana Supreme Court's decision in *State v. Avenal* is the state analogue to the oyster growers' failed federal claim. The state claim failed for multiple reasons. Unlike the comparatively conclusory federal decision, the state court's decision deeply detailed the underlying reasons *why* the diversion project had an adverse effect on leases downstream. Another less predictable factor and one equally outside the purview of leaseholders, was the project managers' decision to increase flowrates *beyond* those that were reasonably necessary to maintain the proper salinity level useful for oyster growth. The decision states: "Caernarvon became operational in September of 1991 in accordance with the recommended flow rates, and this achieved some, but not all of the intended effects of the project. As a result, the CIAC eventually voted to *significantly* increase the flows of the Caernarvon project in 1993."<sup>42</sup>

Due to the risks presented by the project, the state included a hold-harmless provision in its oyster leases which "indemnified and held [the state] harmless for any claims related to coastal restoration."<sup>43</sup> The court considered that the decision to include the hold-harmless clause was already a compromise between the need for a diversion project and the extreme result of denying all leases in the interim. For the vast majority of leases involved in the state class action, the court held that the hold-harmless clause validly precluded their claims.

The hold harmless clauses included in a majority of the growers' leases were significant because they specifically denied growers the right to sue for damages resulting from the diversion project. The right of the Secretary of the Louisiana Department of Wildlife and Fisheries to include hold harmless clauses was codified in a state statute, "[which] recognizes that the Secretary may 'make such stipulations in the leases made by him as he deems necessary and proper to develop the [oyster] industry.'"<sup>44</sup>

Additionally, pursuant to another Louisiana statute, the court held that the leaseholders' takings claims were actually a claim for damages.<sup>45</sup> Whereas the

---

<sup>42</sup> *Avenal v. State*, 886 So. 2d. at 1091 (emphasis added). The CIAC acronym used in this quote refers to the Carnarvon Interagency Advisory Committee, which included state-level decisionmakers who coordinated and communicated project planning with Federal actors.

<sup>43</sup> *Id.* at 1090.

<sup>44</sup> *Id.* at 1095.

<sup>45</sup> See LA. STAT. ANN. 13:1511; LA. STAT. ANN. 9:5624.

lower court found a takings claim, the Louisiana Supreme Court found that it had, “assume[d] that the State intended to guarantee each lessee a commercially viable oyster lease.”<sup>46</sup> In other words, when the state leased its water bottoms it was not a guarantee of commercially viable oyster growth. Rather, it was merely the conferral of a leased right. The Louisiana Supreme Court found that this right was not “taken” by the diversion project, but rather it was damaged. Ultimately, claims for damages pursuant to the statutory scheme are subject to a prescriptive period of two years.<sup>47</sup> Because the claims were brought after that period expired, and because the remaining claims were subject to a valid hold harmless clause, all the growers’ state claims were dismissed.

### B. Alabama

Inverse condemnation “involves a taking by a governmental entity without invoking available statutory bases for such taking under which the property owner would have been entitled to just compensation.”<sup>48</sup> Inverse condemnation claims are therefore brought by property owners or right-holders to seek compensation for a taking when the state fails to bring formal condemnation proceedings for its actions in the public interest.

In *Portersville Bay Oyster Co., LLC v. Blankenship*, the state granted riparian landowners an easement to construct on and off bottom oyster cages and floating cages. Pursuant to an Alabama statute, “[a] riparian landowner has the right to harvest oysters to the distance of 600 yards from the shore.” A riparian landowner “does not have a right to harvest oysters using cages above the submerged surface[;] such activity is permissible only when the [s]tate grants a shellfish aquaculture easement for that purpose.”<sup>49</sup> The riparian landowners leased that easement to oyster growers who began a commercial oyster aquaculture operation.

Following the valid grant of an easement, the state contracted with a construction company to build a nearby breakwater, a structure constructed near the coast to reduce the intensity of wave action on inshore waters. The state and the construction company were reasonably aware that construction of the breakwater would “carry the excess sediment and silt onto the areas embraced by

---

<sup>46</sup> *Avenal v. State*, 886 So. 2d. at 1106.

<sup>47</sup> *Id.* at 1107-08.

<sup>48</sup> *Portersville Bay Oyster Co., LLC v. Blankenship*, 275 So. 3d 124, 130 (Ala. 2018).

<sup>49</sup> *Id.* at 124. *See also* ALA. CODE § 9-12-22.

the leases and the shellfish aquaculture.”<sup>50</sup> The public interest in the breakwater project was clear, but despite being aware of the impending harms to surrounding oyster cages, the state did not bring formal condemnation proceedings.

Competing with the public benefit posed by the breakwater project were the interests of the oyster growers who saw a dramatic loss in their aquaculture yield rates:

Before the Marsh Island Project began, [the oyster farmers] had a normal oyster mortality rate of 3 to 5%. Since construction began, the mortality rate has risen to 40 to 50% for oysters in elevated cages. The mortality rate for oysters on the bottom is even higher, in some locations 100%.<sup>51</sup>

This occurred directly as a result of the displaced sediments which smother the oyster spat and larvae – baby oysters.

The threshold controversy in *Portersville* was the State Commissioner’s effort to be dismissed from the suit by claiming state immunity. The trial court erroneously granted this dismissal, and the Alabama Supreme Court reversed. It found that takings issues are distinct from the general immunity granted to the state and its officials and excepted from that general immunity pursuant to an Alabama statute.<sup>52</sup> With the Commissioner as a valid defendant, the court briefly weighed in on the plaintiff’s claim for compensable relief by inverse condemnation.

The Alabama Supreme Court analogized the effects of the breakwater project to another inverse condemnation case, *Ex parte Alabama Department of Transportation* wherein the state transportation department flooded private property with contaminated water.<sup>53</sup> It found that the leaseholders had pleaded a sufficient inverse condemnation claim. The public record shows that a rehearing was denied in an October 2018 unpublished opinion. This was two months after the initial decision was made in August 2018. The status of any damages ordered on remand is unclear as of the time of publication.

---

<sup>50</sup> *Portersville Bay Oyster Co., LLC*, 275 So. 3d at 133.

<sup>51</sup> *Id.* at 128.

<sup>52</sup> *Id.* at 130; *see also* ALA. CONST., Art. I, § 23, 1901.

<sup>53</sup> *Ex parte Alabama Dep’t of Transp.*, 143 So. 3d 730 (Ala. 2013).

## C. Washington

In *Washington Shell Fish, Inc. v. Pierce County*, the plaintiff company ran a geoduck aquaculture operation on parcels leased from shoreland owners.<sup>54</sup> Geoducks are a type of clam most commonly harvested in the Northwest and are particularly common in Washington state.<sup>55</sup> The Pierce County code requires that the company acquire a substantial development permit, “when it harvested and planted geoducks on the leased properties” because the activities prevented the general public from using certain areas of the water.<sup>56</sup> The company failed to acquire development permits. The county issued cease and desist orders on all eleven leased parcels and the plaintiff company appealed to the county. The county held a public hearing and, upon testimony from experts and recreational windsurfing groups who had been injured by the unpermitted aquaculture equipment, upheld the County’s cease and desist orders.

Pierce County’s substantial development permit regulation was created pursuant to the requirements of a legislative act passed by the state government:

The legislature enacted the Shoreline Management Act (SMA): (1) to protect and to manage the private and public shorelines of Washington State; (2) to protect against adverse effects to public health, public rights of navigation, land, vegetation, and wildlife; and (3) to plan for and to foster reasonable and appropriate shoreline uses.<sup>57</sup>

Along the same theme as other regulatory acts and government projects described in the section, the purpose of the SMA was to protect the public interests in access and use of coastal waters.

The appellate court reviewed the decision of the county examiner who had upheld the cease-and-desist order and concluded similarly that the aquaculture operation was in violation of the substantial development permitting requirement because of the extensive PVC pipe apparatus placed in the leases. It concluded that the county code required substantial development permits for “placing of

---

<sup>54</sup> *Washington Shell Fish, Inc. v. Pierce County*, 131 P.3d 326 (Wash. Ct. App. 2006).

<sup>55</sup> *Geoducks, Species Directory*, NOAA FISHERIES, <https://www.fisheries.noaa.gov/species/geoduck> (last visited July 27, 2021).

<sup>56</sup> *Washington Shell Fish, Inc.*, 131 P.3d at 332.

<sup>57</sup> WASH. REV. CODE § 90.58.020.

obstructions, or any project of a permanent or temporary nature *which interferes with the normal public use of the surface of waters* overlying lands subject to the Shoreline Management Act at any state of water level.”<sup>58</sup>

#### D. Analysis

Each of these three state cases represents a different facet of the takings analysis and will be instructive to stakeholders preparing for a transition into federal waters. As all three cases have shown, the first question that the courts ask is whether an aquaculture operator had the right to harvest in the water at all. In *Avenal*, members of the class action had leased the right to grow oysters in the area affected by the diversion directly from the state. In *Portersville*, riparian landowners secured an easement from the government and leased the rights on that easement to a company which began aquaculture operations. In both cases, the court concluded that the aquaculture operator had secured a valid legal right to harvest as a threshold matter. In *Washington Shell Fish, Inc.* however, the court found that the project was in violation of state and local law by failing to apply for a substantial development permit. Because it never gained a legal right to harvest, that right was never taken away by enforcement of the regulation.

In *Avenal*, the court basically engaged in a *Penn Central* analysis. It weighed the reasonability of the grower’s expectation to grow oysters in their leased waters against the public interest of the diversion project to restore salinity levels in the area. The court found that the reasonability in investing in aquaculture operations was diminished due to the public character of the diversion project. Furthermore, because the state had inserted hold-harmless clauses in the leases, the growers had indemnified the state from any liability resulting from intrusions to their growing rights. Finally, it found that to the extent that growers’ property interests were “damaged” by the diversion, they had brought the incorrect claim against the state and the correct claim was barred by a statute of limitations. This balancing of interests weighed in a favor of the state on multiple levels.

The court’s reasoning in *Portersville*, however, took more of a *Lucas* approach. Because the state and its contractors knew that the breakwater project would create an adverse effect and because of the severe effect it did indeed have on harvest yield rates, a categorical approach to compensate for significant

---

<sup>58</sup> *Id.* § 90.58.030(3)(d).

damages made more sense. Unfortunately, the record on remand is not publicly available and the amount of damages the aquaculture company received because of the state's interference is not known.

As mentioned above, state takings decisions do not always overlap perfectly with theoretical legal tests established by the Supreme Court of the United States. In both decisions, the Court's opinion clarified that there is a no "set-formula" of exhaustive factors that claimants must demonstrate or that the court must identify.<sup>59</sup> For this reason, it makes sense that the judiciary uses a fact-bound approach instead of a one-size-fits-all method for resolving takings conflicts. Ultimately, these tests establish the outer limits that courts will use as guideposts for their takings analysis, each a necessary but not always sufficient reason to conclude that a taking has or has not occurred.

The value of identifying the legal mechanisms like state hold harmless clauses or differing state permitting structures is that a *federal* siting and permitting regime will look to what has already been done at the state level. While creating a national structure might bring the sense of uniformity needed in takings analyses, it will be important to ensure that past conflicts are identified, understood, and avoided. For example, a robust federal permitting system, one that makes legally clear which rights have been vested in the leaseholder, will be crucial to potential takings challenges. Similarly, it will be critical for those interested in seeking permits to begin aquaculture activities in federal waters to understand and evaluate the terms of their contract and know the consequences of hold harmless clauses should they be adapted into the federal permitting system.

#### IV. CONCLUSION

This article has demonstrated that takings issues resulting from aquaculture projects are as complicated as they are diverse. In almost every example in the survey of cases, either lack of understanding of statutory requirements, noncompliance, miscommunication, or the reasonability of decision-making played a dispositive role in the subsequent takings analysis.

Right now, there are growing advocacy efforts to create a robust authorization framework for federal offshore aquaculture. The industry may be in

---

<sup>59</sup> Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1015 (1992); Penn Cent. Transp. Co. v. City of New York City, 438 U.S. 104, 124 (1978).

the early stages of this transition, but the lessons learned from takings issue closer to the shore will help to inform the long-term legal considerations necessary for success in this new frontier.

SECURITY OF TENURE FOR OFFSHORE AQUACULTURE: A COMPARATIVE ANALYSIS OF PROPERTY RIGHTS CONFERRED BY MANAGEMENT REGIMES FOR COMMERCIAL ACTIVITIES ON FEDERAL LANDS

Zachary Klein, Stephanie Showalter Otts, and Catherine Janasie<sup>1</sup>

I. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (Corps) currently authorize aquaculture operations in the U.S. Exclusive Economic Zone (EEZ) by issuing permits under the Clean Water Act (CWA) and the Rivers and Harbors Act (RHA). The current permitting regimes do not convey property rights to permit holders; rather, they authorize an activity that would otherwise be illegal under the current federal statutory regime.<sup>2</sup> The lack of a secure property right concerns aquaculture industry members, as it can have broad implications for those interested in starting an offshore operation, particularly with respect to accessing financing.<sup>3</sup> As part of a workshop that it hosted on the issue of security of tenure for offshore aquaculture operations in the United States, the National Sea Grant Law Center (NSGLC) prepared a comparative analysis of the property rights, or lack thereof, conveyed by federal authorization mechanisms that are currently used for offshore aquaculture and other long-term commercial activities on federal lands, as well as aquaculture-specific instruments that have recently been proposed for operations in the EEZ.<sup>4</sup> The comparative analysis is intended to impart lessons learned from the management schemes for other commercial activities on federal lands.

---

<sup>1</sup> Zachary Klein is an Ocean and Coastal Law Fellow at the National Sea Grant Law Center, Stephanie Showalter Otts is the Director of the National Sea Grant Law Center, and Catherine Janasie is a Senior Research Counsel at the National Sea Grant Law Center. This product was prepared by the National Sea Grant Law Center under award number NA18OAR4170079,

<sup>2</sup> See NAT'L AQUACULTURE ASS'N., THE VALUE AND BENEFITS OF A LEASE TO SECURE FARMS AND ADVANCE OFFSHORE AQUACULTURE IN THE U.S. EXCLUSIVE ECONOMIC ZONE 1-2 (2019), <http://thenaa.net/pub/Value-and-Benefits-of-a-Lease-for-Offshore-Aquaculture.pdf>. For an analysis of the property interests conveyed by the current federal permitting framework in the U.S. EEZ, see Zachary Klein, *Exploring Options for Granting Property Rights to Offshore Aquaculture Operations in the Exclusive Economic Zone* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

<sup>3</sup> See NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1.

<sup>4</sup> For more information on conversations held at the workshop, see Stephanie Showalter Otts, *Exploring Options to Authorize Offshore Aquaculture: Facilitating Discussions among Regulators and Industry Members to Find Common Ground* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

This article proceeds by first exploring the criteria that workshop participants identified for the NSGLC to use for its comparative analysis. The workshop's participants included members of the aquaculture industry, academics who have published literature on the property rights framework for aquaculture in the EEZ, and representatives from federal agencies with a role in regulating aquaculture. The NSGLC initially created a table that reflected the aquaculture industry's needs, the various agencies' needs, and property rights characteristics that workshop participants identified as priorities during the workshop. The table was subsequently revised based on oral and written feedback from the workshop participants, producing the property rights criteria and other components of the finalized comparative analysis included as an appendix to this article.

After identifying and explaining these criteria, the article discusses the various resource management regimes included in the comparative analysis, as well as the underlying reasoning for the inclusion of each. To start, the article analyzes the baseline: the existing regulatory frameworks for offshore aquaculture under the CWA and RHA. Also included in this baseline analysis is a permitting mechanism that has been used to authorize offshore aquaculture under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act or MSA), which governs marine fisheries in U.S. waters. Next, the article examines regulatory frameworks for authorizing commercial activities on public land, specifically grazing and offshore energy production. The NSGLC recognized from the outset that some of the frameworks analyzed may not be perfect analogues for offshore aquaculture, but nevertheless provide important insights for aquaculture policy discussions. Lastly, the article examines the permitting regime proposed in the Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act, a bill currently under consideration by Congress that would create the first aquaculture-specific permitting scheme for waters in the U.S. EEZ. Both the criteria and the federal authorization instruments included in the comparative analysis are listed in Table 1 below.

Finally, the article examines key takeaways from the comparative analysis for parties interested in the present and potential federal authorizations for aquaculture in the EEZ. For example, the analysis reveals that an authorization mechanism's characteristics can be different than what the authorization mechanism is called; *i.e.*, calling an instrument a lease does not necessarily mean that it has the terms to operate like a lease. There is perhaps no clearer testament to this reality than grazing *leases* and grazing *permits* having nearly identical characteristics. Additionally, the analysis suggests that the aquaculture industry

and the federal government are not always at odds with respect to their preferred characteristics of an authorization instrument for operations in the EEZ. To the contrary, their preferences substantially overlap on issues like who the authorizing agency should be and the required amount of public participation. And, where differences between the preferences of government and industry arise, the comparative analysis highlights these gaps and evaluates whether any guidance on these issues can be extracted from the successes and pitfalls of models historically used for aquaculture in the EEZ and other authorization frameworks in place for commercial activities on federal lands.

TABLE 1 - COMPARATIVE ANALYSIS: INCLUDED REGIMES & CRITERIA

<b>Federal Authorization Mechanisms</b>	<b>Property Rights Criteria</b>
Magnuson-Stevens Act Special Coral Reef Ecosystem Permit	Duration
Rivers and Harbors Act § 10 Permit	Property interest granted
Clean Water Act § 402 Permit	Right to exclude others
Taylor Act grazing permit	Transferability
Taylor Act grazing lease	Enforcement
Outer Continental Shelf Lease Act lease for offshore oil and gas production	Rent & financial security
Outer Continental Shelf Lease Act lease for offshore renewable energy production	Public engagement
Gulf Aquaculture Permit (Vacated)	Legal classification by court
Advancing the Quality and Understanding of American Aquaculture (AQUAA) Act (Proposed)	Compensation

## II. THE CRITERIA

As discussed above, the NSGLC relied on workshop participants to develop criteria for the comparative analysis. Most of the criteria refer to aspects of property ownership traditionally associated with the “bundle of sticks” in the Anglo-American legal tradition, which is an abstract legal notion that captures the various rights and responsibilities that property ownership entails.<sup>5</sup> Some of these criteria, however, go beyond the “bundle of sticks” to capture other relevant characteristics, such as the public engagement process, financial burden, and agency responsible for administration.

### A. Agency

The comparative analysis identifies the responsible federal agency for each of the authorization mechanisms. Knowing which agency is the lead under each management scheme provides insight into why the federal government is involved with authorizing the activity in the first place. For instance, the Corps is generally concerned with navigational hazards,<sup>6</sup> whereas the EPA is focused on environmental pollution.<sup>7</sup> Additionally, federal executive agencies can act only within the authority conveyed to them by Congress through statute. The comparative analysis highlights, for example, that the Department of the Interior (DOI) is currently vested with authority to confer leases for commercial activities in offshore federal waters, while the National Oceanic and Atmospheric Administration (NOAA) is not.

### B. Duration

“Duration” refers to the period of time for which a legal instrument authorizes the specified activity. Whether some types of authorization mechanisms last for a longer period than others is an important consideration with respect to security of tenure. The longer an instrument’s term, the more secure the tenure conveyed by that instrument is perceived to be, as the activity in question is authorized for a greater period of time. This, in turn, translates into less time and fewer resources being spent on frequent renewals of the instrument over

---

<sup>5</sup> Denise R. Johnson, *Reflections on the Bundle of Rights*, 32 VT. L. REV. 247, 247 (2007).

<sup>6</sup> *Navigation*, U.S. ARMY CORPS OF ENG’RS, <https://www.usace.army.mil/Missions/Civil-Works/Navigation/> (last visited Aug. 24, 2021).

<sup>7</sup> *History of the Clean Water Act*, TULANE U. L. SCHOOL (June 15, 2021), <https://online.law.tulane.edu/blog/clean-water-act-history>.

time—a particularly important concern for those wishing to run a long-term operation.

Tension exists between industry and government with respect to the proper duration of an authorization instrument for aquaculture in the EEZ. Commercial offshore aquaculture operations are anticipated to have multi-year operational cycles and may take decades to become profitable.<sup>8</sup> As such, industry members tend to advocate for longer terms to ensure that operations are authorized for a sufficient period of time to allow for them to become profitable within the instrument's term.<sup>9</sup> Shorter terms, however, provide more frequent opportunities for the government to revisit the authorization in light of any new regulatory provisions or adapt the instrument's terms to evolving circumstances at aquaculture sites (*e.g.*, environmental conditions and use conflicts).

### C. Property Interest Granted

Most government instruments clearly state that they do not convey property rights to the instrument holder. Consequently, the term “Property Interest Granted” as used in the comparative analysis refers to what the instrument authorizes the holder to do (*e.g.*, occupy a particular area or engage in a particular activity). Whether an instrument grants a property interest is vital to determining whether the holder is entitled to compensation under the Fifth Amendment to the U.S. Constitution if the government “takes” the instrument. The U.S. Court of Appeals for the Federal Circuit has in the past determined that agency action resulting in the loss or denial of a federal fishing permit was not a taking of private property.<sup>10</sup> The analysis rested on three factors that a court will consider to determine if a party's legal interest rises to the level of a compensable property interest: (1) the instrument holder's ability to assign, sell, or transfer the permit; (2) whether the instrument confers exclusive privileges to engage in the activity in question; and (3) the extent of the government's right to revoke, suspend, or modify the instrument.<sup>11</sup>

The “Property Interest Granted” criteria in the comparative analysis reflects only the second factor: the degree of exclusivity to engage in an activity that is enjoyed by the lease or permit holder. The other factors that a federal court

---

<sup>8</sup> See NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1-2.

<sup>9</sup> *Id.*

<sup>10</sup> See *Am. Pelagic Fishing Co., L.P. v. United States*, 379 F.3d 1363 (Fed. Cir. 2004); *Conti v. United States*, 291 F.3d 1334 (Fed. Cir. 2002).

<sup>11</sup> *Id.*

will look to for constitutional takings purposes—*i.e.*, the ease with which the instrument can be assigned, sold, or transferred and the government’s discretion to revoke, suspend, or modify the instrument—are considered separately in the comparative analysis and discussed in greater detail below.

#### D. Right to Exclude Others

The “Right to Exclude Others” refers to the instrument holder’s ability to exclude others from the operation site. To this end, the comparative analysis looks to the sources of legal authority that empower the instrument holder to prevent persons unassociated with the commercial activity from entering the operation site. This is a slightly different concept than the degree of exclusivity to which the instrument holder is entitled for performing a specific activity at a particular location, which is discussed in “Property Interest Granted” above.

Workshop participants noted that the aquaculture industry and the federal government could have competing interests pertaining to the right to exclude others. The federal government, which has pre-existing legal obligations for lands in its possession, must protect public rights to ocean waters. Additionally, the government needs the right to access and enter sites in order to perform inspections and other enforcement activities. Industry, on the other hand, has a strong interest in an operator’s ability to exclude trespassers to protect property from vandalism and theft, as well as for safety reasons. These concerns are not merely hypothetical. Catalina Sea Ranch, the first commercial shellfish aquaculture operation permitted in the U.S. EEZ, became embroiled in controversy after a man died when an unsecured 400-foot length of line from the farm wrapped around the outboard engine of his small fishing boat, causing it to capsize. The company would go on to declare bankruptcy after the man’s family filed a \$10 million wrongful death suit.<sup>12</sup>

#### E. Transferability

“Transferability” refers to the ability of and ease with which the instrument holder can give the instrument, or a subset of the rights and obligations granted by it, to another party. The ease with which an instrument can be transferred may have significant implications for the financial value of both the

---

<sup>12</sup> Julia Cart, *Did sea farm debacle sink California aquaculture?*, ABC10 (May 13, 2020), <https://www.abc10.com/article/news/local/california/did-sea-farm-debacle-sink-california-aquaculture/103-da22c517-42e4-4b03-8a46-cb20d8659a74>.

instrument and the instrument holder's operation more generally. Individual fishing quotas (IFQs) authorized by the Magnuson-Stevens Act, for example, are less valuable when they cannot be transferred or sold. However, when IFQs are transferable, a robust market tends to emerge that turns them into a valuable asset for quotaholders.<sup>13</sup> Moreover, the inability to transfer or assign an instrument may impact the sale of a business to another party or inheritance by a family member.

#### F. Enforcement

“Enforcement” refers to the conditions upon which the federal government may sanction—*i.e.*, revoke, suspend, or modify—the instrument holder for noncompliance or violations of law. Workshop participants stressed the need for clarity regarding the government's authority to revoke, suspend, and modify an instrument. Federal agencies must be able to take action against “bad faith actors” and operations that violate the terms of the instrument for several reasons. First, the government must have the ability to ensure that harm created by an operation in violation of the terms of an authorization instrument or governing regulations will cease and be remediated at the operator's expense. Second, the threat of enforcement action incentivizes compliance among similarly situated operators. Finally, the government may want to revoke or suspend an authorization instrument due to changing environmental conditions at the site of operation.

But fairness and due process considerations place constraints on the government's discretion to modify, suspend, or revoke a permit. Instrument holders are generally entitled to due notice of government actions affecting their operations. In many cases the conditions that warrant a pause in operations are clearly set forth before any authorization instruments are issued, thereby providing instrument holders with greater stability and predictability in their operations. Procedural safeguards, such as a clearly delineated appeals process, facilitate a fair process for any agency decision that denies an application or alters the authorization instrument's terms.

#### G. Rent & Financial Security

“Rent and Financial Security” refer to the payment that the instrument holder must provide in exchange for holding the instrument (e.g., rent, royalties,

---

<sup>13</sup> See EUGENE H. BUCK, CONG. RSCH. SERV., INDIVIDUAL TRANSFERABLE QUOTAS IN FISHERY MANAGEMENT 4-6 (1995), <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4515/fishery.pdf>.

bond, or guarantee). The federal government generally requires compensation in exchange for conveying the exclusive right to use an area within the EEZ, which the government effectively holds in trust on behalf of the general public. Additionally, some form of a financial guarantee—e.g., a bond—helps ensure that taxpayers do not bear the costs for environmental or other harms caused by operations. By requiring instrument holders to furnish a bond before commencing operations, the government is assured that instrument holders are able to pay for the closure or remediation of a site (or reimburse the federal government for costs it incurred in closing or remediating a site) regardless of how profitable their operations actually end up being. Industry, conversely, has an interest in ensuring that the fees or other financial burdens placed on applicants and operators are not unreasonable or otherwise prevent an authorized operations' profitability.

#### H. Public Engagement

“Public Engagement” refers to the process by which third parties may provide input to the federal government with respect to the issuance of the authorization instrument. The comparative analysis considers only the public engagement measures required by the law or regulations enabling the issuance of the instrument in question. It does not consider public engagement processes under other federal laws, such as the National Environmental Policy Act or the Endangered Species Act, that may be required during the authorization process. While a relevant and important part of the overall authorization process, these other federal laws are beyond the comparative analysis's narrow focus on the public engagement proceedings required by the authorization instruments themselves.

Transparency and opportunities for public input are crucial for good governance. This is especially true with respect to offshore aquaculture operations which struggle to obtain social license, which refers to the acceptability or perceived legitimacy of a project by a local community and other stakeholders.<sup>14</sup>

Industry and the federal government alike recognize the importance of both social license for aquaculture operations and the role that public engagement plays in securing social license. One reason this is the case is because a more collaborative, social license-driven approach to authorizing activity on federal

---

<sup>14</sup> John A. Hargreaves, *Aquaculture and Social License to Operate*, WORLD AQUACULTURE SOCIETY (June 21, 2021), <https://www.was.org/articles/Editors-note-Aquaculture-and-Social-License-to-Operate.aspx#.YPCXtm5OIKM>.

lands may help avoid litigation-related delays.<sup>15</sup> However, more opportunity for public engagement prolongs the application process, in turn requiring applicants to obtain more capital to remain solvent while they await approval to commence operations.

#### I. Legal Classification of Instrument by Court

“Legal Classification of Instrument by Court” refers to whether a judicial body has issued a decision regarding the legal status of the instrument in question. The legal classification of an instrument is significant, as it has important consequences regarding the legal rights to which the holder of that instrument is entitled. Permits, for example, are usually classified by courts as revocable licenses which are not generally considered compensable property for purposes of Fifth Amendment takings. Leases, on the other hand, are generally classified as binding contracts which entitle the leaseholder to compensation in the event they are breached.

#### J. Compensation

“Compensation” refers to whether the instrument holder is eligible to receive compensation from the federal government in the event that the federal government breaches the instrument’s terms or acts in a manner that might give rise to a takings claim. In the context of offshore aquaculture, this might take the form of future regulations that make continued operations impossible or illegal, or perhaps an agency failing to consider documentation necessary for operations within the timeframe required by law. To members of industry, the ability to recover damages from the government in the event an operation is paused or terminated due to the government breaching the terms of the authorization instrument is particularly important, as it represents the security of their (likely substantial) investment in the operation.

### III. FEDERAL AUTHORIZATION MECHANISMS

To conduct a comparative analysis of the above criteria, the NSGLC identified nine authorization mechanisms for commercial activities on federal lands. As discussed above, these regimes were chosen because of their applicability to aquaculture in the EEZ, and they can be divided into three

---

<sup>15</sup> Temple Stoellinger et al., *Collaboration Through NEPA: Achieving a Social License to Operate On Federal Public Lands*, 39 PUBLIC LAND & RES. L. R. 203, 206, 216-17, 218-23 (2018).

categories: (1) models currently or previously applied to an aquaculture operation in offshore federal waters; (2) models currently in use for non-aquaculture activities on federal lands; and (3) models proposed for aquaculture operations in federal waters but never used in practice.

The first group of authorization mechanisms are those that are currently required for commercial aquaculture operations in offshore federal waters or have previously been used by a federal agency to authorize an aquaculture operation in the EEZ. This includes RHA Section 10 permits issued by the Corps and Section 402 National Pollutant Discharge Elimination System (NPDES) permit issued by the EPA. This group also includes special permits issued by the National Marine Fisheries Service (NMFS), a division of NOAA, under the Magnuson-Stevens Act.

The second group of authorization mechanisms in the comparative analysis are those used for non-aquaculture commercial activities that take place on federal land. While there are a variety of commercial enterprises that operate on federal lands, ranging from extractive industries like mining to accommodations for visitors (*e.g.*, hotels, concessions, outfitters, and guided hikes) the comparative analysis focuses on two industries utilizing federal lands that were selected for their similarities to marine aquaculture. The first of these two industries is grazing, which relies on resources on federal lands to raise animals. The second is energy production on the outer continental shelf—namely, renewable energy and oil and gas. With offshore energy production, for example, the federal government authorizes a private party to occupy offshore waters for an extended period of time in order to conduct commercial activities—as is the case with aquaculture in the EEZ.

The third group of authorization mechanisms are models proposed to regulate marine aquaculture in the EEZ. This group comprises a permitting regime included in the fishery management plan (FMP) for aquaculture proposed by the Gulf of Mexico Fishery Management Council (GMFMC) in 2016 (Gulf FMP). Although the Gulf FMP was finalized, the U.S. Circuit Court of Appeals for the Fifth Circuit (Fifth Circuit) struck down the FMP in 2020.<sup>16</sup> The other model is the permitting regime contemplated by the AQUAA Act, which has been introduced in—but not passed by—Congress.<sup>17</sup>

---

<sup>16</sup> See *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F.3d 454 (5th Cir. 2020).

<sup>17</sup> *Advancing the Quality and Understanding of American Aquaculture Act*, S.4723, 116th Cong. (2020) [hereinafter AQUAA Act].

## A. Permits Issued to Offshore Aquaculture Operations

The first category of instruments included in the analysis are specific permits issued to aquaculture operations in the U.S. EEZ. This include a Special Coral Reef Ecosystem Fishing Permit, which NMFS first issued to Kampachi Farms in 2011; a RHA Section 10 permit, which the Corps issued to Catalina Sea Ranch in 2014; and a CWA Section 402 permit, which the EPA issued to Ocean Era in 2020.

i. Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms – 2013/2016)

In 2010, Kampachi Farms proposed an aquaculture operation in the U.S. EEZ off the coast of Hawaii.<sup>18</sup> The operation involved the culture and harvest of *Seriola rivoliana*, a species of fish known in the Hawaiian language as “kampachi” (and as “almaco jack” in English). The operations utilized a 132 m<sup>3</sup> containment system that was tethered to a twenty-meter steel schooner using a 122-m nylon towline.<sup>19</sup>

NOAA claimed authority over the proposed operation because *S. rivoliana* is a managed species pursuant to the Magnuson-Stevens Act—specifically, under the Pacific Regional Fishery Management Council’s Fisheries Ecosystem Plan for the Hawaiian Archipelago (FEP).<sup>20</sup> The MSA tasks NOAA with regulating fishing activities in the EEZ.<sup>21</sup> But neither aquaculture nor aquaculture gear is

---

<sup>18</sup> NAT’L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT: PROPOSED ISSUANCE OF A PERMIT TO AUTHORIZE THE CULTURE AND HARVEST OF A MANAGED CORAL REEF FISH SPECIES (*SERIOLA RIVOLIANA*) IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII, STATE OF HAWAII 7 (2011) 7, <https://repository.library.noaa.gov/view/noaa/691>.

<sup>19</sup> Gavin Key and Neil Sims, *Velella project pioneers open ocean cage-farming technology*, GLOBAL AQUACULTURE ADVOCATE (Sept./Oct. 2012), <https://www.aquaculturealliance.org/advocate/velella-project-pioneers-open-ocean-cage-farming-technology/>.

<sup>20</sup> NAT’L MARINE FISHERIES SERV., *supra* note 18, at 8.

<sup>21</sup> *Id.* at 7. At the time of Kampachi Farm’s proposal, NOAA interpreted the statute’s definition of “fishing” as including aquaculture. NOAA’s interpretation of the MSA that the statute conveys authority to the agency over aquaculture in the EEZ has since been struck down by the U.S. District Court for the Eastern District of Louisiana and the U.S. Circuit Court for the Fifth Circuit. *See Gulf Fishermens Ass’n v. Nat’l Marine Fisheries Serv.*, 341 F. Supp. 3d 632, 639-42 (E.D. La. 2018), *aff’d* *Gulf Fishermens Ass’n v. Nat’l Marine Fisheries Serv.*, 968 F.3d 454 (5th Cir. 2020), *as revised* (Aug. 4, 2020). However, the Fifth Circuit’s decision is not binding outside of Texas, Louisiana, and Mississippi, and at present it appears NOAA is interested in testing the waters of

explicitly mentioned in the FEP, so it did not provide NOAA with the authority to permit the aquaculture gear used by Kampachi Farms' operation. Instead, NOAA needed to issue a special permit—the Special Coral Reef Ecosystem Fishing Permit (SCREFP)—to authorize the operation and its gear.<sup>22</sup>

NMFS issued a SCREFP to Kampachi Farms in July 2011 after a year-long review of the proposed operation's environmental assessment.<sup>23</sup> NMFS re-issued the SCREFP to Kampachi Farms in 2013 and 2016 with substantially similar terms, the only exception being that the permits issued in 2011 and 2013 each had a one year term, whereas the 2016 permit had a duration of two years.<sup>24</sup> The summary of the permits' characteristics were informed by the SCREFP's issued to Kampachi Farms, the regulatory framework, and the environmental assessments that NOAA published prior to issuing the permits in 2011, 2013, and 2016.

*ii. Rivers and Harbors Act § 10 (Catalina Sea Ranch – 2014)*

The Corps issued an RHA Section 10 permit for an aquaculture operation in offshore federal waters to Catalina Sea Ranch (CSR) in 2014.<sup>25</sup> The CSR project involved the cultivation of mussels on forty longlines at a 100-acre site off

---

its authority over aquaculture in the EEZ elsewhere. *See* Environmental Impact Statements; Notice of Availability, 86 Fed. Reg. 24,616 (May 7, 2021),

[https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability](https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability; Potential Aquaculture Management Program in the Pacific Islands); *Potential Aquaculture Management Program in the Pacific Islands*, NAT'L MARINE FISHERIES SERV. PAC. REG'L OFFICE (last updated July 21, 2021), <https://www.fisheries.noaa.gov/action/potential-aquaculture-management-program-pacific-islands>.

<sup>22</sup> *Special Coral Reef Ecosystem Fishing Permit and Transshipment Requirements*, NAT'L MARINE FISHERIES SERV. PAC. REG'L OFFICE, (last updated Jan. 15, 2021), <https://www.fisheries.noaa.gov/permit/special-coral-reef-ecosystem-fishing-permit-and-transshipment-requirements>.

<sup>23</sup> Key and Sims, *supra* note 19.

<sup>24</sup> *See* NAT'L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT AND ISSUANCE OF A PERMIT TO AUTHORIZE THE USE OF A NET PEN AND FEED BARGE MOORED IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII TO FISH FOR A CORAL REEF ECOSYSTEM MANAGEMENT UNIT SPECIES, *SERIOLA RIVOLIANA* (2016), <https://repository.library.noaa.gov/view/noaa/14791>; NAT'L MARINE FISHERIES SERV., ENVIRONMENTAL ASSESSMENT AND ISSUANCE OF A PERMIT TO AUTHORIZE THE USE OF A NET PEN AND FEED BARGE MOORED IN FEDERAL WATERS WEST OF THE ISLAND OF HAWAII TO FISH FOR A CORAL REEF ECOSYSTEM MANAGEMENT UNIT SPECIES, *SERIOLA RIVOLIANA* (2013), <https://repository.library.noaa.gov/view/noaa/876>; NAT'L MARINE FISHERIES SERV., *supra* note 18.

<sup>25</sup> Lynda Kiernan, *Offshore Aquaculture Operation, Catalina Sea Ranch, Closes on \$2M Round*, GLOBALAGINVESTING (Jan. 18, 2017), <https://www.globalaginvesting.com/offshore-aquaculture-operation-catalina-sea-ranch-closes-2m-round/>.

the California coast.<sup>26</sup> The authorization process went through the Corps because a permit from the Corps is required for structures or work in navigable waters of the U.S. under Section 10 of the RHA,<sup>27</sup> and pens (or other structures) used for marine aquaculture may obstruct navigation at the site of operation.<sup>28</sup>

The details in the comparative analysis about the CSR permit were compiled directly from CSR's permit, an electronic copy of which is on file with the NSGLC, as well as the statutory and regulatory scheme governing the Corps' issuance of Section 10 permits at 33 U.S.C. § 1344 and 30 C.F.R. § 320.4.

*iii. Clean Water Act § 402 (Ocean Era – 2020)*

The EPA recently issued a CWA permit for an aquaculture operation in the EEZ: a permit for a pilot finfish aquaculture operation to Ocean Era in September 2020.<sup>29</sup> Ocean Era, it should be noted, is the same entity as Kampachi Farms discussed above; the company rebranded in February 2020.<sup>30</sup> Section 402 of the CWA governs the NPDES permit program that regulates the discharge of pollutants into U.S. waters.<sup>31</sup> Unlike the Corps' Section 10 permit, which all offshore aquaculture operations—shellfish, seaweed, and finfish—must obtain

---

<sup>26</sup> U.S. ARMY CORPS OF ENG'RS, PERMIT No. SPL-2012-00042-DPS (June 5, 2014).

<sup>27</sup> See 33 U.S.C. § 403. The Supreme Court of the United States historically interpreted the phrase “navigable waters of the United States” as used in the RHA as applying only to waters that are “navigable-in-fact,” meaning that they are “used, or are susceptible of being used, [...] as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.” See *The Daniel Ball*, 77 U.S. 557, 563 (1870).

<sup>28</sup> In addition to its authority over navigational obstructions under the RHA, the Corps would also have authority under CWA § 404 over any aquaculture operations that it determines to discharge dredge or fill materials into waters of the United States. Separately, offshore finfish aquaculture operations must also obtain a Clean Water Act § 402 permit, which is further described below.

<sup>29</sup> Timothy Fanning, *The battle over fish farming in the open ocean heats up, as EPA OKs permit*, SARASOTA HERALD-TRIBUNE (Oct. 2, 2020),

<https://www.heraldtribune.com/story/news/local/sarasota/2020/10/02/battle-over-fish-farming-open-ocean-heats-up-epa-oks-permit/3595197001/>; see EPA, AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), PERMIT NO. FLOA0001 (Sept. 30, 2020), [https://www.epa.gov/sites/production/files/2020-10/documents/npdes\\_permit\\_for\\_ocean\\_era\\_inc.\\_velella\\_epsilon\\_floa00001.pdf](https://www.epa.gov/sites/production/files/2020-10/documents/npdes_permit_for_ocean_era_inc._velella_epsilon_floa00001.pdf).

<sup>30</sup> Madelyn Kearns, *Offshore aquaculture firm, formerly known as Kampachi Farms, rebrands as Ocean Era*, SEAFOODSOURCE (Feb. 10, 2020), <https://www.seafoodsource.com/news/business-finance/offshore-aquaculture-firm-formerly-known-as-kampachi-farms-rebrands-as-ocean-era>.

<sup>31</sup> The CWA defines “navigable waters” differently than the RHA. Under the CWA, “the term ‘navigable waters’ means the waters of the United States, including the territorial seas.” Federal Water Pollution Control Act Amendments of 1972, P.L. 92-500, § 502(7), 86 Stat. 816, 886 (codified in § 1362(7)).

before they begin operations, a CWA Section 402 permit from the EPA is currently required only for finfish aquaculture in the EEZ.<sup>32</sup> This distinction exists due to the EPA's position that offshore finfish aquaculture operations emit enough pollutants (e.g., feed waste, fish waste, pharmaceuticals, etc.) to rise to the level of a point source of discharge for purposes of the CWA, but offshore shellfish and seaweed aquaculture operations do not.<sup>33</sup>

The details in the comparative analysis were derived from the permit itself, an electronic copy of which is on file with the NSGLC, and from the relevant NPDES regulations at 40 C.F.R. Parts 122-125. After the EPA issued Ocean Era's permit, a coalition of environmental organizations challenged the decision to the Environmental Appeals Board (EAB), which is the final decision maker on administrative appeals under all of the major environmental statutes administered by the EPA.<sup>34</sup> The EPA has not yet issued its decision as of the time of this article's publication.<sup>35</sup>

#### B. Authorization Regimes for Non-Aquaculture Activities on Federal Lands

The second category of instruments considered in this analysis are those that are used to authorize non-aquaculture commercial activities on federal lands. These provide insight into how other frameworks that must also account for the

---

<sup>32</sup> To date there are no known seaweed aquaculture operations that have been permitted in the U.S. EEZ. As a result, details about the property rights aspect of RHA permits must be gathered from one issued to a shellfish operation by default.

<sup>33</sup> See EPA, Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category, 69 Fed. Reg. 51,891, 51,906 (Aug. 23, 2004) (codified at 40 C.F.R. pt. 451), <https://www.federalregister.gov/documents/2004/08/23/04-15530/effluent-limitations-guidelines-and-new-source-performance-standards-for-the-concentrated-aquatic>; Ass'n to Protect Hammersley, Eld, and Totten Inlets v. Taylor Res., Inc., 299 F.3d 1007 (9th Cir. 2002).

<sup>34</sup> See *Environmental Appeals Board*, U.S. ENVTL. PROT. AGENCY, [https://yosemite.epa.gov/oa/EAB\\_Web\\_Docket.nsf](https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf) (last visited Aug. 24, 2021); Karl Schneider, *Proposed fish farm permits stall while EPA reviews environmental effects*, FORT MYERS NEWS-PRESS (Apr. 4, 2021), <https://www.news-press.com/story/tech/science/environment/2021/04/03/proposed-gulf-of-mexico-fish-farm-permits-stall-after-biden-executive-order-epa-review/4827211001/>.

<sup>35</sup> *Environmental Appeals Board, Ocean Era, Inc. docket, NPDES Appeal No. 20-09*, U.S. ENVTL. PROT. AGENCY, [https://yosemite.epa.gov/oa/EAB\\_Web\\_Docket.nsf/f22b4b245fab46c6852570e6004df1bd/d3b098aca01b1cf585258614006599c8!OpenDocument](https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/f22b4b245fab46c6852570e6004df1bd/d3b098aca01b1cf585258614006599c8!OpenDocument) [hereinafter *Ocean Era Docket*] (last visited Aug. 24, 2021).

unique management constraints on federal lands have approached the conveyance of property rights to authorized operators. This category includes four instruments that span two statutory frameworks. The first two instruments are federal grazing leases and federal grazing permits, which are administered by two agencies under authority conferred by the Taylor Act. The third and fourth instruments—federal offshore renewable energy leases and offshore oil and gas leases—both arise within the framework created by the Outer Continental Shelf Lands Act.

*i. Taylor Act Authorizations: Grazing Leases and Grazing Permits*<sup>36</sup>

Grazing on federal lands is managed by the Bureau of Land Management (BLM), an agency within the Department of the Interior (DOI), and the U.S. Forest Service (USFS), a division of the U.S. Department of Agriculture. USFS provides template permits and template permit applications on its website,<sup>37</sup> while the information about BLM's grazing leases and permits for the comparative analysis were compiled from a variety of legislative, regulatory, and other official government sources.<sup>38</sup>

Grazing is informative to consider in discussions surrounding offshore aquaculture because both permits and leases are used to authorize the use of federal space, and the characteristics of these instruments are very similar to each other. The key distinction between the two instruments is that leases are issued for grazing lands that are situated in such a way that justifies their exclusion from an established grazing district, typically on account of them being too geographically isolated.<sup>39</sup> However, the property rights conveyed by the federal grazing system have generated substantial litigation and tension with the government. While it may serve as more of a cautionary tale than a model for lawmakers to use for offshore aquaculture, grazing nevertheless offers valuable insight into the semantics of property rights.

---

<sup>36</sup> Material in this section of the article is adapted from Klein, *supra* note 2.

<sup>37</sup> See *How Do I Get a Grazing Permit?*, U.S. FOREST SERV., <https://www.fs.fed.us/rangeland-management/grazing/permits.shtml> (last visited Aug. 24, 2021).

<sup>38</sup> See, e.g., Taylor Grazing Act, 43 U.S.C. §§ 315-315r; 43 U.S.C. § 1752; 43 U.S.C. § 4130.2; 43 C.F.R. §§ 4600.0-2 – 4610.5; U.S. FOREST SERV., FOREST SERVICE AND BUREAU OF LAND MANAGEMENT GRAZING ADMINISTRATION REQUIREMENTS AND PROCESSES, <https://www.fs.fed.us/rangeland-management/documents/grazing/BLMGrazingAdministrationRequirementsProcesses201708.pdf> (last visited Aug. 24, 2021).

<sup>39</sup> See 43 U.S.C. §§ 315, 315b, 315m.

ii. *Outer Continental Shelf Lands Act — Oil & Gas and Renewable Energy*<sup>40</sup>

The Outer Continental Shelf Lands Act (OCSLA) governs two distinct permitting processes for commercial energy production in the EEZ. The older of these two frameworks was enacted in 1953 for oil and natural gas operations, whereas the framework for renewable energy operations on the Outer Continental Shelf (OCS) developed more recently.

OCSLA provides DOI with authority over the leasing process for oil and gas and renewable energy production on the OCS. DOI has delegated this authority to one of its component agencies, the Bureau of Ocean Energy Management (BOEM), which prepares five-year programs that function as schedules of proposed leases. The comparative analysis's depiction of OCS oil and gas leases' property rights characteristics is based on lease templates that BOEM has made available on its website.<sup>41</sup> Likewise, the comparative analysis uses a commercial renewable energy lease template that BOEM has made available on its website.<sup>42</sup> While the OCSLA framework provides for two types of leases for OCS renewable energy activities, limited leases are for operations that do not produce energy for sale or distribution.<sup>43</sup> Thus, only commercial leases are included in the comparative analysis.

The company now known as Vineyard Wind, LLC obtained a lease for a wind farm in federal waters near Martha's Vineyard through a competitive bidding process in January 2015.<sup>44</sup> In May 2021, Vineyard Wind became the first

---

<sup>40</sup> Material in this section is adapted from Material in this section of the article is adapted from Klein, *supra* note 2.

<sup>41</sup> BUREAU OF OCEAN ENERGY MGMT., OIL AND GAS LEASE OF SUBMERGED LANDS UNDER THE OUTER CONTINENTAL SHELF ACT (2017), <https://www.boem.gov/sites/default/files/about-boem/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-2005.pdf>.

<sup>42</sup> BUREAU OF OCEAN ENERGY MGMT., COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF (2016), <https://www.boem.gov/sites/default/files/about-boem/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-0008-Oct-2016.pdf>.

<sup>43</sup> Catherine Janasie, *The Development of Wind Energy in the Mid-Atlantic Region: The Legal Process and Lessons from the Cape Wind Project*, 6:1 SEA GRANT L. & POLICY J. 116, 125 (2013); see 30 C.F.R. § 585.112.

<sup>44</sup> BUREAU OF OCEAN ENERGY MGMT., RECORD OF DECISION: VINEYARD WIND 1 OFFSHORE WIND ENERGY PROJECT CONSTRUCTION AND OPERATIONS PLAN 5 (2021), <https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Final-Record-of-Decision-Vineyard-Wind-1.pdf>.

offshore wind farm to successfully receive final approval from BOEM.<sup>45</sup> BOEM's decision has been challenged in a federal district court,<sup>46</sup> but, should it survive the lawsuit, Vineyard Wind would become the first wind farm to operate in the U.S. EEZ.

By its terms, Vineyard Wind's lease "does not, by itself, authorize any activity within the leased area."<sup>47</sup> Instead, the lease grants Vineyard Wind the exclusive right to (1) submit a Site Assessment Plan (SAP) and Construction and Operations Plan (COP) to BOEM, and (2) engage in the activities identified in a BOEM-approved SAP or COP for 25 years.<sup>48</sup> BOEM ultimately approved Vineyard Winds to operate a 62-turbine wind farm located roughly 15 miles off the coast of Massachusetts.<sup>49</sup>

### C. Models Proposed for Aquaculture Operations in Offshore Federal Waters

This third and final category of instruments examined in this analysis are those that have been proposed for aquaculture operations in offshore federal waters but have not yet been used to authorize an aquaculture operation in the U.S. EEZ. While various models have been proposed at the federal level over the years,<sup>50</sup> the analysis focuses on the two most recent examples—models that may be enacted or revived moving forward. The first of the two examples is the permit called for in the Gulf of Mexico Fishery Management Council's (GMFMC) fishery management plan for aquaculture, which was enacted but later defeated in

---

<sup>45</sup> Press Release, U.S. Dep't of the Interior, Biden-Harris Administration Approves First Major Offshore Wind Project in U.S. Waters (May 11, 2021), <https://www.doi.gov/pressreleases/biden-harris-administration-approves-first-major-offshore-wind-project-us-water>.

<sup>46</sup> See *Allco Renewable Energy Ltd. v. Haaland*, Case No. 1:21-cv-11171 (D. Mass. July 18, 2021).

<sup>47</sup> BUREAU OF OCEAN ENERGY MGMT., COMMERCIAL LEASE OF SUBMERGED LANDS FOR RENEWABLE ENERGY DEVELOPMENT ON THE OUTER CONTINENTAL SHELF, LEASE NUMBER OCS-A 0500 2 (2014), <https://www.boem.gov/sites/default/files/renewable-energy-program/State-Activities/MA/MA-Proposed-Commercial-Lease-OCS-A0500.pdf>.

<sup>48</sup> See *id.* at 2, B-1.

<sup>49</sup> Press Release, Vineyard Wind LLC, Vineyard Wind Receives Record of Decision for First in the Nation Commercial Scale Offshore Wind Project (May 11, 2021), <https://www.vineyardwind.com/press-releases/2021/5/11/vineyard-wind-receives-record-of-decision>.

<sup>50</sup> See, e.g., National Offshore Aquaculture Act of 2007, S. 1609, 110th Cong. (2007), <https://www.congress.gov/bill/110th-congress/senate-bill/1609/text>; National Offshore Aquaculture Act of 2005, S. 1195, 109th Cong. (2005), <https://www.congress.gov/bill/109th-congress/senate-bill/1195/text>.

court. The last instrument is the permit proposed by the Advancing the Quality and Understanding of American Aquaculture Act, a bill that was introduced in both chambers of Congress in 2020 but has not yet been enacted.

*i. Gulf Aquaculture FMP*

In 2016, the National Marine Fisheries Service (NMFS), a branch of NOAA, finalized the Aquaculture Fishery Management Plan for the Gulf of Mexico (Gulf FMP), which was originally proposed by the GMFMC in 2009. The Gulf FMP authorized permits for up to twenty facilities to culture fish species native to the Gulf of Mexico, and approved facilities were limited to a combined total production of 64 million pounds per year.<sup>51</sup> Details for the comparative analysis were drawn from NOAA's final rule establishing a comprehensive regulatory and permitting regime for authorizing aquaculture operations under the FMP, which was published in the Federal Register in January 2016.<sup>52</sup>

Before NMFS could issue a permit under the Gulf FMP, however, the U.S. District Court for the Eastern District of Louisiana struck down the plan in 2018.<sup>53</sup> The Fifth Circuit Court of Appeals affirmed this decision in August 2020.<sup>54</sup> Although the FMP was never formally put into effect, it represents an important, recent example of an authorization approach proposed and administered by NOAA. Moreover, a NOAA-led framework may once again arise in the future. For instance, the AQUAA Act, which is discussed in more detail below, would provide NOAA with the authority to issue permits for aquaculture. Further, the Fifth Circuit's decision is not binding outside of Texas, Louisiana, and Mississippi. At present, it appears NOAA is interested in testing the waters of its authority over aquaculture in the EEZ elsewhere.<sup>55</sup>

---

<sup>51</sup> Final Rule to Implement the Fishery Management Plan for Regulating Aquaculture in the Gulf of Mexico, 81 Fed. Reg. 1764 (Jan. 13, 2016) (codified at 50 C.F.R. pt. 600, 622), <https://www.govinfo.gov/content/pkg/FR-2016-01-13/pdf/2016-00147.pdf>.

<sup>52</sup> *Id.* at 1,761.

<sup>53</sup> *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 341 F. Supp. 3d 632 (E.D. La. 2018).

<sup>54</sup> *Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv.*, 968 F.3d 454 (5th Cir. 2020).

<sup>55</sup> See U.S. Env'tl. Prot. Agency, Environmental Impact Statements; Notice of Availability, 86 Fed. Reg. 24,616 (May 7, 2021), <https://www.federalregister.gov/documents/2021/05/07/2021-09688/environmental-impact-statements-notice-of-availability>; *Potential Aquaculture Management Program in the Pacific Islands*, *supra* note 21.

*ii. Advancing the Quality and Understanding of American Aquaculture Act*

The AQUAA Act is a legislative proposal to create a regulatory regime specifically for aquaculture operations in the U.S. EEZ. AQUAA was originally introduced by Senator Roger Wicker (R-MS) in 2018, and Senators Brian Schatz (D-HI) and Marco Rubio (R-FL) re-introduced a new version of the bill with Senator Wicker in 2020.<sup>56</sup> Minnesota Rep. Collin Peter (D-MN) also introduced sister legislation of the 2020 proposal in the House of Representatives. Only the 2020 version of the AQUAA Act is examined in the comparative analysis.

As noted above, the AQUAA Act calls for the creation of a permitting scheme to authorize aquaculture in the EEZ. But no permits have been issued under the AQUAA Act, as it has not yet been passed by Congress. Nevertheless, it is included in the comparative analysis for two reasons. First, Congress may eventually enact the AQUAA Act or an iteration thereof in the future, in which case it will be valuable for aquaculture operators and government personnel to better understand the property rights conveyed by these permits and how they compare to those conveyed by other federal frameworks. Even if the AQUAA Act is not enacted any time soon (or ever), it represents the latest serious effort at the federal level to authorize aquaculture operations in the EEZ. Thus, its inclusion in the analysis allows for insight into how the AQUAA Act's NOAA-centric permitting framework compares to the other NOAA-led models considered, which may be of interest to parties who may want to incorporate features of one or more of these models into a federal framework for offshore aquaculture in the future.

#### IV. DISCUSSION AND ANALYSIS

The NSGLC synthesized the aforementioned criteria and frameworks into the comparative analysis on which this article is based. This section provides a summary of the results of the comparative analysis, which is included as an appendix to this article. Review of this section, particularly alongside the table in the matrix, may allow reformers of and stakeholders in the federal authorization process for aquaculture in the EEZ to appreciate the strengths, weaknesses, and other insights that they can incorporate into their own efforts moving forward.

---

<sup>56</sup> AQUAA Act, *supra* note 17.

## A. Agency

The comparative analysis with respect to lead agency is simplistic, as it only identifies which agency is in charge of issuing the instrument in question. This exercise, however, is useful as it highlights that DOI is the only agency that is legally authorized to convey leases for commercial activities in the EEZ. DOI has held a monopoly on conveying leases for stationary commercial activities in the U.S. EEZ for several decades, and the department's expertise at authorizing the use of federal lands for commercial activities is amplified by its responsibilities related to grazing leases through BLM. DOI, however, does not administer either of the two permits currently required for offshore aquaculture operations, nor would it have authority to issue any of the permits proposed by the AQUAA Act. This raises questions about the ease and speed with which the agency can reasonably be expected to develop expertise in a commercial activity that it has never been responsible for regulating nor extensively dealt with in the past.

But, as the comparative analysis illustrates, NOAA may not be a perfect agency fit for authorizing offshore aquaculture, as it currently lacks the authority to issue leases and the AQUAA Act only proposes for NOAA to issue permits. NOAA has historically been the lead agency for aquaculture issues at the federal level.<sup>57</sup> This, in turn, means that members of the aquaculture industry are most familiar with NOAA's policies, processes, and personnel. The offshore aquaculture authorization process may benefit from capitalizing on relationships that already exist between industry stakeholders and government personnel, particularly those at NOAA. Alternatively, the federal framework for offshore aquaculture could put the authorization of offshore aquaculture operations within the portfolio of an agency that has the authority to issue leases, such as DOI, if the property rights traditionally associated with leases become a priority for offshore aquaculture in the near future. But the benefits conferred by a lease under these circumstances may be offset by the inconvenience posed to parties interested in operating an aquaculture facility in the EEZ by requiring them to navigate new agency procedures and create relationships with agency personnel from scratch.

As policymakers and other stakeholders consider how to reform the current regulatory framework for offshore aquaculture, they will need to

---

<sup>57</sup> For more on this topic, see Sierre Anton & Katherine Hupp, *One Step Forward, Two Steps Back: NOAA's Assertion of Jurisdiction over Aquaculture Faces Continuing Challenges* in this edition of the SEA GRANT LAW & POLICY JOURNAL.

contemplate which federal agency they would like to make the lead for authorizing aquaculture in the EEZ. In turn, they will also need to consider what steps will be necessary for ensuring the chosen agency has the legal authority to undertake all that is asked of it.

### B. Duration

With respect to duration, the results of the comparative analysis dispel the somewhat popular perception that leases generally last for a significantly longer period of time than permits. The SCREFPs issued to Kampachi Farms lasted for one to two years, and CWA Section 402 permits—such as the one issued to Ocean Era—have a longer duration: five years. But grazing permits and grazing leases both have a duration of ten years, and OCSLA leases for renewable energy production and oil and gas development have an initial duration of ten years. All of these permits and leases are subject to renewal, although the renewal of energy leases on the OCS is contingent on the lessee's satisfactory compliance with the original lease and continued production at the lease site.

Notably, none of the authorization instruments considered in the comparative analysis have a duration that would align with the multi-decade production cycles that aquaculture operators assert would be standard for the industry.<sup>58</sup> The permitting regime proposed by the AQUAA Act comes the closest with twenty-five year permits authorized for operations within enterprise zones. It should be noted, however, that even leases for offshore oil and gas production—an industry with lengthy production cycles that has generated billions of dollars per year for decades and been designated as vital to national security—have a lease term of only ten years, with renewal dependent upon continued production at the site. There are no legal mechanisms that prevent a federal lease, permit, or other authorization instrument from having a duration of longer than ten years without a condition of continued productivity. However, the length of the permit proposed by the AQUAA Act would be a significant deviation from the norm in this respect.

---

<sup>58</sup> See NAT'L AQUACULTURE ASS'N., *supra* note 2, at 1 (explaining that, “[G]iven the innovative and capital-intensive nature of offshore aquaculture operations, it may take 10 or more years for an aquaculture operation to generate a return on investment.”).

### C. Property Interest Granted

The type of property interest conveyed by a governmental instrument can be broadly divided into two categories: (1) spatial—i.e., the right to occupy a particular area; and (2) operational, meaning that the instrument allows its holder to use their private property to engage in a particular activity that would otherwise be forbidden.

All of the existing mechanisms for authorizing offshore aquaculture explicitly emphasize that they do not convey any property rights or exclusive privileges. A more complicated reality, however, is revealed upon closer scrutiny of the results of the comparative analysis. A NPDES permit, for example, authorizes its holder to discharge pollutants from a point source—in the context of offshore aquaculture, a net pen or similar structure—which is plainly a form of an operational property interest. And yet, even though location is generally an important consideration with respect to the discharge of pollutants, these permits are not explicitly tethered to a particular location. This is likely a result of the fact that NPDES permits were designed for stationary sources of pollution, such as factories, so the framework presumes the permittee's location remaining fixed.

Meanwhile, the framework created by the RHA is ultimately concerned with the navigability of U.S. waters. An RHA Section 10 permit is necessarily location-specific and implicitly authorizes occupancy of a particular space, making the permit both spatial and operational in nature. And, like RHA Section 10 permits, SCREF permits incorporate a spatial interest into their operational authorization by specifying the location where the authorized activities must occur. None of the three authorization instruments or their respective frameworks, however, explicitly recognize these spatial and operational authorizations as conveying property interests.

The comparative analysis revealed that the non-aquaculture regimes examined recognize these property interests. Grazing permits and leases issued under the Taylor Act both convey the same interest: the exclusive right to graze livestock on land that is expressly identified by the terms of the instrument. On its face, this is an operational right and not an ownership interest in the grazing land. The regulatory framework, however, explicitly indicates that both grazing leases and permits can be pledged as collateral for a loan—demonstrating Congress recognizes that the rights conveyed by the instrument have economic value.

The Taylor Act's provisions regarding the ability of grazing leases *and* grazing permits to be collateralized are particularly notable because private property generally does not require a legal proclamation in order to be eligible for collateralization. There are many kinds of property that can be pledged as collateral, such as goods and intangible property—*e.g.*, a refrigerator or a licensing agreement—without a specific law to that effect. While a legal proclamation does not necessarily guarantee that investors will recognize the instrument as collateral, it may provide added comfort to those wary of accepting a new form of collateral. The enactment of a statutory or regulatory provision declaring that federal aquaculture permits or leases are eligible for collateralization will not necessarily ensure that potential lenders will accept the instrument as collateral. Conversely, it may not be necessary for Congress or a federal agency to explicitly declare that an instrument can be used as collateral, as lenders may perceive sufficient value in the instrument without such a declaration assuming that certain minimum conditions (namely, assignability or transferability) are met.<sup>59</sup>

Renewable energy leases granted under OCSLA also distinguish themselves in the comparative analysis on the basis of explicitly conferring exclusivity to operators once the lease has been awarded. More specifically, OCSLA renewable energy leases convey the exclusive right to submit a SAP and COP to BOEM. Once BOEM approves a lessee's SAP and COP, that lessee also has the exclusive right to conduct activities as set forth in those plans. But the lease itself also makes clear that the lessee's control over the area in question is not absolute, as the lessee may only engage in the activities described in the SAP and COP approved by BOEM. Contrary to renewable energy leases, however, oil and gas leases under OCSLA initially grant the non-exclusive right to conduct explorations and drill water wells on specified OCS lands. Then, once oil or gas has been discovered, the lessee has the exclusive right to drill for, develop, and produce oil and gas resources in the leased area.

The nature of the exclusivity conveyed by the instrument used for aquaculture in the EEZ, or when exclusivity can be realized after the instrument has been awarded, may prove significant depending on the broader federal framework. More specifically, if that framework gives aquaculture operations the right to conduct some form of exploration in the EEZ, the drafters of that framework will need to decide whether that right is exclusive or non-exclusive. In

---

<sup>59</sup> See Timothy J. Boyce, *Collateralizing Nonassignable Contracts, Licenses, and Permits: Half a Loaf Is Better Than No Loaf*, 52 BUS. LAW 559, 559-62 (1996).

practice, this would mean the difference between multiple operators being allowed to test gear or collect data at the same site (akin to exploration within OCSLA's oil and gas framework) or operators having the lone ability to utilize a given location in the EEZ, as per the offshore renewable energy framework. Separately, such a framework would need to account for exclusivity after the exploration stage is finished—*i.e.*, once operators have selected their respective sites of operation and begin to introduce structures, gear, and fish at those sites. The framework can confer exclusivity to operators during these stages, which would be in the vein of the leasing frameworks included in the comparative analysis, or rely on a less-secure form of *de facto* exclusivity, such as that conveyed by RHA Section 10 permits.<sup>60</sup>

#### D. Right to Exclude Others

The comparative analysis reveals that none of the instruments authorizing commercial activities on federal lands provide the instrument holder with a strong or absolute right to exclude others from the site of commercial activity. The SCREFP does not address the issue at all, presumably leaving its possessor without any legal authority to forbid or expel unwanted parties from the area of operation. The RHA Section 10 permit expressly states that a party who possesses the permit may not interfere with the U.S. public's right to freely navigate all navigable U.S. waters.

The situation with respect to OCSLA leases and Taylor Act leases and permits is more complicated. The possessors of each of these instruments are afforded considerably more legal protections for their property, but are also explicitly required to accommodate other uses of the space by the public. The possessor of a federal grazing lease or permit must not only accommodate prior uses of the federal land in question, but also provide reasonable access across the lands to the agency administering the lease or permit for the orderly management and protection of the public lands. Conversely, the Taylor Act also protects private rights by requiring the federal government to both refrain from invading the instrument holder's grazing privileges and affirmatively protect them.

OCSLA leases similarly do not grant their possessor an absolute right to exclude others from the leased area. The regulatory framework for both renewable energy and oil and gas leases allows leaseholders to prevent unauthorized intruders by creating a safety zone of up to 500 meters around a facility on the

---

<sup>60</sup> See Section IV(C) above.

OCS. Such zones, however, cannot impede the use of sea lanes for navigation. The regulatory framework further recognizes that the waters above the OCS are high seas, where international law recognizes a right to fishing and navigation, and affirms that OCSLA leases may not interfere with this right.

#### E. Transferability

The comparative analysis yields significant insight with respect to transferability, as all of the authorization instruments examined are generally transferable with minimal government oversight as long as the transferee satisfies the corresponding statutory or regulatory requirements for eligibility. This underscores the notion that an instrument holder is ultimately entitled to engage in only those activities accounted for by that instrument's terms, rather than the property rights traditionally associated with that kind of instrument. Importantly, in past federal court decisions that found fishing permits were not a property interest for takings purposes, the permits in question were not transferable.<sup>61</sup> However, all of the permits examined in the comparative analysis can be transferred, assigned, or sold per their terms, thereby protecting—and, depending on the market that has developed for the instrument, potentially increasing—the value of that instrument to its holder.

#### F. Enforcement

With respect to enforcement, while all the instruments examined could be revoked or suspended by the government, significant procedural safeguards are in place that protect the interest of the holder. All of the authorization instruments considered in this analysis have terms or a governing framework that provide the government with limited discretion in modifying, suspending, or terminating the instrument. Across the board, these measures are generally justified only by the instrument holder's failure to comply with the terms of the instrument or its governing legal framework.

The SCREF permits awarded to Kampachi Farms in 2013 and 2016 could be suspended, modified, or revoked only for failure to comply with the permit's terms and conditions, including reporting requirements. The NPDES permit issued to Ocean Era can also be modified, revoked and reissued, or terminated only for cause. Federal grazing permits and leases can similarly be modified,

---

<sup>61</sup> See *Am. Pelagic Fishing Co., L.P. v. United States*, 379 F.3d 1363 (Fed. Cir. 2004); *Conti v. United States*, 291 F.3d 1334 (Fed. Cir. 2002).

suspended, or canceled only if the permittee or lessee violates a grazing regulation or term or condition of the instrument in question. Additionally, permittees and lessees are entitled to an administrative hearing before their grazing rights are reduced, suspended, or canceled.

The Corps has broader authority to modify, suspend, or revoke an RHA Section 10 permit. Action may be taken if the permittee fails to comply with the permit or provides false information in their permit application, but also if significant new information surfaces which the Corps had not considered in reaching its original public interest decision to issue the permit. And the landscape with respect to OCSLA leases is even more convoluted. Under OCSLA and its promulgating regulations, leases can be suspended for a variety of reasons. However, a lease can only be terminated once a suspension has lasted for five years or longer and the Secretary of the Interior determines that: (1) continued activity pursuant to a lease would “probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment”; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.<sup>62</sup>

Policymakers and other stakeholders involved in developing a federal framework for offshore aquaculture must consider how much discretion the government should have to enforce the terms of the authorizing instrument. Central to this discretion are the conditions enumerated in the instrument’s terms or governing regulations that warrant a modification, suspension, or termination of that instrument. As a baseline, in almost all of the permits considered in the comparative analysis, the government can take enforcement action only in the event of the permittee’s failure to comply with the permit’s terms, conditions, and governing regulations. But, as is the case with RHA Section 10 permits and OCSLA leases, reformers of the federal aquaculture framework may find value in affording the authorized agency flexibility to intervene in operations when warranted by newfound information or other factors, such as evolving environmental conditions at an operation site.

---

<sup>62</sup> 43 U.S.C. §§ 1334(a)(2)(A)(i)-(iii); *see* 30 C.F.R. §§ 550.180- 550.185.

## G. Rent &amp; Financial Security

The comparative analysis reveals a complicated landscape with respect to rent and financial security. Permit holders generally do not need to furnish bonds or guarantees, nor do any of the permit-oriented frameworks provide for a system of royalty payments or revenue recovery. However, permittees or permit applicants may still be required to pay for surveys, studies, or other assessments in order to successfully obtain or retain the permit in question.<sup>63</sup> Moreover, while less common, a permittee may be required to pay for the decommissioning or remediation of their operation if necessary.<sup>64</sup>

OCSLA leases, on the other hand, require the lessee to incur a variety of financial commitments. In addition to royalty payments that function as rent, lessees are also required to furnish a variety of bonds and guarantees. Additionally, OCSLA lessees are responsible for the cost of exploration at their respective lease sites once leases have been awarded.<sup>65</sup>

The Taylor Act, meanwhile, is a model that bucks both trends. For starters, grazing lessees and permittees are not required to provide a bond or guarantee. With respect to rent, however, both lessees *and* permittees must pay the government a monthly fee in exchange for the continued right to graze on federal lands. The fee structure for lessees under the Taylor Act, though complicated, is set by law and offers operators some stability. But the federal grazing framework may also prove to be a cautionary tale for authorizing aquaculture in the EEZ. On one hand, some have criticized federal grazing fees for being too low as compared to their equivalent on private land.<sup>66</sup> Others, however, argue that the government should not be charging royalties for commercial activities that sufficiently benefit the public, such as renewable energy.<sup>67</sup>

With an eye towards reforming the current federal aquaculture framework or creating an aquaculture-specific authorization instrument in the future, the

---

<sup>63</sup> See NAT'L MARINE FISHERIES SERV., EXEMPTED FISHING PERMIT APPLICATION FOR THE VELELLA EPSILON PROJECT—PIONEERING OFFSHORE AQUACULTURE IN THE SOUTHEASTERN GULF OF MEXICO (2018), <https://gulfcouncil.org/wp-content/uploads/S-2-Aquaculture-EFP.pdf>.

<sup>64</sup> See U.S. ARMY CORPS OF ENG'RS, *supra* note 26.

<sup>65</sup> See ADAM VANN, CONG. RSCH. SERV., OFFSHORE OIL AND GAS DEVELOPMENT: LEGAL FRAMEWORK 13 (2018), <https://fas.org/sgp/crs/misc/RL33404.pdf>.

<sup>66</sup> Bruce R. Huber, *The Fair Market Value of Public Resources*, 103 CALIF. L. REV. 1515, 1539, 1541-42 (2015).

<sup>67</sup> *Id.* at 1520-21 n.20.

comparative analysis underscores the need for clarity with respect to whether operators must furnish any bonds or guarantees. Further, the framework must also provide clarity with respect to whether operators must pay rent or royalties and, if so, how the rent or royalties are calculated.

#### H. Public Engagement

Public engagement is already substantial under the current framework: public notice is required with both RHA Section 10 and CWA NPDES permits, and the public may submit comments on NPDES permits in the Federal Register as well. The Gulf FMP and AQUAA Act likewise call for each offshore aquaculture permit application to be submitted for public comment. However, this requirement is absent from the federal grazing models. With respect to OCSLA oil and gas leases, public notice and comment requirements are fulfilled through public hearings that are held when lease blocks come up for auction, not when a specific lease is issued. For renewable energy leases, hearings and comments are solicited only during the identification of Wind Energy Areas, rather than on specific leases.

With oil and gas and renewable energy leases under OCSLA, public comment is solicited relatively early in the process for general areas as opposed to on individual leases. Including the public participation piece of the authorization process during the planning or initial steps of the process may be able to ease the burden that public engagement poses for operators while enhancing the social license for their activities. Under permitting frameworks that allow for public comment on individual instruments, such as the NPDES permits, aquaculture operators have experienced considerable delays defending the issuance of individual permits within the agency's administrative process and in court.<sup>68</sup> A centralized public comment process that takes place earlier in the authorization process could reduce the extensive delays that operators incur with individual projects. Additionally, public engagement early in the federal authorization process for aquaculture projects may improve these projects' prospects for achieving social license by enhancing the project's perceived credibility and trust among the public.<sup>69</sup> But this approach is not without its shortcomings, as it also

---

<sup>68</sup> See *KAHEA v. Nat'l Marine Fisheries Serv.*, No. CIV. 11-00474 SOM, 2012 WL 1537442, at \*1 (D. Haw. Apr. 27, 2012), *aff'd in part, rev'd in part and remanded sub nom. Kahea, Food & Water Watch, Inc. v. Nat'l Marine Fisheries Serv.*, 544 F. App'x 675 (9th Cir. 2013); Ocean Era Docket, *supra* note 35.

<sup>69</sup> See Stoellinger et al., *supra* note 15, at 226.

compromises the public's ability to voice concerns over individual lease sites, operators, and protected species.

### I. Legal Classification

A court's conclusion that a lease is a "contract" has legal significance that can change the outcomes of claims for compensation. However, court precedent reveals that a court's classification of an instrument is not based on what the instrument is called, but rather what property rights and interests are granted through the instrument. Calling an instrument a lease does not make it an enforceable contract, nor does it guarantee that a court will afford that instrument the full range of legal protections traditionally associated with a lease between private parties, especially when the lessor is the federal government.<sup>70</sup>

The information captured by comparative analysis reveals that courts frequently classify instruments according to how the instruments are nominally referred (i.e., "permit" or "lease"), but not always. For example, federal courts have consistently treated permits conferred under the MSA, such as SCREFPs, as revocable licenses.<sup>71</sup> On the other end of the spectrum, courts recognize that OCSLA leases are contracts that convey a property interest to the lessee.<sup>72</sup> However, the situation is trickier with respect to the legal classification of federal grazing instruments. While a federal court has confirmed that grazing permits are revocable licenses,<sup>73</sup> the U.S. Circuit Court of Appeals for the Federal Circuit has since held that grazing *leases* are also freely revocable, do not confer any rights to the lessee, and are not eligible for a regulatory takings claim under the Fifth Amendment.<sup>74</sup> Thus, even though the court never referred to the lease in question as a permit, the court arrived at an interpretation of grazing leases that recognizes they are functionally much closer to a permit or license.

The unifying theme of these cases is that the courts analyzed the instrument before them according to its terms, rather than its title. To this end,

---

<sup>70</sup> For more on this topic in the context of aquaculture, see Elissa Torres' *A Comparative Analysis of Maryland's Public Participation Framework in Commercial Shellfish Aquaculture Leasing: Standing to Present Protests* in this edition of the SEA GRANT LAW AND POLICY JOURNAL.

<sup>71</sup> See *Am. Pelagic Fishing Co., L.P. v. United States*, 379 F.3d 1363, 1374, 1382-83 (Fed. Cir. 2004); *Conti v. United States*, 291 F.3d 1334, 1341-45 (Fed. Cir. 2002).

<sup>72</sup> See *Mobil Oil Exploration & Producing Southeast, Inc. v. U.S.*, 530 U.S. 604 (2000).

<sup>73</sup> See *United States v. Fuller*, 409 U.S. 488 (1973).

<sup>74</sup> See *Colvin Cattle Co. v. United States*, 67 Fed. Cl. 568 (2005), *aff'd*, 468 F.3d 803, 806-808 (Fed. Cir. 2006).

there are two relevant strains of case law that determine whether an instrument is merely a revocable license or something more. The first type of cases concern whether an instrument is a revocable license or a property interest that can be the basis of a Fifth Amendment takings claim. This test requires courts to consider: first, whether the instrument can be transferred, sold, or assigned; second, whether the instrument confers an exclusive privilege to engage in the activity in question; and third, the government's discretion to suspend, revoke, or modify the instrument.<sup>75</sup>

Separately, courts may need to analyze whether an instrument is a revocable license as opposed to a binding contract. While no court has articulated a test in this regard, in *Mobil Oil Exploration & Producing Southeast, Inc. v. U.S.*, the U.S. Supreme Court awarded damages to two oil and gas companies for breach of contract.<sup>76</sup> In that instance, the government promised in a lease that it would follow OCSLA's provisions, but then refused to consider the companies' Exploration Plans within thirty days of submission to DOI, which is required by the statute.

The application of these inquiries to the instruments that are currently used to authorize aquaculture operations in the EEZ—namely, an RHA Section 10 permit and a CWA NPDES permit—suggests that both are revocable licenses, although the analysis is not clear-cut. First, neither instrument is likely to be considered a contract because, contrary to the OCSLA leases at issue in *Mobil Oil Exploration & Producing Southeast, Inc. v. U.S.*, RHA Section 10 permits and CWA NPDES permits do not include any terms whereby the government promises to do anything. In fact, neither permit includes language as seemingly simple as the government promising to abide by the governing regulatory scheme while it administers the permit. But, pivoting toward the regulatory takings test, the analysis becomes more complicated. Both instruments can be transferred or assigned to another party with relative ease, and both can be modified, suspended, or terminated only if the permittee breaches a set of conditions that are enumerated in each respective permit. Finally, with respect to exclusivity, both documents expressly disclaim conveying any exclusive rights or privileges to the permittee.

---

<sup>75</sup> See *Am. Pelagic Fishing Co.*, 379 F.3d at 1374.

<sup>76</sup> See *Mobil Oil Exploration & Producing Southeast, Inc.*, 530 U.S. at 611-13, 624.

## J. Compensation

The comparative analysis broadly confirms that leases confer a more compensable property interest than permits, but a deeper look reveals a more complicated picture regarding why and how this is the case. All of the leases considered in the analysis include terms that explicitly provide for the payment of compensation to the leaseholder in the event of cancellation. While most of the permits do not, the lack of terms that entitle the permittee to compensation in the event of cancellation is not due to these instruments being permits. After all, grazing permits entitle the leaseholder to compensation that is calculated according to the same formula used for grazing leases. This example underscores that the interests and rights to which an instrument holder is entitled flow directly from the terms of the instrument in question, as opposed to the interests and rights traditionally associated with the type of authorization instrument being used (i.e., lease or permit). Likewise, OCSLA leaseholders are eligible for compensation in the event of a breach of the lease by the government not because the instrument is a lease, but because the federal government specifically promises to abide by the appurtenant statutory and regulatory framework in the terms of OCSLA leases.

And then there is the matter of compensability for purposes for the Fifth Amendment. As noted above, courts deploy a three-prong test to determine whether an instrument is a cognizable property interest or “merely” a revocable license.<sup>77</sup> The first prong—transferability—is satisfied by all of the instruments included in the comparative analysis, including all of the permits. Likewise, the federal government is generally able to modify, suspend, or terminate all of the instruments considered by the comparative only for cause (i.e., only if the operator violates the terms of the instrument or its governing regulations). However, the Corps is free to modify, suspend, or terminate a RHA Section 10 permit due to information that emerges after the permit has been issued.

---

<sup>77</sup> The three prongs of this test are: first, whether the instrument can be transferred, sold, or assigned; second, whether the instrument confers an exclusive privilege to engage in the activity in question; and third, the government’s discretion to suspend, revoke, or modify the instrument. *See Am. Pelagic Fishing Co.*, 379 F.3d at 1374; *Conti v. United States*, 291 F.3d 1334, 1341-42 (Fed. Cir. 2002).

Further, OCSLA leases also buck this trend, as BOEM may terminate a lease if it determines that:

- (1) continued activity at the site will probably cause serious harm or damage to life, property, any mineral, national security, or the environment;
- (2) the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and
- (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.<sup>78</sup>

Therefore, the argument could be made that the government has more discretion in terminating OCSLA leases than it has for most of the permits that can be modified, suspended, or revoked only for cause, even though OCSLA leases are clearly cognizable property interests for purposes of the Fifth Amendment. As a result, a federal framework specific to offshore aquaculture may be able to satisfy the first and third prongs of the regulatory takings test—transferability and limited government discretion to modify—with relative ease, as both of these conditions appear to be met by almost all of the instruments considered in the comparative analysis, leases and permits alike.

The second prong of the test, exclusivity, proves to be the most complicated to apply to the federal authorization of aquaculture in the EEZ. As the comparative analysis indicates, conferral of an exclusive privilege or interest is a consistent point of distinction between the permitting and leasing frameworks considered. Both OCSLA leases grant exclusivity to operators during development and production at the lease site, and leases for renewable energy confer exclusivity during exploration at the site as well. Grazing leases and permits, meanwhile, apparently confer the same exclusivity (or, rather, a lack thereof) to their respective holder, which may explain the lack of clarity surrounding grazing leases' legal classification and cognizable property interest. But, contrary to grazing, the argument could be made that RHA Section 10 permits used to authorize aquaculture in the EEZ create a *de facto* exclusive privilege to engage in aquaculture activities at a permitted site because the fish used in aquaculture are the property of the party that owns the operation and RHA Section 10 permits are necessarily location-based.<sup>79</sup> However, in light of the

---

<sup>78</sup> See 43 U.S.C. §§ 1334(a)(2)(A)(i)-(iii); see 30 C.F.R. §§ 550.180- 550.185.

<sup>79</sup> To clarify, whereas it is feasible for multiple parties to be issued permits to graze their livestock in the same grazing districts, it is not feasible in practice for the Corps to issue two RHA § 10

amplified discretion that the Corps has in modifying or revoking RHA Section 10 permits, this argument alone is insufficient for these permits to fully satisfy the federal courts' test for regulatory takings.

In light of these observations, attempts to reform the current federal framework for aquaculture in the EEZ or create a new aquaculture-specific instrument must pay particularly careful attention to the matter of exclusivity conveyed by the terms of the authorizing instrument. The instrument's characteristics in this regard could result in a Fifth Amendment taking, depending on the framework's approach to transferability and enforcement. Moreover, the comparative analysis suggests that providing for a lease in this framework will not guarantee that the lease confers exclusivity at every stage of development and operations at an aquaculture facility in the EEZ. In the same vein, a lease is not necessary to confer exclusivity either. In the spirit of the theme that has come to predominate this analysis, the exclusivity conveyed by the instrument—be it a lease or a permit—will ultimately depend on the language used in the instrument or its governing regulations.

#### V. CONCLUSION: THE BUNDLE OF STICKS- MORE LIKE A SPECTRUM?

Aquaculture is expected to be an increasingly important industry in the coming decades as the U.S. and the global community pursue improved food security, especially as land-based options are stretched thinner. Despite the ample size and opportunity of the U.S. EEZ, there are no commercial aquaculture operations in offshore federal waters at present. As policymakers and other stakeholders consider whether and how to encourage the growth of aquaculture operations in federal waters, they may want to revisit the property rights conferred by the authorization instruments used under the current governing framework—or, rather, the lack thereof. As a result, property rights may feature prominently in efforts to reform the current authorization scheme or create a new aquaculture-specific instrument for operations in the EEZ.

There is value in learning about how other federal resource management frameworks, including those proposed but not currently in use for aquaculture, approach the question of property rights conveyed by the authorization

---

permits to different aquaculture operations at the same site in the EEZ. While two independent aquaculture operations might be located near each other, they cannot physically occupy the same space at the same time.

instrument. The comparative analysis illustrates that permits and leases exist along a spectrum, with some instruments nominally referred to as permits having characteristics traditionally associated with leases and vice versa. As a result, specific examples generally include some characteristics that are not traditionally associated with the term applied to the instrument (e.g., permits being transferable) based on the unique needs of each respective resource management regime. While a revocable permit may not convey as wide a range of protected property interests to its holder as a lease might, it does convey some rights.<sup>80</sup>

Regardless of the instrument that is ultimately settled upon for aquaculture in the EEZ and the property rights conferred thereby, it will inevitably beg the question: is it enough? In other words, will an overhaul of the property rights conveyed by the framework for aquaculture in federal waters actually encourage the proliferation of operations in the EEZ? Will the property rights conferred by such an instrument ease offshore aquaculture operations' struggle with obtaining financing as compared to the current framework?

Only time will tell. But, in the meantime, the comparative analysis may offer lessons or inspiration to interested parties, as well as insight into what an instrument authorizing offshore aquaculture might look like. Policymakers and stakeholders can use the comparative analysis to understand the diverse array of approaches available to the federal government to convey property rights and interests to facilitate commercial activities on federal lands. Furthermore, the comparative analysis is a useful tool for assessing how well those approaches meet the needs of the federal government and the aquaculture industry with respect to offshore operations.

---

<sup>80</sup> While permits are generally not considered property, Individual Transferable Quotas (ITQs)—which are a type of permit used by NOAA for some fisheries under its jurisdiction—are considered property by the Internal Revenue Service and can have significant economic value. *See* BUCK, *supra* note 13, at fn.12.

## Comparative Analysis — Existing Models

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	Government	Industry	<i>Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)</i>	<i>RHA § 10 (Catalina Sea Ranch - 2014)</i>	<i>CWA § 402 NPDES (Ocean Era - 2020)</i>
Agency	-	-	NOAA Fisheries (Commerce)	U.S. Army Corps of Engineers (Defense)	U.S. Environmental Protection Agency
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	Varies. Permit issued to Kampachi Farms in 2013 had a 1-year term. Permit issued in 2016 had a 2-year term. Permit contained no language regarding renewal.	Usually 5 years, but can be issued with longer terms. Renewable for another 5-year term upon request. Per CSR's permit, "[I]f you need more time to complete the authorized activity, submit your request for a time extension" at least one month before the permit expires.	5 years. Permit indicates that permittee must apply for new permit at least 180 days before expiration of current permit if they wish to continue operations.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users. Instrument should limit constitutional takings liability.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Authorizes holder to culture and harvest specific number of fish in a specific location using specific equipment (i.e., an aquaculture net pen). Expressly states that "[n]othing in the permit shall be construed to convey any property rights in either real or personal property, or any exclusive privileges [...]."	Grants holder the right to undertake activities as set forth in the permit, i.e. build structure in navigable US waters. Because these permits authorize activities that can interfere with navigation, they are necessarily place-based and authorize occupancy of a particular space. Permit expressly states that it "does not grant property rights or other exclusive privileges."	Authorizes holder to discharge pollutants from a point source, here an aquaculture net pen, into waters of the US. Permit expressly states that it "does not convey any property rights of any sort, or any exclusive privilege."
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should provide for safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Permit and applicable regulations do not contain any provisions concerning permittee's ability to exclude unauthorized vessels or persons from permitted site.	Permit does not grant any right of exclude others from permitted ocean space. Permitted activity may not interfere with the right of the public to free navigation on all navigable US waters. Per CSR's permit, Corps allowed to inspect authorized activity "at any time deemed necessary."	Permit does not convey any right to exclude others from area where permitted activity is authorized. Per permit terms, EPA may, upon presentation of credentials "and other documents as may be required by law," (1) enter permittee's facility or place where records are kept; (2) access, and at reasonable times copy, records required by permit; (3) at reasonable times, inspect any facilities, operations, equipment or practices regulated or required by permit; and (4) at reasonable times, sample and monitor substances and parameters at any location for purposes of assuring statutory and permit compliance.

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	<i>Government</i>	<i>Industry</i>	<i>Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)</i>	<i>RHA § 10 (Catalina Sea Ranch - 2014)</i>	<i>CWA § 402 NPDES (Ocean Era - 2020)</i>
<b>Transferability</b>	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Non-transferable without specific authorization from NOAA.	Allowed with minimal agency oversight. Per CSR's permit, "If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to [the Corps] to validate the transfer of this authorization."	Allowed with agency oversight. May be transferred after notice to Director of regional EPA Water Division office, who may require modification or revocation and reissuance. Automatic transfer with written agreement between existing and new permittees, 30-day notice to Director, and no Director objection.
<b>Enforcement</b>	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	Permit may be suspended, modified, or revoked for failure to comply with permit's terms and conditions, including reporting requirements.	Permit may be suspended, modified, or revoked if (1) permittee fails to comply with terms and conditions of permit, (2) information that permittee provided for application is proven to be false/incomplete/inaccurate, or (3) significant new information surfaces which the Corps had not considered in reaching its original public interest decision to issue the permit.	Permit may be modified, revoked and reissued, or terminated for cause.
<b>Financial</b>	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	Does not provide for revenue recovery from permitted activities. No bond or guarantee requirements identified in permit or governing regulations.	Does not provide for fees or revenue recovery from permitted activities. No bond or guarantee required. Per CSR's permit, permittee shoulders financial burden for removal, relocation, and/or alteration of structures if required by future U.S. operations. State of California imposed condition requiring bond for removal of gear, pursuant to authority under the CZMA.	Does not provide for revenue recovery from permitted activities. Does not require a bond or guarantee.

	Needs		Existing Authorization Mechanisms for Offshore Aquaculture		
	Government	Industry	<i>Special Coral Reef Ecosystem Fishing Permit (Kampachi Farms - 2011/2013/2016)</i>	<i>RHA § 10 (Catalina Sea Ranch - 2014)</i>	<i>CWA § 402 NPDES (Ocean Era - 2020)</i>
<b>Public Engagement</b>	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/operators. Authorization process needs to be predictable, efficient, and occur within a reasonable timeframe. Process should be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	Within 30 days of receipt, copies of SCREP application are forwarded to certain federal and state agencies, and other interested parties who have identified themselves to the Council. No requirement for public notice and comment.	Within 15 day of receipt of a complete application for an individual permit, the USACE district office will issue a public notice of the submitted application. USACE may hold a public hearing if the agency deems it necessary for making a decision. Any person may request that a public hearing be held on a permit application to consider the material matters at issue.	EPA must provide opportunity for a public hearing before issuing permit. Requirement fulfilled in practice by public notice and comment in the Federal Register.
<b>Legal classification of instrument by court</b>		Industry expresses a strong preference for the instrument to be classified a lease/contract for purposes of judicial interpretation.	Revocable license. See <i>Conti v. U.S.</i> , 291 F.3d 1334 (Fed. Cir. 2002).	Revocable license. See <i>United States v. 5.96 Acres of Land</i> , 593 F.2d 884 (9th Cir. 1979).	Revocable license. No case directly on point, but would likely receive similar treatment as permit at issue in <i>Mingo Logan Coal Company Inc. v. Environmental Protection Agency</i> , 70 F.Supp.3d 151 (D.D.C. 2014).
<b>Compensation</b>	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches the terms of the instrument. Should provide for compensation for damage to structures, gear, or stock due to government action.	None. No case directly on point, but would likely receive same treatment as MSA permit that court determined to be ineligible for compensation in <i>Am. Pelagic Fishing Co. v. U.S.</i> , 379 F.3d 1363 (Fed. Cir. 2004).	None for cancellation or revocation of permit. Courts have upheld clause in permit disclaiming government liability for damages to structures. See <i>Columbia Gulf Transmission Co. v. U.S.</i> , 966 F.Supp. 1453, 1459-61 (S.D. Miss. 1997).	Permittee may be eligible for government compensation under certain circumstances, but not for denial or revocation of permit. See, <i>United Affiliates Corporation v. US</i> , 143 Fed. Cl. 257 (2019); <i>Hearts Bluff Game Ranch, Inc. v. US</i> , 669 F.3d 1326 (Fed. Cir. 2012).

## Comparative Analysis — Federal Models

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	Industry	Grazing Permit	Grazing Lease	OCSLA Lease (Oil & Gas)	OCSLA Lease (Renewable Energy)
Agency	-	-	BLM (Interior) / USFS (Agriculture)	BLM (Interior)	BOEM (Interior)	BOEM (Interior)
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	Up to 10 years. Assuming permittee's continued compliance and eligibility, BLM permit may be renewed but agency can change permit's terms and conditions before reissuing. If BLM permit expires without renewal, permittee receives preference for receiving new permit when old one expires. USFS grazing permittees who comply with permit's terms are prioritized for renewal upon permit's expiration.	Up to 10 years. Assuming permittee's continued compliance and eligibility, BLM grazing lease may be renewed but agency can change lease's terms and conditions before reissuing. If BLM grazing lease expires without renewal, permittee receives preference for receiving new lease when old one expires.	Initial period of 5-10 years, then term continues as long as there is production in paying quantities. Lease cannot be renewed per se, but lessee may maintain lease beyond the primary term as long as leased site is still producing oil or gas in paying quantities, conducting operations to establish production in paying quantities, or meets other pre-identified criteria.	Site Assessment Term of 5 years; Operations Term of 25+ years. Terms may be extended in compliance with applicable regulations.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Grants exclusive right to graze livestock on identified land. Expressly conveys no right, title, or interest held by the United States in any lands or resources. Can be pledged as security for loan.	Grants exclusive right to graze livestock on identified land. Expressly conveys no right, title, or interest held by the United States in any lands or resources. Can be pledged as security for loan.	Grants non-exclusive rights to conduct explorations and drill water wells on identified OCS land, as well as the exclusive right and privilege to drill for, develop, and produce oil and gas resources, except helium gas, in leased area. Also grants right to construct and maintain structures within the leased area. May sublease operating rights.	Grants the exclusive right and privilege to submit to BOEM for approval a Site Assessment Plan and Construction and Operations Plan, and if approved, conduct activities as set forth in those plans. Rights limited to activities described in plans approved by BOEM.
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should authorize imposition of safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Does not grant right to exclude others from permitted area. Must accommodate prior uses of the federal land and provide reasonable administrative access across private leased lands to BLM/USFS for the orderly management and protection of the public lands. However, Taylor Act requires that federal agency not only refrain from the invasion of plaintiffs' grazing privileges, but has an affirmative obligation to adequately safeguard them.	Does not grant right to exclude others from permitted area. Must accommodate prior uses of the federal land and provide reasonable administrative access across private leased lands to BLM for the orderly management and protection of the public lands. However, Taylor Act requires that federal agency not only refrain from the invasion of plaintiffs' grazing privileges, but has an affirmative obligation to adequately safeguard them.	Does not grant right to exclude others from leased area. "The waters above the [OCS] [are] high seas and the right to navigation and fishing therein shall not be affected." Safety zones extend up to 500 meters around OCS facilities to prevent unauthorized intruders, but they cannot impede the use of sea lanes for navigation.	Does not grant right to exclude others from leased area. "The waters above the [OCS] [are] high seas and the right to navigation and fishing therein shall not be affected." Safety zones extend up to 500 meters around OCS facilities to prevent unauthorized intruders, but they cannot impede the use of sea lanes for navigation.

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	Industry	Grazing Permit	Grazing Lease	OCSLA Lease (Oil & Gas)	OCSLA Lease (Renewable Energy)
Transferability	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Allowed with agency notification and oversight. May be assigned or transferred with the written consent of the contracting parties. Commissioner technically issues new permit to transferee provided they meet the regulatory qualifications.	Allowed with agency notification and oversight.	Allowed subject to transferee's compliance with lease/regulations and prior approval from BOEM.	Allowed subject to transferee's compliance with lease/regulations and prior approval from BOEM.
Enforcement	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	May be canceled, suspended, or modified for any violation of a grazing regulation or of any term or condition of grazing permit. Permittee is entitled to due process through an administrative hearing before preference or permit is reduced, suspended, or canceled.	May be canceled, suspended, or modified for any violation of a grazing regulation or of any term or condition of grazing lease. Lessee is entitled to due process through an administrative hearing before preference or lease is reduced, suspended, or canceled.	Can be suspended for up to 5 years under a variety of circumstances. Can be cancelled if suspension reaches 5 years and Secretary holds hearing and determines that: (1) continued activity pursuant to lease would "probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment"; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.	Can be suspended for up to 5 years under a variety of circumstances. Can be cancelled if suspension reaches 5 years and Secretary holds hearing and determines that: (1) continued activity pursuant to lease would "probably cause serious harm or damage to life (including fish and other aquatic life), to property, to any mineral (in areas leased or not leased), to national security or defense, or to marine, coastal, or human environment"; (2) threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; and (3) advantages of cancellation outweigh the advantages of continuing such lease or permit in force.
Financial	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	Instrument holder pays fees to the U.S. federal government pursuant to a complicated fee structure. No bond or guarantee required.	Instrument holder pays fees to the U.S. federal government pursuant to a complicated fee structure. No bond or guarantee required.	Competitive bidding process for leases, which generates revenue for the government. Must pay royalties. Variety of performance/compliance bonds required upfront after winning lease.	Competitive bidding process for leases, which generates revenue for government. Lessee must post variety of bonds, and also pay rent and operating fee.

	Needs		Authorization Mechanisms for Activities on Federal Lands			
	Government	Industry	Grazing Permit	Grazing Lease	OCSLA Lease (Oil & Gas)	OCSLA Lease (Renewable Energy)
Public Engagement	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/operators. Process needs to ensure that public engagement is predictable, efficient, and occurs within a reasonable timeframe. Process should also be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	Agency consults and coordinates with affected permittees and the state having lands or responsibility for managing resources within the area, but process generally does not automatically provide for input from general public on specific permits. No public notice requirement for individual permits. Interested parties may submit request to BLM to be involved in decision-making process for specific allotment.	Agency consults and coordinates with affected lessees and the state having lands or responsibility for managing resources within the area, but process generally does not automatically provide for input from general public on specific leases. No public notice requirement for individual leases. Interested parties may submit request to BLM to be involved in decision-making process for specific allotment.	Public hearings when lease blocks come up for sale.	Hearings and comments solicited in the identification of Wind Energy Areas.
Legal classification of instrument by court		Industry expresses a strong preference for the instrument to be classified a contract for purposes of judicial interpretation.	Revocable license. <i>United States v. Fuller</i> , 409 U.S. 488 (1973).	Unclear. Courts have split. See <i>United States v. Certain Parcels of Land in San Bernardino Cty.</i> , 296 F. Supp. 774 (C.D. Cal. 1969) (finding grazing lease is a compensable property right); but see <i>Colvin Cattle Co. v. United States</i> , 67 Fed. Cl. 568 (2005), aff'd, 468 F.3d 803 (Fed. Cir. 2006) (grazing lease is not a binding contract).	Contract. See <i>Mobil Oil Exploration &amp; Producing Southeast, Inc. v. U.S.</i> , 530 U.S. 604 (2000).	Contract. No case directly on point, but would likely receive same classification as OCSLA oil and gas lease. (See <i>Mobil Oil Exploration &amp; Producing Southeast, Inc. v. U.S.</i> , 530 U.S. 604 (2000).
Compensation	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches instrument's terms. Should provide for compensation for damage to structures, gear, or stock due to government action.	Cancellation in whole or part entitles permittee to compensation (adjusted value of interest in authorized permanent improvements placed or constructed by the permittee on lands covered by permit, but cannot exceed the FMV of the terminated portion of the permittee's interest therein).	Cancellation in whole or part entitles leaseholder to compensation (adjusted value of interest in authorized permanent improvements placed or constructed by the lessee on lands covered by lease, but cannot exceed the FMV of the terminated portion of the lessee's interest therein).	Cancellation entitles leaseholder to lesser of: (1) FMV of canceled rights on date of cancellation or (2) the excess of the consideration paid for the lease, plus all of the lessee's exploration- or development-related expenditures, plus interest, over the lessee's revenues from the lease.	Cancellation entitles leaseholder to lesser of: (1) FMV of canceled rights on date of cancellation or (2) the excess of the consideration paid for the lease, plus all of the lessee's exploration- or development-related expenditures, plus interest, over the lessee's revenues from the lease.

## Comparative Analysis — Proposed Aquaculture Models

	Needs		Authorization Mechanisms Proposed for Offshore Aquaculture	
	Government	Industry	Gulf Aquaculture Permit	AQUAA Act
Agency	-	-	NOAA (Commerce)	NOAA (Commerce)
Duration	The length of term needs to be reasonable and similar to authorizations for other offshore activities. Must account for uncertainty regarding future conditions or policy changes. Instrument should be renewable subject to certain terms and conditions.	The length of term needs to be long enough to align with standard industry production cycles and business models. Must account for expectations of investors to minimize barriers to financing. Should have flexibility to provide shorter durations for research and pilot demonstration projects. Provide for renewal if terms and conditions of lease have been adhered to by operator.	10 years. Renewable for 5-year terms, as long as permittee submits renewal application at least 120 days prior to desired effective date and pays fee. NOAA may consider non-compliance with initial permit requirements in decision to renew.	25 years inside of Aquaculture Opportunity Areas (AOAs); 15 years outside of AOAs. Either can be renewed for additional 15-year period subject to permittee's compliance with permit being renewed.
Property Interested Granted	Instrument must be grounded in clear statutory authority to convey stated property interests. Must account for government's trustee and environmental responsibilities, as well as the rights of other resource users.	Instrument should convey sufficient property interest to create a tangible asset that is recognized as producing economic value. Must account for need of operators to use instrument as collateral for loans or other financial reasons (i.e., investment capital), as well as for acquiring commercial insurance. Must convey geographic area large enough to account for operational needs.	Grants the permittee the right to use a particular site for aquaculture activities for the duration of the permit.	Grants right to conduct offshore aquaculture consistent with the AQUAA Act and implementing regulations, other provisions of law, and any terms and conditions imposed by NOAA. Permit explicitly deemed a marine use right for purposes of obtaining investment.
Right to Exclude Others	Instrument must provide for the protection of navigation, public access rights, and public and private safety. In addition, instrument should authorize government access and entry for inspections and other enforcement activities.	Instrument must provide exclusive right to conduct aquaculture operations in designated area. Should recognize operator's private property rights in structures, gear, and stock, and allow operator to limit or restrict access to prevent theft and property damage. Instrument should authorize imposition of safety buffer zones around authorized aquaculture operations to ensure safety of navigation and protect property or life at sea.	Each offshore aquaculture facility is required to be surrounded by a restricted access zone, where no recreational or commercial fishing vessels are allowed.	Calls for Coast Guard to create regulations for navigational safety zones around offshore aquaculture facilities, but does not provide any requirements for or details about these zones. Must allow authorized officer access to facility for inspections, including annual inspection for which prior notice will be provided to operator.
Transferability	Instrument must provide for government oversight regarding transfers and subleases.	Instrument must provide for the ability to transfer property interest, in whole or in part. Instrument should allow for subleasing (spatial or temporal) to another entity. Government's ability to deny transfer should be limited.	Allows permit to be transferred as long as geographic location of aquaculture facility site remains unchanged and all applicable permit requirements are completed and updated at time of transfer.	Allows permits to be transferred as long as transferee is informed about any permit sanctions in effect at time of transfer. Requires Secretary of Commerce to promulgate rules regulating transfers, but does not provide any other requirements or details.

	Needs		Authorization Mechanisms Proposed for Offshore Aquaculture	
	Government	Industry	Gulf Aquaculture Permit	AQUAA Act
Enforcement	Instrument should clearly set forth requirements and expectations regarding monitoring, reporting, inspections, and other compliance activities. Should provide for revocation or termination in the event of violations or changes in environmental conditions. Should account for a range of enforcement actions, including fines, suspension, modification, and sanctions.	Enforcement processes must be clear, predictable, and afford due process. Conditions upon which a revocation or termination may occur should be limited and clearly stated. Scope of inspection authority should be clearly outlined and include a notice requirement.	Permit may be suspended, modified, revoked or denied if permittee does not comply with NOAA-administered statutes and regulations or fails to pay a civil penalty or criminal fine related to permit.	Permit may be modified, suspended, or revoked if permittee commits specific prohibited act (violation of Act or regulation, refusing to allow authorized officer to access facility/vessel for search/inspection, etc.), fails to begin offshore operations within 2 years of receiving permit, or there is an interruption of offshore operations lasting at least 2 years which is not related to BMPs. Provides for civil and criminal liability for permit violations.
Financial	Instrument should authorize the imposition of fees to cover costs of processing application and administrative costs associated with compliance. Should provide for revenue sharing or royalties to compensate public for use of public waters/land. Should authorize the imposition of bonds or other financial assurance to cover costs of environmental damage and/or restoration.	Instrument should set forth fee schedule and revenue sharing/royalty obligations so that costs are predictable and set. Should include limits on ability of government to raise or change fees during the term of the instrument.	\$10,000 fee for initial permit application with \$1,000 annual fee; \$5,000 for renewal application fee. Permittee required to put up assurance bond sufficient to cover the costs associated with removing all components of the aquaculture facility, including cultured animals, if permittees fail to do so when ordered by NOAA Fisheries.	Permittee required to pay application and annual permit fees. Secretary of Commerce would be authorized to require bonds or guarantees to cover unpaid fees, facility removal, site remediation, or other financial risks identified by the Secretary.
Public Engagement	Authorization process needs to be transparent, adhere to standard federal agency administrative processes, and facilitate robust public engagement to ensure adequate balancing of conflicting uses of marine space.	Authorization process needs to be easily navigated by and financially affordable to likely applicants/operators. Authorization process needs to ensure that public engagement is predictable, efficient, and occurs within a reasonable timeframe. Process should also be robust enough to withstand legal challenges (i.e., meets requirements of the administrative process) to avoid longer delays in court.	NOAA Fisheries must announce receipt of application in Federal Register with a brief description of the proposal and agency's intent to issue a Gulf Aquaculture Permit. Interested persons given a 15- to 45-day opportunity to comment. Application must also be considered at Fisheries Management Council meeting, providing further opportunity for public input and an opportunity for applicant to appear in support of the application.	Requires Secretary of Commerce to hold public meetings, share information, and solicit public feedback for offshore sites being considered. Must also consult with all states, federally recognized Tribes, and territories within 100 miles of sites under consideration. Must meet with aquaculture stakeholders and solicit public comments prior to adoption of all aquaculture management plans. Required to provide public notice and comment for each offshore aquaculture permit application.
Legal classification of instrument by court		Industry expresses a strong preference for the instrument to be classified a contract for purposes of judicial interpretation.	Invalid. Permit scheme was struck down by Fifth Circuit Court of Appeals. See Gulf Fishermens Ass'n v. Nat'l Marine Fisheries Serv., 968 F.3d 454 (5th Cir. 2020).	Unknown. Bill not yet enacted, so courts have not yet had opportunity to consider legal classification of authorization instrument.
Compensation	Instrument should limit liability of government to the breach of terms or conditions of instrument. Constitutional takings liability should be limited.	Instrument should provide for compensation to aquaculture operator for injury or damage in the event the government breaches the terms of the instrument. Should provide for compensation for damage to structures, gear, or stock due to government action.	No provisions concerning compensation for breach of terms or constitutional takings could be identified.	No provisions concerning compensation for breach of terms or constitutional takings could be identified.